AFMSS

U.S. Department of the Interior
Bureau of Land Management

Application for Permit to Drill

APD Package Report

Date Printed: 12/01/2025 12:37 PM

APD ID:	10400079376	Well Status:	AAPD
APD Received Date:	08/20/2021 09:57 AM	Well Name:	STUDY BUTTE 13 FED COM
Operator:	EOG RESOURCES INCORPORATED	Well Number:	501H

APD Package Report Contents

- Form 3160-3

- Operator Certification Report

- Application Report
- Application Attachments
  -- Well Plat: 1 file(s)

- Drilling Plan Report
- Drilling Plan Attachments
  -- Blowout Prevention Choke Diagram Attachment: 2 file(s)
  -- Blowout Prevention BOP Diagram Attachment: 1 file(s)
  -- Casing Design Assumptions and Worksheet(s): 5 file(s)
  -- Hydrogen sulfide drilling operations plan: 1 file(s)
  -- Proposed horizontal/directional/multi-lateral plan submission: 2 file(s)
  -- Other Facets: 1 file(s)
  -- Other Variances: 5 file(s)

- SUPO Report
- SUPO Attachments
  -- Attach Well map: 1 file(s)
  -- Production Facilities map: 1 file(s)
  -- Water source and transportation map: 1 file(s)
  -- Construction Materials source location attachment: 1 file(s)
  -- Well Site Layout Diagram: 3 file(s)
  -- Recontouring attachment: 1 file(s)
  -- Other SUPO Attachment: 3 file(s)

- PWD Report
- PWD Attachments
  -- None

- Bond Report

- Bond Attachments
  -- None

Form 3160-3
(October 2024)

FORM APPROVED
OMB No. 1004-0220
Expires: October 31, 2027

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.: NMLC047311B

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.: STUDY BUTTE 13 FED COM 501H

2. Name of Operator: EOG RESOURCES INCORPORATED

9. API Well No.: 30-015-57595

3a. Address: 1111 BAGBY SKY LOBBY 2, HOUSTON, TX 77002

3b. Phone No. *(include area code)*: (713) 651-7000

10. Field and Pool, or Exploratory: SAND TANK/BONE SPRING

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

At surface: TR D / 390 FNL / 475 FWL / LAT 32.7391832 / LONG -104.0011742

At proposed prod. zone: TR M / 850 FSL / 100 FWL / LAT 32.7425829 / LONG -104.0365227

11. Sec., T. R. M. or Blk. and Survey or Area: SEC 20/T18S/R30E/NMP

14. Distance in miles and direction from nearest town or post office*

12. County or Parish: EDDY

13. State: NM

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any): 100 feet

16. No of acres in lease:

17. Spacing Unit dedicated to this well: 240.0

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.: 0 feet

19. Proposed Depth: 7930 feet / 16722 feet

20. BLM/BIA Bond No. in file: FED: NMB106709157

21. Elevations (Show whether DF, KDB, RT, GL, etc.): 3495 feet

22. Approximate date work will start*: 12/01/2025

23. Estimated duration: 25 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)	STAR HARRELL / Ph: (713) 651-7000	08/20/2021

Title: Regulatory Specialist

Approved by *(Signature)*	Name *(Printed/Typed)*	Date
(Electronic Submission)	CODY LAYTON / Ph: (575) 234-5959	12/01/2025

Title	Office
Assistant Field Manager Lands & Minerals	Carlsbad Field Office

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

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 12/01/2025

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)

Approval Date: 12/01/2025

Additional Operator Remarks

Location of Well

0. SHL: TR D / 390 FNL / 475 FWL / TWSP: 18S / RANGE: 30E / SECTION: 20 / LAT: 32.7391832 / LONG: -104.0011742 (TVD: 0 feet, MD: 0 feet)

PPP: TR A / 167 FNL / 0 FEL / TWSP: 18S / RANGE: 29E / SECTION: 19 / LAT: 32.7397981 / LONG: -104.0027187 (TVD: 2051 feet, MD: 2052 feet)

PPP: TR O / 842 FSL / 1320 FEL / TWSP: 18S / RANGE: 29E / SECTION: 13 / LAT: 32.7425942 / LONG: -104.02398 (TVD: 8015 feet, MD: 12865 feet)

PPP: TR P / 840 FSL / 0 FWL / TWSP: 18S / RANGE: 29E / SECTION: 18 / LAT: 32.7425978 / LONG: -104.0196885 (TVD: 8045 feet, MD: 11546 feet)

PPP: TR M / 845 FSL / 1259 FWL / TWSP: 18S / RANGE: 29E / SECTION: 18 / LAT: 32.7426011 / LONG: -104.0155934 (TVD: 8073 feet, MD: 10286 feet)

PPP: TR N / 850 FSL / 2480 FWL / TWSP: 18S / RANGE: 29E / SECTION: 18 / LAT: 32.7426042 / LONG: -104.0116246 (TVD: 8100 feet, MD: 9066 feet)

BHL: TR M / 850 FSL / 100 FWL / TWSP: 18S / RANGE: 29E / SECTION: 13 / LAT: 32.7425829 / LONG: -104.0365227 (TVD: 7930 feet, MD: 16722 feet)

BLM Point of Contact

Name: MARIAH HUGHES
Title: Land Law Examiner
Phone: (575) 234-5972
Email: MHUGHES@BLM.GOV

PECOS DISTRICT

SURFACE USE

CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG RESOURCES INCOPORATED
LEASE NO.:	NMLC0046256B
COUNTY:	Eddy County, New Mexico

Wells:

STUDY BUTTE 13 FED COM 501H

Surface Hole Location: 390 feet FNL and 475 feet FWL, Section 20, T. 18 S., R. 30 E.

Bottom Hole Location: 850 feet FSL and 100 feet FWL, Section 13, T. 18 S., R. 29 E.

Approval Date: 12/01/2025

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1. GENERAL PROVISIONS

The failure of the operator to comply with these requirements may result in the assessment of liquidated damages or penalties pursuant to 43 CFR 3163.1 or 3163.2. A copy of these conditions of approval shall be present on the location during construction, drilling and reclamation activity. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

1.1. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the operator, or any person working on the operator's behalf, on the public or federal land shall be immediately reported to the Authorized Officer. The operator shall suspend all operations in the immediate area (within 100ft) of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer, in conjunction with a BLM Cultural Resource Specialist, to determine appropriate actions to prevent the loss of significant scientific values. The operator shall be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the operator.

Traditional Cultural Properties (TCPs) are protected by NHPA as codified in 36 CFR 800 for possessing traditional, religious, and cultural significance tied to a certain group of individuals. Though there are currently no designated TCPs within the project area or within a mile of the project area, but it is possible for a TCP to be designated after the approval of this project. **If a TCP is designated in the project area after the project's approval, the BLM Authorized Officer will notify the operator of the following conditions and the duration for which these conditions are required.**

1. Temporary halting of all construction, drilling, and production activities to lower noise.
2. Temporary shut-off of all artificial lights at night.

The operator is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA), specifically NAGPRA Subpart B regarding discoveries, to protect human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered during project work. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and a BLM-CFO Authorized Officer will be notified immediately. The BLM will then be required to be notified, in writing, within 24 hours of the discovery. The written notification should include the geographic location by county and state, the contents of the discovery, and the steps taken to protect said discovery. You must also include any potential threats to the discovery and a conformation that all activity within 100ft of the discovery has ceased and work will not resume until written certification is issued. All work on the entire project must halt for a minimum of 3 days and work cannot resume until an Authorized Officer grants permission to do so.

Any paleontological resource discovered by the operator, or any person working on the operator's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The operator shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. The operator will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the operator.

1.2. RANGELAND RESOURCES

1.2.1. **Cattleguards**

Where a permanent cattleguard 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.

1.2.2. **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).

1.2.3. **Livestock Watering Requirement**

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

1.3. 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, New Mexico Department of Agriculture, and BLM requirements and policies.

1.3.1 African Rue (Peganum harmala)

Spraying: The spraying of African Rue must be completed by a licensed or certified applicator. In order to attempt to kill or remove African Rue the proper mix of chemical is needed. The mix consists of 2% Arsenal (Imazapyr) and 2% Roundup (Glyphosate) along with a nonionic surfactant. Any other chemicals or combinations shall be approved by the BLM Noxious Weeds Coordinator prior to treatment. African Rue shall be sprayed in connection to any dirt working activities or disturbances to the site being sprayed. Spraying of African Rue shall be done on immature plants at initial growth through flowering and mature plants between budding and flowering stages. Spraying shall not be conducted after flowering when plant is fruiting. This will ensure optimal intake of chemical and decrease chances of developing herbicide resistance. After spraying, the operator or necessary parties must contact the Carlsbad Field Office to inspect the effectiveness of the application treatment to the plant species. No ground disturbing activities can take place until the inspection by the authorized officer is complete. The operator may contact the Environmental Protection Department or the BLM Noxious Weed Coordinator at (575) 234-5972 or BLM_NM_CFO_NoxiousWeeds@blm.gov.

Management Practices: In addition to spraying for African Rue, good management practices should be followed. All equipment should be washed off using a power washer in a designated containment area. The containment area shall be bermed to allow for containment of the seed to prevent it from entering any open areas of the nearby landscape. The containment area shall be excavated near or adjacent to the well pad at a depth of three feet and just large enough to get equipment inside it to be washed off. This will allow all seeds to be in a centrally located area that can be treated at a later date if the need arises.

1.4. LIGHT POLLUTION

1.4.1. **Downfacing**

All permanent lighting will be pointed straight down at the ground in order to prevent light spill beyond the edge of approved surface disturbance.

1.4.2. **Shielding**

All permanent lighting will use full cutoff luminaires, which are fully shielded (i.e., not emitting direct or indirect light above an imaginary horizontal plane passing through the lowest part of the light source).

1.4.3. **Lighting Color**

Lighting shall be 3,500 Kelvin or less (Warm White) except during drilling, completion, and workover operations. No bluish-white lighting shall be used in permanent outdoor lighting.

2. SPECIAL REQUIREMENTS

2.1. WATERSHED

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 topsoil 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.

2.1.1. **Tank Battery**

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. Secondary containment holding capacity must be large enough to contain 1 ½ times the content of the largest tank or 24-hourproduction, whichever is greater (displaced volume from all tanks within the berms MUST be subtracted from total volume of containment in calculating holding capacity). 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.

2.1.2. **Buried/Surface Line(s)**

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 must 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 must be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars must be placed within the corridor to divert and dissipate surface runoff. A pipeline access road is not permitted to cross ephemeral drainages. Traffic must be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) 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.

2.1.3. **Electric Line(s)**

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 must not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that does not promote further erosion.

2.3 WILDLIFE

2.3.1 **Lesser Prairie Chicken**

2.3.1.1 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, geophysical exploration other than 3-D operations, and 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 ft. from the source of the noise.

2.3.1.2 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.

2.3.1.3 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 BLM_NM_CFO_Construction_Reclamation@blm.gov.

2.3.3 **Dunes Sagebrush Lizard**

- Pre-construction contact with a BLM wildlife biologist is required within 5 days before any ground disturbing activities associated with the project occurs.
- Successful completion of the BLM Trench Stipulation Workshop is required for a non-agency person to be approved as a monitor.
- Any trench left open for (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, an agency approved monitor shall walk the entire length of the open trench and remove all trapped vertebrates. The bottom surface of the trench will be disturbed a minimum of 2 inches in order to arouse any buried vertebrates. All vertebrates will be released alive at least 100 yards from the trench.
- For trenches left open for eight (8) hours or more the following requirements apply:
    - Earthen escape ramps and/or structures (built at no more than a 30-degree slope and spaced no more than 500 feet apart) shall be placed in the trench. Metal structures will not be authorized. Options will be discussed in detail at the required Trench Stipulation Workshop.
    - One approved monitor shall be required to survey up to three miles of trench between the hours of 11 AM-2 PM. A daily report (consolidate if there is more than one monitor) on the vertebrates found and removed from the trench shall be provided to the BLM (email/fax is acceptable) the following morning.
    - Prior to backfilling of the trench all structures used as escape ramps will be removed and the bottom surface of the trench will be disturbed a minimum of 2 inches in order to arouse any buried vertebrates. All vertebrates will be released alive a minimum of 100 yards from the trench.
- This stipulation shall apply to the entire length of the project in the DSL habitat polygon regardless of land ownership or CCA/CCAA enrollment status.
- A project closeout will be required within three business days of the completion of the project.

2.4 VISUAL RESOURCE MANAGEMENT

2.5.1 **VRM IV**

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

AND/OR

All above ground structures including but not limited to pumpjacks, storage tanks, production equipment, etc. must be shorter than 8 feet.

3. CONSTRUCTION REQUIRENMENTS

3.1 CONSTRUCTION NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at BLM_NM_CFO_Construction_Reclamation@blm.gov 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 COAs on the well site and they shall be made available upon request by the Authorized Officer.

3.2 TOPSOIL

The operator shall strip the topsoil (the A horizon) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. No more than the top 6 inches of topsoil shall be removed. 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 (the B horizon and below) 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.

3.3 CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No reserve pits will be used for drill cuttings. The operator shall properly dispose of drilling contents at an authorized disposal site.

3.4 FEDERAL MINERAL 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.

3.5 WELL PAD & SURFACING

Any surfacing material used to surface the well pad will be removed at the time of interim and final reclamation.

3.6 EXCLOSURE FENCING (CELLARS & PITS)

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 well cellar 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.)

The operator will also install and maintain mesh netting for all open well cellars to prevent access to smaller wildlife before and after drilling operations until the well cellar is free of fluids and the operator. Use a maximum netting mesh size of 1 ½ inches. The netting must not have holes or gaps.

3.7 ON LEASE ACESS ROAD

3.7.1 **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.

3.7.2 **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 will 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.

3.7.3 **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.

3.7.4 **Ditching**

Ditching shall be required on both sides of the road.

3.7.5 **Turnouts**

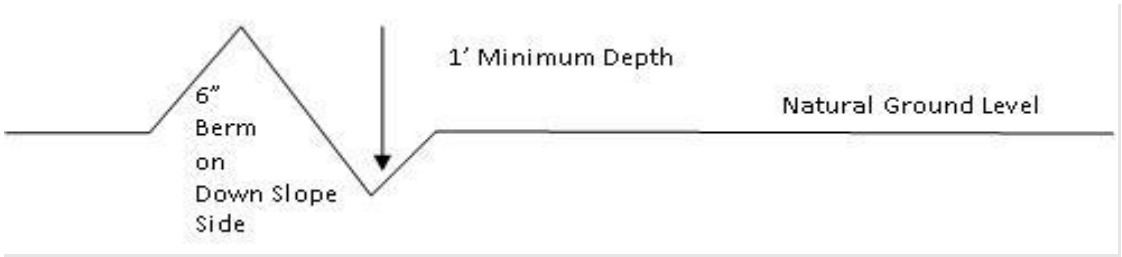
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

3.7.6 **Drainage**

Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, leadoff 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:

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

3.7.7 **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

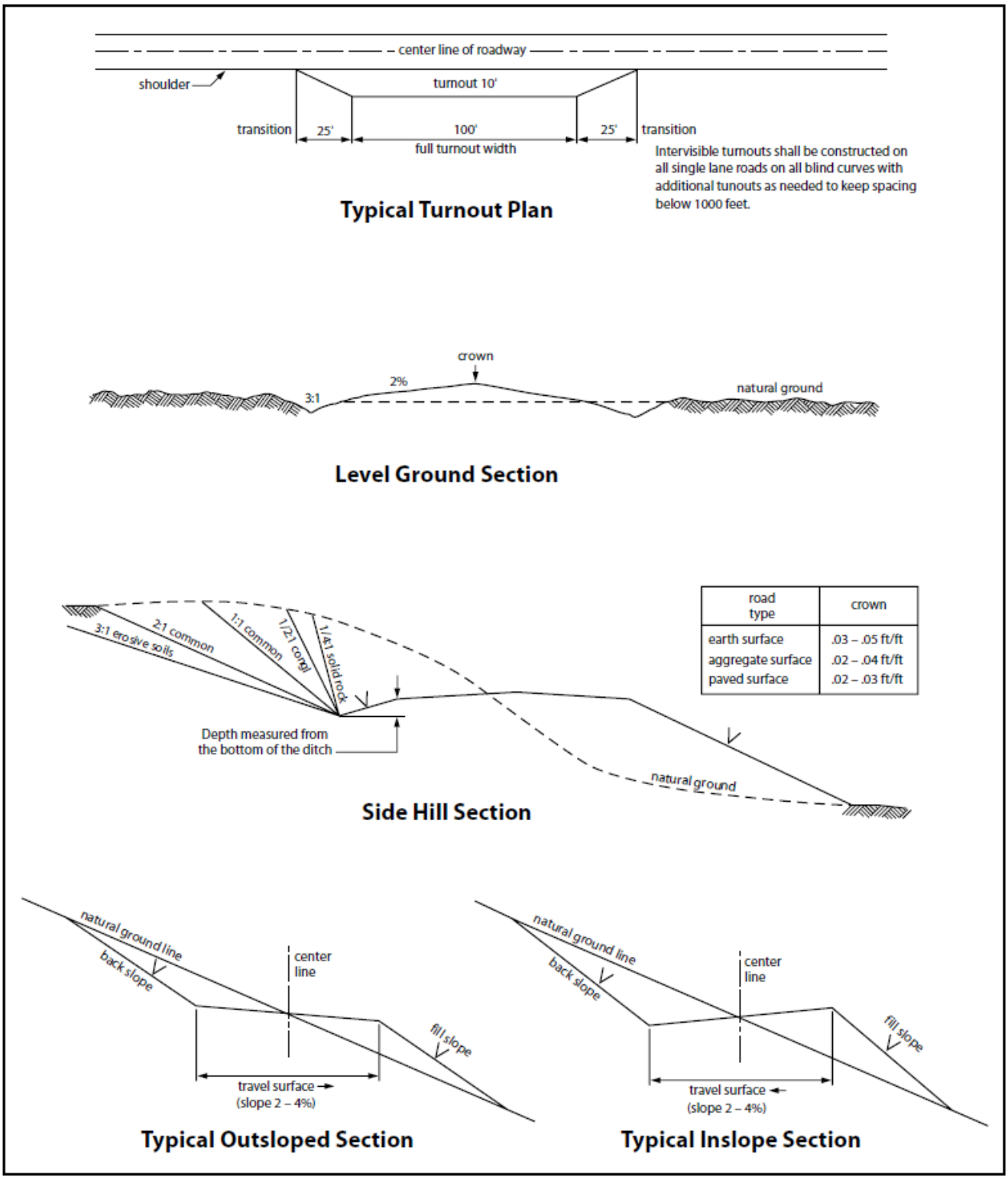


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

4. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values 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.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

4.1 BURIED PIPELINES

A copy of the application (APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request a copy of your permit during construction to ensure compliance with all stipulations.

Operator agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Operator shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this APD.

2. The Operator shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the operator shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the pipeline corridor or on facilities authorized under this APD. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The operator agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Pipeline corridor (unless the release or threatened release is wholly unrelated to the operator's activity on the pipeline corridor), or resulting from the activity of the Operator on the pipeline corridor. This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant is discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of operator, regardless of fault. Upon failure of operator to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and

fish and wildlife habitats, at the full expense of the operator. Such action by the Authorized Officer shall not relieve operator of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized pipeline corridor.

6. The pipeline will be buried with a minimum cover of 36 inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this pipeline corridor will be 30 feet:

   - Blading of vegetation within the pipeline corridor will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation*.)

   - Clearing of brush species within the pipeline corridor will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

   - The remaining area of the pipeline corridor (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The operator shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately **36** inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this pipeline corridor and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire pipeline corridor shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted, and a 6-inch berm will be left over the ditch line to allow for settling back to grade.

10. The pipeline will be identified by signs at the point of origin and completion of the pipeline corridor and at all road crossings. At a minimum, signs will state the operator's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

11. The operator shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the operator before maintenance begins. The operator will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the operator to construct temporary deterrence structures.

12. 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 associated roads, 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.

13. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them alive at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30-degree slope and spaced no more than 500 feet apart) shall be placed in the trench. Before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them alive at least 100 yards from the trench.

4.2 OVERHEAD ELECTRIC LINES

A copy of the APD and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Operator agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The operator shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this APD.
2. The operator shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the operator shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the powerline corridor or on facilities authorized under this powerline corridor. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.
3. The operator agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Powerline corridor(unless the release or threatened release is wholly unrelated to the operator's activity on the powerline corridor), or resulting from the activity of the Operator on the powerline corridor. This agreement applies without regard to whether a release is caused by the operator, its agent, or unrelated third parties.
4. There will be no clearing or blading of the powerline corridor unless otherwise agreed to in writing by the Authorized Officer.
5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The operator shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this powerline corridor, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the operator without liability or expense to the United States.
6. Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.
7. The operator shall minimize disturbance to existing fences and other improvements on public lands. The operator is required to promptly repair improvements to at least their former state. Functional use

of these improvements will be maintained at all times. The operator will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

8. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.
9. Upon cancellation, relinquishment, or expiration of this APD, the operator shall comply with those abandonment procedures as prescribed by the Authorized Officer.
10. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this APD, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.
11. Special Stipulations:
    - For reclamation remove poles, lines, transformer, etc. and dispose of properly. Fill in any holes from the poles removed.

4.3 RANGLAND MITIGATION FOR PIPELINES

4.5.1 **Fence Requirement**

Where entry is granted across a fence line, the fence must be braced and tied off on both sides of the passageway with H-braces 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 operator prior to crossing any fence(s).

4.5.2 **Cattleguards**

An appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at road-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.

4.5.3 **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.

Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment operator if any damage occurs to structures that provide water to livestock.

- Livestock operators will be contacted, and adequate crossing facilities will be provided as needed to ensure livestock are not prevented from reaching water sources because of the open trench.
- Wildlife and livestock trails will remain open and passable by adding soft plugs (areas where the trench is excavated and replaced with minimal compaction) during the construction phase. Soft plugs with ramps on either side will be left at all well-defined livestock and wildlife trails along the open trench to allow passage across the trench and provide a means of escape for livestock and wildlife that may enter the trench.
- Trenches will be backfilled as soon as feasible to minimize the amount of open trench. The Operator will avoid leaving trenches open overnight to the extent possible and open trenches that

cannot be backfilled immediately will have escape ramps (wooden) placed at no more than 2,500 feet intervals and sloped no more than 45 degrees.

5. PRODUCTION (POST DRILLING)

5.1 WELL STRUCTURES & FACILITIES

5.1.1 **Placement of Production Facilities**

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

5.1.2 **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.

5.1.3. 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.

5.1.4. 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.

5.1.5. 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.

6. RECLAMATION

Stipulations required by the Authorized Officer on specific actions may differ from the following general guidelines

6.1 ROAD AND SITE RECLAMATION

Any roads constructed during the life of the well will have the caliche removed or linear burial. If contaminants are indicated then testing will be required for chlorides and applicable contaminate anomalies for final disposal determination (disposed of in a manner approved by the Authorized Officer within Federal, State and Local statutes, regulations, and ordinances) and seeded to the specifications in sections 6.5 and 6.6.

6.2 EROSION CONTROL

Install erosion control berms, windrows, and hummocks. Windrows must be level and constructed perpendicular to down-slope drainage; steeper slopes will require greater windrow density. Topsoil between windrows must be ripped to a depth of at least 12”, unless bedrock is encountered. Any large boulders pulled up during ripping must be deep-buried on location. Ripping must be perpendicular to down-slope. The surface must be left rough in order to catch and contain rainfall on-site. Any trenches resulting from erosion cause by run-off shall be addressed immediately.

6.3 INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations must 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 must work with BLM surface protection specialists (BLM_NM_CFO_Construction_Reclamation@blm.gov) to devise the best strategies to reduce the size of the location. Interim reclamation must allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche and any other surface material is required. 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 in section 6.6.

Upon completion of interim reclamation, the operator shall submit a Sundry Notice, Subsequent Report of Reclamation (Form 3160-5).

6.4 FINAL ABANDONMENT & RECLAMATION

Prior to surface abandonment, the operator shall submit a Notice of Intent Sundry Notice and reclamation plan.

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 will 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. After earthwork and seeding is completed, the operator is required to submit a Sundry Notice, Subsequent Report of Reclamation.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (BLM_NM_CFO_Construction_Reclamation@blm.gov).

6.5 SEEDING TECHNIQUES

Seeds shall be hydro-seeded, mechanically drilled, or broadcast, with the broadcast-seeded area raked, ripped or dragged to aid in covering the seed. The seed mixture shall be evenly and uniformly planted over the disturbed area.

6.6 SOIL SPECIFIC SEED MIXTURE

The lessee/permitee 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 will 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 will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the Authorized Officer.

Seed land application will be accomplished by mechanical planting using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area. Smaller/heavier seeds tend to drop the bottom of the drill and are planted first; the operator shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast, and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory BLM or Soil Conservation

District stand is established as determined by the Authorized Officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding or until several months of precipitation have occurred, enabling a full four months of growth, with one or more seed generations being established

Seed Mixture #6 for LPC/HEA Sites

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

Species	lb/acre
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	5lbs/A
Big Bluestem	5lbs/A
Plains Coreopsis	5lbs/A
Sand Dropseed	1lbs/A
Partridge Pea	1.6 lbs/A
Purple Prairie Clover	0.4 lbs/A
Fire wheel	0.4lbs/A

*Pounds of pure live seed:

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	EOG RESOURCES INCORPORATED
WELL NAME & NO.:	STUDY BUTTE 13 FED COM 501H
APD ID:	10400079376
LOCATION:	Section 20, T.18 S., R.30 E. NMP.
COUNTY:	Eddy County, New Mexico

COA

H_2S	○ No		◉ Yes	
Potash / WIPP	○ None	◉ Secretary	○ R-111-Q	☐ Open Annulus ☐ WIPP
Cave / Karst	○ Low	◉ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☐ Capitan Reef	☐ Water Disposal	☑ COM	☐ Unit
Waste Prev.	○ Self-Certification	○ Waste Min. Plan	◉ APD Submitted prior to 06/10/2024	
Additional Language	☑ Flex Hose ☐ Four-String	☐ Casing Clearance ☑ Offline Cementing	☐ Pilot Hole ☑ Fluid-Filled	☑ Break Testing

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H_2S) Drilling Plan shall be activated **AT SPUD**. As a result, the Hydrogen Sulfide area must meet **43 CFR 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING DESIGN

Primary Casing Program

1. The **13-3/8** inch surface casing shall be set at approximately **325 ft.** (a minimum of 70 feet into the Rustler Anhydrite, below usable water and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 ft. above the salt.**
   a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
   b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8**

 Approval Date: 12/01/2025

hours or **500 psi 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 in a competent bed at approximately **3,525 ft.** The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

- **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**.

Note: The intermediate casing must be kept fluid-filled to meet minimum safety factor requirement against collapse load.

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

❖ In Secretary Oreder Potash 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.

3. Operator has proposed to set **7 in.** production casing at approximately **8,166 ft.** (7,527 ft. TVD). The minimum required fill of cement behind the **7 in.** production casing is:

- Cement should tie-back **at least 500 feet** into previous casing string. Operator shall provide method of verification. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to **Cave/Karst and Potash**.

4. The minimum required fill of cement behind the **4-1/2 in.** production liner is:

- Cement should tie-back **at least 100 feet** into previous casing string. Operator shall provide method of verification.

Alternate Casing Program

1. The **13-3/8** inch surface casing shall be set at approximately **325 ft.** (a minimum of 70 feet into the Rustler Anhydrite, below usable water and above the salt) and cemented to the surface. **If salt is encountered, set casing at least 25 ft. above the salt.**

a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8**

hours or **500 psi 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 in a competent bed at approximately **3,525 ft.** The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

- **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**.

Note: The intermediate casing must be kept fluid-filled to meet minimum safety factor requirement against collapse load.

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

❖ In Secretary Oreder Potash 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.

3. Operator has proposed to set **7 in.** production casing at approximately **9,066 ft.** (8,100 ft. TVD). The minimum required fill of cement behind the **7 in.** production casing is:

- Cement should tie-back **at least 500 feet** into previous casing string. Operator shall provide method of verification. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to **Cave/Karst and Potash**.

4. The minimum required fill of cement behind the **4-1/2 in.** production liner is:

- Cement should tie-back **at least 100 feet** into previous casing string. Operator shall provide method of verification.

Offline Cementing

Operator has been **(Approved)** to pump the proposed cement program offline in the **Surface and intermediate(s) intervals**. Offline cementing should commence within 24 hours of landing the casing for the interval. Notify the BLM 4hrs prior to the commencement of any offline cementing procedure at **Eddy County: 575-361-2822**.

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. 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 **5000 (5M)** psi. The BOP/BOPE and annular preventer shall be pressure-tested in accordance with **title 43 CFR 3172.**

    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 the **title 43 CFR 3172.6(b)(9)** must be followed.

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for intervals utilizing a 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-361-2822 Eddy County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.
- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated

date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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)

Contact Eddy County Petroleum Engineering Inspection Staff:

Email or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220; **BLM_NM_CFO_DrillingNotifications@BLM.GOV**; (575) 361-2822.

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
    i. Notify the BLM when moving in and removing the Spudder Rig.
    ii. 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.
    iii. BOP/BOPE test to be conducted per **43 CFR 3172** 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 doghouse or stairway area.

3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

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 of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity 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 integrity 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-Q 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 **43 CFR 3172**.
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:
    i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    ii. 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.
    iii. Manufacturer representative shall install the test plug for the initial BOP test.
    iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
    v. 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.
   i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
   ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (Only applies to single stage cement jobs, prior to the cement setting up.)
   iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** 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 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
   iv. 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.
   v. The results of the test shall be reported to the appropriate BLM office.
   vi. 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.
   vii. 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.

viii. 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 **43 CFR 3172**.

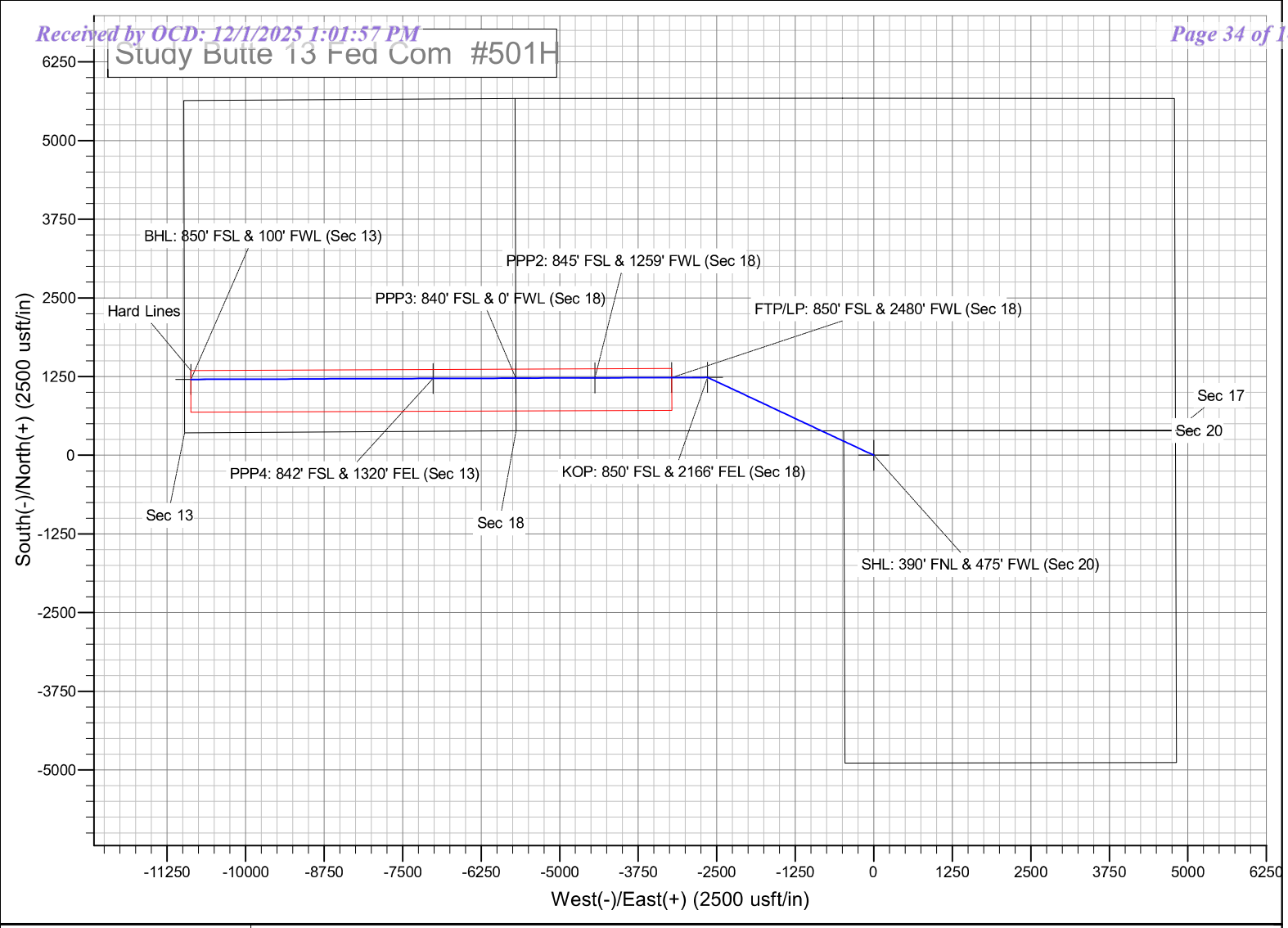
C. DRILLING MUD

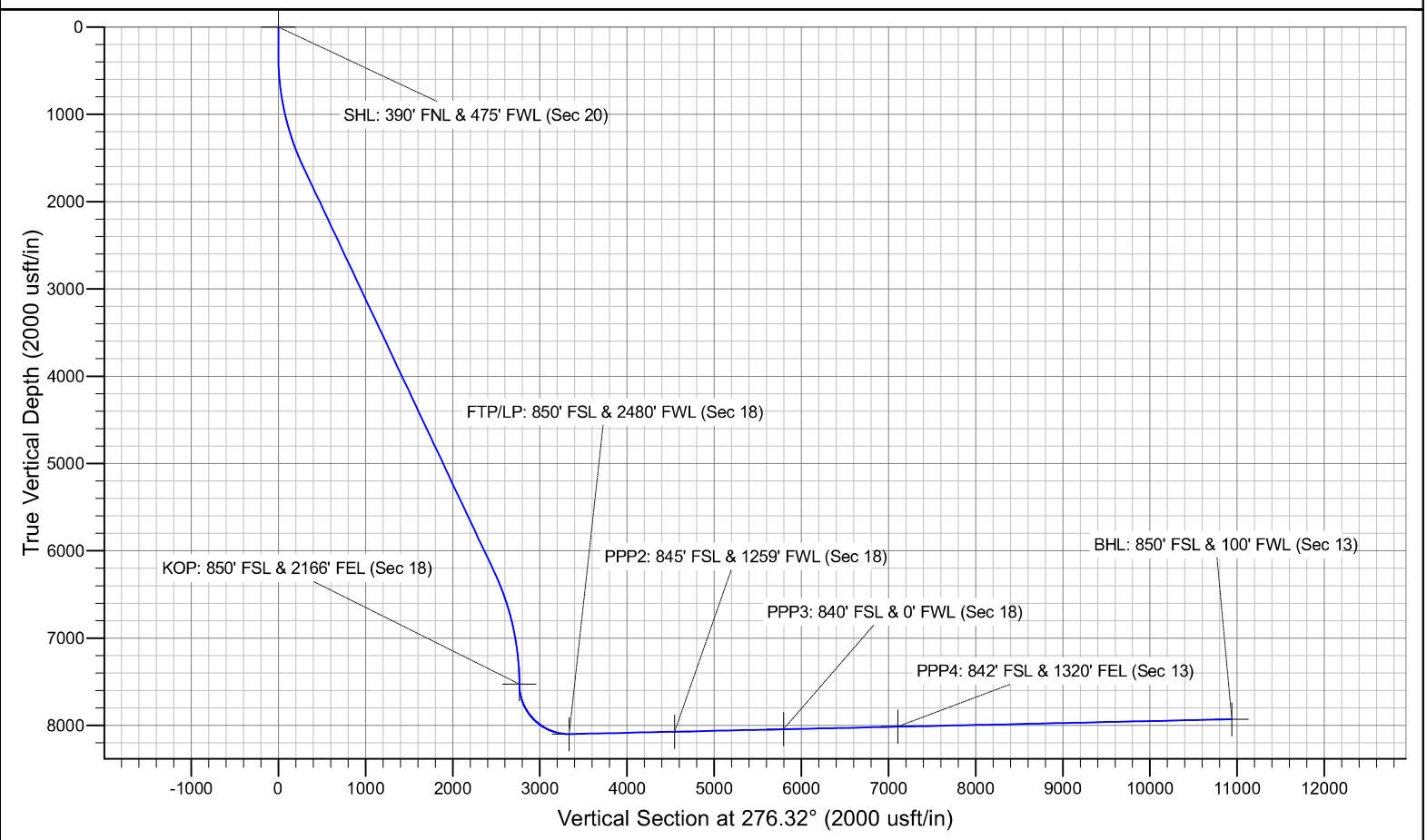
Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

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.

