Form 3160-3
(June 2015)

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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.
NMNM125008

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.
BARB FEDERAL COM
1H
326980

2. Name of Operator
EOG RESOURCES INCORPORATED

9. API Well No.
30-015-46603

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory
1111 Bagby Sky Lobby2 Houston TX 77002	(713)651-7000	N. SEVEN RIVERS; GLORIETA-YESO / (

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*
At surface SENE / 2486 FNL / 544 FEL / LAT 32.6615555 / LONG -104.5173865
At proposed prod. zone SENE / 1987 FNL / 100 FEL / LAT 32.6628656 / LONG -104.4986367

11. Sec., T. R. M. or Blk. and Survey or Area
SEC 18 / T19S / R25E / NMP

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State
	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
544 feet	641.27	160

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
300 feet	2695 feet / 8133 feet	FED: NM2308

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
3554 feet	04/15/2019	60 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)	Yolanda Maese / Ph: (575)748-4329	10/23/2018

Title
SR OPERATIONS ASSISTANT

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

RWP 1-17-2020

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 01/06/2020

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.

(Continued on page 3)

Additional Operator Remarks

Location of Well

1. SHL: SENE / 2486 FNL / 544 FEL / TWSP: 19S / RANGE: 25E / SECTION: 18 / LAT: 32.6615555 / LONG: -104.5173865 (TVD: 0 feet, MD: 0 feet)
   PPP: SWNW / 1987 FNL / 100 FWL / TWSP: 19S / RANGE: 25E / SECTION: 17 / LAT: 32.662923 / LONG: -104.5152856 (TVD: 2490 feet, MD: 3005 feet)
   BHL: SENE / 1987 FNL / 100 FEL / TWSP: 19S / RANGE: 25E / SECTION: 17 / LAT: 32.6628656 / LONG: -104.4986367 (TVD: 2695 feet, MD: 8133 feet)

BLM Point of Contact

Name: Linda (Cathleen) Queen
Title: Project Manager-Carlsbad Field Office
Phone: 5752345962
Email: cqueen@blm.gov

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 OPERATIONS
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**EOG RESOURCES INCORPORATED**
LEASE NO.:	**NMNM125008**
WELL NAME & NO.:	**BARB FEDERAL COM 1H**
SURFACE HOLE FOOTAGE:	**2486'/N & 544'/E**
BOTTOM HOLE FOOTAGE	**1987'/N & 100'/E**
LOCATION:	**SECTION 18, T19S, R25E, NMPM**
COUNTY:	**EDDY**

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

A. Hydrogen Sulfide

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

B. CASING

1. The **9 5/8"** surface casing shall be set at approximately **1,250'** and cemented to surface.
    a. **If cement does not circulate to 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 **6 hours** after pumping cement, ideally between 8-10 hours after completing the cement job.
    b. WOC time for a primary cement job will be a minimum of **8 hours** or **500 psi** compressive strength, whichever is greater. This is to include the lead cement.
    c. If cement falls back, remedial cementing will be done prior to drilling out that string.

d. WOC time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 psi compressive strength, whichever is greater.

2. The minimum required fill of cement behind the **7 X 5 ½ "** production casing is:

Option1

- 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.**

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

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. 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.

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.

JJP11022019

GENERAL REQUIREMENTS

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

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

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

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

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.

- Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
- BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

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

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

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

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

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

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

B. PRESSURE CONTROL

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

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

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

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

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

c. Manufacturer representative shall install the test plug for the initial BOP test.
d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

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

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

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

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

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

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

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

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

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

Barb Fed Com 1H:
Surface Hole Location: 2486' FNL & 544' FEL, Section 18, T. 19 S., R. 25 E.
Bottom Hole Location: 1987' FNL & 100' FEL, Section 17, T. 19 S., R. 25 E.

Barb Fed Com 2H:
Surface Hole Location: 2501' FNL & 570' FEL, Section 18, T. 19 S., R. 25 E.
Bottom Hole Location: 2303' FSL & 100' FEL, Section 17, T. 19 S., R. 25 E.

Barb Fed Com 3H:
Surface Hole Location: 973' FSL & 560' FEL, Section 18, T. 19 S., R. 25 E.
Bottom Hole Location: 1327' FSL & 100' FEL, Section 17, T. 19 S., R. 25 E.

Barb Fed Com 4H:
Surface Hole Location: 943' FSL & 560' FEL, Section 18, T. 19 S., R. 25 E.
Bottom Hole Location: 330' FSL & 100' FEL, Section 17, T. 19 S., R. 25 E.

Approval Date: 01/06/2020

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)

Wildlife Management Mitigation: Aplomado Falcon

- No yuccas or trees over 5 feet in height will be damaged, to protect nesting structures.
- All active raptor nests will be avoided by a minimum of 400 meters by all activities or curtail activities until fledging is complete. All inactive raptor nests will be avoided by a minimum of 200 meters by all activities.