SA 11/17/2025


Study Butte 13 Fed Com #501H
BHL: 850' FSL & 100' FWL (Sec 13)
PPP2: 845' FSL & 1259' FWL (Sec 18)
PPP3: 840' FSL & 0' FWL (Sec 18)
Hard Lines
FTP/LP: 850' FSL & 2480' FWL (Sec 18)
Sec 17
Sec 20
PPP4: 842' FSL & 1320' FEL (Sec 13)
KOP: 850' FSL & 2166' FEL (Sec 18)
Sec 13
Sec 18
SHL: 390' FNL & 475' FWL (Sec 20)
South(-)/North(+) (2500 usft/in)
West(-)/East(+) (2500 usft/in)


SHL: 390' FNL & 475' FWL (Sec 20)
FTP/LP: 850' FSL & 2480' FWL (Sec 18)
KOP: 850' FSL & 2166' FEL (Sec 18)
PPP2: 845' FSL & 1259' FWL (Sec 18)
BHL: 850' FSL & 100' FWL (Sec 13)
PPP3: 840' FSL & 0' FWL (Sec 18)
PPP4: 842' FSL & 1320' FEL (Sec 13)
True Vertical Depth (2000 usft/in)
Vertical Section at 276.32° (2000 usft/in)

Mewbourne Oil Company

Eddy County, New Mexico NAD 83
Study Butte 13 Fed Com #501H
Sec 20, T18S, R30E
SHL: 390' FNL & 475' FWL (Sec 20)
BHL: 850' FSL & 100' FWL (Sec 13)

Plan: Design #1

Standard Planning Report

10 October, 2025

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 20, T18S, R30E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 850' FSL & 100' FWL (Sec 13)		
Design:	Design #1		

Project Eddy County, New Mexico NAD 83

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

Site Study Butte 13 Fed Com #501H

Site Position:		**Northing:**	632,806.60 usft	**Latitude:**	32.7391831
From:	Map	**Easting:**	643,468.50 usft	**Longitude:**	-104.0011742
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Sec 20, T18S, R30E

Well Position	**+N/-S**	0.0 usft	**Northing:**	632,806.60 usft	**Latitude:**	32.7391831
	+E/-W	0.0 usft	**Easting:**	643,468.50 usft	**Longitude:**	-104.0011742
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,523.0 usft	**Ground Level:**	3,495.0 usft
Grid Convergence:		0.18 °				

Wellbore BHL: 850' FSL & 100' FWL (Sec 13)

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/31/2014	7.39	60.50	48,498.76050072

Design Design #1

Audit Notes:

Version:	**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	276.32

Plan Survey Tool Program **Date** 10/10/2025

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	16,722.9	Design #1 (BHL: 850' FSL & 100'		

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
325.0	0.00	0.00	325.0	0.0	0.0	0.00	0.00	0.00	0.00	
1,650.2	26.50	295.04	1,603.5	127.5	-272.8	2.00	2.00	0.00	295.04	
6,840.8	26.50	295.04	6,248.5	1,108.0	-2,371.4	0.00	0.00	0.00	0.00	
8,166.1	0.00	0.00	7,527.0	1,235.5	-2,644.2	2.00	-2.00	0.00	180.00	KOP: 850' FSL & 216(
9,079.1	91.27	269.78	8,100.0	1,233.3	-3,230.1	10.00	10.00	0.00	-90.22	
16,722.9	91.27	269.78	7,930.0	1,204.6	-10,871.9	0.00	0.00	0.00	0.00	BHL: 850' FSL & 100'

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 20, T18S, R30E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 850' FSL & 100' FWL (Sec 13)		
Design:	Design #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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL: 390' FNL & 475' FWL (Sec 20)									
50.0	0.00	0.00	50.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
325.0	0.00	0.00	325.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.50	295.04	350.0	0.0	-0.1	0.1	2.00	2.00	0.00
400.0	1.50	295.04	400.0	0.4	-0.9	0.9	2.00	2.00	0.00
450.0	2.50	295.04	450.0	1.2	-2.5	2.6	2.00	2.00	0.00
500.0	3.50	295.04	499.9	2.3	-4.8	5.1	2.00	2.00	0.00
550.0	4.50	295.04	549.8	3.7	-8.0	8.4	2.00	2.00	0.00
600.0	5.50	295.04	599.6	5.6	-11.9	12.5	2.00	2.00	0.00
650.0	6.50	295.04	649.3	7.8	-16.7	17.4	2.00	2.00	0.00
700.0	7.50	295.04	698.9	10.4	-22.2	23.2	2.00	2.00	0.00
750.0	8.50	295.04	748.4	13.3	-28.5	29.8	2.00	2.00	0.00
800.0	9.50	295.04	797.8	16.6	-35.6	37.2	2.00	2.00	0.00
850.0	10.50	295.04	847.1	20.3	-43.5	45.4	2.00	2.00	0.00
900.0	11.50	295.04	896.1	24.3	-52.1	54.5	2.00	2.00	0.00
950.0	12.50	295.04	945.1	28.7	-61.5	64.3	2.00	2.00	0.00
1,000.0	13.50	295.04	993.8	33.5	-71.7	75.0	2.00	2.00	0.00
1,050.0	14.50	295.04	1,042.3	38.6	-82.7	86.4	2.00	2.00	0.00
1,100.0	15.50	295.04	1,090.6	44.1	-94.4	98.7	2.00	2.00	0.00
1,150.0	16.50	295.04	1,138.6	49.9	-106.9	111.7	2.00	2.00	0.00
1,200.0	17.50	295.04	1,186.5	56.1	-120.1	125.6	2.00	2.00	0.00
1,250.0	18.50	295.04	1,234.0	62.7	-134.1	140.2	2.00	2.00	0.00
1,300.0	19.50	295.04	1,281.3	69.6	-148.9	155.6	2.00	2.00	0.00
1,350.0	20.50	295.04	1,328.3	76.8	-164.4	171.8	2.00	2.00	0.00
1,400.0	21.50	295.04	1,374.9	84.4	-180.6	188.8	2.00	2.00	0.00
1,450.0	22.50	295.04	1,421.3	92.3	-197.6	206.5	2.00	2.00	0.00
1,500.0	23.50	295.04	1,467.3	100.6	-215.3	225.0	2.00	2.00	0.00
1,550.0	24.50	295.04	1,513.0	109.2	-233.7	244.3	2.00	2.00	0.00
1,600.0	25.50	295.04	1,558.3	118.1	-252.8	264.3	2.00	2.00	0.00
1,650.0	26.50	295.04	1,603.3	127.4	-272.7	285.1	2.00	2.00	0.00
1,650.2	26.50	295.04	1,603.5	127.5	-272.8	285.2	2.00	2.00	0.00
1,700.0	26.50	295.04	1,648.0	136.9	-292.9	306.2	0.00	0.00	0.00
1,750.0	26.50	295.04	1,692.8	146.3	-313.1	327.3	0.00	0.00	0.00
1,800.0	26.50	295.04	1,737.5	155.8	-333.3	348.5	0.00	0.00	0.00
1,850.0	26.50	295.04	1,782.2	165.2	-353.6	369.6	0.00	0.00	0.00
1,900.0	26.50	295.04	1,827.0	174.6	-373.8	390.7	0.00	0.00	0.00
1,950.0	26.50	295.04	1,871.7	184.1	-394.0	411.9	0.00	0.00	0.00
2,000.0	26.50	295.04	1,916.5	193.5	-414.2	433.0	0.00	0.00	0.00
2,050.0	26.50	295.04	1,961.2	203.0	-434.4	454.1	0.00	0.00	0.00
2,100.0	26.50	295.04	2,006.0	212.4	-454.6	475.3	0.00	0.00	0.00
2,150.0	26.50	295.04	2,050.7	221.9	-474.8	496.4	0.00	0.00	0.00
2,200.0	26.50	295.04	2,095.5	231.3	-495.1	517.5	0.00	0.00	0.00
2,250.0	26.50	295.04	2,140.2	240.8	-515.3	538.7	0.00	0.00	0.00
2,300.0	26.50	295.04	2,184.9	250.2	-535.5	559.8	0.00	0.00	0.00
2,350.0	26.50	295.04	2,229.7	259.7	-555.7	580.9	0.00	0.00	0.00
2,400.0	26.50	295.04	2,274.4	269.1	-575.9	602.1	0.00	0.00	0.00
2,450.0	26.50	295.04	2,319.2	278.5	-596.1	623.2	0.00	0.00	0.00
2,500.0	26.50	295.04	2,363.9	288.0	-616.4	644.3	0.00	0.00	0.00

Approval Date: 12/01/2025

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 20, T18S, R30E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 850' FSL & 100' FWL (Sec 13)		
Design:	Design #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)
2,550.0	26.50	295.04	2,408.7	297.4	-636.6	665.5	0.00	0.00	0.00
2,600.0	26.50	295.04	2,453.4	306.9	-656.8	686.6	0.00	0.00	0.00
2,650.0	26.50	295.04	2,498.2	316.3	-677.0	707.7	0.00	0.00	0.00
2,700.0	26.50	295.04	2,542.9	325.8	-697.2	728.9	0.00	0.00	0.00
2,750.0	26.50	295.04	2,587.7	335.2	-717.4	750.0	0.00	0.00	0.00
2,800.0	26.50	295.04	2,632.4	344.7	-737.7	771.1	0.00	0.00	0.00
2,850.0	26.50	295.04	2,677.1	354.1	-757.9	792.3	0.00	0.00	0.00
2,900.0	26.50	295.04	2,721.9	363.6	-778.1	813.4	0.00	0.00	0.00
2,950.0	26.50	295.04	2,766.6	373.0	-798.3	834.5	0.00	0.00	0.00
3,000.0	26.50	295.04	2,811.4	382.5	-818.5	855.7	0.00	0.00	0.00
3,050.0	26.50	295.04	2,856.1	391.9	-838.7	876.8	0.00	0.00	0.00
3,100.0	26.50	295.04	2,900.9	401.3	-858.9	897.9	0.00	0.00	0.00
3,150.0	26.50	295.04	2,945.6	410.8	-879.2	919.1	0.00	0.00	0.00
3,200.0	26.50	295.04	2,990.4	420.2	-899.4	940.2	0.00	0.00	0.00
3,250.0	26.50	295.04	3,035.1	429.7	-919.6	961.3	0.00	0.00	0.00
3,300.0	26.50	295.04	3,079.8	439.1	-939.8	982.5	0.00	0.00	0.00
3,350.0	26.50	295.04	3,124.6	448.6	-960.0	1,003.6	0.00	0.00	0.00
3,400.0	26.50	295.04	3,169.3	458.0	-980.2	1,024.7	0.00	0.00	0.00
3,450.0	26.50	295.04	3,214.1	467.5	-1,000.5	1,045.8	0.00	0.00	0.00
3,500.0	26.50	295.04	3,258.8	476.9	-1,020.7	1,067.0	0.00	0.00	0.00
3,550.0	26.50	295.04	3,303.6	486.4	-1,040.9	1,088.1	0.00	0.00	0.00
3,600.0	26.50	295.04	3,348.3	495.8	-1,061.1	1,109.2	0.00	0.00	0.00
3,650.0	26.50	295.04	3,393.1	505.2	-1,081.3	1,130.4	0.00	0.00	0.00
3,700.0	26.50	295.04	3,437.8	514.7	-1,101.5	1,151.5	0.00	0.00	0.00
3,750.0	26.50	295.04	3,482.5	524.1	-1,121.7	1,172.6	0.00	0.00	0.00
3,800.0	26.50	295.04	3,527.3	533.6	-1,142.0	1,193.8	0.00	0.00	0.00
3,850.0	26.50	295.04	3,572.0	543.0	-1,162.2	1,214.9	0.00	0.00	0.00
3,900.0	26.50	295.04	3,616.8	552.5	-1,182.4	1,236.0	0.00	0.00	0.00
3,950.0	26.50	295.04	3,661.5	561.9	-1,202.6	1,257.2	0.00	0.00	0.00
4,000.0	26.50	295.04	3,706.3	571.4	-1,222.8	1,278.3	0.00	0.00	0.00
4,050.0	26.50	295.04	3,751.0	580.8	-1,243.0	1,299.4	0.00	0.00	0.00
4,100.0	26.50	295.04	3,795.8	590.3	-1,263.3	1,320.6	0.00	0.00	0.00
4,150.0	26.50	295.04	3,840.5	599.7	-1,283.5	1,341.7	0.00	0.00	0.00
4,200.0	26.50	295.04	3,885.3	609.1	-1,303.7	1,362.8	0.00	0.00	0.00
4,250.0	26.50	295.04	3,930.0	618.6	-1,323.9	1,384.0	0.00	0.00	0.00
4,300.0	26.50	295.04	3,974.7	628.0	-1,344.1	1,405.1	0.00	0.00	0.00
4,350.0	26.50	295.04	4,019.5	637.5	-1,364.3	1,426.2	0.00	0.00	0.00
4,400.0	26.50	295.04	4,064.2	646.9	-1,384.6	1,447.4	0.00	0.00	0.00
4,450.0	26.50	295.04	4,109.0	656.4	-1,404.8	1,468.5	0.00	0.00	0.00
4,500.0	26.50	295.04	4,153.7	665.8	-1,425.0	1,489.6	0.00	0.00	0.00
4,550.0	26.50	295.04	4,198.5	675.3	-1,445.2	1,510.8	0.00	0.00	0.00
4,600.0	26.50	295.04	4,243.2	684.7	-1,465.4	1,531.9	0.00	0.00	0.00
4,650.0	26.50	295.04	4,288.0	694.2	-1,485.6	1,553.0	0.00	0.00	0.00
4,700.0	26.50	295.04	4,332.7	703.6	-1,505.8	1,574.2	0.00	0.00	0.00
4,750.0	26.50	295.04	4,377.4	713.1	-1,526.1	1,595.3	0.00	0.00	0.00
4,800.0	26.50	295.04	4,422.2	722.5	-1,546.3	1,616.4	0.00	0.00	0.00
4,850.0	26.50	295.04	4,466.9	731.9	-1,566.5	1,637.6	0.00	0.00	0.00
4,900.0	26.50	295.04	4,511.7	741.4	-1,586.7	1,658.7	0.00	0.00	0.00
4,950.0	26.50	295.04	4,556.4	750.8	-1,606.9	1,679.8	0.00	0.00	0.00
5,000.0	26.50	295.04	4,601.2	760.3	-1,627.1	1,701.0	0.00	0.00	0.00
5,050.0	26.50	295.04	4,645.9	769.7	-1,647.4	1,722.1	0.00	0.00	0.00
5,100.0	26.50	295.04	4,690.7	779.2	-1,667.6	1,743.2	0.00	0.00	0.00
5,150.0	26.50	295.04	4,735.4	788.6	-1,687.8	1,764.4	0.00	0.00	0.00
5,200.0	26.50	295.04	4,780.1	798.1	-1,708.0	1,785.5	0.00	0.00	0.00

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Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 20, T18S, R30E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 850' FSL & 100' FWL (Sec 13)		
Design:	Design #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)
5,250.0	26.50	295.04	4,824.9	807.5	-1,728.2	1,806.6	0.00	0.00	0.00
5,300.0	26.50	295.04	4,869.6	817.0	-1,748.4	1,827.8	0.00	0.00	0.00
5,350.0	26.50	295.04	4,914.4	826.4	-1,768.7	1,848.9	0.00	0.00	0.00
5,400.0	26.50	295.04	4,959.1	835.8	-1,788.9	1,870.0	0.00	0.00	0.00
5,450.0	26.50	295.04	5,003.9	845.3	-1,809.1	1,891.2	0.00	0.00	0.00
5,500.0	26.50	295.04	5,048.6	854.7	-1,829.3	1,912.3	0.00	0.00	0.00
5,550.0	26.50	295.04	5,093.4	864.2	-1,849.5	1,933.4	0.00	0.00	0.00
5,600.0	26.50	295.04	5,138.1	873.6	-1,869.7	1,954.6	0.00	0.00	0.00
5,650.0	26.50	295.04	5,182.9	883.1	-1,889.9	1,975.7	0.00	0.00	0.00
5,700.0	26.50	295.04	5,227.6	892.5	-1,910.2	1,996.8	0.00	0.00	0.00
5,750.0	26.50	295.04	5,272.3	902.0	-1,930.4	2,018.0	0.00	0.00	0.00
5,800.0	26.50	295.04	5,317.1	911.4	-1,950.6	2,039.1	0.00	0.00	0.00
5,850.0	26.50	295.04	5,361.8	920.9	-1,970.8	2,060.2	0.00	0.00	0.00
5,900.0	26.50	295.04	5,406.6	930.3	-1,991.0	2,081.4	0.00	0.00	0.00
5,950.0	26.50	295.04	5,451.3	939.7	-2,011.2	2,102.5	0.00	0.00	0.00
6,000.0	26.50	295.04	5,496.1	949.2	-2,031.5	2,123.6	0.00	0.00	0.00
6,050.0	26.50	295.04	5,540.8	958.6	-2,051.7	2,144.8	0.00	0.00	0.00
6,100.0	26.50	295.04	5,585.6	968.1	-2,071.9	2,165.9	0.00	0.00	0.00
6,150.0	26.50	295.04	5,630.3	977.5	-2,092.1	2,187.0	0.00	0.00	0.00
6,200.0	26.50	295.04	5,675.0	987.0	-2,112.3	2,208.2	0.00	0.00	0.00
6,250.0	26.50	295.04	5,719.8	996.4	-2,132.5	2,229.3	0.00	0.00	0.00
6,300.0	26.50	295.04	5,764.5	1,005.9	-2,152.7	2,250.4	0.00	0.00	0.00
6,350.0	26.50	295.04	5,809.3	1,015.3	-2,173.0	2,271.6	0.00	0.00	0.00
6,400.0	26.50	295.04	5,854.0	1,024.8	-2,193.2	2,292.7	0.00	0.00	0.00
6,450.0	26.50	295.04	5,898.8	1,034.2	-2,213.4	2,313.8	0.00	0.00	0.00
6,500.0	26.50	295.04	5,943.5	1,043.7	-2,233.6	2,335.0	0.00	0.00	0.00
6,550.0	26.50	295.04	5,988.3	1,053.1	-2,253.8	2,356.1	0.00	0.00	0.00
6,600.0	26.50	295.04	6,033.0	1,062.5	-2,274.0	2,377.2	0.00	0.00	0.00
6,650.0	26.50	295.04	6,077.8	1,072.0	-2,294.3	2,398.4	0.00	0.00	0.00
6,700.0	26.50	295.04	6,122.5	1,081.4	-2,314.5	2,419.5	0.00	0.00	0.00
6,750.0	26.50	295.04	6,167.2	1,090.9	-2,334.7	2,440.6	0.00	0.00	0.00
6,800.0	26.50	295.04	6,212.0	1,100.3	-2,354.9	2,461.8	0.00	0.00	0.00
6,840.8	26.50	295.04	6,248.5	1,108.0	-2,371.4	2,479.0	0.00	0.00	0.00
6,850.0	26.32	295.04	6,256.7	1,109.8	-2,375.1	2,482.9	2.00	-2.00	0.00
6,900.0	25.32	295.04	6,301.7	1,119.0	-2,394.8	2,503.5	2.00	-2.00	0.00
6,950.0	24.32	295.04	6,347.1	1,127.9	-2,413.9	2,523.4	2.00	-2.00	0.00
7,000.0	23.32	295.04	6,392.9	1,136.4	-2,432.1	2,542.5	2.00	-2.00	0.00
7,050.0	22.32	295.04	6,439.0	1,144.6	-2,449.7	2,560.9	2.00	-2.00	0.00
7,100.0	21.32	295.04	6,485.4	1,152.5	-2,466.6	2,578.5	2.00	-2.00	0.00
7,150.0	20.32	295.04	6,532.1	1,160.0	-2,482.7	2,595.3	2.00	-2.00	0.00
7,200.0	19.32	295.04	6,579.1	1,167.2	-2,498.0	2,611.4	2.00	-2.00	0.00
7,250.0	18.32	295.04	6,626.5	1,174.0	-2,512.6	2,626.6	2.00	-2.00	0.00
7,300.0	17.32	295.04	6,674.1	1,180.5	-2,526.5	2,641.1	2.00	-2.00	0.00
7,350.0	16.32	295.04	6,721.9	1,186.6	-2,539.6	2,654.8	2.00	-2.00	0.00
7,400.0	15.32	295.04	6,770.0	1,192.4	-2,552.0	2,667.7	2.00	-2.00	0.00
7,450.0	14.32	295.04	6,818.4	1,197.8	-2,563.5	2,679.9	2.00	-2.00	0.00
7,500.0	13.32	295.04	6,866.9	1,202.9	-2,574.4	2,691.2	2.00	-2.00	0.00
7,550.0	12.32	295.04	6,915.7	1,207.6	-2,584.4	2,701.7	2.00	-2.00	0.00
7,600.0	11.32	295.04	6,964.6	1,211.9	-2,593.7	2,711.4	2.00	-2.00	0.00
7,650.0	10.32	295.04	7,013.7	1,215.9	-2,602.2	2,720.3	2.00	-2.00	0.00
7,700.0	9.32	295.04	7,063.0	1,219.5	-2,609.9	2,728.4	2.00	-2.00	0.00
7,750.0	8.32	295.04	7,112.4	1,222.7	-2,616.9	2,735.6	2.00	-2.00	0.00
7,800.0	7.32	295.04	7,161.9	1,225.6	-2,623.0	2,742.1	2.00	-2.00	0.00
7,850.0	6.32	295.04	7,211.6	1,228.1	-2,628.4	2,747.7	2.00	-2.00	0.00

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7,900.0	5.32	295.04	7,261.3	1,230.3	-2,633.0	2,752.5	2.00	-2.00	0.00
7,950.0	4.32	295.04	7,311.1	1,232.1	-2,636.8	2,756.5	2.00	-2.00	0.00
8,000.0	3.32	295.04	7,361.0	1,233.5	-2,639.8	2,759.6	2.00	-2.00	0.00
8,050.0	2.32	295.04	7,411.0	1,234.5	-2,642.1	2,762.0	2.00	-2.00	0.00
8,100.0	1.32	295.04	7,460.9	1,235.2	-2,643.5	2,763.5	2.00	-2.00	0.00
8,150.0	0.32	295.04	7,510.9	1,235.5	-2,644.2	2,764.1	2.00	-2.00	0.00
8,166.1	0.00	0.00	7,527.0	1,235.5	-2,644.2	2,764.2	2.00	-2.00	0.00
KOP: 850' FSL & 2166' FEL (Sec 18)									
8,200.0	3.39	269.78	7,560.9	1,235.5	-2,645.2	2,765.2	10.00	10.00	0.00
8,250.0	8.39	269.78	7,610.6	1,235.5	-2,650.3	2,770.3	10.00	10.00	0.00
8,300.0	13.39	269.78	7,659.7	1,235.4	-2,659.8	2,779.7	10.00	10.00	0.00
8,350.0	18.39	269.78	7,707.8	1,235.4	-2,673.5	2,793.2	10.00	10.00	0.00
8,400.0	23.39	269.78	7,754.5	1,235.3	-2,691.3	2,811.0	10.00	10.00	0.00
8,450.0	28.38	269.78	7,799.5	1,235.2	-2,713.1	2,832.6	10.00	10.00	0.00
8,500.0	33.38	269.78	7,842.4	1,235.1	-2,738.8	2,858.1	10.00	10.00	0.00
8,550.0	38.38	269.78	7,882.9	1,235.0	-2,768.1	2,887.2	10.00	10.00	0.00
8,600.0	43.38	269.78	7,920.6	1,234.9	-2,800.8	2,919.7	10.00	10.00	0.00
8,650.0	48.38	269.78	7,955.4	1,234.8	-2,836.7	2,955.4	10.00	10.00	0.00
8,700.0	53.38	269.78	7,987.0	1,234.6	-2,875.4	2,993.9	10.00	10.00	0.00
8,750.0	58.37	269.78	8,015.0	1,234.5	-2,916.8	3,035.0	10.00	10.00	0.00
8,800.0	63.37	269.78	8,039.4	1,234.3	-2,960.5	3,078.4	10.00	10.00	0.00
8,850.0	68.37	269.78	8,059.8	1,234.1	-3,006.1	3,123.7	10.00	10.00	0.00
8,900.0	73.37	269.78	8,076.2	1,234.0	-3,053.3	3,170.6	10.00	10.00	0.00
8,950.0	78.37	269.78	8,088.4	1,233.8	-3,101.8	3,218.8	10.00	10.00	0.00
9,000.0	83.37	269.78	8,096.3	1,233.6	-3,151.1	3,267.8	10.00	10.00	0.00
9,050.0	88.36	269.78	8,099.9	1,233.4	-3,201.0	3,317.3	10.00	10.00	0.00
9,066.1	89.98	269.78	8,100.1	1,233.3	-3,217.1	3,333.4	10.00	10.00	0.00
FTP/LP: 850' FSL & 2480' FWL (Sec 18)									
9,079.1	91.27	269.78	8,100.0	1,233.3	-3,230.1	3,346.3	10.00	10.00	0.00
9,100.0	91.27	269.78	8,099.5	1,233.2	-3,251.0	3,367.0	0.00	0.00	0.00
9,150.0	91.27	269.78	8,098.4	1,233.0	-3,301.0	3,416.7	0.00	0.00	0.00
9,200.0	91.27	269.78	8,097.3	1,232.8	-3,350.9	3,466.3	0.00	0.00	0.00
9,250.0	91.27	269.78	8,096.2	1,232.7	-3,400.9	3,516.0	0.00	0.00	0.00
9,300.0	91.27	269.78	8,095.1	1,232.5	-3,450.9	3,565.7	0.00	0.00	0.00
9,350.0	91.27	269.78	8,094.0	1,232.3	-3,500.9	3,615.3	0.00	0.00	0.00
9,400.0	91.27	269.78	8,092.9	1,232.1	-3,550.9	3,665.0	0.00	0.00	0.00
9,450.0	91.27	269.78	8,091.8	1,231.9	-3,600.9	3,714.6	0.00	0.00	0.00
9,500.0	91.27	269.78	8,090.6	1,231.7	-3,650.9	3,764.3	0.00	0.00	0.00
9,550.0	91.27	269.78	8,089.5	1,231.5	-3,700.9	3,814.0	0.00	0.00	0.00
9,600.0	91.27	269.78	8,088.4	1,231.3	-3,750.8	3,863.6	0.00	0.00	0.00
9,650.0	91.27	269.78	8,087.3	1,231.2	-3,800.8	3,913.3	0.00	0.00	0.00
9,700.0	91.27	269.78	8,086.2	1,231.0	-3,850.8	3,963.0	0.00	0.00	0.00
9,750.0	91.27	269.78	8,085.1	1,230.8	-3,900.8	4,012.6	0.00	0.00	0.00
9,800.0	91.27	269.78	8,084.0	1,230.6	-3,950.8	4,062.3	0.00	0.00	0.00
9,850.0	91.27	269.78	8,082.9	1,230.4	-4,000.8	4,111.9	0.00	0.00	0.00
9,900.0	91.27	269.78	8,081.7	1,230.2	-4,050.8	4,161.6	0.00	0.00	0.00
9,950.0	91.27	269.78	8,080.6	1,230.0	-4,100.8	4,211.3	0.00	0.00	0.00
10,000.0	91.27	269.78	8,079.5	1,229.8	-4,150.7	4,260.9	0.00	0.00	0.00
10,050.0	91.27	269.78	8,078.4	1,229.7	-4,200.7	4,310.6	0.00	0.00	0.00
10,100.0	91.27	269.78	8,077.3	1,229.5	-4,250.7	4,360.3	0.00	0.00	0.00
10,150.0	91.27	269.78	8,076.2	1,229.3	-4,300.7	4,409.9	0.00	0.00	0.00
10,200.0	91.27	269.78	8,075.1	1,229.1	-4,350.7	4,459.6	0.00	0.00	0.00
10,250.0	91.27	269.78	8,074.0	1,228.9	-4,400.7	4,509.2	0.00	0.00	0.00
10,286.6	91.27	269.78	8,073.1	1,228.8	-4,437.3	4,545.6	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 20, T18S, R30E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 850' FSL & 100' FWL (Sec 13)		
Design:	Design #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)
PPP2: 845' FSL & 1259' FWL (Sec 18)									
10,300.0	91.27	269.78	8,072.8	1,228.7	-4,450.7	4,558.9	0.00	0.00	0.00
10,350.0	91.27	269.78	8,071.7	1,228.5	-4,500.7	4,608.6	0.00	0.00	0.00
10,400.0	91.27	269.78	8,070.6	1,228.3	-4,550.6	4,658.2	0.00	0.00	0.00
10,450.0	91.27	269.78	8,069.5	1,228.2	-4,600.6	4,707.9	0.00	0.00	0.00
10,500.0	91.27	269.78	8,068.4	1,228.0	-4,650.6	4,757.6	0.00	0.00	0.00
10,550.0	91.27	269.78	8,067.3	1,227.8	-4,700.6	4,807.2	0.00	0.00	0.00
10,600.0	91.27	269.78	8,066.2	1,227.6	-4,750.6	4,856.9	0.00	0.00	0.00
10,650.0	91.27	269.78	8,065.1	1,227.4	-4,800.6	4,906.6	0.00	0.00	0.00
10,700.0	91.27	269.78	8,064.0	1,227.2	-4,850.6	4,956.2	0.00	0.00	0.00
10,750.0	91.27	269.78	8,062.8	1,227.0	-4,900.6	5,005.9	0.00	0.00	0.00
10,800.0	91.27	269.78	8,061.7	1,226.8	-4,950.5	5,055.5	0.00	0.00	0.00
10,850.0	91.27	269.78	8,060.6	1,226.7	-5,000.5	5,105.2	0.00	0.00	0.00
10,900.0	91.27	269.78	8,059.5	1,226.5	-5,050.5	5,154.9	0.00	0.00	0.00
10,950.0	91.27	269.78	8,058.4	1,226.3	-5,100.5	5,204.5	0.00	0.00	0.00
11,000.0	91.27	269.78	8,057.3	1,226.1	-5,150.5	5,254.2	0.00	0.00	0.00
11,050.0	91.27	269.78	8,056.2	1,225.9	-5,200.5	5,303.9	0.00	0.00	0.00
11,100.0	91.27	269.78	8,055.1	1,225.7	-5,250.5	5,353.5	0.00	0.00	0.00
11,150.0	91.27	269.78	8,053.9	1,225.5	-5,300.5	5,403.2	0.00	0.00	0.00
11,200.0	91.27	269.78	8,052.8	1,225.3	-5,350.4	5,452.8	0.00	0.00	0.00
11,250.0	91.27	269.78	8,051.7	1,225.1	-5,400.4	5,502.5	0.00	0.00	0.00
11,300.0	91.27	269.78	8,050.6	1,225.0	-5,450.4	5,552.2	0.00	0.00	0.00
11,350.0	91.27	269.78	8,049.5	1,224.8	-5,500.4	5,601.8	0.00	0.00	0.00
11,400.0	91.27	269.78	8,048.4	1,224.6	-5,550.4	5,651.5	0.00	0.00	0.00
11,450.0	91.27	269.78	8,047.3	1,224.4	-5,600.4	5,701.2	0.00	0.00	0.00
11,500.0	91.27	269.78	8,046.2	1,224.2	-5,650.4	5,750.8	0.00	0.00	0.00
11,546.0	91.27	269.78	8,045.1	1,224.0	-5,696.4	5,796.6	0.00	0.00	0.00
PPP3: 840' FSL & 0' FWL (Sec 18)									
11,550.0	91.27	269.78	8,045.0	1,224.0	-5,700.4	5,800.5	0.00	0.00	0.00
11,600.0	91.27	269.78	8,043.9	1,223.8	-5,750.3	5,850.1	0.00	0.00	0.00
11,650.0	91.27	269.78	8,042.8	1,223.6	-5,800.3	5,899.8	0.00	0.00	0.00
11,700.0	91.27	269.78	8,041.7	1,223.5	-5,850.3	5,949.5	0.00	0.00	0.00
11,750.0	91.27	269.78	8,040.6	1,223.3	-5,900.3	5,999.1	0.00	0.00	0.00
11,800.0	91.27	269.78	8,039.5	1,223.1	-5,950.3	6,048.8	0.00	0.00	0.00
11,850.0	91.27	269.78	8,038.4	1,222.9	-6,000.3	6,098.5	0.00	0.00	0.00
11,900.0	91.27	269.78	8,037.3	1,222.7	-6,050.3	6,148.1	0.00	0.00	0.00
11,950.0	91.27	269.78	8,036.2	1,222.5	-6,100.2	6,197.8	0.00	0.00	0.00
12,000.0	91.27	269.78	8,035.0	1,222.3	-6,150.2	6,247.4	0.00	0.00	0.00
12,050.0	91.27	269.78	8,033.9	1,222.1	-6,200.2	6,297.1	0.00	0.00	0.00
12,100.0	91.27	269.78	8,032.8	1,222.0	-6,250.2	6,346.8	0.00	0.00	0.00
12,150.0	91.27	269.78	8,031.7	1,221.8	-6,300.2	6,396.4	0.00	0.00	0.00
12,200.0	91.27	269.78	8,030.6	1,221.6	-6,350.2	6,446.1	0.00	0.00	0.00
12,250.0	91.27	269.78	8,029.5	1,221.4	-6,400.2	6,495.8	0.00	0.00	0.00
12,300.0	91.27	269.78	8,028.4	1,221.2	-6,450.2	6,545.4	0.00	0.00	0.00
12,350.0	91.27	269.78	8,027.3	1,221.0	-6,500.1	6,595.1	0.00	0.00	0.00
12,400.0	91.27	269.78	8,026.1	1,220.8	-6,550.1	6,644.7	0.00	0.00	0.00
12,450.0	91.27	269.78	8,025.0	1,220.6	-6,600.1	6,694.4	0.00	0.00	0.00
12,500.0	91.27	269.78	8,023.9	1,220.5	-6,650.1	6,744.1	0.00	0.00	0.00
12,550.0	91.27	269.78	8,022.8	1,220.3	-6,700.1	6,793.7	0.00	0.00	0.00
12,600.0	91.27	269.78	8,021.7	1,220.1	-6,750.1	6,843.4	0.00	0.00	0.00
12,650.0	91.27	269.78	8,020.6	1,219.9	-6,800.1	6,893.1	0.00	0.00	0.00
12,700.0	91.27	269.78	8,019.5	1,219.7	-6,850.1	6,942.7	0.00	0.00	0.00
12,750.0	91.27	269.78	8,018.4	1,219.5	-6,900.0	6,992.4	0.00	0.00	0.00
12,800.0	91.27	269.78	8,017.2	1,219.3	-6,950.0	7,042.0	0.00	0.00	0.00

Approval Date: 12/01/2025

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 20, T18S, R30E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 850' FSL & 100' FWL (Sec 13)		
Design:	Design #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)
12,850.0	91.27	269.78	8,016.1	1,219.1	-7,000.0	7,091.7	0.00	0.00	0.00
12,865.9	91.27	269.78	8,015.8	1,219.1	-7,015.9	7,107.5	0.00	0.00	0.00
PPP4: 842' FSL & 1320' FEL (Sec 13)									
12,900.0	91.27	269.78	8,015.0	1,219.0	-7,050.0	7,141.4	0.00	0.00	0.00
12,950.0	91.27	269.78	8,013.9	1,218.8	-7,100.0	7,191.0	0.00	0.00	0.00
13,000.0	91.27	269.78	8,012.8	1,218.6	-7,150.0	7,240.7	0.00	0.00	0.00
13,050.0	91.27	269.78	8,011.7	1,218.4	-7,200.0	7,290.4	0.00	0.00	0.00
13,100.0	91.27	269.78	8,010.6	1,218.2	-7,250.0	7,340.0	0.00	0.00	0.00
13,150.0	91.27	269.78	8,009.5	1,218.0	-7,299.9	7,389.7	0.00	0.00	0.00
13,200.0	91.27	269.78	8,008.3	1,217.8	-7,349.9	7,439.3	0.00	0.00	0.00
13,250.0	91.27	269.78	8,007.2	1,217.6	-7,399.9	7,489.0	0.00	0.00	0.00
13,300.0	91.27	269.78	8,006.1	1,217.5	-7,449.9	7,538.7	0.00	0.00	0.00
13,350.0	91.27	269.78	8,005.0	1,217.3	-7,499.9	7,588.3	0.00	0.00	0.00
13,400.0	91.27	269.78	8,003.9	1,217.1	-7,549.9	7,638.0	0.00	0.00	0.00
13,450.0	91.27	269.78	8,002.8	1,216.9	-7,599.9	7,687.7	0.00	0.00	0.00
13,500.0	91.27	269.78	8,001.7	1,216.7	-7,649.9	7,737.3	0.00	0.00	0.00
13,550.0	91.27	269.78	8,000.6	1,216.5	-7,699.8	7,787.0	0.00	0.00	0.00
13,600.0	91.27	269.78	7,999.5	1,216.3	-7,749.8	7,836.6	0.00	0.00	0.00
13,650.0	91.27	269.78	7,998.3	1,216.1	-7,799.8	7,886.3	0.00	0.00	0.00
13,700.0	91.27	269.78	7,997.2	1,215.9	-7,849.8	7,936.0	0.00	0.00	0.00
13,750.0	91.27	269.78	7,996.1	1,215.8	-7,899.8	7,985.6	0.00	0.00	0.00
13,800.0	91.27	269.78	7,995.0	1,215.6	-7,949.8	8,035.3	0.00	0.00	0.00
13,850.0	91.27	269.78	7,993.9	1,215.4	-7,999.8	8,085.0	0.00	0.00	0.00
13,900.0	91.27	269.78	7,992.8	1,215.2	-8,049.8	8,134.6	0.00	0.00	0.00
13,950.0	91.27	269.78	7,991.7	1,215.0	-8,099.7	8,184.3	0.00	0.00	0.00
14,000.0	91.27	269.78	7,990.6	1,214.8	-8,149.7	8,233.9	0.00	0.00	0.00
14,050.0	91.27	269.78	7,989.4	1,214.6	-8,199.7	8,283.6	0.00	0.00	0.00
14,100.0	91.27	269.78	7,988.3	1,214.4	-8,249.7	8,333.3	0.00	0.00	0.00
14,150.0	91.27	269.78	7,987.2	1,214.3	-8,299.7	8,382.9	0.00	0.00	0.00
14,200.0	91.27	269.78	7,986.1	1,214.1	-8,349.7	8,432.6	0.00	0.00	0.00
14,250.0	91.27	269.78	7,985.0	1,213.9	-8,399.7	8,482.3	0.00	0.00	0.00
14,300.0	91.27	269.78	7,983.9	1,213.7	-8,449.7	8,531.9	0.00	0.00	0.00
14,350.0	91.27	269.78	7,982.8	1,213.5	-8,499.6	8,581.6	0.00	0.00	0.00
14,400.0	91.27	269.78	7,981.7	1,213.3	-8,549.6	8,631.2	0.00	0.00	0.00
14,450.0	91.27	269.78	7,980.5	1,213.1	-8,599.6	8,680.9	0.00	0.00	0.00
14,500.0	91.27	269.78	7,979.4	1,212.9	-8,649.6	8,730.6	0.00	0.00	0.00
14,550.0	91.27	269.78	7,978.3	1,212.8	-8,699.6	8,780.2	0.00	0.00	0.00
14,600.0	91.27	269.78	7,977.2	1,212.6	-8,749.6	8,829.9	0.00	0.00	0.00
14,650.0	91.27	269.78	7,976.1	1,212.4	-8,799.6	8,879.6	0.00	0.00	0.00
14,700.0	91.27	269.78	7,975.0	1,212.2	-8,849.6	8,929.2	0.00	0.00	0.00
14,750.0	91.27	269.78	7,973.9	1,212.0	-8,899.5	8,978.9	0.00	0.00	0.00
14,800.0	91.27	269.78	7,972.8	1,211.8	-8,949.5	9,028.5	0.00	0.00	0.00
14,850.0	91.27	269.78	7,971.7	1,211.6	-8,999.5	9,078.2	0.00	0.00	0.00
14,900.0	91.27	269.78	7,970.5	1,211.4	-9,049.5	9,127.9	0.00	0.00	0.00
14,950.0	91.27	269.78	7,969.4	1,211.3	-9,099.5	9,177.5	0.00	0.00	0.00
15,000.0	91.27	269.78	7,968.3	1,211.1	-9,149.5	9,227.2	0.00	0.00	0.00
15,050.0	91.27	269.78	7,967.2	1,210.9	-9,199.5	9,276.9	0.00	0.00	0.00
15,100.0	91.27	269.78	7,966.1	1,210.7	-9,249.4	9,326.5	0.00	0.00	0.00
15,150.0	91.27	269.78	7,965.0	1,210.5	-9,299.4	9,376.2	0.00	0.00	0.00
15,200.0	91.27	269.78	7,963.9	1,210.3	-9,349.4	9,425.8	0.00	0.00	0.00
15,250.0	91.27	269.78	7,962.8	1,210.1	-9,399.4	9,475.5	0.00	0.00	0.00
15,300.0	91.27	269.78	7,961.6	1,209.9	-9,449.4	9,525.2	0.00	0.00	0.00
15,350.0	91.27	269.78	7,960.5	1,209.8	-9,499.4	9,574.8	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 20, T18S, R30E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 850' FSL & 100' FWL (Sec 13)		
Design:	Design #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)
15,400.0	91.27	269.78	7,959.4	1,209.6	-9,549.4	9,624.5	0.00	0.00	0.00
15,450.0	91.27	269.78	7,958.3	1,209.4	-9,599.4	9,674.2	0.00	0.00	0.00
15,500.0	91.27	269.78	7,957.2	1,209.2	-9,649.3	9,723.8	0.00	0.00	0.00
15,550.0	91.27	269.78	7,956.1	1,209.0	-9,699.3	9,773.5	0.00	0.00	0.00
15,600.0	91.27	269.78	7,955.0	1,208.8	-9,749.3	9,823.1	0.00	0.00	0.00
15,650.0	91.27	269.78	7,953.9	1,208.6	-9,799.3	9,872.8	0.00	0.00	0.00
15,700.0	91.27	269.78	7,952.7	1,208.4	-9,849.3	9,922.5	0.00	0.00	0.00
15,750.0	91.27	269.78	7,951.6	1,208.3	-9,899.3	9,972.1	0.00	0.00	0.00
15,800.0	91.27	269.78	7,950.5	1,208.1	-9,949.3	10,021.8	0.00	0.00	0.00
15,850.0	91.27	269.78	7,949.4	1,207.9	-9,999.3	10,071.5	0.00	0.00	0.00
15,900.0	91.27	269.78	7,948.3	1,207.7	-10,049.2	10,121.1	0.00	0.00	0.00
15,950.0	91.27	269.78	7,947.2	1,207.5	-10,099.2	10,170.8	0.00	0.00	0.00
16,000.0	91.27	269.78	7,946.1	1,207.3	-10,149.2	10,220.4	0.00	0.00	0.00
16,050.0	91.27	269.78	7,945.0	1,207.1	-10,199.2	10,270.1	0.00	0.00	0.00
16,100.0	91.27	269.78	7,943.9	1,206.9	-10,249.2	10,319.8	0.00	0.00	0.00
16,150.0	91.27	269.78	7,942.7	1,206.8	-10,299.2	10,369.4	0.00	0.00	0.00
16,200.0	91.27	269.78	7,941.6	1,206.6	-10,349.2	10,419.1	0.00	0.00	0.00
16,250.0	91.27	269.78	7,940.5	1,206.4	-10,399.2	10,468.8	0.00	0.00	0.00
16,300.0	91.27	269.78	7,939.4	1,206.2	-10,449.1	10,518.4	0.00	0.00	0.00
16,350.0	91.27	269.78	7,938.3	1,206.0	-10,499.1	10,568.1	0.00	0.00	0.00
16,400.0	91.27	269.78	7,937.2	1,205.8	-10,549.1	10,617.7	0.00	0.00	0.00
16,450.0	91.27	269.78	7,936.1	1,205.6	-10,599.1	10,667.4	0.00	0.00	0.00
16,500.0	91.27	269.78	7,935.0	1,205.4	-10,649.1	10,717.1	0.00	0.00	0.00
16,550.0	91.27	269.78	7,933.8	1,205.2	-10,699.1	10,766.7	0.00	0.00	0.00
16,600.0	91.27	269.78	7,932.7	1,205.1	-10,749.1	10,816.4	0.00	0.00	0.00
16,650.0	91.27	269.78	7,931.6	1,204.9	-10,799.1	10,866.1	0.00	0.00	0.00
16,700.0	91.27	269.78	7,930.5	1,204.7	-10,849.0	10,915.7	0.00	0.00	0.00
16,722.9	91.27	269.78	7,930.0	1,204.6	-10,871.9	10,938.4	0.00	0.00	0.00
BHL: 850' FSL & 100' FWL (Sec 13)									

Approval Date: 12/01/2025

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	Mewbourne Oil Company	**TVD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3523.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 20, T18S, R30E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 850' FSL & 100' FWL (Sec 13)		
Design:	Design #1		

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
SHL: 390' FNL & 475' FV - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	632,806.60	643,468.50	32.7391831	-104.0011742
KOP: 850' FSL & 2166' F - plan hits target center - Point	0.00	0.00	7,527.0	1,235.5	-2,644.2	634,042.10	640,824.30	32.7426016	-104.0097615
BHL: 850' FSL & 100' FV - plan hits target center - Point	0.00	0.00	7,930.0	1,204.6	-10,871.9	634,011.20	632,596.60	32.7425829	-104.0365213
PPP4: 842' FSL & 1320' - plan hits target center - Point	0.00	0.00	8,015.8	1,219.1	-7,015.9	634,025.69	636,452.60	32.7425923	-104.0239800
PPP3: 840' FSL & 0' FW - plan hits target center - Point	0.00	0.00	8,045.1	1,224.0	-5,696.4	634,030.64	637,772.10	32.7425953	-104.0196885
PPP2: 845' FSL & 1259' - plan hits target center - Point	0.00	0.00	8,073.1	1,228.8	-4,437.3	634,035.37	639,031.20	32.7425980	-104.0155934
FTP/LP: 850' FSL & 248 - plan hits target center - Point	0.00	0.00	8,100.1	1,233.3	-3,217.1	634,039.95	640,251.40	32.7426004	-104.0116248

Approval Date: 12/01/2025

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BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

12/01/2025

Operator

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: STAR HARRELL **Signed on:** 10/15/2025

Title: Regulatory Specialist

Street Address: 5509 CHAMPIONS DRIVE

City: MIDLAND **State:** TX **Zip:** 79702

Phone: (432)848-9161

Email address: STAR_HARRELL@EOGRESOURCES.COM

Field

Representative Name:

Street Address:

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

Phone:

Email address:

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BUREAU OF LAND MANAGEMENT

Application Data
12/01/2025

APD ID: 10400079376
Submission Date: 08/20/2021
Operator Name: EOG RESOURCES INCORPORATED
Well Name: STUDY BUTTE 13 FED COM
Well Number: 501H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - General

APD ID: 10400079376
Tie to previous NOS? N
Submission Date: 08/20/2021
BLM Office: Carlsbad
User: STAR HARRELL
Title: Regulatory Specialist
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMLC047311B
Lease Acres:
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? NO
Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? N
Permitting Agent? NO
APD Operator: EOG RESOURCES INCORPORATED
Operator letter of

Operator Info

Operator Organization Name: EOG RESOURCES INCORPORATED
Operator Address: 600 17TH STREET, SUITE 1000 N
Zip: 80202
Operator PO Box:
Operator City: DENVER
State: CO
Operator Phone: (303)262-9894
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: STUDY BUTTE 13 FED COM
Well Number: 501H
Well API Number:
Field/Pool or Exploratory? Field and Pool
Field Name: SAND TANK
Pool Name: BONE SPRING

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** STUDY BUTTE 13 FED COM **Number:** 501H

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: INFILL

Describe sub-type:

Distance to town: **Distance to nearest well:** 0 FT **Distance to lease line:** 100 FT

Reservoir well spacing assigned acres Measurement: 240 Acres

Well plat: STUDY_BUTTE_13_FED_COM_501H_C102_EOG_20251118095005.pdf

Well work start Date: 12/01/2025 **Duration:** 25 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:** KELLY BUSHING

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
SHL Leg #1	390	FNL	475	FWL	18S	30E	20	Tract D	32.7391832	-104.0011742	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC046256B	3495			Y
KOP Leg #1	850	FSL	2166	FEL	18S	29E	18	Tract O	32.7426017	-104.0097615	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC063621A	-4032	8166	7527	Y
PPP Leg #1-1	850	FSL	2480	FWL	18S	29E	18	Tract N	32.7426042	-104.0116246	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0437525	-4605	9066	8100	Y

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

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
PPP Leg #1-2	845	FSL	1259	FWL	18S	29E	18	Tract M	32.7426011	-104.0155934	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 0437523	-4578	10286	8073	Y
PPP Leg #1-3	840	FSL	0	FWL	18S	29E	18	Tract P	32.7425978	-104.0196885	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0 47311B	-4550	11546	8045	Y
PPP Leg #1-4	842	FSL	1320	FEL	18S	29E	13	Tract O	32.7425942	-104.02398	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0 47311A	-4520	12865	8015	Y
PPP Leg #1-5	167	FNL	0	FEL	18S	29E	19	Tract A	32.7397981	-104.0027187	EDDY	NEW MEXICO	NEW MEXICO	F	NMNM 028097	1444	2052	2051	N
EXIT Leg #1	850	FSL	100	FWL	18S	29E	13	Tract M	32.7425829	-104.0365227	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0 47311A	-4435	16722	7930	Y
BHL Leg #1	850	FSL	100	FWL	18S	29E	13	Tract M	32.7425829	-104.0365227	EDDY	NEW MEXICO	NEW MEXICO	F	NMLC0 47311A	-4435	16722	7930	Y

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024 Submittal Type: ☑ Initial Submittal ☐ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-015-57595	96832	SAND TANK; BONE SPRING

Property Code	Property Name	Well Number
338323	STUDY BUTTE 13 FED COM	501H

OGRID No.	Operator Name	Ground Level Elevation
7377	EOG RESOURCES, INC.	3495'

Surface Owner: ☐ State ☐ Fee ☐ Tribal ■ Federal | Mineral Owner: ☐ State ☐ Fee ☐ Tribal ■ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	20	18S	30E		390 FNL	475 FWL	32.7391832°N	104.0011742°W	EDDY

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
M	13	18S	29E		850 FSL	100 FWL	32.7425829°N	104.0365227°W	EDDY

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
238.16	DEFINING		N	C

Order Numbers. N/A | Well setbacks are under Common Ownership: ■ Yes ☐ No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
O	18	18S	30E		850 FSL	2166 FEL	32.7426017°N	104.0097615°W	EDDY

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
N	18	18S	30E		850 FSL	2480 FWL	32.7426042°N	104.0116246°W	EDDY

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
M	13	18S	29E		850 FSL	100 FWL	32.7425829°N	104.0365227°W	EDDY

Unitized Area or Area of Uniform Interest	Spacing Unit Type ■ Horizontal ☐ Vertical	Ground Floor Elevation:
N/A		3495'

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and , if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Brett Miller 10/21/2025

Signature Date

Brett Miller

Printed Name

brett.miller@mewbourne.com

Email Address

SURVEYOR CERTIFICATIONS

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me under my supervision, and that the same is true and correct to the best of my belief.

ROBERT M. HOWETT NEW MEXICO 19680 PROFESSIONAL SURVEYOR

Signature and Seal of Professional Surveyor

Robert M. Howett

Certificate Number	Date of Survey
19680	05/09/2025

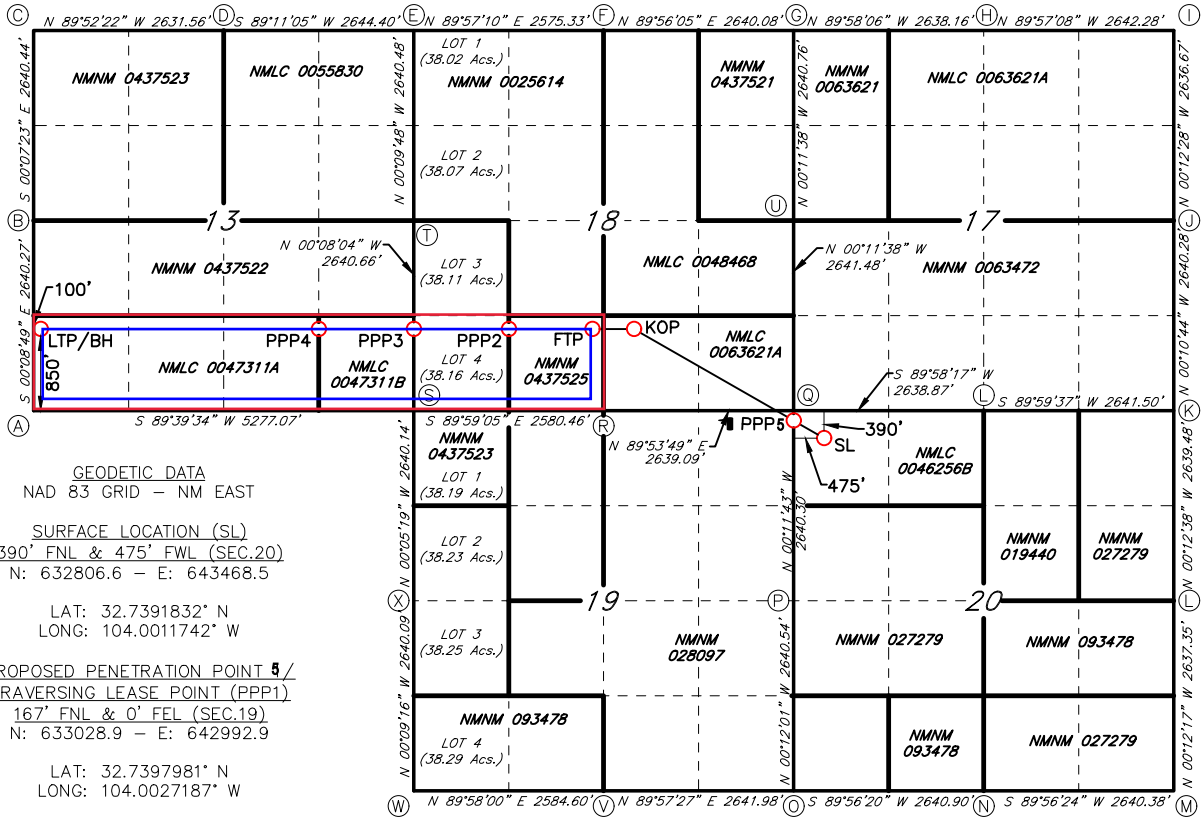
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

ACREAGE DEDICATION PLATS

This grid represents a standard section. You may superimpose a non-standard section, or larger area, over this grid. Operators must outline the dedicated acreage in a red box, clearly show the well surface location and bottom hole location, if it is a directionally drilled, with the dimensions from the section lines in the cardinal directions. If this is a horizontal wellbore show on this plat the location of the First Take Point and Last Take Point, and the point within the Completed interval (other than the First Take Point or Last Take Point) that is closest to any outer boundary of the tract.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.

STUDY BUTTE 13 FED COM #501H



GEODETIC DATA
NAD 83 GRID – NM EAST

SURFACE LOCATION (SL)
390' FNL & 475' FWL (SEC.20)
N: 632806.6 – E: 643468.5

LAT: 32.7391832° N
LONG: 104.0011742° W

PROPOSED PENETRATION POINT 5 / TRAVERSING LEASE POINT (PPP1)
167' FNL & 0' FEL (SEC.19)
N: 633028.9 – E: 642992.9

LAT: 32.7397981° N
LONG: 104.0027187° W

KICK OFF POINT (KOP)
850' FSL & 2166' FEL (SEC.18)
N: 634042.1 – E: 640824.3

LAT: 32.7426017° N
LON: 104.0097615° W

FIRST TAKE POINT (FTP)
850' FSL & 2480' FWL (SEC.18)
N: 634041.3 – E: 640251.4

LAT: 32.7426042° N
LONG: 104.0116246° W

PROPOSED PENETRATION POINT 2 (PPP2)
845' FSL & 1259' FWL (SEC.18)
N: 634036.5 – E: 639031.2

LAT: 32.7426011° N
LONG: 104.0155934° W

PROPOSED PENETRATION POINT 3 (PPP3)
840' FSL & 0' FWL (SEC.13)
N: 634031.6 – E: 637772.1

LAT: 32.7425978° N
LONG: 104.0196885° W

PROPOSED PENETRATION POINT 4 (PPP4)
842' FSL & 1320' FEL (SEC.13)
N: 634026.4 – E: 636452.6

LAT: 32.7425942° N
LONG: 104.0239800° W

LAST TAKE POINT/BOTTOM HOLE (LTP/BH)
850' FSL & 100' FWL (SEC. 13)
N: 634011.2 – E: 632596.2

LAT: 32.7425829° N
LONG: 104.0365227° W

CORNER DATA
NAD 83 GRID – NM EAST

A: FOUND BRASS CAP "1916"
N: 633160.8 – E: 632498.4

B: FOUND BRASS CAP "1916"
N: 635800.5 – E: 632491.6

C: FOUND BRASS CAP "1916"
N: 638440.2 – E: 632485.9

D: FOUND BRASS CAP "1916"
N: 638434.4 – E: 635116.9

E: FOUND BRASS CAP "1914"
N: 638472.0 – E: 637760.3

F: FOUND BRASS CAP "1916"
N: 638474.1 – E: 640335.0

G: FOUND BRASS CAP "1916"
N: 638477.2 – E: 642974.5

H: FOUND 1/2" REBAR
N: 638475.7 – E: 645612.0

I: FOUND BRASS CAP "1916"
N: 638473.5 – E: 648253.6

J: FOUND BRASS CAP "1916"
N: 635837.5 – E: 648263.2

K: FOUND BRASS CAP "1916"
N: 633197.9 – E: 648271.4

L: FOUND BRASS CAP "1916"
N: 630559.0 – E: 648281.1

M: FOUND BRASS CAP "1916"
N: 627922.3 – E: 648290.5

N: FOUND BRASS CAP "1916"
N: 627919.6 – E: 645650.8

O: FOUND BRASS CAP "1916"
N: 627916.7 – E: 643010.5

P: FOUND BRASS CAP "1916"
N: 630556.6 – E: 643001.3

Q: FOUND BRASS CAP "1916"
N: 633196.2 – E: 642992.3

R: FOUND BRASS CAP "1916"
N: 633191.5 – E: 640353.9

S: FOUND BRASS CAP "1914"
N: 633192.2 – E: 637774.1

T: FOUND PIPE
N: 635832.2 – E: 637767.9

U: FOUND PIPE
N: 635837.1 – E: 642983.4

V: FOUND BRASS CAP "1916"
N: 627914.8 – E: 640369.2

W: FOUND BRASS CAP "1914"
N: 627913.3 – E: 637785.2

X: FOUND BRASS CAP "1914"
N: 630552.7 – E: 637778.1

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BUREAU OF LAND MANAGEMENT

Drilling Plan Data Report
12/01/2025

APD ID: 10400079376
Submission Date: 08/20/2021

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM
Well Number: 501H

Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
16868781	PERMIAN	3495	0	0	ALLUVIUM	NONE	N
16868779	TOP SALT	3008	487	487	SALT	NONE	N
16868780	BASE OF SALT	2330	1165	1165	SALT	NONE	N
16868782	YATES	2110	1385	1385	SANDSTONE	NATURAL GAS, OIL	N
16868783	SEVEN RIVERS	1697	1798	1798	DOLOMITE	NATURAL GAS, OIL	N
16868778	QUEEN	1052	2443	2443	DOLOMITE, SANDSTONE	NATURAL GAS, OIL	N
16868784	GRAYBURG	867	2628	2628	LIMESTONE	NONE	N
16868773	SAN ANDRES	442	3053	3053	DOLOMITE	NATURAL GAS, OIL	N
16868774	DELAWARE	-102	3597	3597	LIMESTONE	NATURAL GAS, OIL	N
16868786	BONE SPRING	-968	4463	4463	LIMESTONE, SHALE	NATURAL GAS, OIL	Y
16868777	BONE SPRING 1ST	-3609	7104	7104	SANDSTONE	NATURAL GAS, OIL	Y
16868775	BONE SPRING 2ND	-4785	8280	8280	SANDSTONE	NATURAL GAS, OIL	Y
16868776	WOLFCAMP	-5591	9086	9086	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Pressure Rating (PSI): 5M **Rating Depth:** 16722

Equipment: See attached schematics.

Requesting Variance? YES

Variance request: See attached drill plan

Testing Procedure: See attached drill plan

Choke Diagram Attachment:

Flex_Line_Specs_API_16C_20251015133134.pdf

5M_BOPE_Choke_Diagram_20251015133148.pdf

BOP Diagram Attachment:

5M_BOPE_Schematic_20251015133201.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	325	0	325	3495	3170	325	H-40	48	ST&C	6.32	15.26	BUOY	23.58	BUOY	39.13
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3385	0	3385	3411	110	3385	J-55	36	LT&C	2.99	5.21	BUOY	9.87	BUOY	12.29
3	INTERMEDIATE	12.25	9.625	NEW	API	N	3385	3525	3385	3385	110	110	140	J-55	40	LT&C	2.99	5.21	BUOY	9.87	BUOY	12.29
4	PRODUCTION	8.75	7.0	NEW	API	N	0	8166	0	7527	3479	-4032	8166	P-110	26	LT&C	1.67	2.67	BUOY	2.59	BUOY	4.3
5	LINER	6.125	4.5	NEW	API	N	7966	16722	7371	7930	-3876	-4435	8756	P-110	13.5	LT&C	2.12	2.46	BUOY	23.87	BUOY	29.8

Casing Attachments

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

13.375in_48__H40_STC_Csg_20251015133517.pdf

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

9.625in_36__J55_LTC_Csg_20250206155646.pdf

Casing ID: 3 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

9.625in_40__J55_LTC_Csg_20251015133821.pdf

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Casing Attachments

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

7in_26__P110_LTC_Csg_20250206155703.pdf

Casing ID: 5 **String** LINER

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

4.5in_13.5__P110_LTC_Csg_20250206155724.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	139	90	2.12	12.5	190.8	100	Class C	Class C: Salt, Gel, Extender, LCM
SURFACE	Tail		139	325	200	1.34	14.8	268	100	Class C	Class C: Retarder
INTERMEDIATE	Lead		0	2849	530	2.12	12.5	1123.6	25	Class C	Class C: Salt, Gel, Extender, LCM
INTERMEDIATE	Tail		2849	3525	200	1.34	14.8	268	25	Class C	Class C: Retarder
PRODUCTION	Lead	1	3325	6722	520	2.12	12.5	1102.4	25	Class C	Class C: Salt, Gel, Extender, LCM, Defoamer

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		6722	8166	400	1.18	15.6	472	25	Class H	Class H: Retarder, Fluid Loss, Defoamer
LINER	Lead		7966	16722	560	1.85	13.5	1036	25	Class H	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

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 43 CFR 3172:

Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:

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 will be kept on location at all times.

Describe the mud monitoring system utilized: Pason/PVT/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
0	325	WATER-BASED MUD	8.4	8.6							
325	3525	SALT SATURATED	10	10.2							
3525	8166	OTHER : Cut Brine	8.6	9.7							
8166	16722	OIL-BASED MUD	10	11.5							

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Section 6 - Test, Logging, Coring

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

Will run GR/CNL from KOP (7423') to surface (horizontal well vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.

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

DIRECTIONAL SURVEY,

Coring operation description for the well:

None

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4844 **Anticipated Surface Pressure:** 3061

Anticipated Bottom Hole Temperature(F): 140

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

H2S_Plan_20250206160940.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Study_Butte_13_Fed_Com_501H_Dir_Plot_20251103123423.pdf

STUDY_BUTTE_13_FED_COM_501H_Dir_Plan_EOG_20251118123932.pdf

Other proposed operations facets description:

Cement integrity tests will be performed immediately following plug bump.

Note: Cement volumes based on bit size plus at least 25% excess in the open hole plus 10% excess in the cased-hole overlap section.

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.

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

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

wellhead (both A and B sections). The weld will be tested to 1,000 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.