Cave/Karst Surface Mitigation

The following stipulations will be applied to minimize impacts during construction, drilling and production:

Construction:

General Construction:

- No blasting
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction, and no additional construction shall occur until clearance has been issued by the Authorized Officer.
- All linear surface disturbance activities will avoid sinkholes and other karst features to lessen the possibility of encountering near surface voids during construction, minimize changes to runoff, and prevent untimely leaks and spills from entering the karst drainage system.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

Pad Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- The entire perimeter of the well pad will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad.
- The compacted berm shall be constructed at a minimum of 12 inches high with impermeable mineral material (e.g., caliche).
- No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad.
- The topsoil stockpile shall be located outside the bermed well pad.
- Topsoil, either from the well pad or surrounding area, shall not be used to construct the berm.
- No storm drains, tubing or openings shall be placed in the berm.
- If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

- The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed.
- Any access road entering the well pad shall be constructed so that the integrity of the berm height surrounding the well pad is not compromised (i.e. an access road crossing the berm cannot be lower than the berm height).
- Following a rain event, all fluids will vacuumed off of the pad and hauled off-site and disposed at a proper disposal facility.

Tank Battery Construction:

- The pad will be constructed and leveled by adding the necessary fill and caliche – no blasting.
- All tank battery locations and facilities will be lined and bermed.
- The liner should be at least 20 mil in thickness and installed with a 4 oz. felt backing, or equivalent, to prevent tears or punctures.
- Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank.

Road Construction:

- Turnout ditches and drainage leadoffs will not be constructed in such a manner as to alter the natural flow of water into or out of cave or karst features.
- Special restoration stipulations or realignment may be required if subsurface features are discovered during construction.

Buried Pipeline/Cable Construction:

- Rerouting of the buried line(s) may be required if a subsurface void is encountered during construction to minimize the potential subsidence/collapse of the feature(s) as well as the possibility of leaks/spills entering the karst drainage system.

Powerline Construction:

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems.
- Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- Special restoration stipulations or realignment may be required if subsurface voids are encountered.

Surface Flowlines Installation:

- Flowlines will be routed around sinkholes and other karst features to minimize the possibility of leaks/spills from entering the karst drainage system.

Leak Detection System:

- A method of detecting leaks is required. The method could incorporate gauges to measure loss, situating values and lines so they can be visually inspected, or installing electronic sensors to alarm when a leak is present.
- A leak detection plan will be submitted to BLM that incorporates an automatic shut off system (see below) to minimize the effects of an undesirable event that could negatively sensitive cave/karst resources.
- Well heads, pipelines (surface and buried), storage tanks, and all supporting equipment should be monitored regularly after installation to promptly identify and fix leaks.

Automatic Shut-off Systems:

- Automatic shut off, check values, or similar systems will be installed for pipelines and tanks to minimize the effects of catastrophic line failures used in production or drilling.

Cave/Karst Subsurface Mitigation

The following stipulations will be applied to protect cave/karst and groundwater concerns:

Closed Loop System:

- A closed loop system using steel tanks will be utilized during drilling – no pits
- All fluids and cuttings will be hauled off-site and disposed of properly at an authorized site

Rotary Drilling with Fresh Water:

- Fresh water will be used as a circulating medium in zones where caves or karst features are expected. SEE ALSO: Drilling COAs for this well.

Directional Drilling:

- The kick off point for directional drilling will occur at least 100 feet below the bottom of the cave occurrence zone. SEE ALSO: Drilling COAs for this well.

Lost Circulation:

- ALL lost circulation zones between surface and the base of the cave occurrence zone will be logged and reported in the drilling report.
- If a void of four feet or more and circulation losses greater than 70 percent occur simultaneously while drilling in any cave-bearing zone, regardless of the type of drilling machinery used, the BLM will be notified immediately by the operator. The BLM will assess the situation and work with the operator on corrective actions to resolve the problem.

Abandonment Cementing:

- Additional plugging conditions of approval may be required upon well abandonment in high and medium karst potential occurrence zones.

- The BLM will assess the situation and work with the operator to ensure proper plugging of the wellbore.

Pressure Testing:

- The operator will perform annual pressure monitoring on all casing annuli and reported in a sundry notice.
- If the test results indicated a casing failure has occurred, remedial action will be undertaken to correct the problem to the BLM's approval.

Watershed Management Mitigation:

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation a leak detection plan should be developed. The method could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is

present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

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.

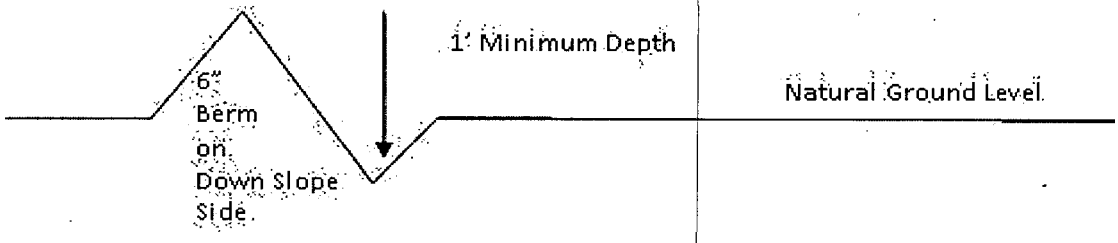
Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