Other proposed operations facets attachment:

Study_Butte_13_Fed_Com__501H_Drlg_Program_20251121081812.pdf

Other Variance request(s)?: Y

Other Variance attachment:

MOC_Break_Testing_Variance_20251015140640.pdf

EDDYBS1.5_20251015140640.pdf

MOC_Offline_Cementing_Variance_20251015140641.pdf

Cactus_5K_WH_20251015140641.pdf

Multi_Bowl_WH_20251015140729.pdf

LETONE

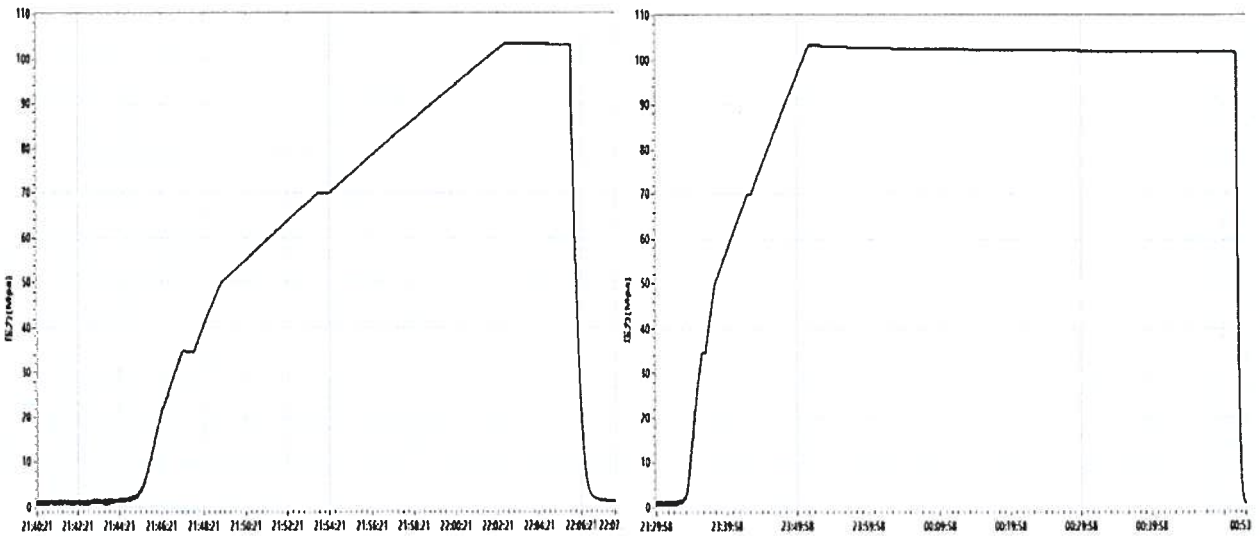
LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

HYDROSTATIC TESTING REPORT

LTYY/QR-5.7.1-28 №: 230826015

Product Name	Choke And Kill Hose	Standard	API Spec 16C 3rd edition
Product Specification	3″×10000psi×60ft（18.29m）	Serial Number	7660144
Inspection Equipment	MTU-BS-1600-3200-E	Test medium	Water
Inspection Department	Q.C. Department	Inspection Date	2023.08.26
Rate of length change			
Standard requirements	At working pressure ,the rate of length change should not more than ±2%		
Testing result	10000psi (69.0MPa) ,Rate of length change 0.7%		
Hydrostatic testing			
Standard requirements	At 1.5 times working pressure, the initial pressure-holding period of not less than three minutes, the second pressure-holding period of not less than one hour, no leaks.		
Testing result	15000psi (103.5MPa), 3 min for the first time, 60 min for the second time, no leakage		

Graph of pressure testing:



Conclusion	The inspected items meet standard requirements of API Spec 16C 3rd edition				
Approver	Jiaolong Chen	Auditor	Hliqing Dong	Inspector	Zhansheng Wang

LETONE

LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

CERTIFICATE OF QUALITY

LTYY/QR-5.7.1-19B №: LT2023-126-002

Customer Name	Austin Hose		
Product Name	Choke And Kill Hose		
Product Specification	3″×10000psi×60ft（18.29m）	Quantity	2PCS
Serial Number	7660143~7660144	FSL	FSL3
Temperature Range	-29℃～+121℃	Standard	API Spec 16C 3rd edition
Inspection Department	Q.C. Department	Inspection date	2023.08.26

Inspection Items	Inspection results
Appearance Checking	In accordance with API Spec 16C 3rd edition
Size and Lengths	In accordance with API Spec 16C 3rd edition
Dimensions and Tolerances	In accordance with API Spec 16C 3rd edition
End Connections: 4-1/16″×10000psi Integral flange for sour gas service	In accordance with API Spec 6A 21st edition
End Connections: 4-1/16″×10000psi Integral flange for sour gas service	In accordance with API Spec 17D 3rd edition
Hydrostatic Testing	In accordance with API Spec 16C 3rd edition
product Marking	In accordance with API Spec 16C 3rd edition
Inspection conclusion	The inspected items meet standard requirements of API Spec 16C 3rd edition
Remarks	

Approver	Jiaolong Chen	Auditor	Hlinging Dong	Inspector	Zhansheng Wang

LETONE

LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

CERTIFICATE OF CONFORMANCE

№:LT230826016

Product Name：Choke And Kill Hose

Product Specification：3″×10000psi×60ft（18.29m）

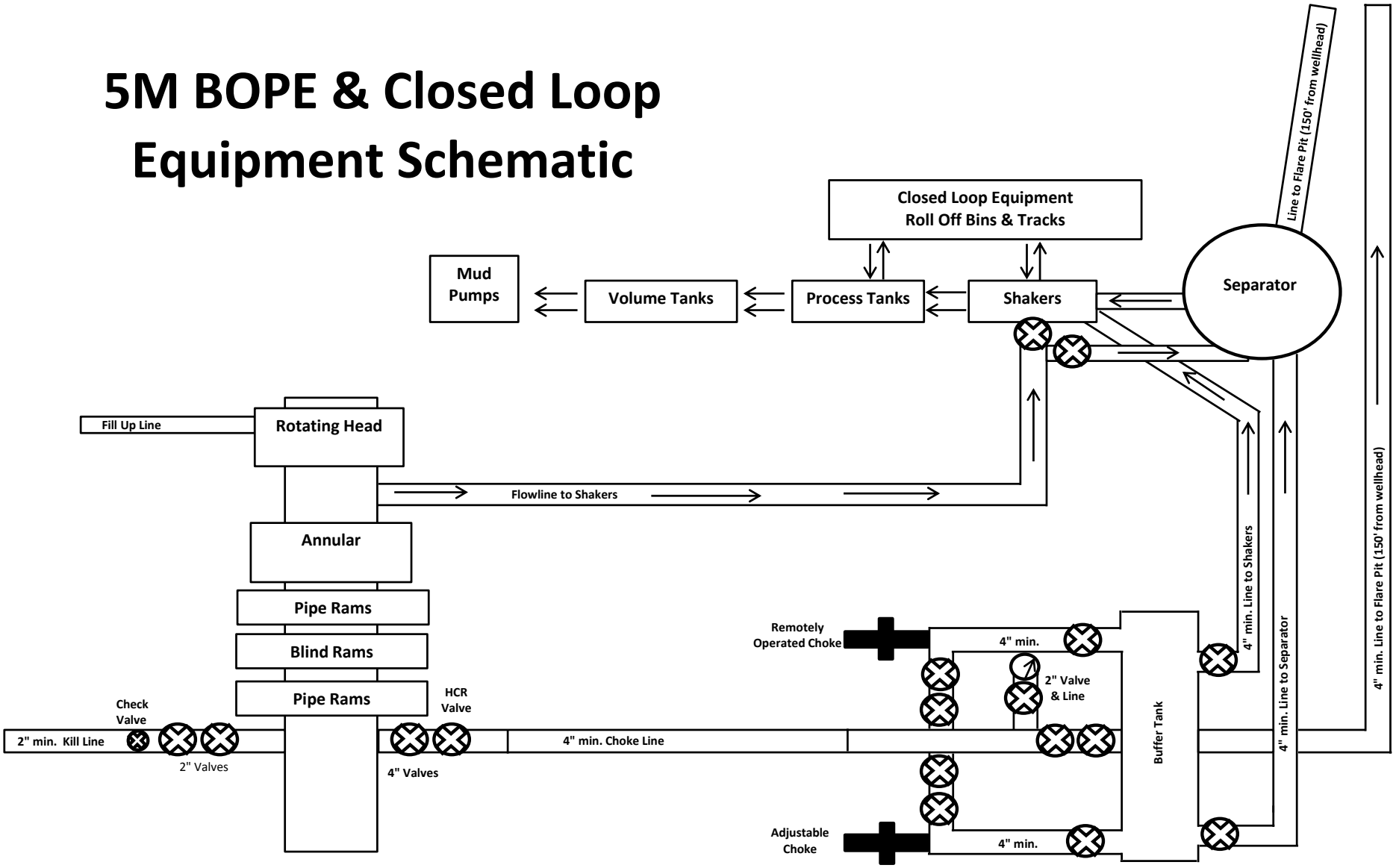
Serial Number：7660143~7660144

End Connections: 4-1/16″×10000psi Integral flange for sour gas service

The Choke And Kill Hose assembly was produced by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD . in Aug 2023, and inspected by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD. according to API Spec 16C 3rd edition on Aug 26, 2023. The overall condition is good. This is to certify that the Choke And Kill Hose complies with all current standards and specifications for API Spec 16C 3rd edition .

QC Manager：Jiaolong Chen　　Date:Aug 26, 2023

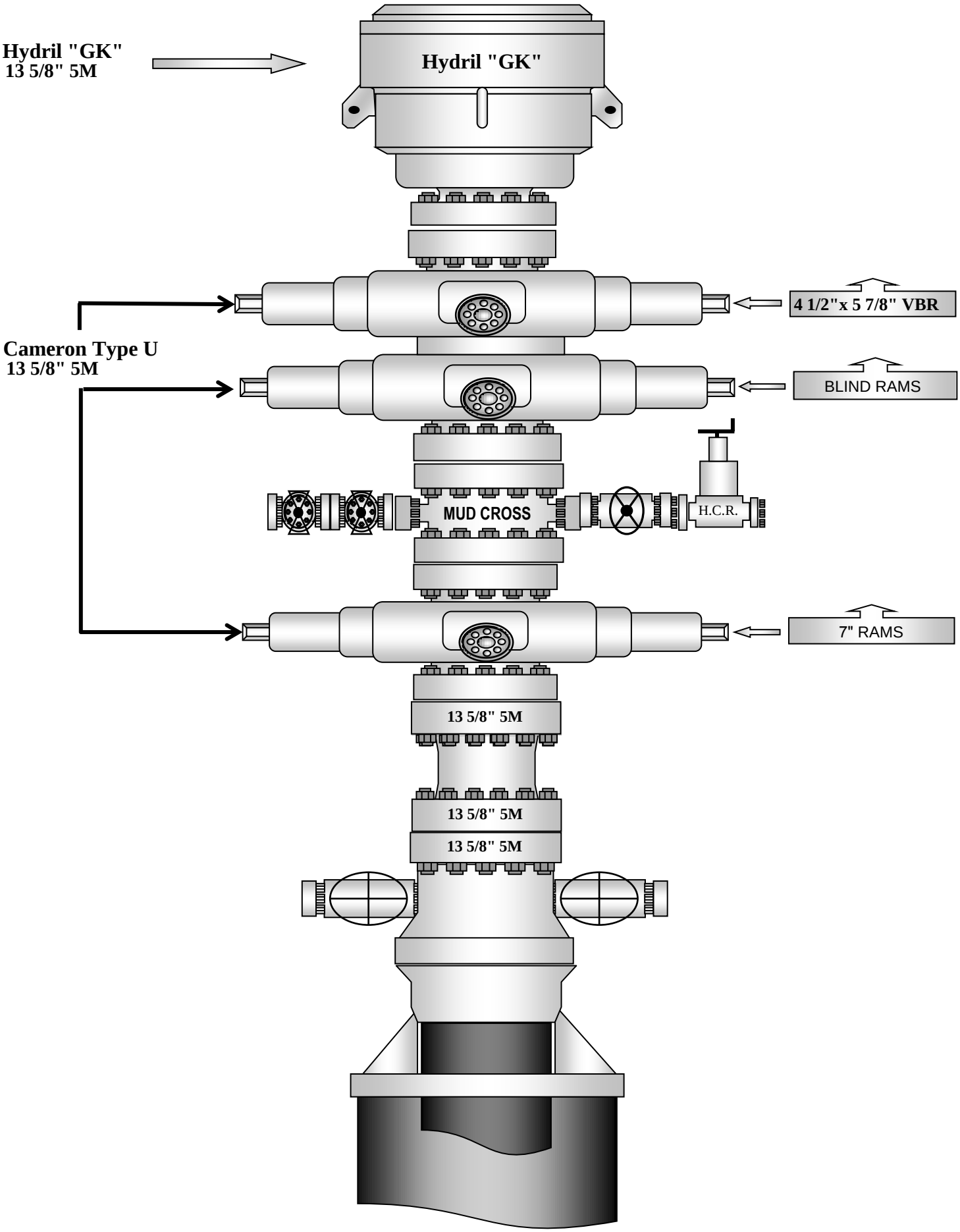
5M BOPE & Closed Loop Equipment Schematic



Drawing not to scale

Note: All valves & lines on choke manifold are 4" unless otherwise noted. Exact manifold configuration may vary.

5M BOPE Schematic



Tenaris

API LTC

Coupling	Pipe Body
Grade: **P110**	Grade: **P110**
Body: **White**	1st Band: **White**
1st Band: **-**	2nd Band: **-**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**

Outside Diameter	4.500 in.	**Wall Thickness**	0.290 in.	**Grade**	P110
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	Regular				

Pipe Body Data

Geometry				Performance	
Nominal OD	4.500 in.	**Drift**	3.795 in.	**SMYS**	110,000 psi
Wall Thickness	0.290 in.	**Plain End Weight**	13.05 lb/ft	**Min UTS**	125,000 psi
Nominal Weight	13.500 lb/ft	**OD Tolerance**	API	**Body Yield Strength**	422 x1000 lb
Nominal ID	3.920 in.			**Min. Internal Yield Pressure**	12,410 psi
				Collapse Pressure	10,690 psi
				Max. Allowed Bending	112 °/100 ft

Connection Data

Geometry		Performance		Make-Up Torques	
Thread per In	8	**Joint Strength**	338 x1000 lb	**Minimum Torque**	2750 ft-lb
Connection OD	5.250 in.	**Coupling Face Load**	473 x1000 lb	**Optimum Torque**	3660 ft-lb
Hand Tight Stand Off	3 in.	**Internal Pressure Capacity**	12,410 psi	**Maximum Torque**	4580 ft-lb

Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.
For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.
Couplings OD are shown according to current API 5CT 10th Edition.

Tenaris

API LTC

Coupling	Pipe Body
Grade: **J55 (Casing)**	Grade: **J55 (Casing)**
Body: **Bright Green**	1st Band: **Bright Green**
1st Band: **White**	2nd Band: **-**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**

Outside Diameter	9.625 in.	**Wall Thickness**	0.395 in.	**Grade**	J55 (Casing)
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	Regular				

Pipe Body Data

Geometry				Performance	
Nominal OD	9.625 in.	**Drift**	8.679 in.	**SMYS**	55,000 psi
Wall Thickness	0.395 in.	**Plain End Weight**	38.97 lb/ft	**Min UTS**	75,000 psi
Nominal Weight	40 lb/ft	**OD Tolerance**	API	**Body Yield Strength**	630 x1000 lb
Nominal ID	8.835 in.			**Min. Internal Yield Pressure**	3950 psi
				Collapse Pressure	2570 psi
				Max. Allowed Bending	26 °/100 ft

Connection Data

Geometry		Performance		Make-Up Torques	
Thread per In	8	**Joint Strength**	520 x1000 lb	**Minimum Torque**	3900 ft-lb
Connection OD	10.625 in.	**Coupling Face Load**	433 x1000 lb	**Optimum Torque**	5200 ft-lb
Hand Tight Stand Off	3.500 in.	**Internal Pressure Capacity**	3950 psi	**Maximum Torque**	6500 ft-lb

Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.
For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.
Couplings OD are shown according to current API 5CT 10th Edition.

Tenaris

API LTC

Coupling	Pipe Body
Grade: **P110**	Grade: **P110**
Body: **White**	1st Band: **White**
1st Band: **-**	2nd Band: **-**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**

Outside Diameter	7.000 in.	**Wall Thickness**	0.362 in.	**Grade**	P110
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	Regular				

Pipe Body Data

Geometry				Performance	
Nominal OD	7.000 in.	**Drift**	6.151 in.	**SMYS**	110,000 psi
Wall Thickness	0.362 in.	**Plain End Weight**	25.69 lb/ft	**Min UTS**	125,000 psi
Nominal Weight	26 lb/ft	**OD Tolerance**	API	**Body Yield Strength**	830 x1000 lb
Nominal ID	6.276 in.			**Min. Internal Yield Pressure**	9960 psi
				Collapse Pressure	6230 psi
				Max. Allowed Bending	72 °/100 ft

Connection Data

Geometry		Performance		Make-Up Torques	
Thread per In	8	**Joint Strength**	693 x1000 lb	**Minimum Torque**	5200 ft-lb
Connection OD	7.875 in.	**Coupling Face Load**	799 x1000 lb	**Optimum Torque**	6930 ft-lb
Hand Tight Stand Off	3 in.	**Internal Pressure Capacity**	9960 psi	**Maximum Torque**	8660 ft-lb

Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.
For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.
Couplings OD are shown according to current API 5CT 10th Edition.

Tenaris

API LTC

Coupling	Pipe Body
Grade: **J55 (Casing)**	Grade: **J55 (Casing)**
Body: **Bright Green**	1st Band: **Bright Green**
1st Band: **White**	2nd Band: **-**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**

Outside Diameter	9.625 in.	**Wall Thickness**	0.352 in.	**Grade**	J55 (Casing)
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	Regular				

Pipe Body Data

Geometry				Performance	
Nominal OD	9.625 in.	**Drift**	8.765 in.	**SMYS**	55,000 psi
Wall Thickness	0.352 in.	**Plain End Weight**	34.89 lb/ft	**Min UTS**	75,000 psi
Nominal Weight	36 lb/ft	**OD Tolerance**	API	**Body Yield Strength**	564 x1000 lb
Nominal ID	8.921 in.			**Min. Internal Yield Pressure**	3520 psi
				Collapse Pressure	2020 psi
				Max. Allowed Bending	26 °/100 ft

Connection Data

Geometry		Performance		Make-Up Torques	
Thread per In	8	**Joint Strength**	453 x1000 lb	**Minimum Torque**	3400 ft-lb
Connection OD	10.625 in.	**Coupling Face Load**	433 x1000 lb	**Optimum Torque**	4530 ft-lb
Hand Tight Stand Off	3.500 in.	**Internal Pressure Capacity**	3520 psi	**Maximum Torque**	5660 ft-lb

Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.
For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.
Couplings OD are shown according to current API 5CT 10th Edition.

Tenaris

API STC

Coupling	Pipe Body
Grade: **H40**	Grade: **H40**
Body: **-**	1st Band: **Black**
1st Band: **Black**	2nd Band: **-**
2nd Band: **-**	3rd Band: **-**
3rd Band: **-**	4th Band: **-**

Outside Diameter	13.375 in.	**Wall Thickness**	0.330 in.	**Grade**	H40
Min. Wall Thickness	87.50 %	**Pipe Body Drift**	API Standard	**Type**	Casing
Connection OD Option	Regular				

Pipe Body Data

Geometry				Performance	
Nominal OD	13.375 in.	**Drift**	12.559 in.	**SMYS**	40,000 psi
Wall Thickness	0.330 in.	**Plain End Weight**	46.02 lb/ft	**Min UTS**	60,000 psi
Nominal Weight	48 lb/ft	**OD Tolerance**	API	**Body Yield Strength**	541 x1000 lb
Nominal ID	12.715 in.			**Min. Internal Yield Pressure**	1730 psi
				Collapse Pressure	740 psi
				Max. Allowed Bending	14 °/100 ft

Connection Data

Geometry		Performance		Make-Up Torques	
Thread per In	8	**Joint Strength**	322 x1000 lb	**Minimum Torque**	2420 ft-lb
Connection OD	14.375 in.	**Coupling Face Load**	377 x1000 lb	**Optimum Torque**	3220 ft-lb
Hand Tight Stand Off	3.500 in.	**Internal Pressure Capacity**	1730 psi	**Maximum Torque**	4030 ft-lb

Notes

For products according to API Standards 5CT & 5B; Performance calculated considering API Technical Report 5C3 (Sections 9 & 10) equations.
For geometrical and steel grades combinations not considered in the API Standards 5CT and/or 5B; Performance calculations indirectly derived from API Technical Report 5C3 (Sections 9 & 10) equations.
Couplings OD are shown according to current API 5CT 10th Edition.

Hydrogen Sulfide Drilling Operations Plan
Mewbourne Oil Company

1. General Requirements

Rule 118 does not apply to this well because MOC has researched this area and no high concentrations of H2S were found. MOC will have on location and working all H2S safety equipment before the Delaware formation for purposes of safety and insurance requirements.

2. Hydrogen Sulfide Training

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will have received training from a qualified instructor in the following areas prior to entering the drilling pad area of the well:

1. The hazards and characteristics of hydrogen sulfide gas.
2. The proper use of personal protective equipment and life support systems.
3. The proper use of hydrogen sulfide detectors, alarms, warning systems, briefing areas, evacuation procedures.
4. The proper techniques for first aid and rescue operations.

Additionally, supervisory personnel will be trained in the following areas:

1 The effects of hydrogen sulfide on metal components. If high tensile tubular systems are utilized, supervisory personnel will be trained in their special maintenance requirements.
2 Corrective action and shut in procedures, blowout prevention, and well control procedures while drilling a well.
3 The contents of the Hydrogen Sulfide Drilling Operations Plan.

There will be an initial training session prior to encountering a know hydrogen sulfide source. The initial training session shall include a review of the site specific Hydrogen Sulfide Drilling Operations Plan.

3. Hydrogen Sulfide Safety Equipment and Systems

All hydrogen sulfide safety equipment and systems will be installed, tested, and operational prior to drilling below the 9 5/8" intermediate casing.

1. Well Control Equipment
   - A. Choke manifold with minimum of one adjustable choke/remote choke.
   - B. Blowout preventers equipped with blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit
   - C. Auxiliary equipment including annular type blowout preventer.
2. Protective Equipment for Essential Personnel
   Thirty minute self contained work unit located in the dog house and at briefing areas.

Additionally: If H2S is encountered in concentrations less than 10 ppm, fans will be placed in work areas to prevent the accumulation of hazardous amounts of poisonous gas. If higher concentrations of H2S are detected the well will be shut in and a rotating head, mud/gas separator, remote choke and flare line with igniter will be installed.

3. Hydrogen Sulfide Protection and Monitoring Equipment
Two portable hydrogen sulfide monitors positioned on location for optimum coverage and detection. The units shall have audible sirens to notify personnel when hydrogen sulfide levels exceed 20 PPM.

4. Visual Warning Systems
A. Wind direction indicators as indicated on the wellsite diagram.
B. Caution signs shall be posted on roads providing access to location. Signs shall be painted a high visibility color with lettering of sufficient size to be readable at reasonable distances from potentially contaminated areas.

4. Mud Program

The mud program has been designed to minimize the amount of hydrogen sulfide entrained in the mud system. Proper mud weight, safe drilling practices, and the use of hydrogen sulfide scavengers will minimize hazards while drilling the well.

5. Metallurgy

All tubular systems, wellheads, blowout preventers, drilling spools, kill lines, choke manifolds, and valves shall be suitable for service in a hydrogen sulfide environment when chemically treated.

6. Communications

State & County Officials phone numbers are posted on rig floor and supervisors trailer. Communications in company vehicles and toolpushers are either two way radios or cellular phones.

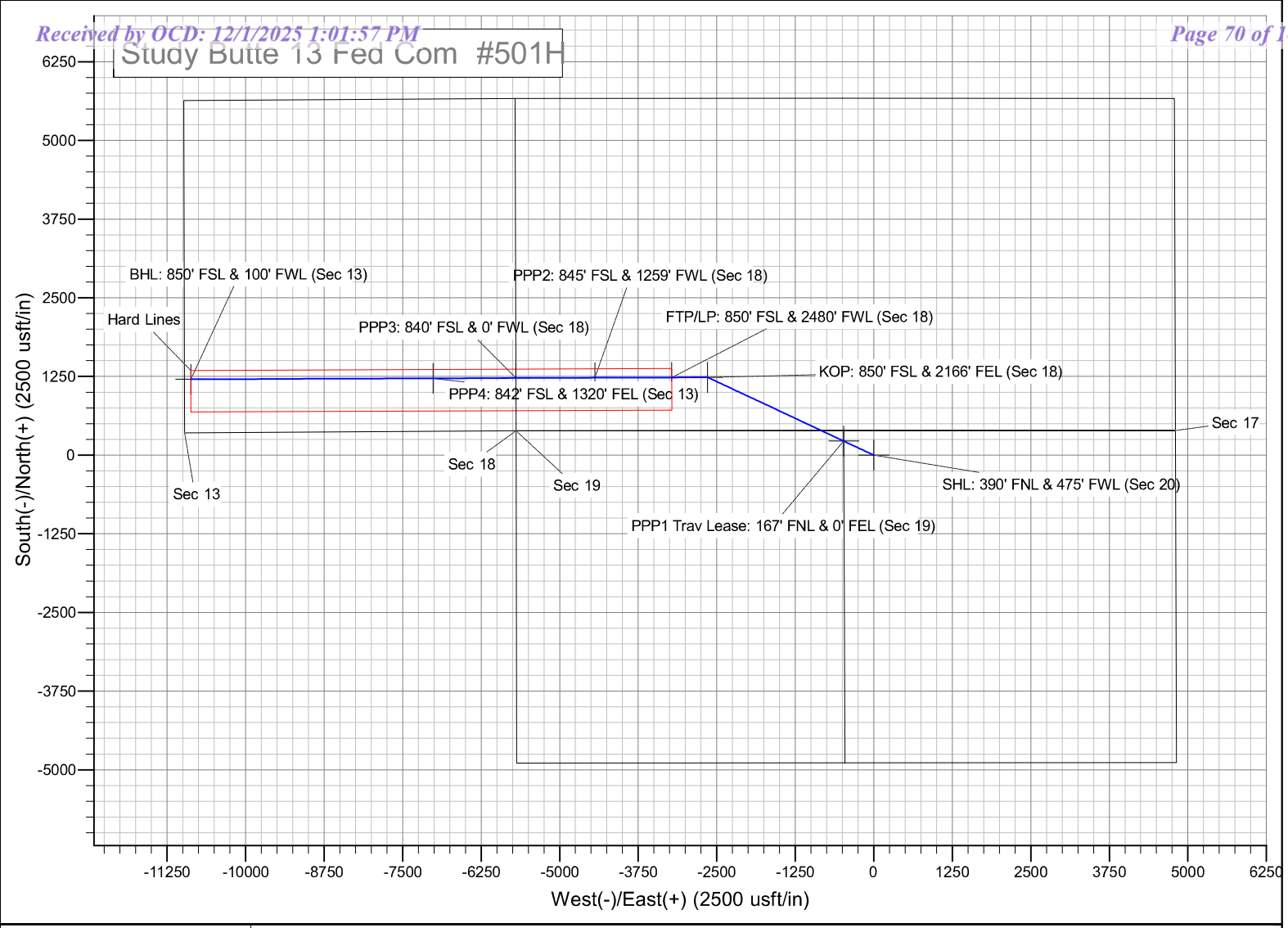
7. Well Testing

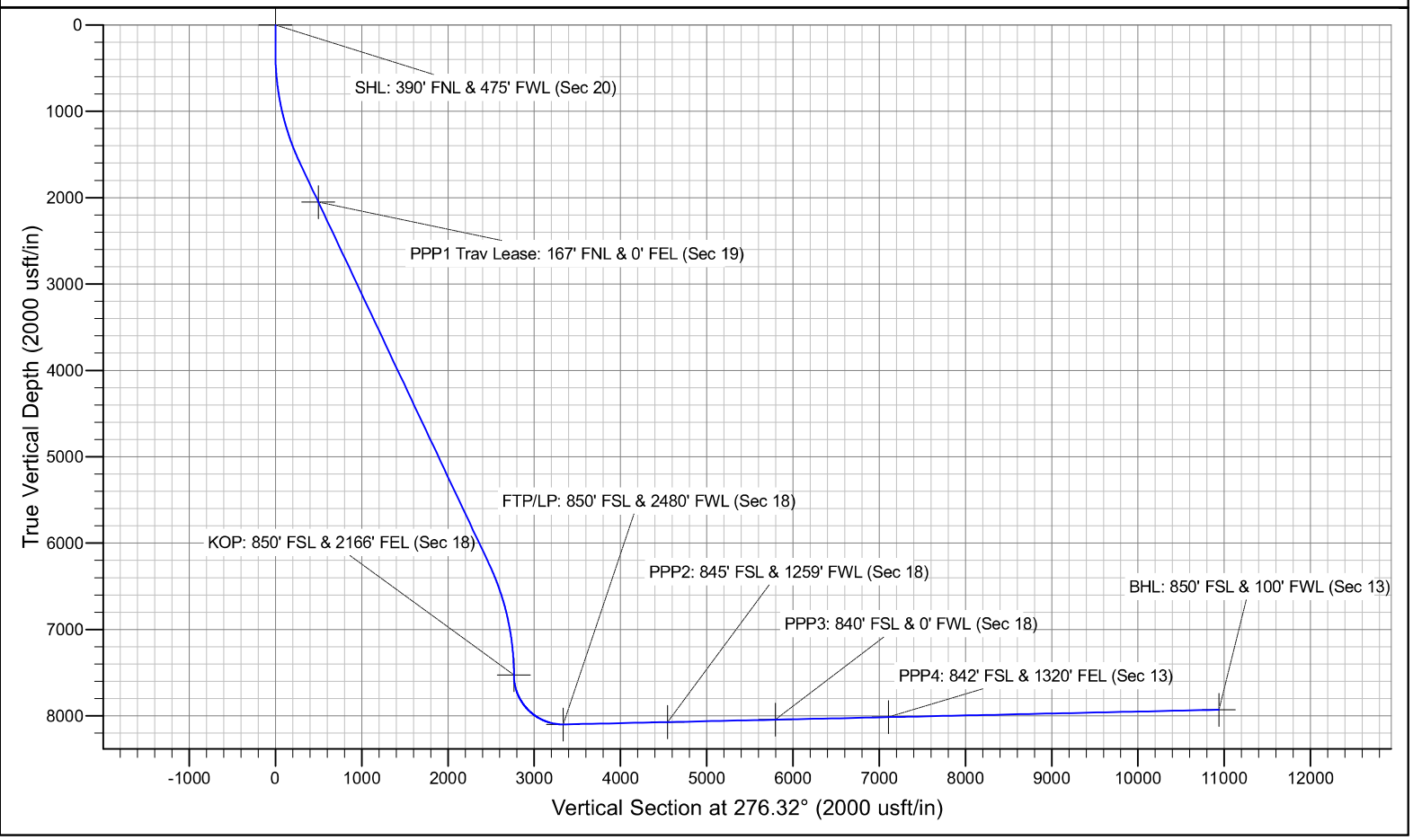
Drill stem testing is not an anticipated requirement for evaluation of this well. If a drill stem test is required, it will be conducted with a minimum number of personnel in the immediate vicinity. The test will be conducted during daylight hours only.

8. Emergency Phone Numbers

Eddy County Sheriff's Office	**911 or 575-887-7551**
Ambulance Service	**911 or 575-885-2111**
Carlsbad Fire Dept	**911 or 575-885-2111**
Loco Hills Volunteer Fire Dept.	**911 or 575-677-3266**
Closest Medical Facility - Columbia Medical Center of Carlsbad	**575-492-5000**

Mewbourne Oil Company	**Hobbs District Office**	**575-393-5905**
	Fax	**575-397-6252**
	2nd Fax	**575-393-7259**
District Manager	**Robin Terrell**	**575-390-4816**
Drilling Superintendent	**Frosty Lathan**	**575-390-4103**
	Bradley Bishop	**575-390-6838**
Drilling Foreman	**Wesley Noseff**	**575-441-0729**


Study Butte 13 Fed Com #501H
BHL: 850' FSL & 100' FWL (Sec 13)
PPP2: 845' FSL & 1259' FWL (Sec 18)
Hard Lines
PPP3: 840' FSL & 0' FWL (Sec 18)
FTP/LP: 850' FSL & 2480' FWL (Sec 18)
KOP: 850' FSL & 2166' FEL (Sec 18)
PPP4: 842' FSL & 1320' FEL (Sec 13)
Sec 17
Sec 18
Sec 19
Sec 13
SHL: 390' FNL & 475' FWL (Sec 20)
PPP1 Trav Lease: 167' FNL & 0' FEL (Sec 19)
South(-)/North(+) (2500 usft/in)
West(-)/East(+) (2500 usft/in)


SHL: 390' FNL & 475' FWL (Sec 20)
PPP1 Trav Lease: 167' FNL & 0' FEL (Sec 19)
FTP/LP: 850' FSL & 2480' FWL (Sec 18)
KOP: 850' FSL & 2166' FEL (Sec 18)
PPP2: 845' FSL & 1259' FWL (Sec 18)
BHL: 850' FSL & 100' FWL (Sec 13)
PPP3: 840' FSL & 0' FWL (Sec 18)
PPP4: 842' FSL & 1320' FEL (Sec 13)
True Vertical Depth (2000 usft/in)
Vertical Section at 276.32° (2000 usft/in)

EOG Resources, Inc.