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

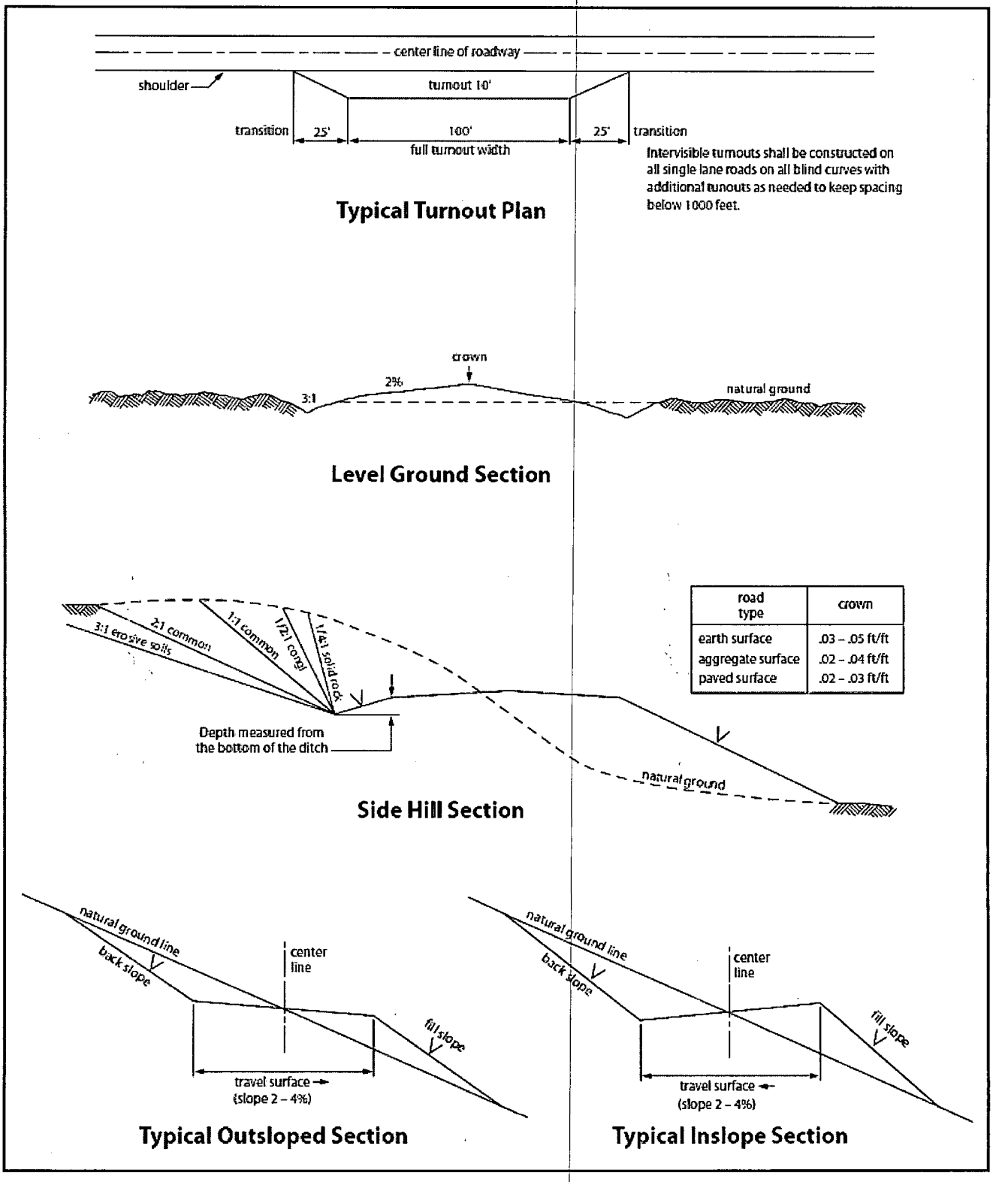


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

VII. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

Placement of Production Facilities
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone.*) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures

Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

VIII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

IX. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory

revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Seed Mixture 1 for Loamy Sites

Holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed shall be tested and the viability testing of seed will be done in accordance with State law(s) and within nine (9) months prior to purchase. Commercial seed shall be either certified or registered seed. The seed container shall be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed shall be planted using a drill equipped with a depth regulator to ensure proper depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture shall be evenly and uniformly planted over the disturbed area (small/heavier seeds have a tendency to drop the bottom of the drill and are planted first). Holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed shall be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre shall be doubled. The seeding shall be repeated until a satisfactory stand is established as determined by the Authorized Officer. Evaluation of growth may not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

Species	lb/acre
Plains lovegrass (Eragrostis intermedia)	0.5
Sand dropseed (Sporobolus cryptandrus)	1.0
Sideoats grama (Bouteloua curtipendula)	5.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed

EOG RESOURCES, INC.
BARB FEDERAL COM NO. 1H

1. GEOLOGIC NAME OF SURFACE FORMATION:
Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

San Andres	650'
Glorieta	2,105'
Yeso	2,174'
TD	8,133'

3. ESTIMATED DEPTHS OF ANTICIPATED FRESH WATER, OIL OR GAS:

San Andres	650'	Fresh Water, Oil
Glorieta	2,105'	Oil
Yeso	2,174'	Oil

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 9.625" casing at 1250' and circulating cement back to surface.