Eddy County, New Mexico NAD 83
Study Butte 13 Fed Com #501H
Sec 13, T18S, R29E
SHL: 330' FSL & 450' FWL (Sec 13)
BHL: 660' FSL & 2480' FWL (Sec 18)

Plan: Design #1

Standard Planning Report

30 October, 2024

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	EOG Resources, Inc	**TVD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 13, T18S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2480' FWL (Sec 18)		
Design:	Design #1		

Project Eddy County, New Mexico NAD 83

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

Site Study Butte 13 Fed Com #501H

Site Position:		**Northing:**	633,493.50 usft	**Latitude:**	32.7411572
From:	Map	**Easting:**	632,947.40 usft	**Longitude:**	-104.0353851
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well Sec 13, T18S, R29E

Well Position	**+N/-S**	0.0 usft	**Northing:**	633,493.50 usft	**Latitude:**	32.7411572
	+E/-W	0.0 usft	**Easting:**	632,947.40 usft	**Longitude:**	-104.0353851
Position Uncertainty		0.0 usft	**Wellhead Elevation:**	3,526.0 usft	**Ground Level:**	3,498.0 usft
Grid Convergence:		0.16 °				

Wellbore BHL: 660' FSL & 2480' FWL (Sec 18)

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010	12/31/2014	7.40	60.50	48,496.19620746

Design Design #1

Audit Notes:

Version:	**Phase:**	PROTOTYPE	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	87.19

Plan Survey Tool Program **Date** 10/30/2024

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	15,495.8	Design #1 (BHL: 660' FSL & 2480		

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
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.00	0.00	
631.8	4.64	306.59	631.5	5.6	-7.5	2.00	2.00	0.00	306.59	
7,191.2	4.64	306.59	7,169.5	321.6	-433.2	0.00	0.00	0.00	0.00	
7,423.0	0.00	0.00	7,401.0	327.2	-440.7	2.00	-2.00	0.00	180.00	KOP: 660' FSL & 10' I
8,314.9	89.18	89.77	7,974.0	329.4	124.1	10.00	10.00	0.00	89.77	
15,495.8	89.18	89.77	8,077.0	357.9	7,304.2	0.00	0.00	0.00	0.00	BHL: 660' FSL & 248(

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	EOG Resources, Inc.	**TVD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 13, T18S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2480' FWL (Sec 18)		
Design:	Design #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)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
SHL: 330' FSL & 450' FWL (Sec 13)									
50.0	0.00	0.00	50.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
150.0	0.00	0.00	150.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
250.0	0.00	0.00	250.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
350.0	0.00	0.00	350.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
450.0	1.00	306.59	450.0	0.3	-0.4	-0.3	2.00	2.00	0.00
500.0	2.00	306.59	500.0	1.0	-1.4	-1.3	2.00	2.00	0.00
550.0	3.00	306.59	549.9	2.3	-3.2	-3.0	2.00	2.00	0.00
600.0	4.00	306.59	599.8	4.2	-5.6	-5.4	2.00	2.00	0.00
631.8	4.64	306.59	631.5	5.6	-7.5	-7.2	2.00	2.00	0.00
650.0	4.64	306.59	649.7	6.5	-8.7	-8.4	0.00	0.00	0.00
700.0	4.64	306.59	699.5	8.9	-12.0	-11.5	0.00	0.00	0.00
750.0	4.64	306.59	749.4	11.3	-15.2	-14.6	0.00	0.00	0.00
800.0	4.64	306.59	799.2	13.7	-18.4	-17.7	0.00	0.00	0.00
850.0	4.64	306.59	849.0	16.1	-21.7	-20.9	0.00	0.00	0.00
900.0	4.64	306.59	898.9	18.5	-24.9	-24.0	0.00	0.00	0.00
950.0	4.64	306.59	948.7	20.9	-28.2	-27.1	0.00	0.00	0.00
1,000.0	4.64	306.59	998.5	23.3	-31.4	-30.2	0.00	0.00	0.00
1,050.0	4.64	306.59	1,048.4	25.7	-34.7	-33.4	0.00	0.00	0.00
1,100.0	4.64	306.59	1,098.2	28.1	-37.9	-36.5	0.00	0.00	0.00
1,150.0	4.64	306.59	1,148.1	30.6	-41.2	-39.6	0.00	0.00	0.00
1,200.0	4.64	306.59	1,197.9	33.0	-44.4	-42.7	0.00	0.00	0.00
1,250.0	4.64	306.59	1,247.7	35.4	-47.6	-45.9	0.00	0.00	0.00
1,300.0	4.64	306.59	1,297.6	37.8	-50.9	-49.0	0.00	0.00	0.00
1,350.0	4.64	306.59	1,347.4	40.2	-54.1	-52.1	0.00	0.00	0.00
1,400.0	4.64	306.59	1,397.2	42.6	-57.4	-55.2	0.00	0.00	0.00
1,450.0	4.64	306.59	1,447.1	45.0	-60.6	-58.3	0.00	0.00	0.00
1,500.0	4.64	306.59	1,496.9	47.4	-63.9	-61.5	0.00	0.00	0.00
1,550.0	4.64	306.59	1,546.7	49.8	-67.1	-64.6	0.00	0.00	0.00
1,600.0	4.64	306.59	1,596.6	52.2	-70.4	-67.7	0.00	0.00	0.00
1,650.0	4.64	306.59	1,646.4	54.6	-73.6	-70.8	0.00	0.00	0.00
1,700.0	4.64	306.59	1,696.3	57.1	-76.8	-74.0	0.00	0.00	0.00
1,750.0	4.64	306.59	1,746.1	59.5	-80.1	-77.1	0.00	0.00	0.00
1,800.0	4.64	306.59	1,795.9	61.9	-83.3	-80.2	0.00	0.00	0.00
1,850.0	4.64	306.59	1,845.8	64.3	-86.6	-83.3	0.00	0.00	0.00
1,900.0	4.64	306.59	1,895.6	66.7	-89.8	-86.4	0.00	0.00	0.00
1,950.0	4.64	306.59	1,945.4	69.1	-93.1	-89.6	0.00	0.00	0.00
2,000.0	4.64	306.59	1,995.3	71.5	-96.3	-92.7	0.00	0.00	0.00
2,050.0	4.64	306.59	2,045.1	73.9	-99.6	-95.8	0.00	0.00	0.00
2,100.0	4.64	306.59	2,094.9	76.3	-102.8	-98.9	0.00	0.00	0.00
2,150.0	4.64	306.59	2,144.8	78.7	-106.0	-102.1	0.00	0.00	0.00
2,200.0	4.64	306.59	2,194.6	81.1	-109.3	-105.2	0.00	0.00	0.00
2,250.0	4.64	306.59	2,244.5	83.6	-112.5	-108.3	0.00	0.00	0.00
2,300.0	4.64	306.59	2,294.3	86.0	-115.8	-111.4	0.00	0.00	0.00
2,350.0	4.64	306.59	2,344.1	88.4	-119.0	-114.6	0.00	0.00	0.00
2,400.0	4.64	306.59	2,394.0	90.8	-122.3	-117.7	0.00	0.00	0.00
2,450.0	4.64	306.59	2,443.8	93.2	-125.5	-120.8	0.00	0.00	0.00
2,500.0	4.64	306.59	2,493.6	95.6	-128.8	-123.9	0.00	0.00	0.00
2,550.0	4.64	306.59	2,543.5	98.0	-132.0	-127.0	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	EOG Resources, Inc.	**TVD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 13, T18S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2480' FWL (Sec 18)		
Design:	Design #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)
2,600.0	4.64	306.59	2,593.3	100.4	-135.2	-130.2	0.00	0.00	0.00
2,650.0	4.64	306.59	2,643.1	102.8	-138.5	-133.3	0.00	0.00	0.00
2,700.0	4.64	306.59	2,693.0	105.2	-141.7	-136.4	0.00	0.00	0.00
2,750.0	4.64	306.59	2,742.8	107.6	-145.0	-139.5	0.00	0.00	0.00
2,800.0	4.64	306.59	2,792.7	110.0	-148.2	-142.7	0.00	0.00	0.00
2,850.0	4.64	306.59	2,842.5	112.5	-151.5	-145.8	0.00	0.00	0.00
2,900.0	4.64	306.59	2,892.3	114.9	-154.7	-148.9	0.00	0.00	0.00
2,950.0	4.64	306.59	2,942.2	117.3	-158.0	-152.0	0.00	0.00	0.00
3,000.0	4.64	306.59	2,992.0	119.7	-161.2	-155.2	0.00	0.00	0.00
3,050.0	4.64	306.59	3,041.8	122.1	-164.4	-158.3	0.00	0.00	0.00
3,100.0	4.64	306.59	3,091.7	124.5	-167.7	-161.4	0.00	0.00	0.00
3,150.0	4.64	306.59	3,141.5	126.9	-170.9	-164.5	0.00	0.00	0.00
3,200.0	4.64	306.59	3,191.3	129.3	-174.2	-167.6	0.00	0.00	0.00
3,250.0	4.64	306.59	3,241.2	131.7	-177.4	-170.8	0.00	0.00	0.00
3,300.0	4.64	306.59	3,291.0	134.1	-180.7	-173.9	0.00	0.00	0.00
3,350.0	4.64	306.59	3,340.9	136.5	-183.9	-177.0	0.00	0.00	0.00
3,400.0	4.64	306.59	3,390.7	139.0	-187.2	-180.1	0.00	0.00	0.00
3,450.0	4.64	306.59	3,440.5	141.4	-190.4	-183.3	0.00	0.00	0.00
3,500.0	4.64	306.59	3,490.4	143.8	-193.6	-186.4	0.00	0.00	0.00
3,550.0	4.64	306.59	3,540.2	146.2	-196.9	-189.5	0.00	0.00	0.00
3,600.0	4.64	306.59	3,590.0	148.6	-200.1	-192.6	0.00	0.00	0.00
3,650.0	4.64	306.59	3,639.9	151.0	-203.4	-195.7	0.00	0.00	0.00
3,700.0	4.64	306.59	3,689.7	153.4	-206.6	-198.9	0.00	0.00	0.00
3,750.0	4.64	306.59	3,739.5	155.8	-209.9	-202.0	0.00	0.00	0.00
3,800.0	4.64	306.59	3,789.4	158.2	-213.1	-205.1	0.00	0.00	0.00
3,850.0	4.64	306.59	3,839.2	160.6	-216.4	-208.2	0.00	0.00	0.00
3,900.0	4.64	306.59	3,889.1	163.0	-219.6	-211.4	0.00	0.00	0.00
3,950.0	4.64	306.59	3,938.9	165.5	-222.8	-214.5	0.00	0.00	0.00
4,000.0	4.64	306.59	3,988.7	167.9	-226.1	-217.6	0.00	0.00	0.00
4,050.0	4.64	306.59	4,038.6	170.3	-229.3	-220.7	0.00	0.00	0.00
4,100.0	4.64	306.59	4,088.4	172.7	-232.6	-223.9	0.00	0.00	0.00
4,150.0	4.64	306.59	4,138.2	175.1	-235.8	-227.0	0.00	0.00	0.00
4,200.0	4.64	306.59	4,188.1	177.5	-239.1	-230.1	0.00	0.00	0.00
4,250.0	4.64	306.59	4,237.9	179.9	-242.3	-233.2	0.00	0.00	0.00
4,300.0	4.64	306.59	4,287.7	182.3	-245.6	-236.3	0.00	0.00	0.00
4,350.0	4.64	306.59	4,337.6	184.7	-248.8	-239.5	0.00	0.00	0.00
4,400.0	4.64	306.59	4,387.4	187.1	-252.1	-242.6	0.00	0.00	0.00
4,450.0	4.64	306.59	4,437.3	189.5	-255.3	-245.7	0.00	0.00	0.00
4,500.0	4.64	306.59	4,487.1	192.0	-258.5	-248.8	0.00	0.00	0.00
4,550.0	4.64	306.59	4,536.9	194.4	-261.8	-252.0	0.00	0.00	0.00
4,600.0	4.64	306.59	4,586.8	196.8	-265.0	-255.1	0.00	0.00	0.00
4,650.0	4.64	306.59	4,636.6	199.2	-268.3	-258.2	0.00	0.00	0.00
4,700.0	4.64	306.59	4,686.4	201.6	-271.5	-261.3	0.00	0.00	0.00
4,750.0	4.64	306.59	4,736.3	204.0	-274.8	-264.4	0.00	0.00	0.00
4,800.0	4.64	306.59	4,786.1	206.4	-278.0	-267.6	0.00	0.00	0.00
4,850.0	4.64	306.59	4,835.9	208.8	-281.3	-270.7	0.00	0.00	0.00
4,900.0	4.64	306.59	4,885.8	211.2	-284.5	-273.8	0.00	0.00	0.00
4,950.0	4.64	306.59	4,935.6	213.6	-287.7	-276.9	0.00	0.00	0.00
5,000.0	4.64	306.59	4,985.5	216.0	-291.0	-280.1	0.00	0.00	0.00
5,050.0	4.64	306.59	5,035.3	218.5	-294.2	-283.2	0.00	0.00	0.00
5,100.0	4.64	306.59	5,085.1	220.9	-297.5	-286.3	0.00	0.00	0.00
5,150.0	4.64	306.59	5,135.0	223.3	-300.7	-289.4	0.00	0.00	0.00
5,200.0	4.64	306.59	5,184.8	225.7	-304.0	-292.6	0.00	0.00	0.00
5,250.0	4.64	306.59	5,234.6	228.1	-307.2	-295.7	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	EOG Resources, Inc.	**TVD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 13, T18S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2480' FWL (Sec 18)		
Design:	Design #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)
5,300.0	4.64	306.59	5,284.5	230.5	-310.5	-298.8	0.00	0.00	0.00
5,350.0	4.64	306.59	5,334.3	232.9	-313.7	-301.9	0.00	0.00	0.00
5,400.0	4.64	306.59	5,384.1	235.3	-316.9	-305.0	0.00	0.00	0.00
5,450.0	4.64	306.59	5,434.0	237.7	-320.2	-308.2	0.00	0.00	0.00
5,500.0	4.64	306.59	5,483.8	240.1	-323.4	-311.3	0.00	0.00	0.00
5,550.0	4.64	306.59	5,533.7	242.5	-326.7	-314.4	0.00	0.00	0.00
5,600.0	4.64	306.59	5,583.5	245.0	-329.9	-317.5	0.00	0.00	0.00
5,650.0	4.64	306.59	5,633.3	247.4	-333.2	-320.7	0.00	0.00	0.00
5,700.0	4.64	306.59	5,683.2	249.8	-336.4	-323.8	0.00	0.00	0.00
5,750.0	4.64	306.59	5,733.0	252.2	-339.7	-326.9	0.00	0.00	0.00
5,800.0	4.64	306.59	5,782.8	254.6	-342.9	-330.0	0.00	0.00	0.00
5,850.0	4.64	306.59	5,832.7	257.0	-346.1	-333.2	0.00	0.00	0.00
5,900.0	4.64	306.59	5,882.5	259.4	-349.4	-336.3	0.00	0.00	0.00
5,950.0	4.64	306.59	5,932.3	261.8	-352.6	-339.4	0.00	0.00	0.00
6,000.0	4.64	306.59	5,982.2	264.2	-355.9	-342.5	0.00	0.00	0.00
6,050.0	4.64	306.59	6,032.0	266.6	-359.1	-345.6	0.00	0.00	0.00
6,100.0	4.64	306.59	6,081.9	269.0	-362.4	-348.8	0.00	0.00	0.00
6,150.0	4.64	306.59	6,131.7	271.5	-365.6	-351.9	0.00	0.00	0.00
6,200.0	4.64	306.59	6,181.5	273.9	-368.9	-355.0	0.00	0.00	0.00
6,250.0	4.64	306.59	6,231.4	276.3	-372.1	-358.1	0.00	0.00	0.00
6,300.0	4.64	306.59	6,281.2	278.7	-375.3	-361.3	0.00	0.00	0.00
6,350.0	4.64	306.59	6,331.0	281.1	-378.6	-364.4	0.00	0.00	0.00
6,400.0	4.64	306.59	6,380.9	283.5	-381.8	-367.5	0.00	0.00	0.00
6,450.0	4.64	306.59	6,430.7	285.9	-385.1	-370.6	0.00	0.00	0.00
6,500.0	4.64	306.59	6,480.5	288.3	-388.3	-373.7	0.00	0.00	0.00
6,550.0	4.64	306.59	6,530.4	290.7	-391.6	-376.9	0.00	0.00	0.00
6,600.0	4.64	306.59	6,580.2	293.1	-394.8	-380.0	0.00	0.00	0.00
6,650.0	4.64	306.59	6,630.1	295.5	-398.1	-383.1	0.00	0.00	0.00
6,700.0	4.64	306.59	6,679.9	297.9	-401.3	-386.2	0.00	0.00	0.00
6,750.0	4.64	306.59	6,729.7	300.4	-404.5	-389.4	0.00	0.00	0.00
6,800.0	4.64	306.59	6,779.6	302.8	-407.8	-392.5	0.00	0.00	0.00
6,850.0	4.64	306.59	6,829.4	305.2	-411.0	-395.6	0.00	0.00	0.00
6,900.0	4.64	306.59	6,879.2	307.6	-414.3	-398.7	0.00	0.00	0.00
6,950.0	4.64	306.59	6,929.1	310.0	-417.5	-401.9	0.00	0.00	0.00
7,000.0	4.64	306.59	6,978.9	312.4	-420.8	-405.0	0.00	0.00	0.00
7,050.0	4.64	306.59	7,028.8	314.8	-424.0	-408.1	0.00	0.00	0.00
7,100.0	4.64	306.59	7,078.6	317.2	-427.3	-411.2	0.00	0.00	0.00
7,150.0	4.64	306.59	7,128.4	319.6	-430.5	-414.3	0.00	0.00	0.00
7,191.2	4.64	306.59	7,169.5	321.6	-433.2	-416.9	0.00	0.00	0.00
7,200.0	4.46	306.59	7,178.3	322.0	-433.7	-417.5	2.00	-2.00	0.00
7,250.0	3.46	306.59	7,228.1	324.1	-436.5	-420.1	2.00	-2.00	0.00
7,300.0	2.46	306.59	7,278.1	325.6	-438.6	-422.1	2.00	-2.00	0.00
7,350.0	1.46	306.59	7,328.0	326.6	-440.0	-423.4	2.00	-2.00	0.00
7,400.0	0.46	306.59	7,378.0	327.1	-440.6	-424.1	2.00	-2.00	0.00
7,423.0	0.00	0.00	7,401.0	327.2	-440.7	-424.2	2.00	-2.00	0.00
KOP: 660' FSL & 10' FWL (Sec 13)									
7,450.0	2.70	89.77	7,428.0	327.2	-440.1	-423.5	10.00	10.00	0.00
7,500.0	7.70	89.77	7,477.8	327.2	-435.5	-419.0	10.00	10.00	0.00
7,550.0	12.70	89.77	7,527.0	327.3	-426.7	-410.1	10.00	10.00	0.00
7,600.0	17.70	89.77	7,575.2	327.3	-413.6	-397.1	10.00	10.00	0.00
7,650.0	22.70	89.77	7,622.1	327.4	-396.3	-379.8	10.00	10.00	0.00
7,700.0	27.70	89.77	7,667.4	327.5	-375.0	-358.6	10.00	10.00	0.00
7,748.5	32.55	89.77	7,709.3	327.6	-350.7	-334.3	10.00	10.00	0.00
FTP: 660' FSL & 100' FWL (Sec 13)									

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	EOG Resources, Inc.	**TVD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 13, T18S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2480' FWL (Sec 18)		
Design:	Design #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)
7,750.0	32.70	89.77	7,710.6	327.6	-349.9	-333.4	10.00	10.00	0.00
7,800.0	37.70	89.77	7,751.4	327.7	-321.1	-304.7	10.00	10.00	0.00
7,850.0	42.70	89.77	7,789.6	327.8	-288.8	-272.4	10.00	10.00	0.00
7,900.0	47.70	89.77	7,824.8	327.9	-253.4	-237.0	10.00	10.00	0.00
7,950.0	52.69	89.77	7,856.8	328.1	-215.0	-198.6	10.00	10.00	0.00
8,000.0	57.69	89.77	7,885.3	328.3	-173.9	-157.6	10.00	10.00	0.00
8,050.0	62.69	89.77	7,910.2	328.4	-130.5	-114.3	10.00	10.00	0.00
8,100.0	67.69	89.77	7,931.2	328.6	-85.2	-69.0	10.00	10.00	0.00
8,150.0	72.69	89.77	7,948.1	328.8	-38.1	-22.0	10.00	10.00	0.00
8,200.0	77.69	89.77	7,960.9	329.0	10.2	26.3	10.00	10.00	0.00
8,250.0	82.69	89.77	7,969.4	329.2	59.4	75.5	10.00	10.00	0.00
8,300.0	87.69	89.77	7,973.6	329.4	109.2	125.2	10.00	10.00	0.00
8,314.9	89.18	89.77	7,974.0	329.4	124.1	140.1	10.00	10.00	0.00
8,323.1	89.18	89.77	7,974.1	329.5	132.3	148.3	0.00	0.00	0.00
LP: 660' FSL & 583' FWL (Sec 13)									
8,350.0	89.18	89.77	7,974.5	329.6	159.2	175.2	0.00	0.00	0.00
8,400.0	89.18	89.77	7,975.2	329.8	209.2	225.1	0.00	0.00	0.00
8,450.0	89.18	89.77	7,975.9	330.0	259.2	275.1	0.00	0.00	0.00
8,500.0	89.18	89.77	7,976.7	330.2	309.2	325.0	0.00	0.00	0.00
8,550.0	89.18	89.77	7,977.4	330.4	359.2	374.9	0.00	0.00	0.00
8,600.0	89.18	89.77	7,978.1	330.6	409.2	424.9	0.00	0.00	0.00
8,650.0	89.18	89.77	7,978.8	330.8	459.2	474.8	0.00	0.00	0.00
8,700.0	89.18	89.77	7,979.5	331.0	509.2	524.8	0.00	0.00	0.00
8,750.0	89.18	89.77	7,980.2	331.2	559.2	574.7	0.00	0.00	0.00
8,800.0	89.18	89.77	7,981.0	331.4	609.2	624.7	0.00	0.00	0.00
8,850.0	89.18	89.77	7,981.7	331.6	659.2	674.6	0.00	0.00	0.00
8,900.0	89.18	89.77	7,982.4	331.8	709.2	724.6	0.00	0.00	0.00
8,950.0	89.18	89.77	7,983.1	332.0	759.2	774.5	0.00	0.00	0.00
9,000.0	89.18	89.77	7,983.8	332.2	809.2	824.4	0.00	0.00	0.00
9,050.0	89.18	89.77	7,984.5	332.4	859.2	874.4	0.00	0.00	0.00
9,100.0	89.18	89.77	7,985.3	332.6	909.1	924.3	0.00	0.00	0.00
9,150.0	89.18	89.77	7,986.0	332.7	959.1	974.3	0.00	0.00	0.00
9,200.0	89.18	89.77	7,986.7	332.9	1,009.1	1,024.2	0.00	0.00	0.00
9,250.0	89.18	89.77	7,987.4	333.1	1,059.1	1,074.2	0.00	0.00	0.00
9,300.0	89.18	89.77	7,988.1	333.3	1,109.1	1,124.1	0.00	0.00	0.00
9,350.0	89.18	89.77	7,988.8	333.5	1,159.1	1,174.1	0.00	0.00	0.00
9,400.0	89.18	89.77	7,989.6	333.7	1,209.1	1,224.0	0.00	0.00	0.00
9,450.0	89.18	89.77	7,990.3	333.9	1,259.1	1,273.9	0.00	0.00	0.00
9,500.0	89.18	89.77	7,991.0	334.1	1,309.1	1,323.9	0.00	0.00	0.00
9,550.0	89.18	89.77	7,991.7	334.3	1,359.1	1,373.8	0.00	0.00	0.00
9,600.0	89.18	89.77	7,992.4	334.5	1,409.1	1,423.8	0.00	0.00	0.00
9,650.0	89.18	89.77	7,993.2	334.7	1,459.1	1,473.7	0.00	0.00	0.00
9,700.0	89.18	89.77	7,993.9	334.9	1,509.1	1,523.7	0.00	0.00	0.00
9,750.0	89.18	89.77	7,994.6	335.1	1,559.1	1,573.6	0.00	0.00	0.00
9,800.0	89.18	89.77	7,995.3	335.3	1,609.1	1,623.5	0.00	0.00	0.00
9,850.0	89.18	89.77	7,996.0	335.5	1,659.1	1,673.5	0.00	0.00	0.00
9,900.0	89.18	89.77	7,996.7	335.7	1,709.1	1,723.4	0.00	0.00	0.00
9,950.0	89.18	89.77	7,997.5	335.9	1,759.1	1,773.4	0.00	0.00	0.00
10,000.0	89.18	89.77	7,998.2	336.1	1,809.0	1,823.3	0.00	0.00	0.00
10,050.0	89.18	89.77	7,998.9	336.3	1,859.0	1,873.3	0.00	0.00	0.00
10,100.0	89.18	89.77	7,999.6	336.5	1,909.0	1,923.2	0.00	0.00	0.00
10,150.0	89.18	89.77	8,000.3	336.7	1,959.0	1,973.2	0.00	0.00	0.00
10,200.0	89.18	89.77	8,001.0	336.9	2,009.0	2,023.1	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	EOG Resources, Inc.	**TVD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 13, T18S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2480' FWL (Sec 18)		
Design:	Design #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)
10,250.0	89.18	89.77	8,001.8	337.1	2,059.0	2,073.0	0.00	0.00	0.00
10,300.0	89.18	89.77	8,002.5	337.3	2,109.0	2,123.0	0.00	0.00	0.00
10,350.0	89.18	89.77	8,003.2	337.5	2,159.0	2,172.9	0.00	0.00	0.00
10,400.0	89.18	89.77	8,003.9	337.7	2,209.0	2,222.9	0.00	0.00	0.00
10,450.0	89.18	89.77	8,004.6	337.9	2,259.0	2,272.8	0.00	0.00	0.00
10,500.0	89.18	89.77	8,005.3	338.1	2,309.0	2,322.8	0.00	0.00	0.00
10,550.0	89.18	89.77	8,006.1	338.3	2,359.0	2,372.7	0.00	0.00	0.00
10,600.0	89.18	89.77	8,006.8	338.5	2,409.0	2,422.7	0.00	0.00	0.00
10,650.0	89.18	89.77	8,007.5	338.7	2,459.0	2,472.6	0.00	0.00	0.00
10,700.0	89.18	89.77	8,008.2	338.9	2,509.0	2,522.5	0.00	0.00	0.00
10,750.0	89.18	89.77	8,008.9	339.1	2,559.0	2,572.5	0.00	0.00	0.00
10,800.0	89.18	89.77	8,009.6	339.3	2,609.0	2,622.4	0.00	0.00	0.00
10,850.0	89.18	89.77	8,010.4	339.5	2,659.0	2,672.4	0.00	0.00	0.00
10,900.0	89.18	89.77	8,011.1	339.7	2,708.9	2,722.3	0.00	0.00	0.00
10,950.0	89.18	89.77	8,011.8	339.9	2,758.9	2,772.3	0.00	0.00	0.00
11,000.0	89.18	89.77	8,012.5	340.1	2,808.9	2,822.2	0.00	0.00	0.00
11,050.0	89.18	89.77	8,013.2	340.3	2,858.9	2,872.2	0.00	0.00	0.00
11,100.0	89.18	89.77	8,013.9	340.5	2,908.9	2,922.1	0.00	0.00	0.00
11,150.0	89.18	89.77	8,014.7	340.7	2,958.9	2,972.0	0.00	0.00	0.00
11,200.0	89.18	89.77	8,015.4	340.9	3,008.9	3,022.0	0.00	0.00	0.00
11,250.0	89.18	89.77	8,016.1	341.1	3,058.9	3,071.9	0.00	0.00	0.00
11,300.0	89.18	89.77	8,016.8	341.3	3,108.9	3,121.9	0.00	0.00	0.00
11,350.0	89.18	89.77	8,017.5	341.5	3,158.9	3,171.8	0.00	0.00	0.00
11,400.0	89.18	89.77	8,018.3	341.7	3,208.9	3,221.8	0.00	0.00	0.00
11,450.0	89.18	89.77	8,019.0	341.9	3,258.9	3,271.7	0.00	0.00	0.00
11,500.0	89.18	89.77	8,019.7	342.1	3,308.9	3,321.7	0.00	0.00	0.00
11,550.0	89.18	89.77	8,020.4	342.3	3,358.9	3,371.6	0.00	0.00	0.00
11,600.0	89.18	89.77	8,021.1	342.5	3,408.9	3,421.5	0.00	0.00	0.00
11,650.0	89.18	89.77	8,021.8	342.7	3,458.9	3,471.5	0.00	0.00	0.00
11,696.9	89.18	89.77	8,022.5	342.8	3,505.8	3,518.4	0.00	0.00	0.00
PPP2: 652' FSL & 1320' FEL (Sec 13)									
11,700.0	89.18	89.77	8,022.6	342.9	3,508.9	3,521.4	0.00	0.00	0.00
11,750.0	89.18	89.77	8,023.3	343.1	3,558.9	3,571.4	0.00	0.00	0.00
11,800.0	89.18	89.77	8,024.0	343.3	3,608.8	3,621.3	0.00	0.00	0.00
11,850.0	89.18	89.77	8,024.7	343.5	3,658.8	3,671.3	0.00	0.00	0.00
11,900.0	89.18	89.77	8,025.4	343.6	3,708.8	3,721.2	0.00	0.00	0.00
11,950.0	89.18	89.77	8,026.1	343.8	3,758.8	3,771.2	0.00	0.00	0.00
12,000.0	89.18	89.77	8,026.9	344.0	3,808.8	3,821.1	0.00	0.00	0.00
12,050.0	89.18	89.77	8,027.6	344.2	3,858.8	3,871.0	0.00	0.00	0.00
12,100.0	89.18	89.77	8,028.3	344.4	3,908.8	3,921.0	0.00	0.00	0.00
12,150.0	89.18	89.77	8,029.0	344.6	3,958.8	3,970.9	0.00	0.00	0.00
12,200.0	89.18	89.77	8,029.7	344.8	4,008.8	4,020.9	0.00	0.00	0.00
12,250.0	89.18	89.77	8,030.4	345.0	4,058.8	4,070.8	0.00	0.00	0.00
12,300.0	89.18	89.77	8,031.2	345.2	4,108.8	4,120.8	0.00	0.00	0.00
12,350.0	89.18	89.77	8,031.9	345.4	4,158.8	4,170.7	0.00	0.00	0.00
12,400.0	89.18	89.77	8,032.6	345.6	4,208.8	4,220.7	0.00	0.00	0.00
12,450.0	89.18	89.77	8,033.3	345.8	4,258.8	4,270.6	0.00	0.00	0.00
12,500.0	89.18	89.77	8,034.0	346.0	4,308.8	4,320.5	0.00	0.00	0.00
12,550.0	89.18	89.77	8,034.7	346.2	4,358.8	4,370.5	0.00	0.00	0.00
12,600.0	89.18	89.77	8,035.5	346.4	4,408.8	4,420.4	0.00	0.00	0.00
12,650.0	89.18	89.77	8,036.2	346.6	4,458.8	4,470.4	0.00	0.00	0.00
12,700.0	89.18	89.77	8,036.9	346.8	4,508.7	4,520.3	0.00	0.00	0.00
12,750.0	89.18	89.77	8,037.6	347.0	4,558.7	4,570.3	0.00	0.00	0.00
12,800.0	89.18	89.77	8,038.3	347.2	4,608.7	4,620.2	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	EOG Resources, Inc.	**TVD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 13, T18S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2480' FWL (Sec 18)		
Design:	Design #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)
12,850.0	89.18	89.77	8,039.0	347.4	4,658.7	4,670.1	0.00	0.00	0.00
12,900.0	89.18	89.77	8,039.8	347.6	4,708.7	4,720.1	0.00	0.00	0.00
12,950.0	89.18	89.77	8,040.5	347.8	4,758.7	4,770.0	0.00	0.00	0.00
13,000.0	89.18	89.77	8,041.2	348.0	4,808.7	4,820.0	0.00	0.00	0.00
13,016.4	89.18	89.77	8,041.4	348.1	4,825.1	4,836.4	0.00	0.00	0.00
PPP3: 650' FSL & 0' FWL (Sec 18)									
13,050.0	89.18	89.77	8,041.9	348.2	4,858.7	4,869.9	0.00	0.00	0.00
13,100.0	89.18	89.77	8,042.6	348.4	4,908.7	4,919.9	0.00	0.00	0.00
13,150.0	89.18	89.77	8,043.4	348.6	4,958.7	4,969.8	0.00	0.00	0.00
13,200.0	89.18	89.77	8,044.1	348.8	5,008.7	5,019.8	0.00	0.00	0.00
13,250.0	89.18	89.77	8,044.8	349.0	5,058.7	5,069.7	0.00	0.00	0.00
13,300.0	89.18	89.77	8,045.5	349.2	5,108.7	5,119.6	0.00	0.00	0.00
13,350.0	89.18	89.77	8,046.2	349.4	5,158.7	5,169.6	0.00	0.00	0.00
13,400.0	89.18	89.77	8,046.9	349.6	5,208.7	5,219.5	0.00	0.00	0.00
13,450.0	89.18	89.77	8,047.7	349.8	5,258.7	5,269.5	0.00	0.00	0.00
13,500.0	89.18	89.77	8,048.4	350.0	5,308.7	5,319.4	0.00	0.00	0.00
13,550.0	89.18	89.77	8,049.1	350.2	5,358.7	5,369.4	0.00	0.00	0.00
13,600.0	89.18	89.77	8,049.8	350.4	5,408.6	5,419.3	0.00	0.00	0.00
13,650.0	89.18	89.77	8,050.5	350.6	5,458.6	5,469.3	0.00	0.00	0.00
13,700.0	89.18	89.77	8,051.2	350.8	5,508.6	5,519.2	0.00	0.00	0.00
13,750.0	89.18	89.77	8,052.0	351.0	5,558.6	5,569.1	0.00	0.00	0.00
13,800.0	89.18	89.77	8,052.7	351.2	5,608.6	5,619.1	0.00	0.00	0.00
13,850.0	89.18	89.77	8,053.4	351.4	5,658.6	5,669.0	0.00	0.00	0.00
13,900.0	89.18	89.77	8,054.1	351.6	5,708.6	5,719.0	0.00	0.00	0.00
13,950.0	89.18	89.77	8,054.8	351.8	5,758.6	5,768.9	0.00	0.00	0.00
14,000.0	89.18	89.77	8,055.5	352.0	5,808.6	5,818.9	0.00	0.00	0.00
14,050.0	89.18	89.77	8,056.3	352.2	5,858.6	5,868.8	0.00	0.00	0.00
14,100.0	89.18	89.77	8,057.0	352.4	5,908.6	5,918.8	0.00	0.00	0.00
14,150.0	89.18	89.77	8,057.7	352.6	5,958.6	5,968.7	0.00	0.00	0.00
14,200.0	89.18	89.77	8,058.4	352.8	6,008.6	6,018.6	0.00	0.00	0.00
14,250.0	89.18	89.77	8,059.1	353.0	6,058.6	6,068.6	0.00	0.00	0.00
14,275.9	89.18	89.77	8,059.5	353.1	6,084.5	6,094.5	0.00	0.00	0.00
PPP4: 655' FSL & 1260' FWL (Sec 18)									
14,300.0	89.18	89.77	8,059.8	353.2	6,108.6	6,118.5	0.00	0.00	0.00
14,350.0	89.18	89.77	8,060.6	353.4	6,158.6	6,168.5	0.00	0.00	0.00
14,400.0	89.18	89.77	8,061.3	353.6	6,208.6	6,218.4	0.00	0.00	0.00
14,450.0	89.18	89.77	8,062.0	353.8	6,258.6	6,268.4	0.00	0.00	0.00
14,500.0	89.18	89.77	8,062.7	354.0	6,308.5	6,318.3	0.00	0.00	0.00
14,550.0	89.18	89.77	8,063.4	354.2	6,358.5	6,368.3	0.00	0.00	0.00
14,600.0	89.18	89.77	8,064.2	354.3	6,408.5	6,418.2	0.00	0.00	0.00
14,650.0	89.18	89.77	8,064.9	354.5	6,458.5	6,468.1	0.00	0.00	0.00
14,700.0	89.18	89.77	8,065.6	354.7	6,508.5	6,518.1	0.00	0.00	0.00
14,750.0	89.18	89.77	8,066.3	354.9	6,558.5	6,568.0	0.00	0.00	0.00
14,800.0	89.18	89.77	8,067.0	355.1	6,608.5	6,618.0	0.00	0.00	0.00
14,850.0	89.18	89.77	8,067.7	355.3	6,658.5	6,667.9	0.00	0.00	0.00
14,900.0	89.18	89.77	8,068.5	355.5	6,708.5	6,717.9	0.00	0.00	0.00
14,950.0	89.18	89.77	8,069.2	355.7	6,758.5	6,767.8	0.00	0.00	0.00
15,000.0	89.18	89.77	8,069.9	355.9	6,808.5	6,817.8	0.00	0.00	0.00
15,050.0	89.18	89.77	8,070.6	356.1	6,858.5	6,867.7	0.00	0.00	0.00
15,100.0	89.18	89.77	8,071.3	356.3	6,908.5	6,917.6	0.00	0.00	0.00
15,150.0	89.18	89.77	8,072.0	356.5	6,958.5	6,967.6	0.00	0.00	0.00
15,200.0	89.18	89.77	8,072.8	356.7	7,008.5	7,017.5	0.00	0.00	0.00
15,250.0	89.18	89.77	8,073.5	356.9	7,058.5	7,067.5	0.00	0.00	0.00