4. CASING PROGRAM - NEW

Hole Size	Interval	Csg OD	Weight	Grade	Conn	DF_{min} Collapse	DF_{min} Burst	DF_{min} Tension
12.25"	0'-1250'	9.625"	36#	J-55	LTC	1.125	1.25	1.60
8.75"	0' –2498'	7"	29#	L-80	BTC	1.125	1.25	1.60
8.75"	2498'-8133'	5 ½"	17#	L-80	BTC	1.125	1.25	1.60

Cementing Program:
Note: Cement volumes based on bit size plus 100% excess on surface and 35% excess in production string.

Depth	No. Sacks	Wt. lb/gal	Yld Ft^3/ft	Cubic Ft	Slurry Description
1250'	265	12.9	1.97	93	Lead: Class 'C' + 4%PF20(Bentonite Gel) + 2%PF1(Calcium Chloride) + 0.125#/skPF29(Celloflake) + 0.4#/skPF45 (Defoamer) 100% Excess (TOC @ Surface)
	200	1.34	1.34	48	Tail: Class 'C' + 2%PF1(Calcium Chloride)
8133'	205	11.9	2.47	91	Lead: Class 50/50 PozC + 5%PF44(BWOW)(Salt) + 10% PF20(Bentonite Gel) +.2%PF153(Anti Settling Agent(+ 3#/sk OF42(Kolseal) + 0.125#/sk PF29 (celloflake) + 0.4#/sk PF45 (Defoamer) (TOC @ Surface) 35% Excess
	1300	13	1.48	343	Tail: Class PVL + 1.3% PF44(BWOW)(Salt) + 5% PF174 (Expanding Cement) + 0.5% PF606 (Fluid Loss) + 0.1% PF153 (Anti Settling Agent) + 0.4#/sk PF45 (Defoamer) 35% Excess

5. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

A variance is requested to use a co-flex line between the BOP and choke manifold, dependent on rig selection (instead of using a steel line). Certification and specs are attached.

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a double rams with blind rams & pipe rams preventer (3,000 psi WP) and an annular preventer (3,000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 3,000/ 250 psig and the annular preventer to 1,500/ 250 psig. The surface casing will be tested to 1200 psi for 30 minutes.

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.

A hydraulically operated choke will be installed prior to drilling out of the surface casing shoe.

6. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal.

The applicable depths and properties of the drilling fluid systems are as follows.

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0 – 1250'	Fresh Water	8.6-8.8	28-32	N/c
1250' – 8133' Vertical/Curve/Lateral	Fresh Water	8.6-8.8	28-32	N/c

The highest mud weight needed to balance formation is expected to be 8.8 ppg. In order to maintain hole stability, mud weights up to 8.8 ppg may be utilized.

An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate.

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

7. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

(A) A kelly cock will be kept in the drill string at all times.

(B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.

(C) H_2S monitoring and detection equipment will be utilized from surface casing point to TD.

8. LOGGING, TESTING AND CORING PROGRAM:

Open-hole logs are not planned for this well.

GR–Directional surveys will be run in open hole during drilling phase of operations.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

The estimated bottom-hole temperature (BHT) at TD is 105 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 1233 psig (based on 8.8 ppg MW). Hydrogen sulfide has been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from spud to surface casing point.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. After WOC 8 hours or 500 psi compressive strength (whichever is greater), the Surface Rig will move off so the wellhead can be installed. A welder will cut the casing to the proper height and weld on the wellhead (both "A" and "B" sections). The weld will be tested to 1000 psi. All valves will be closed and a wellhead cap will be installed (diagram attached). If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 9-5/8" surface casing, a 9 5/8" BOP/BOPE system with a minimum working pressure of 3,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3,000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 3,000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo HES Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

12. Vertical Well Offsets

EOG Resources is aware of the 2 vertical wells as listed below in the immediate vicinity of our planned lateral. We plan to take all precautions to avoid collision with the wells and are aware of the risk. Both wells are plugged and owned by EOG Resources.

API 30-015-20817 Barbara Federal #3 1980' FNL 1980' FWL 17-19S-25E Plugged in 1987
API 30-015-21863 NDDUP Unit #16 1980' FNL 990' FEL 17-19S-25E Plugged in 2010

Barb Federal Com #1H, #2H, #3H & #4H

Production Cement Contingency

EOG Resources respectfully requests approval of a 2 stage production cement contingency for the production string of our wells. If losses are encountered after drill out of surface casing we request the option to cement in 2 stages with the use of a packer stage/DV tool. The placement of the tool will be based off the loss zone and set below the lost circulation zone to help ensure cement to surface on the production string of casing. Cement volumes will be adjusted based on the placement of the tool.

EOG RESOURCES, INC.
BARB FEDERAL COM NO. 1H

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GR–Directional surveys will be run in open hole during drilling phase of operations.

9. ABNORMAL CONDITIONS, PRESSURES, TEMPERATURES AND POTENTIAL HAZARDS:

The estimated bottom-hole temperature (BHT) at TD is 105 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 1233 psig (based on 8.8 ppg MW). Hydrogen sulfide has been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from spud to surface casing point.

10. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

The drilling operation should be finished in approximately one month. If the well is productive, an additional 60-90 days will be required for completion and testing before a decision is made to install permanent facilities.

(A) EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and cement on the subject well. After WOC 8 hours or 500 psi compressive strength (whichever is greater), the Surface Rig will move off so the wellhead can be installed. A welder will cut the casing to the proper height and weld on the wellhead (both "A" and "B" sections). The weld will be tested to 1000 psi. All valves will be closed and a wellhead cap will be installed (diagram attached). If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

11. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the 9-5/8" surface casing, a 9 5/8" BOP/BOPE system with a minimum working pressure of 3,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3,000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Onshore Order No. 2

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 3,000 psi.

The multi-bowl wellhead will be installed by vendor's representative(s). A copy of the installation instructions for the Stream Flo HES Multi-Bowl WH system has been sent to the NM BLM office in Carlsbad, NM.

The wellhead will be installed by a third party welder while being monitored by WH vendor's representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater.

12. Vertical Well Offsets

EOG Resources is aware of the 2 vertical wells as listed below in the immediate vicinity of our planned lateral. We plan to take all precautions to avoid collision with the wells and are aware of the risk. Both wells are plugged and owned by EOG Resources.

API 30-015-20817 Barbara Federal #3 1980' FNL 1980' FWL 17-19S-25E Plugged in 1987
API 30-015-21863 NDDUP Unit #16 1980' FNL 990' FEL 17-19S-25E Plugged in 2010

Barb Federal Com #1H, #2H, #3H & #4H

Production Cement Contingency

EOG Resources respectfully requests approval of a 2 stage production cement contingency for the production string of our wells. If losses are encountered after drill out of surface casing we request the option to cement in 2 stages with the use of a packer stage/DV tool. The placement of the tool will be based off the loss zone and set below the lost circulation zone to help ensure cement to surface on the production string of casing. Cement volumes will be adjusted based on the placement of the tool.

eog resources

EOG Resources - Artesia

Eddy County (NAD83)
Barb
Barb Federal Com #1H

Lateral

Plan: Plan #1

Standard Planning Report

11 October, 2018

Database:	EDM 5000.14	**Local Co-ordinate Reference:**	Well Barb Federal Com #1H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 3572.000usft (Planning Rig)
Project:	Eddy County (NAD83)	**MD Reference:**	KB @ 3572.000usft (Planning Rig)
Site:	Barb	**North Reference:**	Grid
Well:	Barb Federal Com #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Project Eddy County (NAD83)

Map System:	US State Plane 1983	**System Datum:**	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site Barb

Site Position:		**Northing:**	603,682.64 usft	**Latitude:**	32° 39' 33.970 N
From:	Map	**Easting:**	484,904.33 usft	**Longitude:**	104° 31' 0.146 W
Position Uncertainty:	0.000 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	-0.10 °

Well Barb Federal Com #1H

Well Position	**+N/-S**	771.370 usft	**Northing:**	604,454.01 usft	**Latitude:**	32° 39' 41.600 N
	+E/-W	-207.700 usft	**Easting:**	484,696.63 usft	**Longitude:**	104° 31' 2.591 W
Position Uncertainty		0.000 usft	**Wellhead Elevation:**	3,572.000 usft	**Ground Level:**	3,554.000 usft

Wellbore Lateral

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	9/21/2018	7.29	60.29	47,963.88398282

Design Plan #1

Audit Notes:

Version:		**Phase:**	PROTOTYPE	**Tie On Depth:**	0.000

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.000	0.000	0.000	85.372

Plan Survey Tool Program **Date** 10/9/2018

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.000	8,131.975	Plan #1 (Lateral)	MWD+HDGM	
				OWSG MWD + HDGM	

Plan Sections

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.000	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.00	0.00	
1,756.258	0.00	0.000	1,756.258	0.000	0.000	0.00	0.00	0.00	0.00	
2,422.925	60.00	35.900	2,307.587	257.844	186.648	9.00	9.00	0.00	35.90	
2,497.925	60.00	35.900	2,345.087	310.458	224.734	0.00	0.00	0.00	0.00	
2,984.918	87.71	90.325	2,489.289	496.291	627.194	12.00	5.69	11.18	72.51	
8,132.768	87.71	90.325	2,695.000	467.110	5,770.850	0.00	0.00	0.00	0.00	[BFC#1H]BHL1

Database:	EDM 5000.14	**Local Co-ordinate Reference:**	Well Barb Federal Com #1H
Company:	EOG Resources - Artesia	**TVD Reference:**	KB @ 3572.000usft (Planning Rig)
Project:	Eddy County (NAD83)	**MD Reference:**	KB @ 3572.000usft (Planning Rig)
Site:	Barb	**North Reference:**	Grid
Well:	Barb Federal Com #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.000	0.00	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.00
100.000	0.00	0.000	100.000	0.000	0.000	0.000	0.00	0.00	0.00
200.000	0.00	0.000	200.000	0.000	0.000	0.000	0.00	0.00	0.00
300.000	0.00	0.000	300.000	0.000	0.000	0.000	0.00	0.00	0.00
400.000	0.00	0.000	400.000	0.000	0.000	0.000	0.00	0.00	0.00
500.000	0.00	0.000	500.000	0.000	0.000	0.000	0.00	0.00	0.00
600.000	0.00	0.000	600.000	0.000	0.000	0.000	0.00	0.00	0.00
700.000	0.00	0.000	700.000	0.000	0.000	0.000	0.00	0.00	0.00
800.000	0.00	0.000	800.000	0.000	0.000	0.000	0.00	0.00	0.00
900.000	0.00	0.000	900.000	0.000	0.000	0.000	0.00	0.00	0.00
1,000.000	0.00	0.000	1,000.000	0.000	0.000	0.000	0.00	0.00	0.00
1,100.000	0.00	0.000	1,100.000	0.000	0.000	0.000	0.00	0.00	0.00
1,200.000	0.00	0.000	1,200.000	0.000	0.000	0.000	0.00	0.00	0.00
1,300.000	0.00	0.000	1,300.000	0.000	0.000	0.000	0.00	0.00	0.00
1,400.000	0.00	0.000	1,400.000	0.000	0.000	0.000	0.00	0.00	0.00
1,500.000	0.00	0.000	1,500.000	0.000	0.000	0.000	0.00	0.00	0.00
1,600.000	0.00	0.000	1,600.000	0.000	0.000	0.000	0.00	0.00	0.00
1,700.000	0.00	0.000	1,700.000	0.000	0.000	0.000	0.00	0.00	0.00
1,756.258	0.00	0.000	1,756.258	0.000	0.000	0.000	0.00	0.00	0.00
START KOP 9°/100' BUILD RATE									
1,800.000	3.94	35.900	1,799.966	1.217	0.881	0.976	9.00	9.00	0.00
1,850.000	8.44	35.900	1,849.662	5.581	4.040	4.477	9.00	9.00	0.00
1,900.000	12.94	35.900	1,898.782	13.089	9.475	10.500	9.00	9.00	0.00
1,950.000	17.44	35.900	1,947.023	23.697	17.154	19.010	9.00	9.00	0.00
2,000.000	21.94	35.900	1,994.088	37.338	27.028	29.952	9.00	9.00	0.00
2,050.000	26.44	35.900	2,039.687	53.928	39.037	43.261	9.00	9.00	0.00
2,100.000	30.94	35.900	2,083.539	73.364	53.107	58.853	9.00	9.00	0.00
2,150.000	35.44	35.900	2,125.373	95.528	69.151	76.633	9.00	9.00	0.00
2,200.000	39.94	35.900	2,164.931	120.283	87.070	96.491	9.00	9.00	0.00
2,250.000	44.44	35.900	2,201.969	147.475	106.754	118.304	9.00	9.00	0.00
2,300.000	48.94	35.900	2,236.260	176.937	128.081	141.939	9.00	9.00	0.00
2,350.000	53.44	35.900	2,267.591	208.488	150.920	167.249	9.00	9.00	0.00
2,400.000	57.94	35.900	2,295.770	241.933	175.130	194.078	9.00	9.00	0.00
2,422.925	60.00	35.900	2,307.587	257.844	186.648	206.842	9.00	9.00	0.00
START 75' TANGENT									
2,497.925	60.00	35.900	2,345.087	310.458	224.734	249.049	0.00	0.00	0.00
END 60° TANGENT/START 12°/100' BR									
2,500.000	60.08	36.174	2,346.123	311.912	225.792	250.221	12.00	3.62	13.21
2,525.000	61.02	39.443	2,358.417	329.106	239.137	264.909	12.00	3.79	13.07
2,550.000	62.05	42.649	2,370.335	345.676	253.568	280.630	12.00	4.10	12.83
2,575.000	63.15	45.794	2,381.842	361.577	269.047	297.342	12.00	4.40	12.58
2,600.000	64.32	48.876	2,392.908	376.765	285.531	314.997	12.00	4.67	12.33
2,625.000	65.55	51.897	2,403.502	391.199	302.975	333.549	12.00	4.92	12.08
2,650.000	66.84	54.857	2,413.596	404.839	321.330	352.945	12.00	5.16	11.84
2,675.000	68.18	57.761	2,423.161	417.647	340.547	373.133	12.00	5.37	11.61
2,700.000	69.57	60.609	2,432.172	429.589	360.574	394.057	12.00	5.57	11.39
2,725.000	71.01	63.405	2,440.604	440.632	381.354	415.661	12.00	5.76	11.19
2,750.000	72.49	66.153	2,448.433	450.746	402.831	437.884	12.00	5.92	10.99
2,775.000	74.01	68.855	2,455.638	459.902	424.947	460.666	12.00	6.07	10.81
2,800.000	75.56	71.517	2,462.200	468.076	447.640	483.945	12.00	6.20	10.65
2,825.000	77.14	74.141	2,468.100	475.246	470.849	507.657	12.00	6.32	10.50
2,850.000	78.75	76.733	2,473.322	481.391	494.510	531.736	12.00	6.42	10.37
2,875.000	80.37	79.295	2,477.853	486.495	518.557	556.117	12.00	6.51	10.25