Planning Report

Database:	Hobbs	**Local Co-ordinate Reference:**	Site Study Butte 13 Fed Com #501H
Company:	EOG Resources, Inc.	**TVD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Project:	Eddy County, New Mexico NAD 83	**MD Reference:**	WELL @ 3526.0usft (Original Well Elev)
Site:	Study Butte 13 Fed Com #501H	**North Reference:**	Grid
Well:	Sec 13, T18S, R29E	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	BHL: 660' FSL & 2480' FWL (Sec 18)		
Design:	Design #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)
15,300.0	89.18	89.77	8,074.2	357.1	7,108.5	7,117.4	0.00	0.00	0.00
15,350.0	89.18	89.77	8,074.9	357.3	7,158.5	7,167.4	0.00	0.00	0.00
15,400.0	89.18	89.77	8,075.6	357.5	7,208.4	7,217.3	0.00	0.00	0.00
15,450.0	89.18	89.77	8,076.3	357.7	7,258.4	7,267.3	0.00	0.00	0.00
15,495.8	89.18	89.77	8,077.0	357.9	7,304.2	7,313.0	0.00	0.00	0.00
BHL: 660' FSL & 2480' FWL (Sec 18)									

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
SHL: 330' FSL & 450' FV - plan hits target center - Point	0.00	0.00	0.0	0.0	0.0	633,493.50	632,947.40	32.7411572	-104.0353851
KOP: 660' FSL & 10' FW - plan hits target center - Point	0.00	0.00	7,401.0	327.2	-440.7	633,820.70	632,506.70	32.7420599	-104.0368154
FTP: 660' FSL & 100' FV - plan hits target center - Point	0.00	0.00	7,709.3	327.6	-350.7	633,821.10	632,596.70	32.7420603	-104.0365227
LP: 660' FSL & 583' FWI - plan misses target center by 1.3usft at 8323.1usft MD (7974.1 TVD, 329.5 N, 132.3 E) - Point	0.00	0.00	7,974.0	330.8	132.3	633,824.30	633,079.70	32.7420654	-104.0349518
PPP2: 652' FSL & 1320' - plan hits target center - Point	0.00	0.00	8,022.5	342.8	3,505.8	633,836.35	636,453.20	32.7420719	-104.0239799
PPP3: 650' FSL & 0' FW - plan hits target center - Point	0.00	0.00	8,041.4	348.1	4,825.1	633,841.58	637,772.50	32.7420756	-104.0196890
PPP4: 655' FSL & 1260' - plan hits target center - Point	0.00	0.00	8,059.5	353.1	6,084.5	633,846.57	639,031.90	32.7420790	-104.0155929
BHL: 660' FSL & 2480' F - plan hits target center - Point	0.00	0.00	8,077.0	357.9	7,304.2	633,851.40	640,251.60	32.7420822	-104.0116260

EOG Resources, Inc., Study Butte 13 Fed Com 501H
Sec 20, T18S, R30E
SHL: 390' FNL 475' FWL (Sec 20)
BHL: 850' FSL 100' FWL (Sec 13)

Well Location **GL: 3495'**

Point	Calls	Leases	Aliquot	Section	Township	Range	County	Lat	Long	TVD	MD
SHL	SHL: 390' FNL & 475' FWL (Sec 20)	NMLC0046256B	NWNW	20	18S	30E	Eddy	32.7391832	- 104.0011742	0'	0'
KOP	KOP: 850' FSL & 2166' FEL (Sec 18)	NMLC0063621A	SWSE	18	18S	30E	Eddy	32.7426017	- 104.0097615	7,527'	8,166'
FTP	FTP/LP: 850' FSL & 2480' FWL (Sec 18)	NMNM0025614	SESW	18	18S	30E	Eddy	32.7426042	- 104.0116246	8,100'	9,066'
PPP2	PPP2: 845' FSL & 1259' FWL (Sec 18)	NMNM0437522	SWSW	18	18S	30E	Eddy	32.7426011	- 104.0155934	8,073'	10,286'
PPP3	PPP3: 840' FSL & 0' FWL (Sec 18)	NMLC0047311B	SESE	18	18S	30E	Eddy	32.7425978	- 104.0196885	8,045'	11,546'
PPP4	PPP4: 842' FSL & 1320' FEL (Sec 13)	NMLC0047311A	SWSE	13	18S	30E	Eddy	32.7425942	- 104.0239800	8,015'	12,865'
PPP1 Trav Lease	PPP1 Trav Lease: 167' FNL & 0' FEL (Sec 19)	NMNM028097	NENE	19	18S	30E	Eddy	32.7397981	- 104.0027187	2,052'	2,151'
BHL	BHL: 850' FSL & 100' FWL (Sec 13)	NMLC0047311A	SWSW	13	18S	29E	Eddy	32.7425829	- 104.0365227	7,930'	16,722'

GEOLOGY

Formation	Est. Top (TVD)	Lithology	Mineral Resources	Formation	Est. Top (TVD)	Lithology	Mineral Resources
Rustler	233'	Dolomite/Anhydrite	Usable Water	Delaware (Lamar)	3597'	Limestone	Oil/Natural Gas
Castile				Bell Canyon			
Salt Top	487'	Salt	None	Cherry Canyon			
Marker Bed 126				Manzanita Marker			
Salt Base	1165'	Salt	None	Basal Brushy Canyon			
Yates	1385'	Sandstone	Oil/Natural Gas	Bone Spring	4463'	Limestone/Shale	Oil/Natural Gas
Seven Rivers	1798'	Dolomite	Oil/Natural Gas	1st Bone Spring Carbonate	6736'	Limestone	Oil/Natural Gas
Queen	2443'	Sandstone/Dolomite	Oil/Natural Gas	1st Bone Spring Sand	7104'	Sandstone	Oil/Natural Gas
Capitan				2nd Bone Spring Carbonate	7403'	Limestone	Oil/Natural Gas
Grayburg	2628'	0	None	2nd Bone Spring Sand	**8280'**	Sandstone	Oil/Natural Gas
San Andres	3053'	Dolomite	Oil/Natural Gas	3rd Bone Spring Carbonate	8752'	Limestone	Oil/Natural Gas
Glorietta				3rd Bone Spring Sand			
Yeso				Wolfcamp	9086'	Shale/Sandstone/Limestone	Oil/Natural Gas

Casing Program Design A						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
Casing String	**Hole Diameter (in)**	**Top MD**	**Top TVD**	**Bottom MD**	**Bottom TVD**	**Casing Description**	**SF Collapse**	**SF Burst**	**SF Jt Tension**	**SF Body Tension**
Surface	17.5"	0'	0'	325'	325'	13.375" 48# H40 STC	5.30	11.90	20.64	34.68
Intermediate	12.25"	0'	0'	3385'	3385'	9.625" 36# J55 LTC	1.13	1.96	3.55	4.42
Intermediate	12.25"	3385'	3385'	3525'	3525'	9.625" 40# J55 LTC	1.38	2.11	92.86	112.50
Production	8.75"	0'	0'	8166'	7527'	7" 26# P110 LTC	1.64	2.62	3.26	3.91
Liner	6.125"	7966'	7371'	16722'	7930'	4.5" 13.5# P110 LTC	2.20	2.56	2.86	3.57

All casing strings will be tested in accordance with 43 CFR Part 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	**Y**
Is casing API approved? If no, attach casing specification sheet.	**Y**
Is premium or uncommon casing planned? If yes attach casing specification sheet.	**N**
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	**Y**
Will the 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.	**N**
Is well located in SOPA but not in R-111-Q?	**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-Q and SOPA?	**N**
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
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?	

EOG Resources, Inc., Study Butte 13 Fed Com 501H
Sec 20, T18S, R30E
SHL: 390' FNL 475' FWL (Sec 20)
BHL: 850' FSL 100' FWL (Sec 13)

Design A - Cement Program

Casing	Cement Stage	# sx	Density (ppg)	Yield (ft^3/sack)	Depth (MD)	Volume (ft^3)	% Excess	Slurry Description
13.375 in	LEAD	90	12.5	2.12	0' - 139'	200	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	139' - 325'	268		Class C: Retarder
9.625 in	LEAD	530	12.5	2.12	0' - 2849'	1130	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	2849' - 3525'	268		Class C: Retarder
7 in	LEAD	520	12.5	2.12	3325' - 6722'	1110	25%	Class C: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	6722' - 8166'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	560	13.5	1.85	7966' - 16722'	1040	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

Pressure Control Equipment

BOP installed and tested before drilling hole (in):	Size (in)	System Rated WP	Type		Tested to:	Rating Depth
12.25	13.375	5M	Annular	X	2500#/3500#	16,722'
		5M	Blind Ram	X	5000#	
			Pipe Ram	X		
			Double Ram			
			Other*			

*Specify if additional ram is utilized.

Equipment: Annular, Pipe Rams, Blind Rams, 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.

Variance Request: A variance is requested for the use of a flexible choke line from the BOP to the choke manifold. See attached for hydrostatic test chart. Anchors are not required by manufacturer. Variance is requested to use a multi bowl wellhead. Variance is requested to perform break testing according to attached procedure. If a breaktesting variance is approved & incorporated, API Standard 53 will be incorporated and testing annular BOP to 70% of RWP or 100% of MASP, whichever is greater, will be performed.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR Part 3172 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested. Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

Y	Formation integrity test will be performed per 43 CFR Part 3172. 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 43 CFR Part 3172.
N	Mewbourne Oil Company request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack.

Mud Program

Depth (MD)	Mud Wt (ppg)	Mud Type
0' - 325'	8.4 - 8.6	Fresh Water
325' - 3525'	10.0 - 10.2	Brine
3525' - 8166'	8.6 - 9.7	Cut-Brine
8166' - 16722'	10.0 - 11.5	OBM

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

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

EOG Resources, Inc., Study Butte 13 Fed Com 501H
Sec 20, T18S, R30E
SHL: 390' FNL 475' FWL (Sec 20)
BHL: 850' FSL 100' FWL (Sec 13)

Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from KOP (8166') to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
N	No logs are planned based on well control or offset log information. Offset Well:
N	Coring? If yes, explain:

Open & Cased Hole Logs Run In the Well

☐	Caliper	☐	Cement Bond Log	☐	CNL/FDC
☐	Compensated Densilog	☑	**Compensated Neutron Log**	☐	Computer Generated Log
☐	Dip Meter Log	☑	**Directional Survey**	☐	Dual Induction/Microresistivity
☐	Dual Lateral Log/Microspherically Focused	☐	Electric Log	☐	Formation Density Compensated Log
☑	**Gamma Ray Log**	☑	**Measurement While Drilling**	☐	Mud Log/Geological Lithology Log
☐	Other	☐	Porosity-Resistivity Log	☐	Sidewall Neutron Log
☐	Sonic Log	☐	Spontaneous Potential Log	☐	Temperature Log

Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	4844 psi
BH Temperature	140
Abnormal Temp, Pressure, or Geologic Hazards	No

Mitigation measure for abnormal conditions. Describe. Lost circulation material/sweeps/mud scavengers in surface hole. Weighted mud for possible over-pressure in Wolfcamp formation.

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.

	H2S is present
X	H2S Plan attached

EOG Resources, Inc., Study Butte 13 Fed Com 501H
Sec 20, T18S, R30E
SHL: 390' FNL 475' FWL (Sec 20)
BHL: 850' FSL 100' FWL (Sec 13)

Other facets of operation

Mewbourne Oil Company also requests approval to implement additional designs as described below &/or in other attachments. BLM will be notified of elected design.

Offline Cementing Variance: Variance is requested to perform offline cementing according to the attached procedure. **R-111Q:** Mewbourne proposes performing Open Hole Cementing per R-111Q Guidelines if well is in Potash.

Casing Program Design B						BLM Minimum Safety Factors	1.125	1.0	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet
Casing String	Hole Diameter (in)	Top MD	Top TVD	Bottom MD	Bottom TVD	Casing Description	SF Collapse	SF Burst	SF Jt Tension	SF Body Tension
Surface	17.5"	0'	0'	325'	325'	13.375" 48# H40 STC	5.30	11.90	20.64	34.68
Intermediate	12.25"	0'	0'	3385'	3385'	9.625" 36# J55 LTC	1.13	1.96	3.55	4.42
Intermediate	12.25"	3385'	3385'	3525'	3525'	9.625" 40# J55 LTC	1.38	2.11	92.86	112.50
Production	8.75"	0'	0'	9066'	8100'	7" 26# P110 LTC	1.52	2.44	2.94	3.52
Liner	6.125"	8166'	7527'	16722'	7930'	4.5" 13.5# P110 LTC	2.20	2.56	2.93	3.65

All casing strings will be tested in accordance with 43 CFR Part 3172. Must have table for contingency casing.

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Is casing API approved? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the 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.	N
Is well located in SOPA but not in R-111-Q?	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-Q and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is an open annulus used to satisfy R-111-Q? If yes, see cement design.	
Is an engineered weak point used to satisfy R-111-Q?	
If yes, at what depth is the weak point planned?	
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?	

Design B - Cement Program

Casing	Cement Stage	# sx	Density (ppg)	Yield (ft^3/sack)	Depth (MD)	Volume (ft^3)	% Excess	Slurry Description
13.375 in	LEAD	90	12.5	2.12	0' - 139'	200	100%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	139' - 325'	268		Class C: Retarder
9.625 in	LEAD	530	12.5	2.12	0' - 2849'	1130	25%	Class C: Salt, Gel, Extender, LCM
	TAIL	200	14.8	1.34	2849' - 3525'	268		Class C: Retarder
1st Stg 7 in	LEAD	600	12.5	2.12	3325' - 7519'	1280	25%	Class H: Salt, Gel, Extender, LCM, Defoamer
	TAIL	400	15.6	1.18	7519' - 9066'	472		Class H: Retarder, Fluid Loss, Defoamer
4.5 in	LEAD	540	13.5	1.85	8166' - 16722'	1000	25%	Class H: Salt, Gel, Fluid Loss, Retarder, Dispersant, Defoamer, Anti-settling Agent

MEWBOURNE OIL COMPANY

Mewbourne Oil Co.

BOP Break Testing Variance

Mewbourne Oil Company requests a variance from the minimum standards for well control equipment testing of 43 CFR 3172 to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with batch drilling & offline cementing operations. Modern rig upgrades which facilitate pad drilling allow the BOP stack to be moved between wells on a multi-well pad without breaking any BOP stack components apart. Widespread use of these technologies has led to break testing BOPE being endorsed as safe and reliable. American Petroleum Institute (API) best practices are frequently used by regulators to develop their regulations. API Standard 53, *Well Control Equipment Systems for Drilling Wells* (5th Ed., Dec. 2018) Section 5.3.7.1 states "A pressure test of the pressure containing component shall be performed following the disconnection or repair, limited to the affected component."

Procedures

1. Full BOPE test at first installation on the pad.
   - Full BOPE test at least every 21 days.
   - Function test BOP elements per 43 CFR 3172.
   - Contact the BLM if a well control event occurs.
2. After the well section is secured and the well is confirmed to be static, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad. Two breaks on the BOPE will be made (Fig. 1).
   - Connection between the flex line and the HCR valve
   - Connection between the wellhead and the BOP quick connect (Fig. 5 & 6).
3. A capping flange will be installed after cementing per wellhead vendor procedure & casing pressure will be monitored via wellhead valve.
4. The BOP will be removed and carried by a hydraulic carrier (Fig. 3 & 4).
5. The rig will then walk to the next well.
6. Confirm that the well is static and remove the capping flange.
7. The connection between the flex line and HCR valve and the connection between the wellhead and the BOP quick connect will be reconnected.
8. Install a test plug into the wellhead.
9. A test will then be conducted against the upper pipe rams and choke, testing both breaks (Fig. 1 & 2).
10. The test will be held at 250 psi low and to the high value submitted in the APD, not to exceed 5000 psi.
11. The annular, blind rams and lower pipe rams will then be function tested.
12. If a pad consists of three or more wells, steps 4 through 11 will be repeated.

MEWBOURNE OIL COMPANY

13. A break test will only be conducted if the intermediate section can be drilled and cased within 21 days of the last full BOPE test.

Barriers

Before Nipple Down:

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff

After Nipple Down:

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff
- Offline cementing tool and/or cement head
- Capping flange after cementing

Summary

A variance is requested to only test broken pressure seals on the BOPE when moving between wells on a multi-well pad if the following conditions are met:

- A full BOPE test is conducted on the first well on the pad. API Standard 53 requires testing annular BOP to 70% of RWP or 100% of MASP, whichever is greater.
- If the first well on the pad is not the well with the deepest intermediate section, a full BOPE test will also be performed when moving to a deeper well.
- The hole section being drilled has a MASP under 5000 psi.
- If a well control event occurs, Mewbourne will contact BLM for permission to continue break testing.
- If significant (>50%) losses occur, full BOPE testing will be required going forward.
- Full BOPE test will be required prior to drilling the production hole.

While walking the rig, the BOP stack will be secured via hydraulic winch or hydraulic carrier. A full BOPE test will be performed at least every 21 days.

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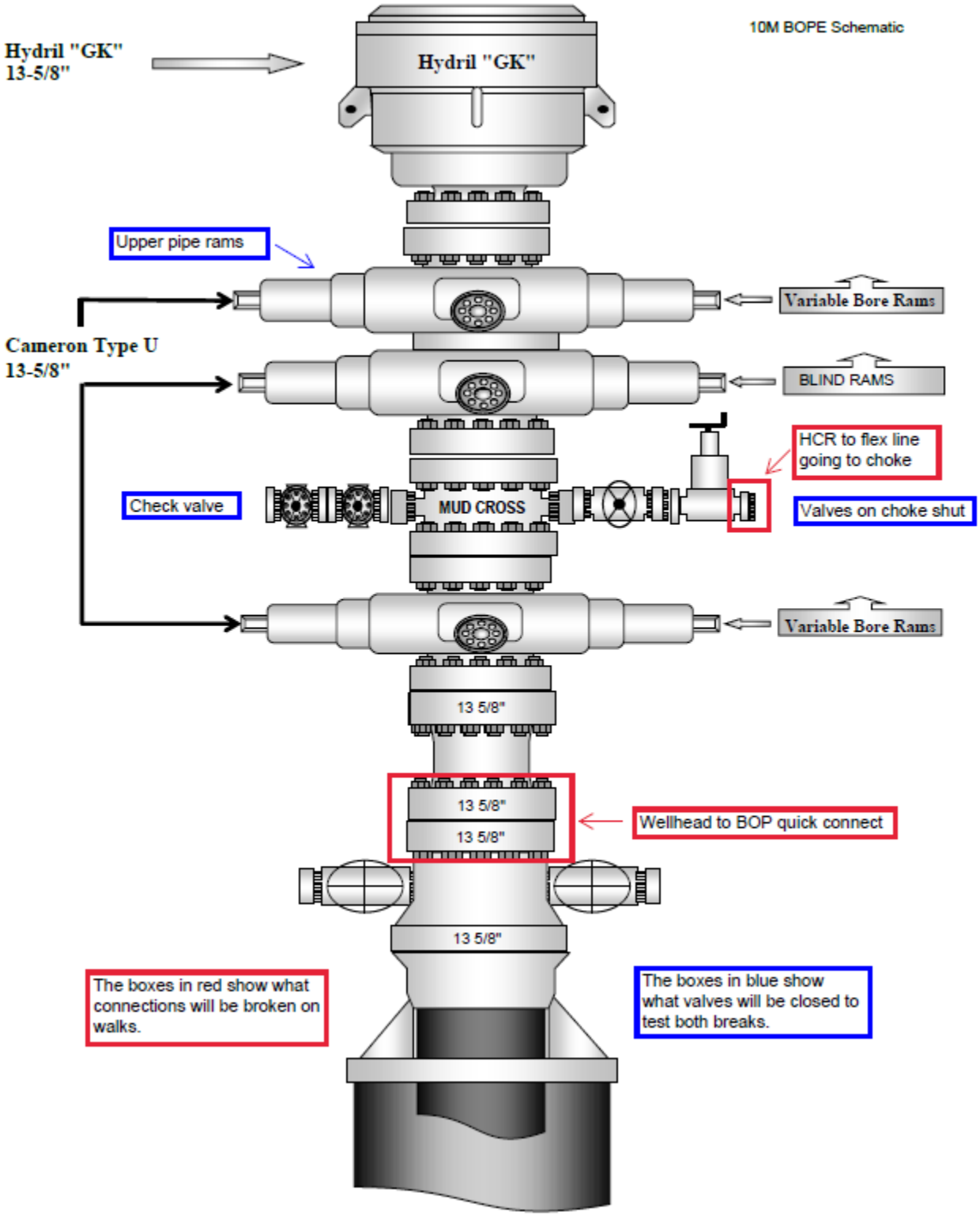

Figure 1. BOP diagram

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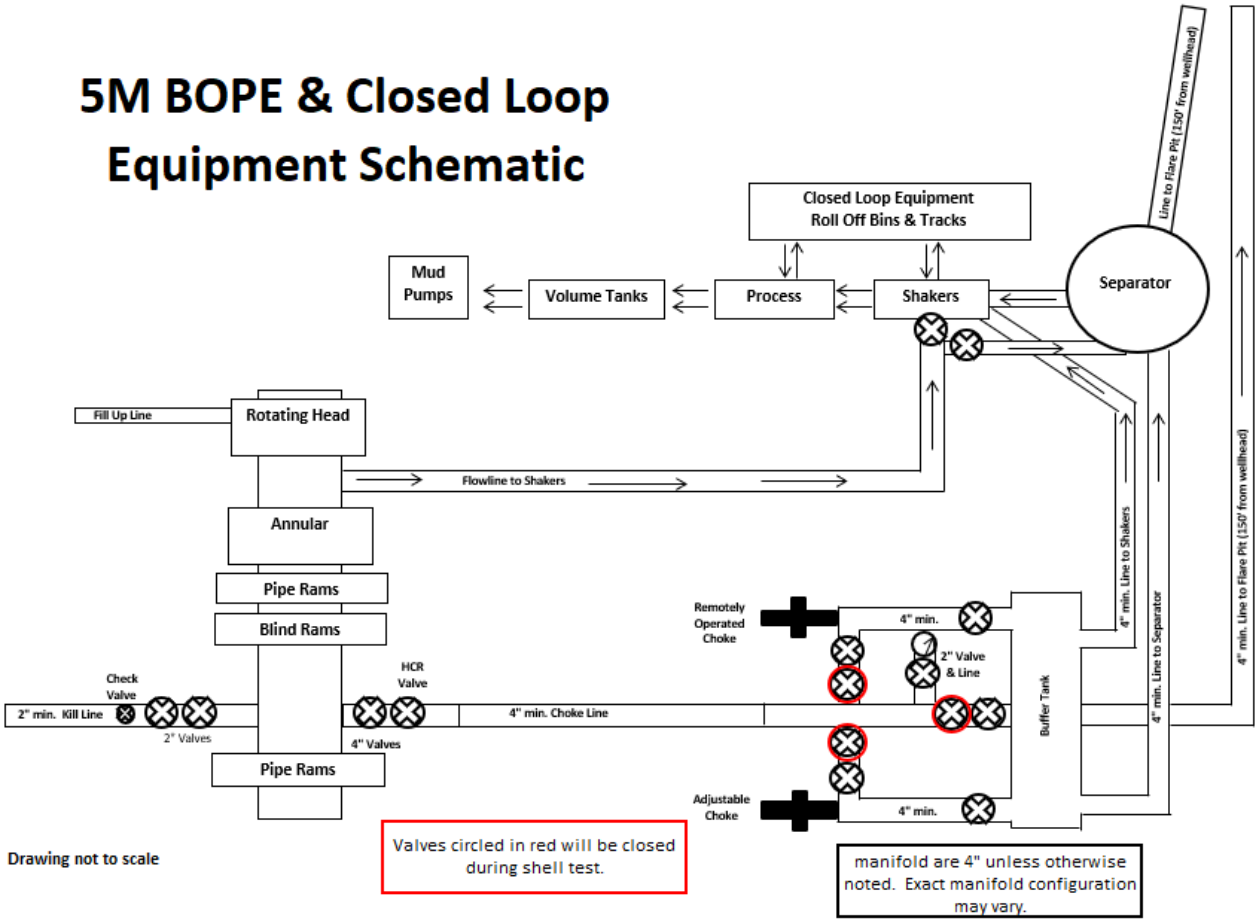

Figure 2. BOPE diagram

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Figure 3. BOP handling system

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Figure 4. BOP handling system

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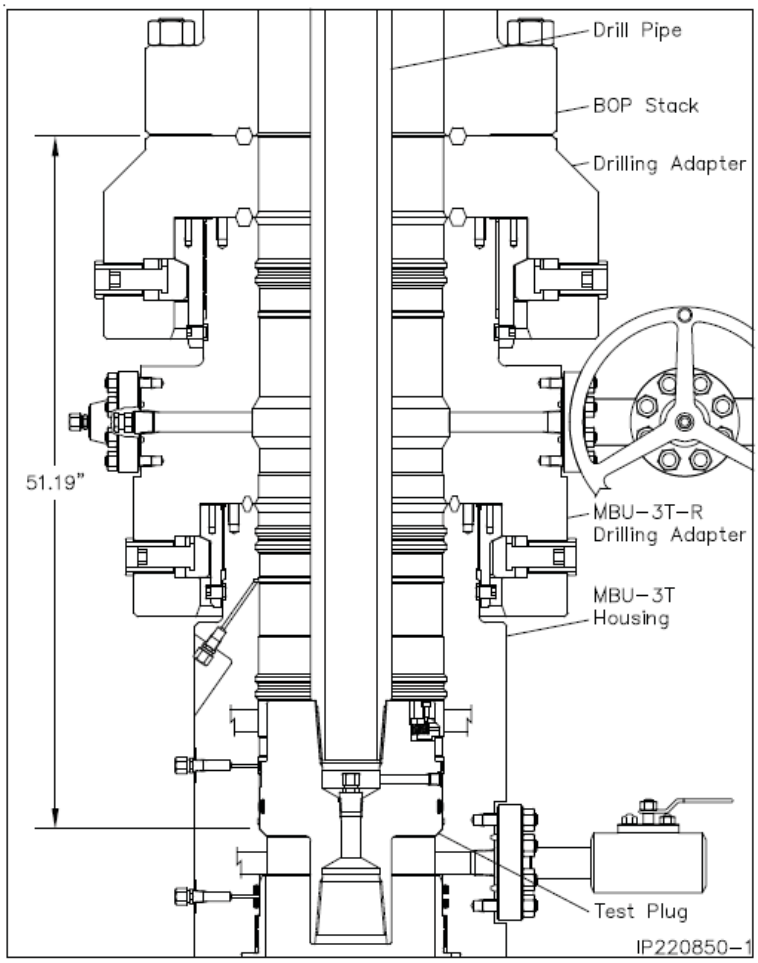


Figure 5. Cactus 5M wellhead with BOP quick connect

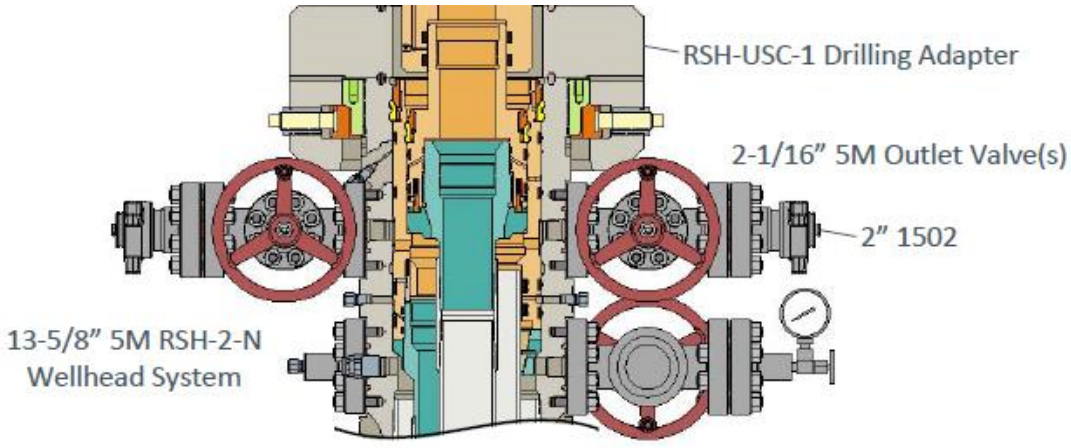
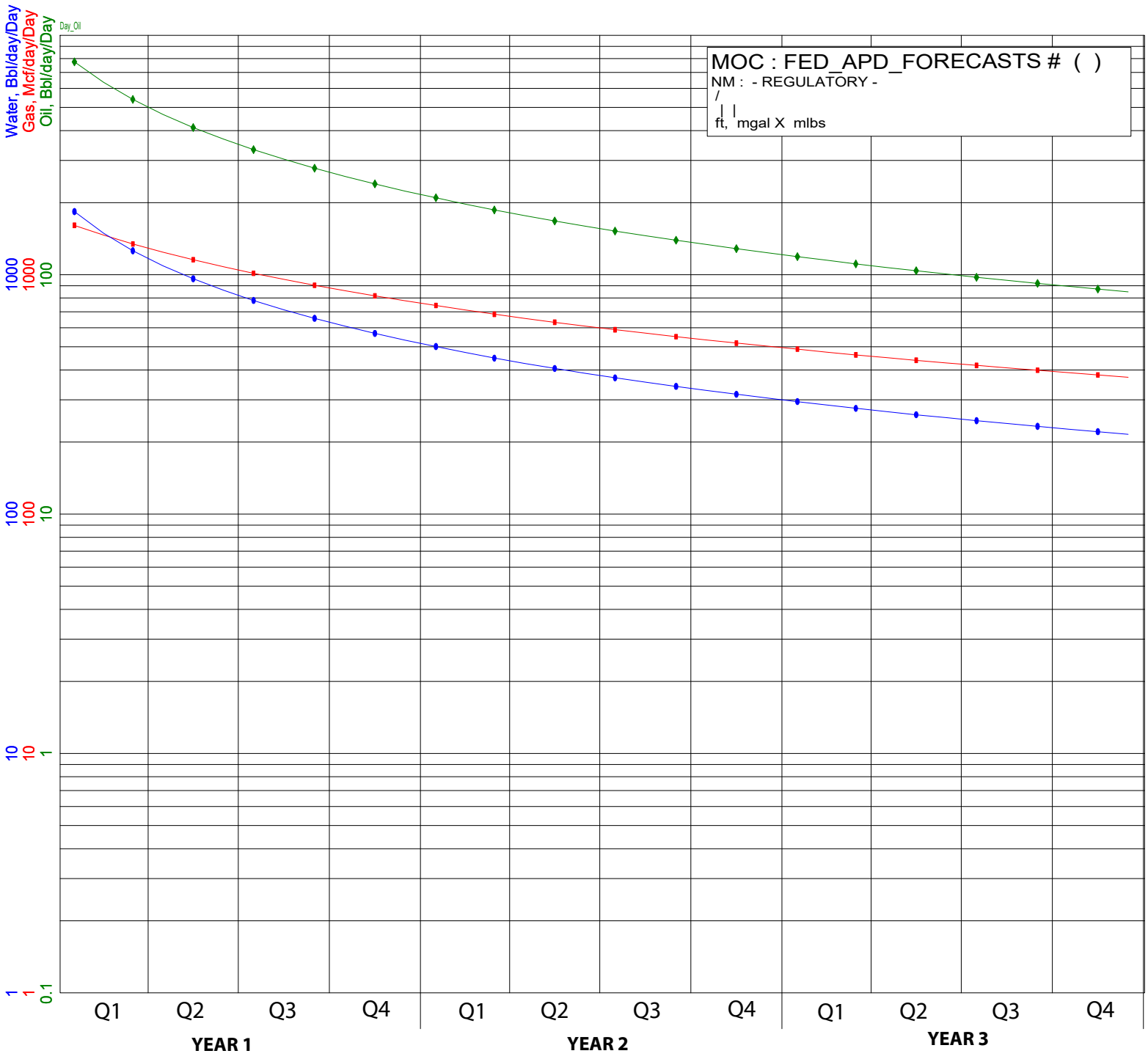


Figure 6. Vault 5M wellhead with BOP quick connect



Oil, Bbl/day
Qual= EDDYBS1.5
Ref= 1/2025
Cum= 0
Rem= 242000
EUR= 242000
Yrs= 3.000
Qi= 865.0
b= 0.950000
De= 75.000000
Df= 23.952479
Qab= 83.7

Gas, Mcf/day
Qual= EDDYBS1.5
Ref= 1/2025
Cum= 0
Rem= 779696
EUR= 779696
Yrs= 3.000
Qi= 1690.0
b= 1.050000
De= 55.000000
Df= 20.108832
Qab= 369.3

Water, Bbl/d
Qual= EDDYBS1.5
Ref= 1/2025
Cum= 0
Rem= 579194
EUR= 579194
Yrs= 3.000
Qi= 2065.0
b= 1.050000
De= 75.000000
Df= 22.260386
Qab= 213.0

MEWBOURNE OIL COMPANY

Mewbourne Oil Co.

Surface & Intermediate Offline Cementing Variance

Mewbourne Oil Company requests a variance to perform offline cementing for surface and intermediate casing strings with the following conditions:

- Offline cementing will not be performed on production casing.
- Offline cementing will not be performed on a hole section with MASP > 5000 psi.
- Offline cementing will not be performed concurrently with offset drilling.