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Site:	Barb	**North Reference:**	Grid
Well:	Barb Federal Com #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,900.000	82.02	81.833	2,481.679	490.543	542.926	580.732	12.00	6.59	10.15
2,925.000	83.68	84.350	2,484.790	493.526	567.548	605.516	12.00	6.65	10.07
2,950.000	85.36	86.851	2,487.177	495.434	592.358	630.398	12.00	6.70	10.00
2,975.000	87.04	89.340	2,488.835	496.262	617.286	655.312	12.00	6.73	9.96
2,984.918	87.71	90.325	2,489.289	496.291	627.194	665.190	12.00	6.75	9.93
[BFC#1H]EOC1 2985' MD(2489' TVD)									
3,000.000	87.71	90.325	2,489.892	496.206	642.264	680.203	0.00	0.00	0.00
3,005.116	87.71	90.325	2,490.096	496.177	647.375	685.296	0.00	0.00	0.00
[BFC#1H]UMP1 3005' MD(2490' TVD)									
3,100.000	87.71	90.325	2,493.888	495.639	742.182	779.750	0.00	0.00	0.00
3,200.000	87.71	90.325	2,497.884	495.072	842.101	879.297	0.00	0.00	0.00
3,300.000	87.71	90.325	2,501.880	494.505	942.019	978.844	0.00	0.00	0.00
3,400.000	87.71	90.325	2,505.876	493.938	1,041.938	1,078.392	0.00	0.00	0.00
3,500.000	87.71	90.325	2,509.872	493.372	1,141.856	1,177.939	0.00	0.00	0.00
3,600.000	87.71	90.325	2,513.868	492.805	1,241.775	1,277.486	0.00	0.00	0.00
3,700.000	87.71	90.325	2,517.864	492.238	1,341.693	1,377.033	0.00	0.00	0.00
3,800.000	87.71	90.325	2,521.860	491.671	1,441.612	1,476.580	0.00	0.00	0.00
3,900.000	87.71	90.325	2,525.856	491.104	1,541.530	1,576.127	0.00	0.00	0.00
4,000.000	87.71	90.325	2,529.852	490.537	1,641.449	1,675.674	0.00	0.00	0.00
4,100.000	87.71	90.325	2,533.848	489.970	1,741.367	1,775.221	0.00	0.00	0.00
4,200.000	87.71	90.325	2,537.844	489.404	1,841.286	1,874.768	0.00	0.00	0.00
4,300.000	87.71	90.325	2,541.840	488.837	1,941.204	1,974.315	0.00	0.00	0.00
4,400.000	87.71	90.325	2,545.836	488.270	2,041.123	2,073.862	0.00	0.00	0.00
4,500.000	87.71	90.325	2,549.832	487.703	2,141.041	2,173.409	0.00	0.00	0.00
4,600.000	87.71	90.325	2,553.828	487.136	2,240.960	2,272.956	0.00	0.00	0.00
4,700.000	87.71	90.325	2,557.825	486.569	2,340.878	2,372.503	0.00	0.00	0.00
4,800.000	87.71	90.325	2,561.821	486.002	2,440.797	2,472.050	0.00	0.00	0.00
4,900.000	87.71	90.325	2,565.817	485.435	2,540.715	2,571.597	0.00	0.00	0.00
5,000.000	87.71	90.325	2,569.813	484.869	2,640.634	2,671.144	0.00	0.00	0.00
5,100.000	87.71	90.325	2,573.809	484.302	2,740.552	2,770.691	0.00	0.00	0.00
5,200.000	87.71	90.325	2,577.805	483.735	2,840.471	2,870.239	0.00	0.00	0.00
5,300.000	87.71	90.325	2,581.801	483.168	2,940.389	2,969.786	0.00	0.00	0.00
5,400.000	87.71	90.325	2,585.797	482.601	3,040.308	3,069.333	0.00	0.00	0.00
5,500.000	87.71	90.325	2,589.793	482.034	3,140.226	3,168.880	0.00	0.00	0.00
5,600.000	87.71	90.325	2,593.789	481.467	3,240.145	3,268.427	0.00	0.00	0.00
5,700.000	87.71	90.325	2,597.785	480.901	3,340.063	3,367.974	0.00	0.00	0.00
5,800.000	87.71	90.325	2,601.781	480.334	3,439.982	3,467.521	0.00	0.00	0.00
5,900.000	87.71	90.325	2,605.777	479.767	3,539.900	3,567.068	0.00	0.00	0.00
6,000.000	87.71	90.325	2,609.773	479.200	3,639.819	3,666.615	0.00	0.00	0.00
6,100.000	87.71	90.325	2,613.769	478.633	3,739.737	3,766.162	0.00	0.00	0.00
6,200.000	87.71	90.325	2,617.765	478.066	3,839.656	3,865.709	0.00	0.00	0.00
6,300.000	87.71	90.325	2,621.761	477.499	3,939.574	3,965.256	0.00	0.00	0.00
6,400.000	87.71	90.325	2,625.757	476.932	4,039.493	4,064.803	0.00	0.00	0.00
6,500.000	87.71	90.325	2,629.754	476.366	4,139.411	4,164.350	0.00	0.00	0.00
6,600.000	87.71	90.325	2,633.750	475.799	4,239.330	4,263.897	0.00	0.00	0.00
6,700.000	87.71	90.325	2,637.746	475.232	4,339.249	4,363.444	0.00	0.00	0.00
6,800.000	87.71	90.325	2,641.742	474.665	4,439.167	4,462.991	0.00	0.00	0.00
6,900.000	87.71	90.325	2,645.738	474.098	4,539.086	4,562.539	0.00	0.00	0.00
7,000.000	87.71	90.325	2,649.734	473.531	4,639.004	4,662.086	0.00	0.00	0.00
7,100.000	87.71	90.325	2,653.730	472.964	4,738.923	4,761.633	0.00	0.00	0.00
7,200.000	87.71	90.325	2,657.726	472.398	4,838.841	4,861.180	0.00	0.00	0.00
7,300.000	87.71	90.325	2,661.722	471.831	4,938.760	4,960.727	0.00	0.00	0.00
7,400.000	87.71	90.325	2,665.718	471.264	5,038.678	5,060.274	0.00	0.00	0.00
7,500.000	87.71	90.325	2,669.714	470.697	5,138.597	5,159.821	0.00	0.00	0.00

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Project:	Eddy County (NAD83)	**MD Reference:**	KB @ 3572.000usft (Planning Rig)
Site:	Barb	**North Reference:**	Grid
Well:	Barb Federal Com #1H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	Lateral		
Design:	Plan #1		

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,600.000	87.71	90.325	2,673.710	470.130	5,238.515	5,259.368	0.00	0.00	0.00
7,700.000	87.71	90.325	2,677.706	469.563	5,338.434	5,358.915	0.00	0.00	0.00
7,800.000	87.71	90.325	2,681.702	468.996	5,438.352	5,458.462	0.00	0.00	0.00
7,900.000	87.71	90.325	2,685.698	468.429	5,538.271	5,558.009	0.00	0.00	0.00
8,000.000	87.71	90.325	2,689.694	467.863	5,638.189	5,657.556	0.00	0.00	0.00
8,100.000	87.71	90.325	2,693.690	467.296	5,738.108	5,757.103	0.00	0.00	0.00
8,132.768	87.71	90.325	2,695.000	467.110	5,770.850	5,789.724	0.00	0.00	0.00
[BFC#1H]BHL1 8133' MD(2695' TVD)									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
[BFC#1H]UMP1	0.00	0.000	2,490.000	496.380	647.380	604,950.39	485,344.01	32° 39' 46.523 N	104° 30' 55.028 W
- plan misses target center by 0.225usft at 3005.116usft MD (2490.096 TVD, 496.177 N, 647.375 E)									
- Point									
[BFC#1H]BHL1	0.00	0.000	2,695.000	467.110	5,770.850	604,921.12	490,467.48	32° 39' 46.316 N	104° 29' 55.092 W
- plan hits target center									
- Point									

Plan Annotations

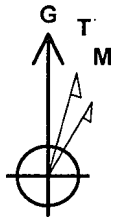
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,756.258	1,756.258	0.000	0.000	START KOP 9°/100' BUILD RATE
2,422.925	2,307.587	257.844	186.648	START 75' TANGENT
2,497.925	2,345.087	310.458	224.734	END 60° TANGENT/START 12°/100' BR
2,984.918	2,489.289	496.291	627.194	[BFC#1H]EOC1 2985' MD(2489' TVD)
3,005.116	2,490.096	496.177	647.375	[BFC#1H]UMP1 3005' MD(2490' TVD)
8,132.768	2,695.000	467.110	5,770.850	[BFC#1H]BHL1 8133' MD(2695' TVD)

Project:	Eddy County (NAD83)
Site:	Barb
Well:	Barb Federal Com #1H
Wellbore:	Lateral
Design:	Plan #1
Ground Elevation	3554.000
Northing	604454.01
Easting	484696.63

PROJECT DETAILS: Eddy County (NAD83)

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

eog resources



Azimuths to Grid North
True North: 0.10°
Magnetic North: 7.39°

Magnetic Field
Strength: 47963.9snT
Dip Angle: 60.29°
Date: 9/21/2018
Model: IGRF2015

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect
1	0.000	0.00	0.000	0.000	0.000	0.000	0.00	0.00	0.000
2	1756.258	0.00	0.000	1756.258	0.000	0.000	0.00	0.00	0.000
3	2422.925	60.00	35.900	2307.587	257.844	186.648	9.00	35.90	206.842
4	2497.925	60.00	35.900	2345.087	310.458	224.734	0.00	0.00	249.049
5	2984.918	87.71	90.325	2489.289	496.291	627.194	12.00	72.51	665.190
6	8132.769	87.71	90.325	2695.000	467.110	5770.850	0.00	0.00	5789.724

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting
[BFC#1H]UMP1	2490.000	496.380	647.380	604950.39	485344.01
- plan misses target center by 0.225usft at 3005.116usft MD (2490.096 TVD, 496.177 N, 647.375 E)					
[BFC#1H]BHL1	2695.000	467.110	5770.850	604921.12	490467.48
- plan hits target center