Surface Casing Order of Operations:

1. Run 13 3/8" surface casing as per normal operations (TPGS and float collar).
2. Perform negative pressure test to confirm integrity of float equipment while running casing.
3. Confirm well is static.
4. Make up 13 ⅝" wellhead or wellhead landing ring assembly and land on 20" conductor.
5. Fill pipe, circulate casing capacity and confirm float(s) are still holding.
6. Confirm well is static.
7. Back out landing joint and pull to rig floor. Lay down landing joint.
8. Walk rig to next well on pad with cement crew standing by to rig up.
9. Make up offline cement tool with forklift per wellhead manufacturer (Fig. 1 & 2).
10. Make up cement head on top of offline cement tool with forklift.
11. Commence cement operations.
12. If cement circulates, confirm well is static and proceed to step 16.
13. If cement does not circulate, notify the appropriate BLM office, wait a minimum of six hours, and run a temperature survey to determine the top of cement.
14. Use 1" pipe for remedial cement job until the surface casing is cemented to surface.
15. Confirm well is static.
16. Once cement job is complete, the cement head and offline cementing tool are removed. The wellhead technician returns to cellar to install wellhead/valves.
17. Install wellhead capping flange.

Barriers

Before Walk:

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus

MEWBOURNE
OIL COMPANY

After Walk:

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Offline cementing tool tested to 5000 psi and cement head
- Capping flange after cementing

20” Surface Casing Order of Operations (4 string area):

1. Run 20" surface casing as per normal operations (TPGS and float collar).
2. Perform negative pressure test to confirm integrity of float equipment while running casing.
3. Fill pipe, circulate casing capacity and confirm float(s) are still holding.
4. Confirm well is static.
5. Back out landing joint and pull to rig floor. Lay down landing joint.
6. Make up cement head.
7. Walk rig to next well on pad with cement crew standing by to rig up.
8. Commence cement operations.
9. If cement circulates, confirm well is static and proceed to step 13.
10. If cement does not circulate, notify the appropriate BLM office, wait a minimum of six hours, and run a temperature survey to determine the top of cement.
11. Use 1" pipe for remedial cement job until the surface casing is cemented to surface.
12. Confirm well is static.
13. Once cement job is complete, remove cement head and install cap.

Barriers

Before Walk:

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Cement Head

After Walk:

- Float(s) in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Cement head
- Capping flange after cementing

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Intermediate Casing Order of Operations:

1. Run casing as per normal operations (float shoe and float collar).
2. Perform negative pressure test to confirm integrity of float equipment while running casing.
3. Confirm well is static (if running SBM).
4. Land casing.
5. Fill pipe, circulate casing capacity and confirm floats are still holding.
6. Confirm well is static.
7. Back out landing joint and pull to rig floor. Lay down landing joint. Install packoff & test.
8. Nipple down BOP.
9. Walk rig to next well on pad with cement crew standing by to rig up.
10. Make up offline cement tool using forklift per wellhead manufacturer (Fig. 3 - 8).
11. Make up cement head on top of offline cement tool.
12. Commence cement operations.
13. If cement circulates, confirm well is static and proceed to step 16.
14. If cement does not circulate (when required), notify the appropriate BLM office, wait a minimum of six hours, and run a temperature survey to determine the top of cement.
15. Pump remedial cement job if required.
16. Confirm well is static.
17. Remove cement head and offline cementing tool.
18. Install wellhead capping flange and test.

Barriers

Before Nipple Down:

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff

After Nipple Down:

- Floats in casing
- Kill weight fluid in casing
- Kill weight fluid in annulus
- Solid body mandrel and/or packoff
- Offline cementing tool tested to 5000 psi and cement head
- Capping flange after cementing

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Risks:

- Pressure build up in annulus before cementing
  - Contact BLM if a well control event occurs.
  - Rig up 3rd party pump or rig pumps to pump down casing and kill well.
  - Returns will be taken through the wellhead valves to a choke manifold (Fig 9 & 10).
  - Well could also be killed through the wellhead valves down the annulus.

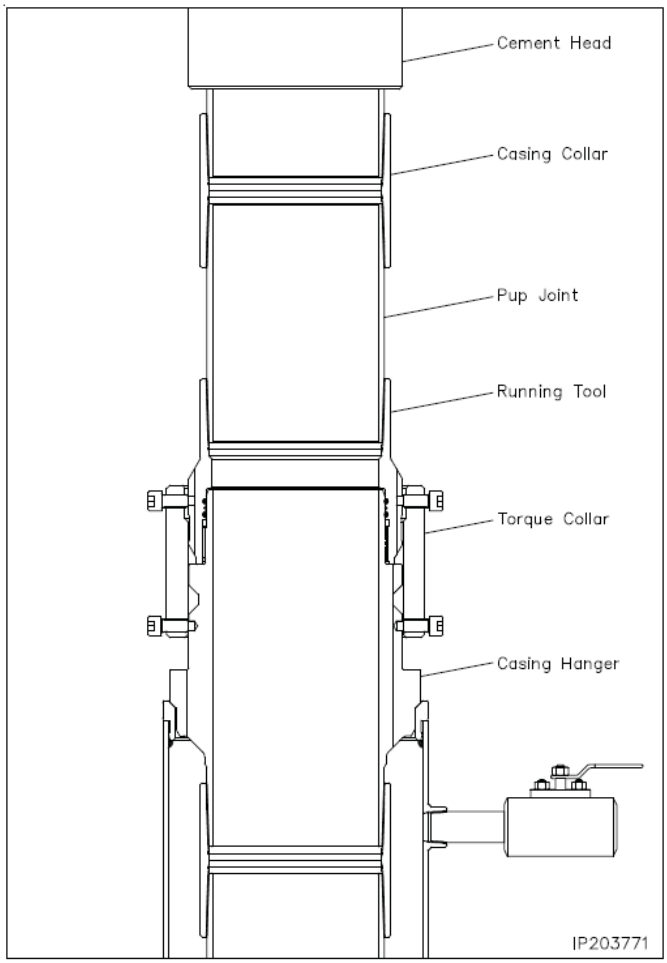

Figure 1. Cactus 13 3/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 13 3/8" pup joint and casing.

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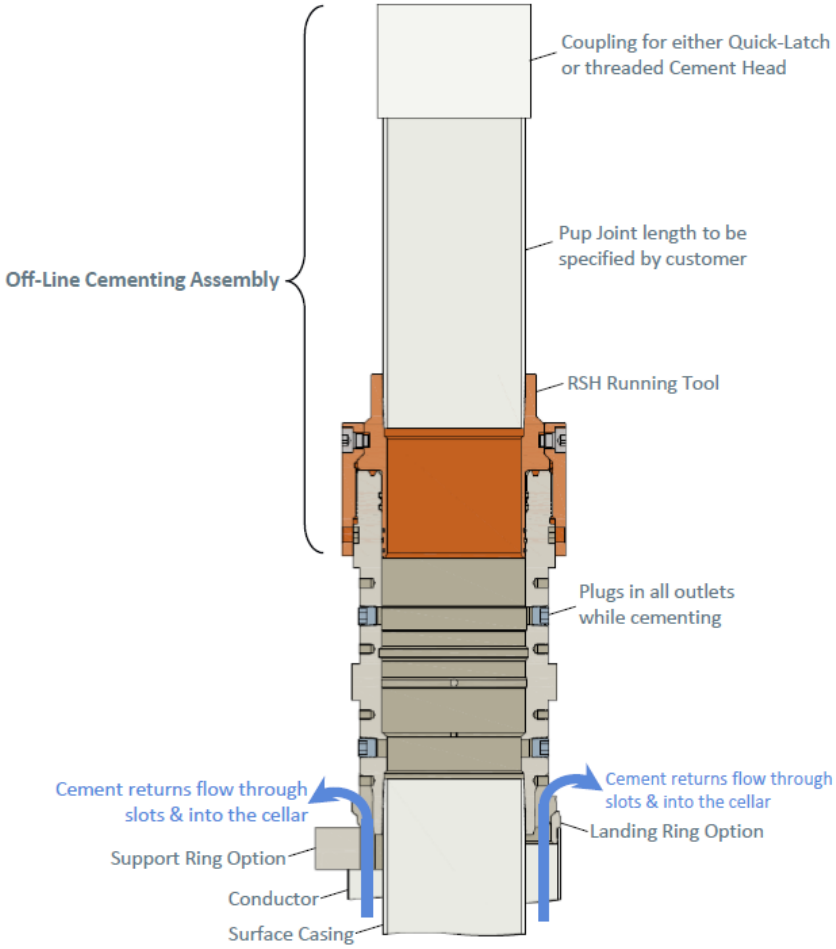

Figure 2. Vault 13 3/8” 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 13 3/8” pup joint and casing.

MEWBOURNE
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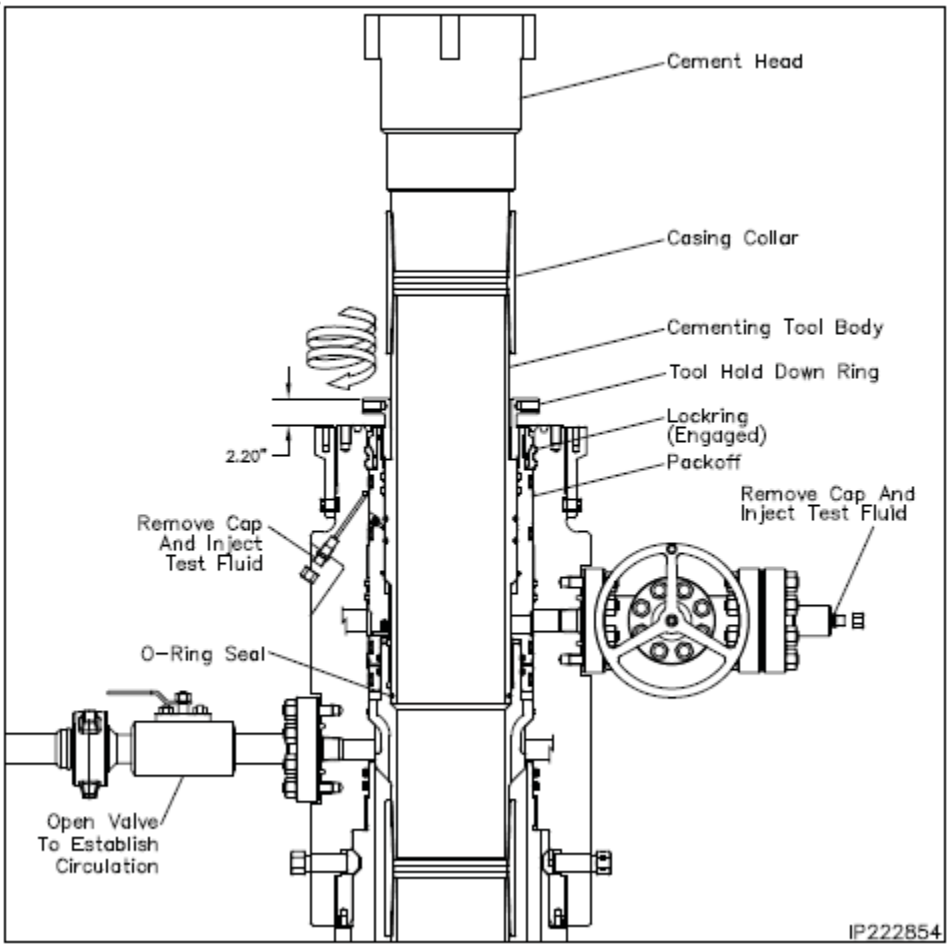

Figure 3. Cactus 9 5/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 9 5/8" pup joint and casing.

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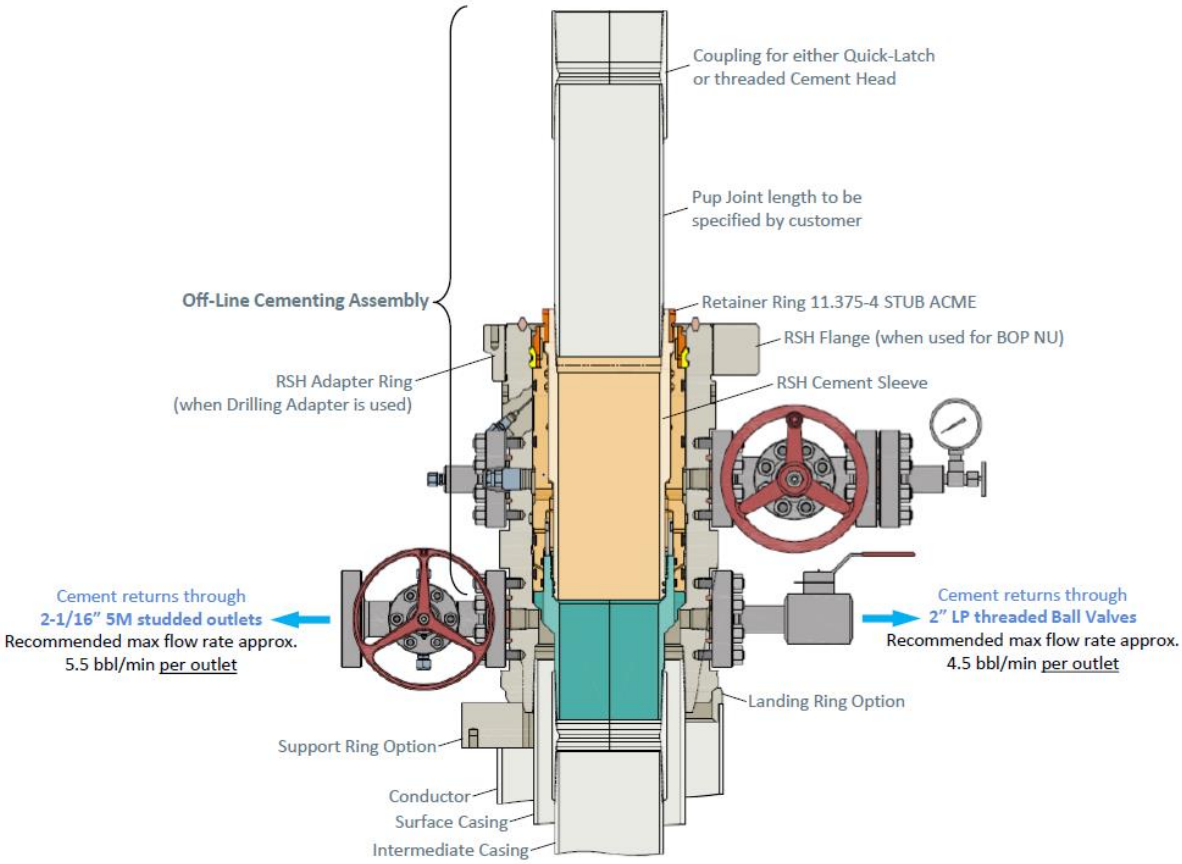

Figure 4. Vault 9 5/8" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 9 5/8" pup joint and casing.

MEWBOURNE
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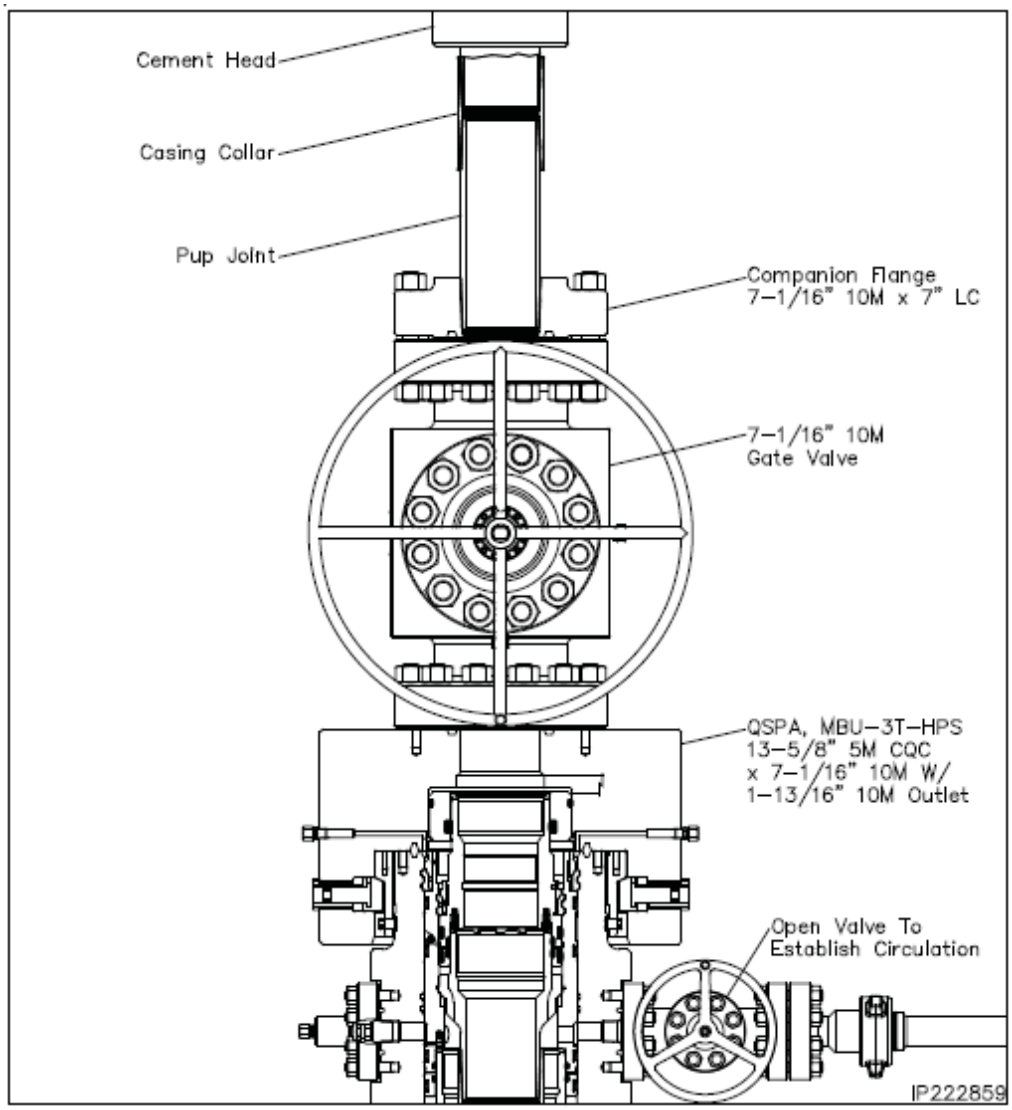

Figure 5. Cactus 7" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7" pup joint and casing.

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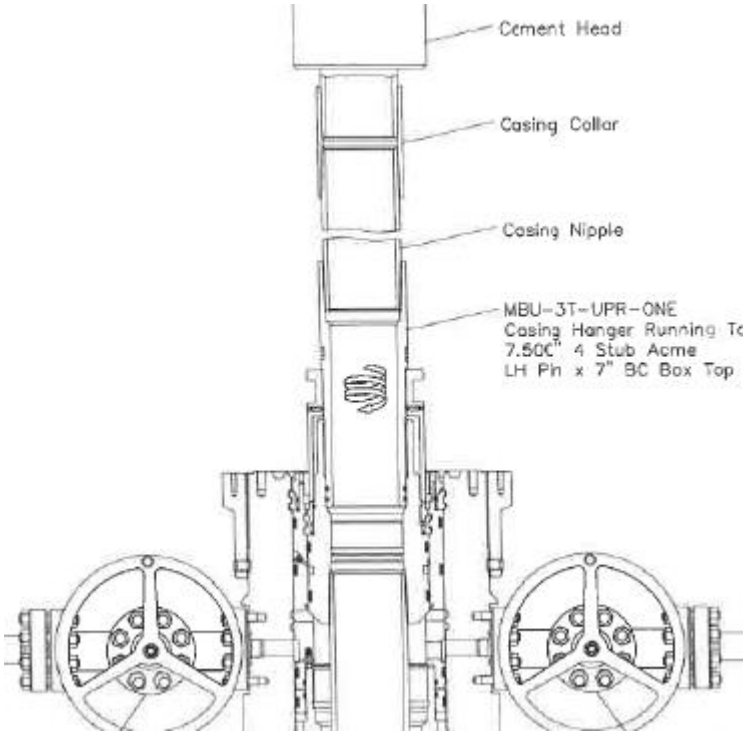

Figure 6. Cactus 7” 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7” pup joint and casing.

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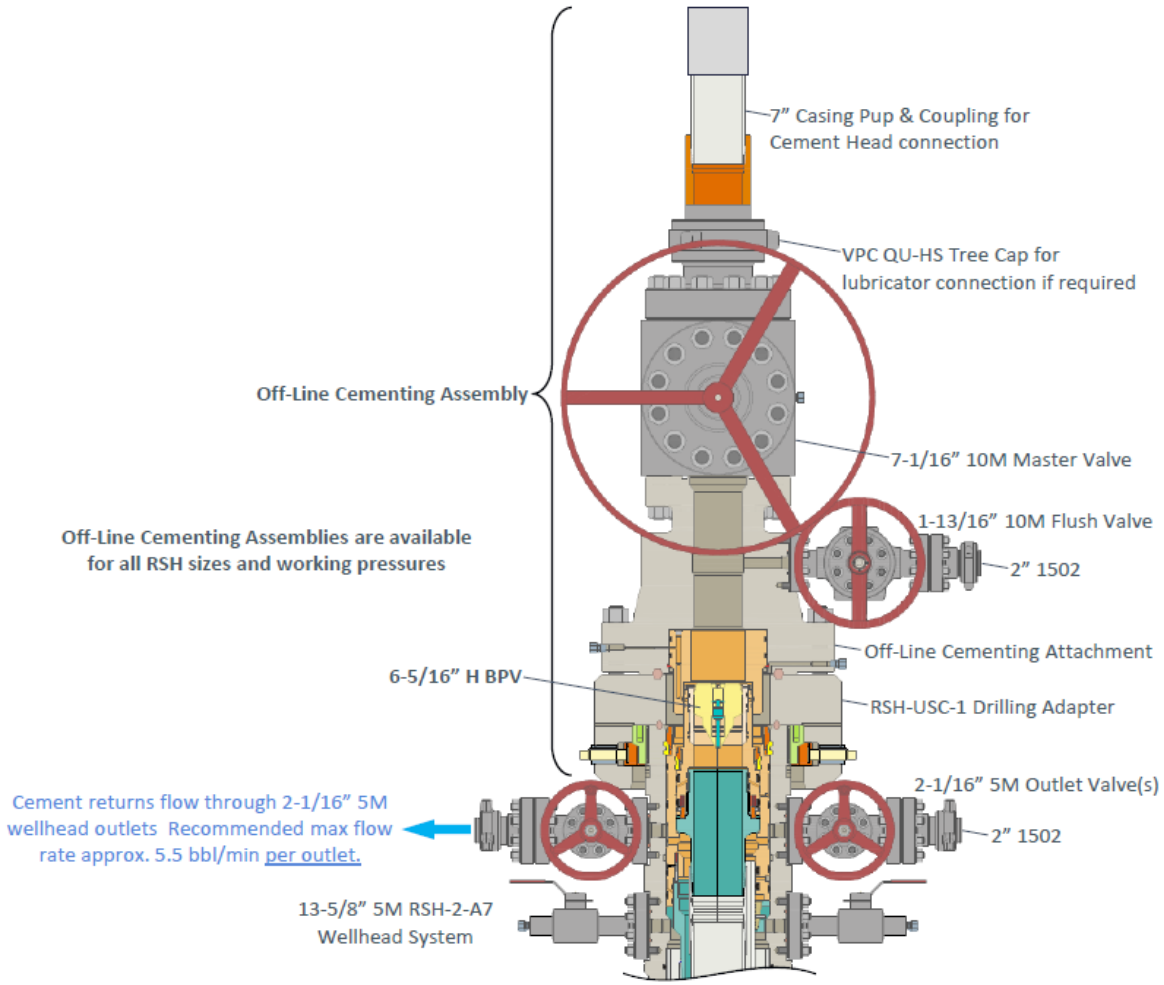

Figure 7. Vault 7" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7" pup joint and casing.

MEWBOURNE
OIL COMPANY

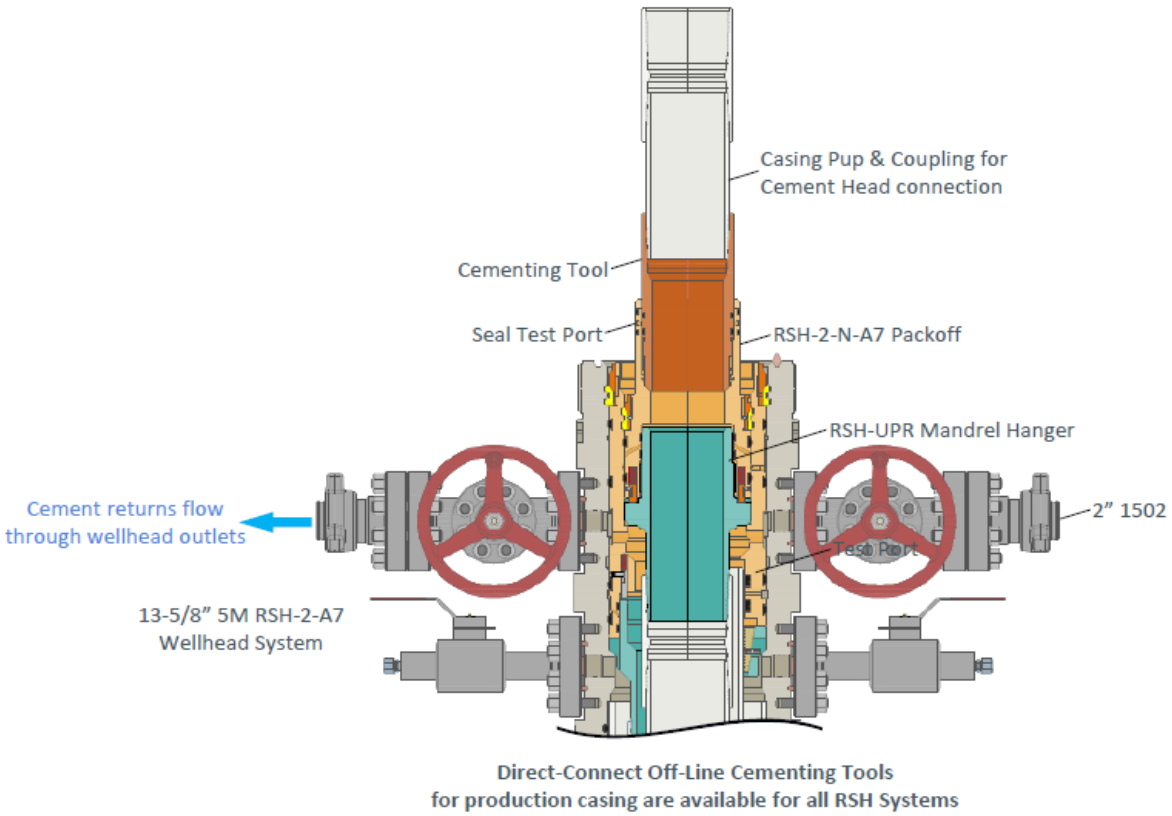

Figure 8. Vault 7" 5M offline cementing tool. Pressure rating limited by the lesser of 5M tool rating or the 7" pup joint and casing.

MEWBOURNE
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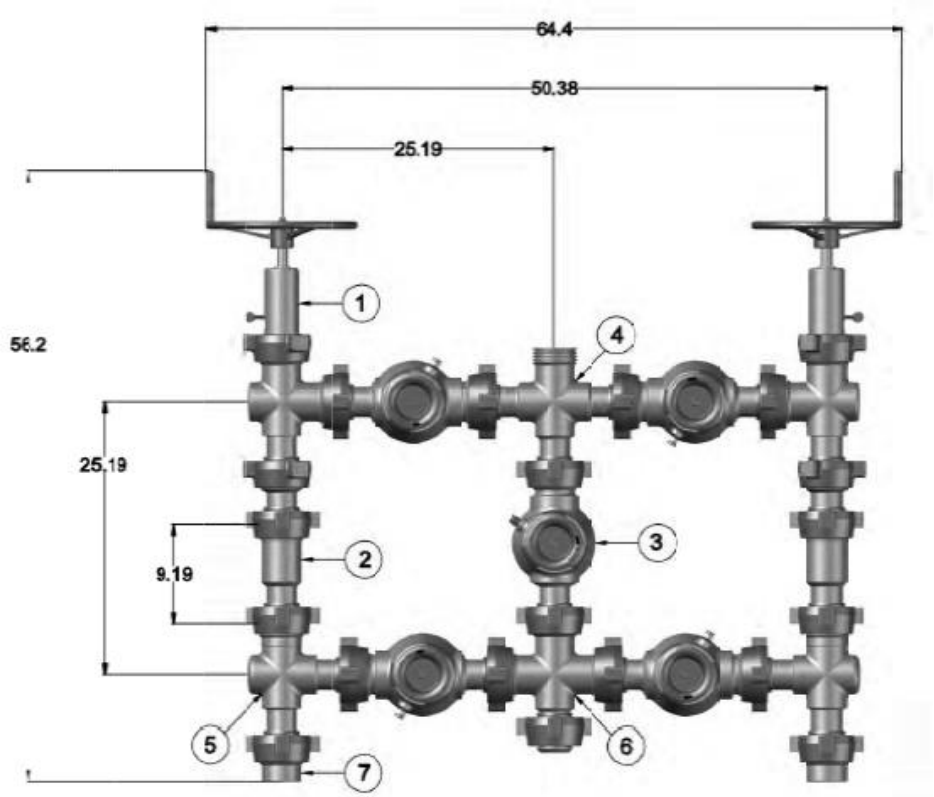


Figure 9. Five valve 15k choke manifold.

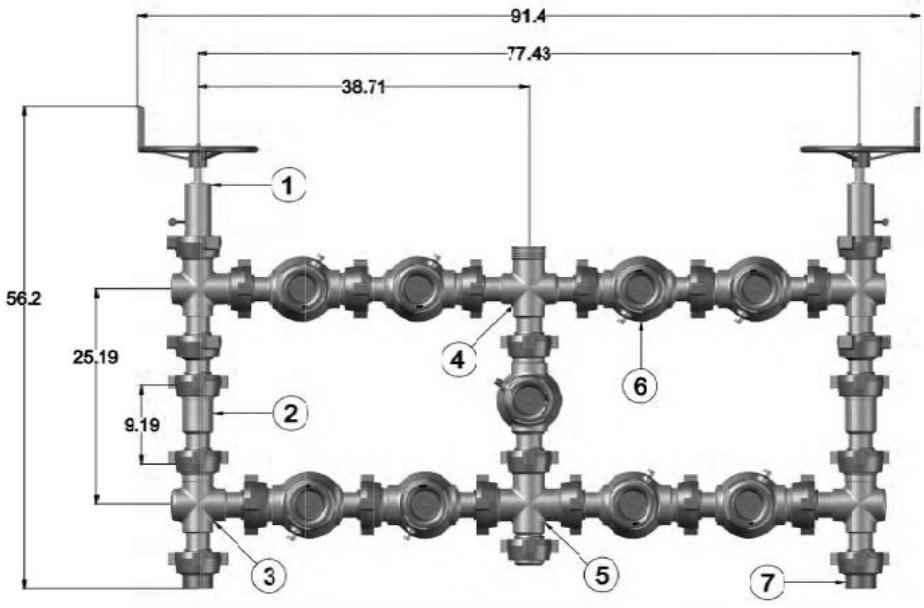
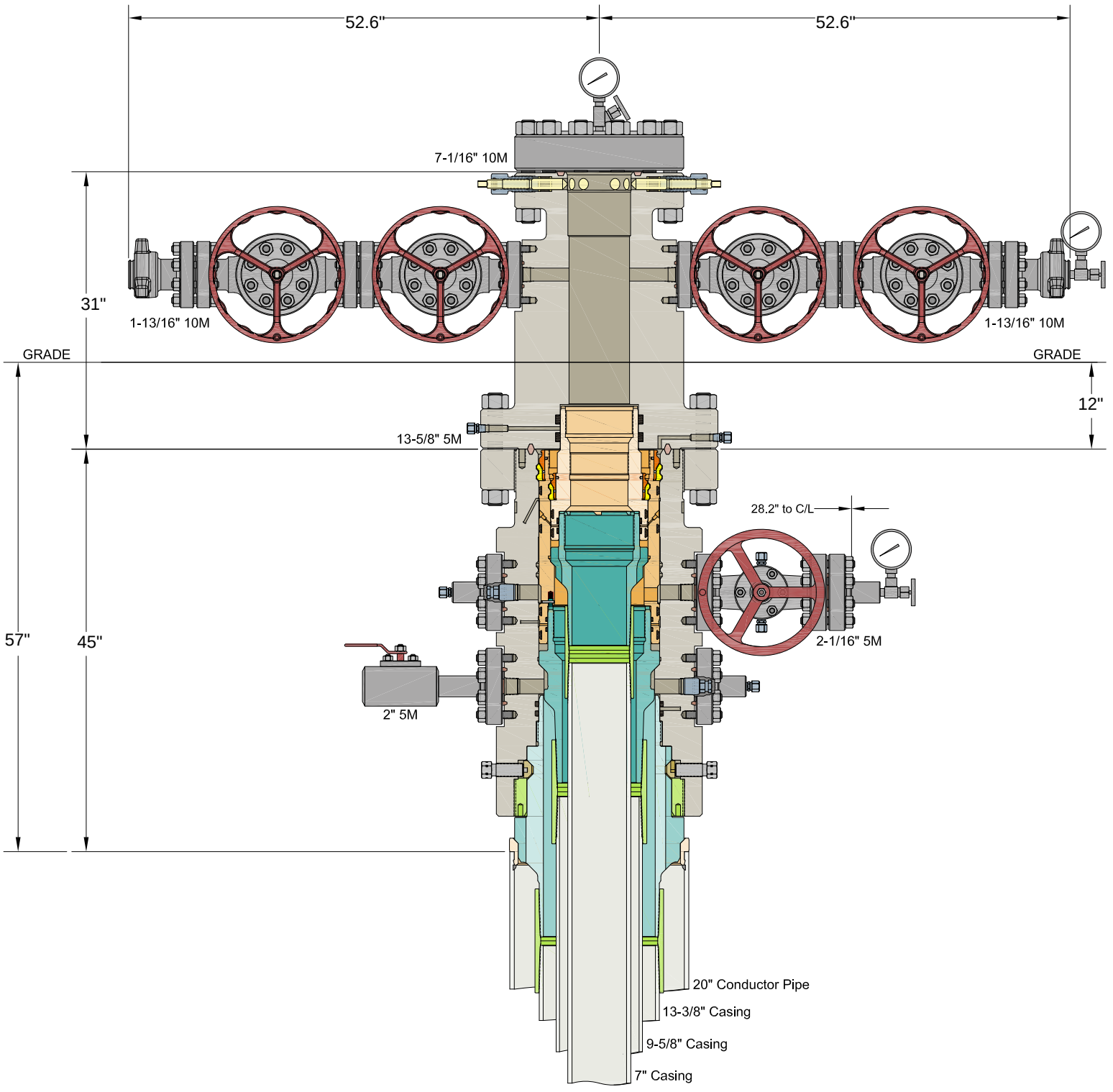


Figure 10. Nine valve 15k choke manifold.



ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

MEWBOURNE OIL COMPANY
NEW MEXICO

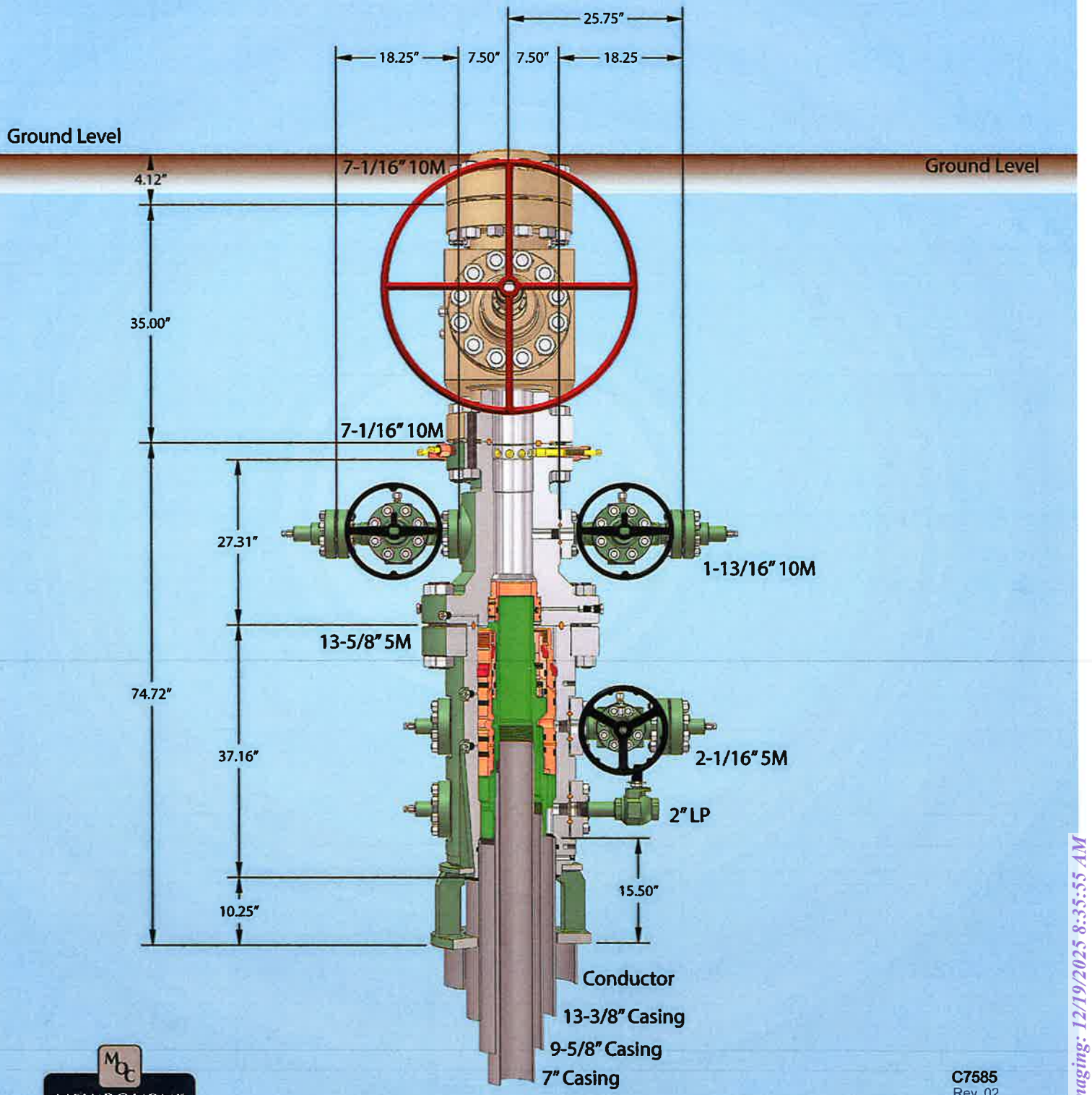
20" x 13-3/8" x 9-5/8" x 7" MBU-3T-CFL-R-DBLO Wellhead System
With 9-5/8" & 7" Fluted Mandrel Casing Hangers
And 13-5/8" 5M x 7-1/16" 10M CTH-DBLHPS Tubing Head

DRAWN	DLE	18APR22
APPRV		

DRAWING NO. HBE0000660

CAMERON
A Schlumberger Company

13-5/8" MN-DS Wellhead System



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C7585
Rev. 02

NOTE: All dimensions on this drawing are estimated measurements and should be evaluated by engineering.

Capping flange 57" conductor cut-off

79

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

SUPO Data Report
12/01/2025

APD ID: 10400079376
Submission Date: 08/20/2021
Operator Name: EOG RESOURCES INCORPORATED
Well Name: STUDY BUTTE 13 FED COM
Well Number: 501H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - Existing Roads

Will existing roads be used? NO

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Other Description:

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Existing Well map Attachment:

STUDY_BUTTE_13_FED_COM_501H_Radius_20210820081335.pdf

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description:

Production Facilities map:

STUDY_BUTTE_13_FC_501H_Production_Facility_EOG_20251118124051.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: RECYCLED

Water source use type: OTHER **Describe use type:** Water will be delivered by a third p independent of the APD

Source latitude: **Source longitude:**

Source datum:

City:

Water source permit type: WATER RIGHT

Water source transport method: PIPELINE

TRUCKING

Source land ownership: FEDERAL

Source transportation land ownership: FEDERAL

Water source volume (barrels): 1 **Source volume (acre-feet):** 0.00012889

Source volume (gal): 42

Water source and transportation

waterSourceTransMap_20250206161320.pdf

Water source comments:

New water well? N

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Caliche will be supplied from pits shown on the attached caliche source map. Caliche utilized for the drilling pad will be obtained either from an existing approved mineral pit, or by benching into a hill, which will allow the pad to be level with existing caliche from the cut, or extracted by Flipping the well location. A mineral material permit will be obtained from BLM prior to excavating any caliche on Federal Lands. Amount will vary for each pad. The procedure for Flipping a well location is as follows: * -An adequate amount of topsoil/root zone (usually top 6 inches of soil) will be stripped from the proposed well location and stockpiled along the side of the well location as depicted on the well site diagram/survey plat. -An area will be used within the proposed well site dimensions to excavate caliche. Subsoil will be removed and stockpiled within the surveyed well pad dimensions. -Once caliche/surfacing mineral is found, the mineral material will be excavated and stock piled within the approved drilling pad dimensions. -Then, subsoil will be pushed back in the excavated hole and caliche will be spread accordingly across the entire well pad and road (if available). -Neither caliche, nor subsoil will be stock piled outside of the well pad dimensions. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat. * In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit or other established mineral pit. A BLM mineral material permit will be acquired prior to obtaining any mineral material from BLM pits or federal land.

Construction Materials source location

CalicheSourceTransMap_20250206161349.pdf

Section 7 - Methods for Handling

Waste type: SEWAGE

Waste content description: Grey Water

Amount of waste:

Waste disposal frequency : Weekly

Safe containment description: Human waste managed by third-party vendors. ROW construction waste contained in on-site portable toilets maintained by third party vendor. During drilling activities waste is managed by third party vendor utilizing onsite aerobic (treatment) wastewater management. Liquids treated through the aerobic system are transferred to via water line to CTBs for reuse by EOG. All solid waste remaining after treatment process are pumped into an enclosed waste transfer truck at the time of rig down and taken to one of the following disposal facilities by the thirdparty vendor: Quail Run Services LLC (a

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Licensed Waste Management Service Facility in Reeves County, Texas) or ReUse OilField Services (a Licensed Waste Management Facility in Mentone, TX)
Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
Disposal type description:

Disposal location description: Quail Run Services LLC (a Licensed Waste Management Service Facility in Reeves County, Texas) or ReUse OilField Services (a Licensed Waste Management Facility in Mentone, TX)

Waste type: GARBAGE

Waste content description: TRASH GENERATED ONSITE

Amount of waste:

Waste disposal frequency : Weekly

Safe containment description: ENCLOSED DUMPSTERS

Safe containmant attachment:

Waste disposal type: OTHER **Disposal location ownership:** OTHER

Disposal type description: Lea County, NM

Disposal location description: Trash dumpsters are utilized to contain garbage onsite. Dumpsters are maintained by a thirdparty vendor. All trash is hauled to Lea County, NM landfill.

Waste type: DRILLING

Waste content description: Drilling fluids and produced oil and water from the well during drilling and completion operations will be stored onsite in frac tanks and disposed of at the time of rig down. Primary disposal location for EOGs NM operations is the North Delaware Basin Disposal facility in Jal, New Mexico which is a privately owned commercial facility. Some EOG locations within New Mexico may require transportation of cuttings to other licensed commercial disposal facilities based on geographic location.
Amount of waste: 0 barrels

Waste disposal frequency : Daily

Safe containment description: STEEL TANKS

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL
Disposal type description:

Disposal location description: North Delaware Basin Disposal facility in Jal, New Mexico

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location Closed Loop System. Drill cuttings will be disposed of into steel tanks and taken to an NMOCD approved disposal facility.

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

Cuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

Study_Butte_13_Fed_Com_501H_Rig_Layout_20210820082245.pdf
STUDY_BUTTE_13_FC_501H_Location_EOG_20251118124117.pdf
STUDY_BUTTE_13_FC_501H_Padsite_EOG_20251118124117.pdf
Comments: Exhibit 2A-Wellsite, Exhibit 2B-Padsite, Exhibit 4-Rig Layout

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** STUDY BUTTE 13 FED COM

Multiple Well Pad Number: 501H

Recontouring

STUDY_BUTTE_13_FED_COM_501H_Reclamation_20210820082325.pdf

Drainage/Erosion control construction: Proper erosion control methods will be used on the area to control erosion, runoff, and siltation of the surrounding area.
Drainage/Erosion control reclamation: The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

Well pad proposed disturbance (acres): 0	**Well pad interim reclamation (acres):** 0	**Well pad long term disturbance (acres):** 0
Road proposed disturbance (acres): 0	**Road interim reclamation (acres):** 0	**Road long term disturbance (acres):** 0
Powerline proposed disturbance (acres): 0	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 0
Pipeline proposed disturbance (acres): 0	**Pipeline interim reclamation (acres):** 0	**Pipeline long term disturbance (acres):** 0
Other proposed disturbance (acres): 0	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 0
Total proposed disturbance: 0	**Total interim reclamation:** 0	**Total long term disturbance:** 0

Disturbance Comments: All Interim and Final reclamation must be within 6 months. Interim must be within 6 months of completion and final within 6 months of abandonment plugging. Dual pad operations may alter timing.

Reconstruction method: In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads. Areas planned for interim reclamation will be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

Topsoil redistribution: Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts and fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

Soil treatment: Re-seed according to BLM standards. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.
Existing Vegetation at the well pad: Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respreads evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils.

Existing Vegetation at the well pad

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Existing Vegetation Community at the road: All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

Existing Vegetation Community at the road

Existing Vegetation Community at the pipeline: All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

Existing Vegetation Community at the pipeline

Existing Vegetation Community at other disturbances: All disturbed areas, including roads, pipelines, pads, will be recontoured to the contour existing prior to the initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

Existing Vegetation Community at other disturbances

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Seed

Seed Table

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation

Operator Contact/Responsible Official

First Name: **Last Name:**

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Phone: **Email:**

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment

Weed treatment plan description: All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds. Weeds will be treated if found.

Weed treatment plan

Monitoring plan description: Reclamation will be completed within 6 months of well plugging. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, erosion is controlled, and free of noxious weeds.

Monitoring plan

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Section 12 - Other

Right of Way needed? N **Use APD as ROW?**

ROW Type(s):

ROW

SUPO Additional Information: Onsite conducted 12/8/2020 See attached SUPO Plan.

Use a previously conducted onsite? N

Previous Onsite information:

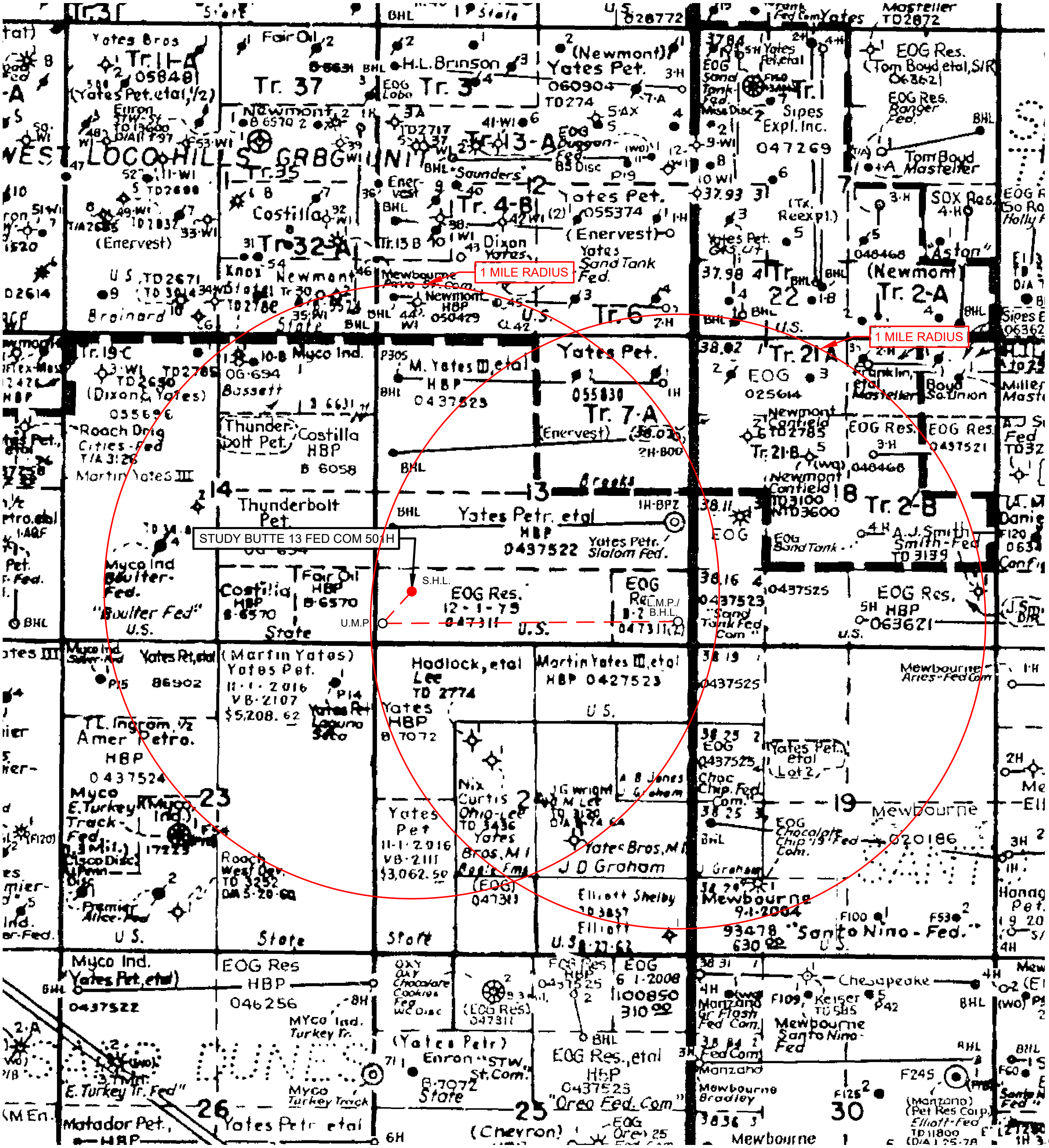
Other SUPO

SUPO_STUDY_BUTTE_13_FED_COM_501H_20210820082505.pdf
SUPO_SEC_7_WASTE_ATTACHMENT_20240227065214.pdf
STUDY_BUTTE_13_FC_501H_Location_EOG_20251118124203.pdf

EXHIBIT 3

eog resources, inc.

SECTION 13, TOWNSHIP 18-S, RANGE 29-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: STUDY BUTTE 13 FED COM 501H

SCALE: NTS

501H LATITUDE N 32.7426624 501H LONGITUDE W 104.0348917

ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREON ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.

THIS EASEMENT/SERVITUDE LOCATION SHOWN HEREON HAS BEEN SURVEYED ON THE GROUND UNDER MY SUPERVISION AND PREPARED ACCORDING TO THE EVIDENCE FOUND AT THE TIME OF SURVEY, AND DATA PROVIDED BY EOG RESOURCES, INC. THIS CERTIFICATION IS MADE AND LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. THIS SURVEY IS CERTIFIED FOR THIS TRANSACTION ONLY.

TOPOGRAPHIC
LOYALTY INNOVATION LEGACY
1400 EVERMAN PARKWAY, Ste. 146 • FT. WORTH, TEXAS 76140
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
WWW.TOPOGRAPHIC.COM

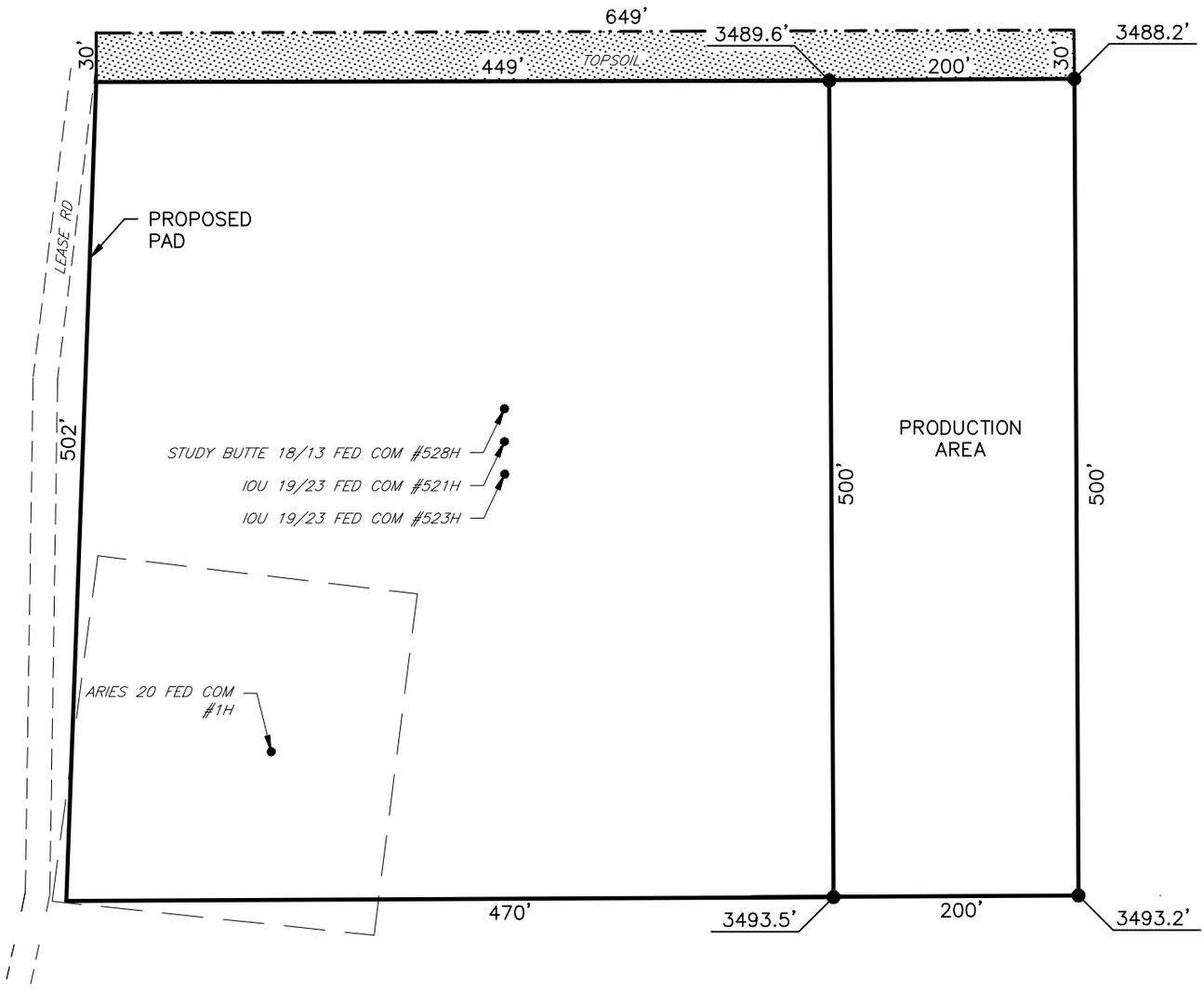
S:\SURVEY\EOG_MIDLAND\STUDY_BUTTE_13_FED_COM\FINAL_PRODUCTS\LO_STUDY_BUTTE_13_FED_COM_501H_REV4.DWG 6/8/2021 9:04:48 AM bgregory

EOG RESOURCES, INC

PRODUCTION FACILITY FOR THE IOU 19/23 FED COM AND STUDY BUTTE 13 FED COM WELL LOCATIONS

SECTION 20, T18S, R30E

N. M. P. M., EDDY COUNTY, NEW MEXICO



DIRECTIONS TO LOCATION

From the intersection of CR #360 (Bluestem Rd.) and CR #250 (Grubbs Rd.);

Go North on CR #250 approx. 1.1 miles to lease road on the left;

Turn left and go West approx. 0.2 miles road curves right;

Continue north approx. 0.6 miles to a "Y";

Turn right at the "Y" and go North approx. 1.0 miles to a "T";

Turn left at "T" and go west approx. 0.7 miles to a lease road on the right;

Turn right and go North approx. 1.3 miles to location on the right.

SCALE: 1" = 100'

0 50 100

BEARINGS ARE NAD 83 GRID – NM EAST
DISTANCES ARE GROUND

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this unclassified survey of a well location from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

Robert M. Howett

Robert M. Howett NM PS 19680

ROBERT M. HOWETT NEW MEXICO 19680 05/25/25 PROFESSIONAL SURVEYOR

NO.	REVISION	DATE

JOB NO.: LS25050439

DWG. NO.: 25050439–6

RRC ENERGY SERVICES, LLC.

701 S. CECIL ST., HOBBS, NM 88240 (575) 964–8200

SCALE: 1" = 100'

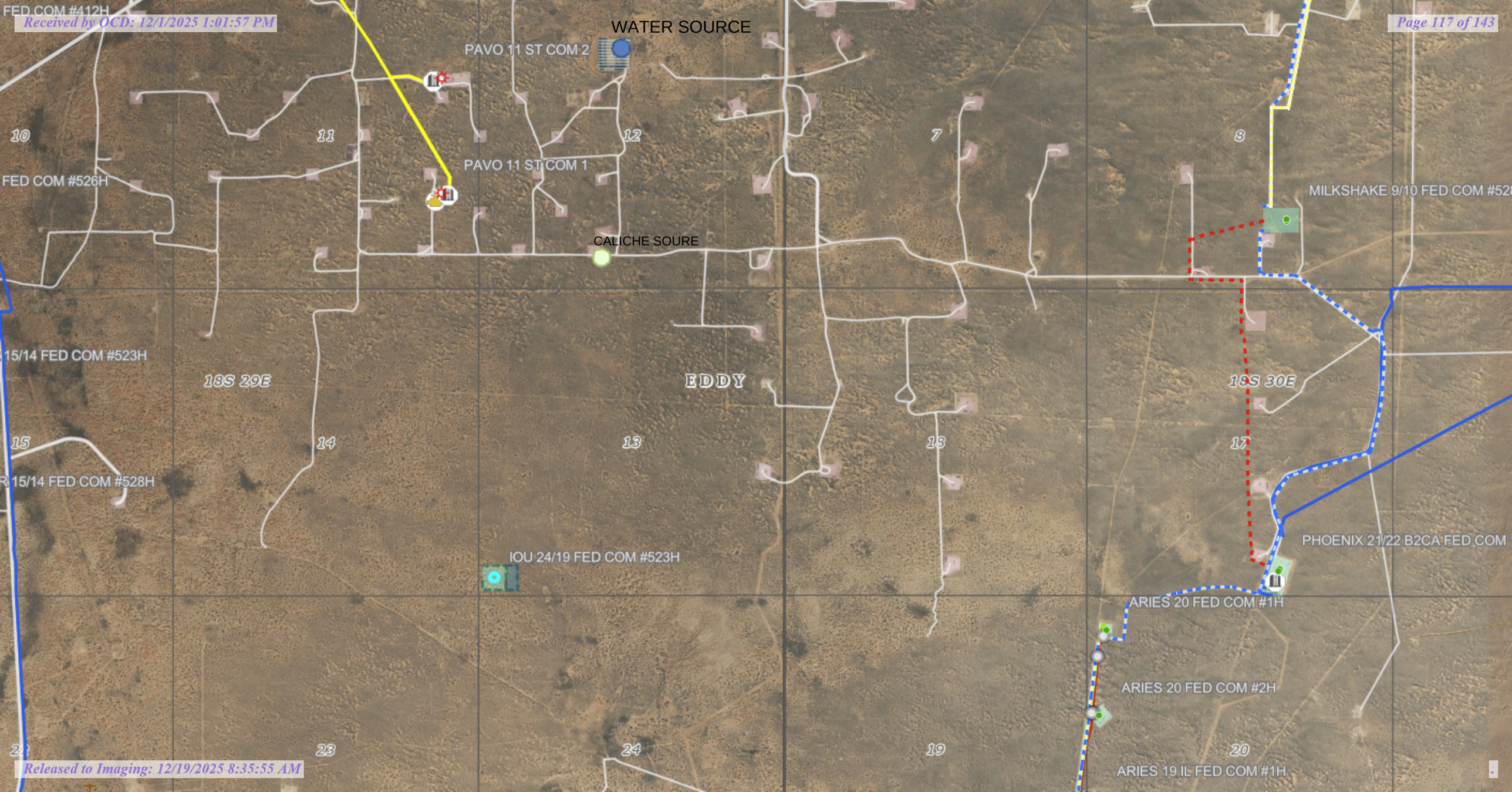
DATE: 05/09/2025

SURVEYED BY: ML/JH

DRAWN BY: JC

APPROVED BY: RMH

SHEET: 1 OF 1



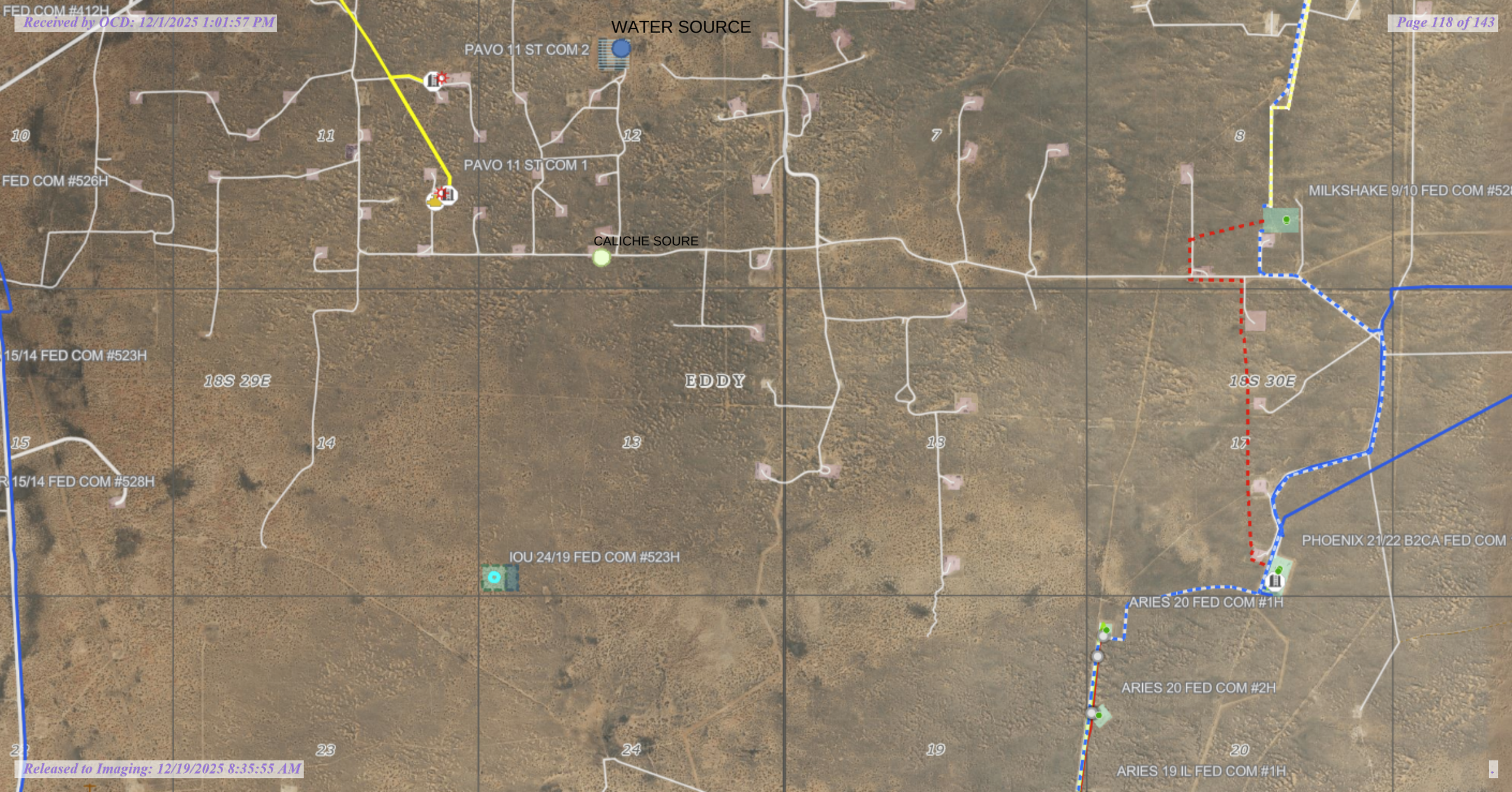
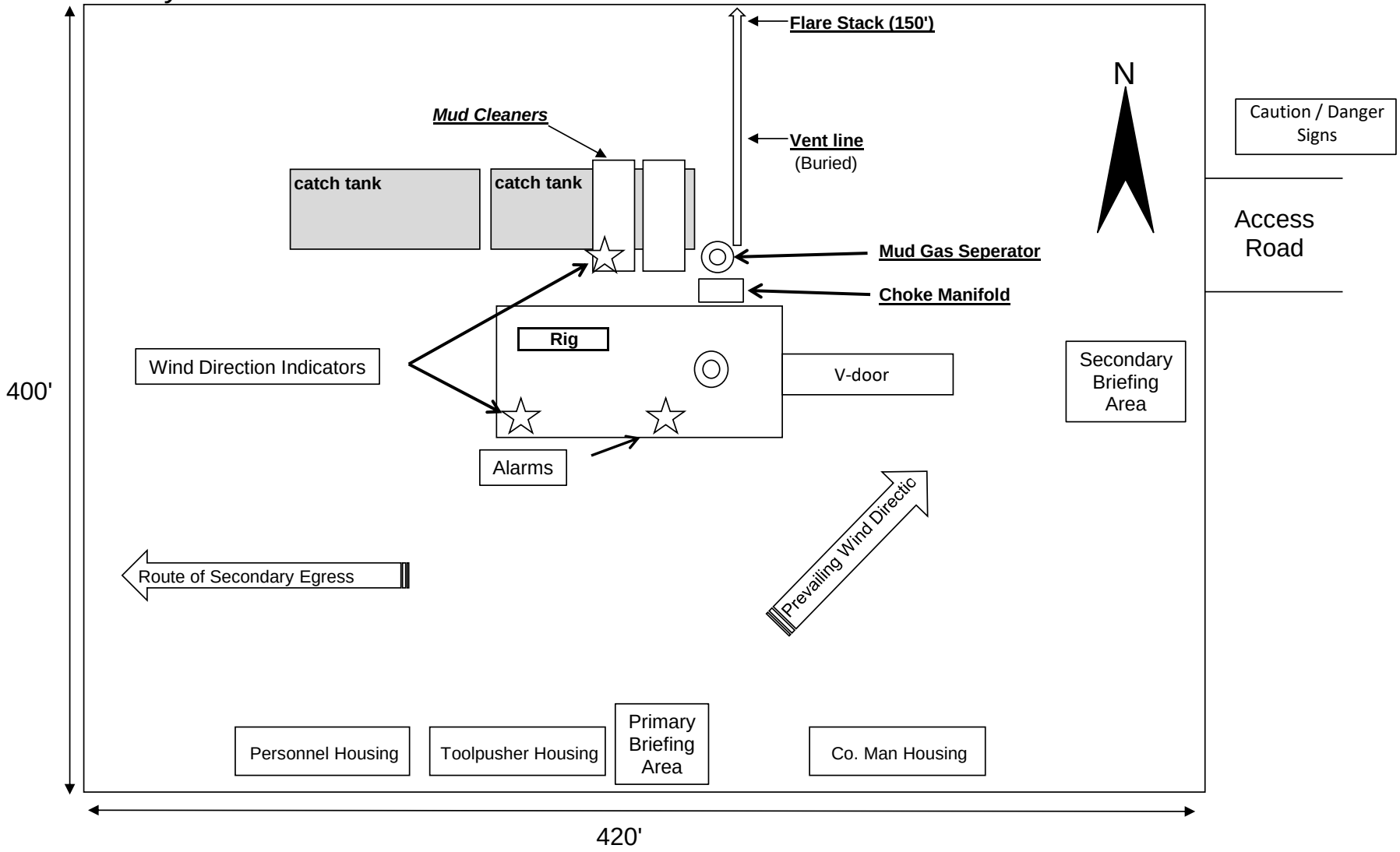


Exhibit 4

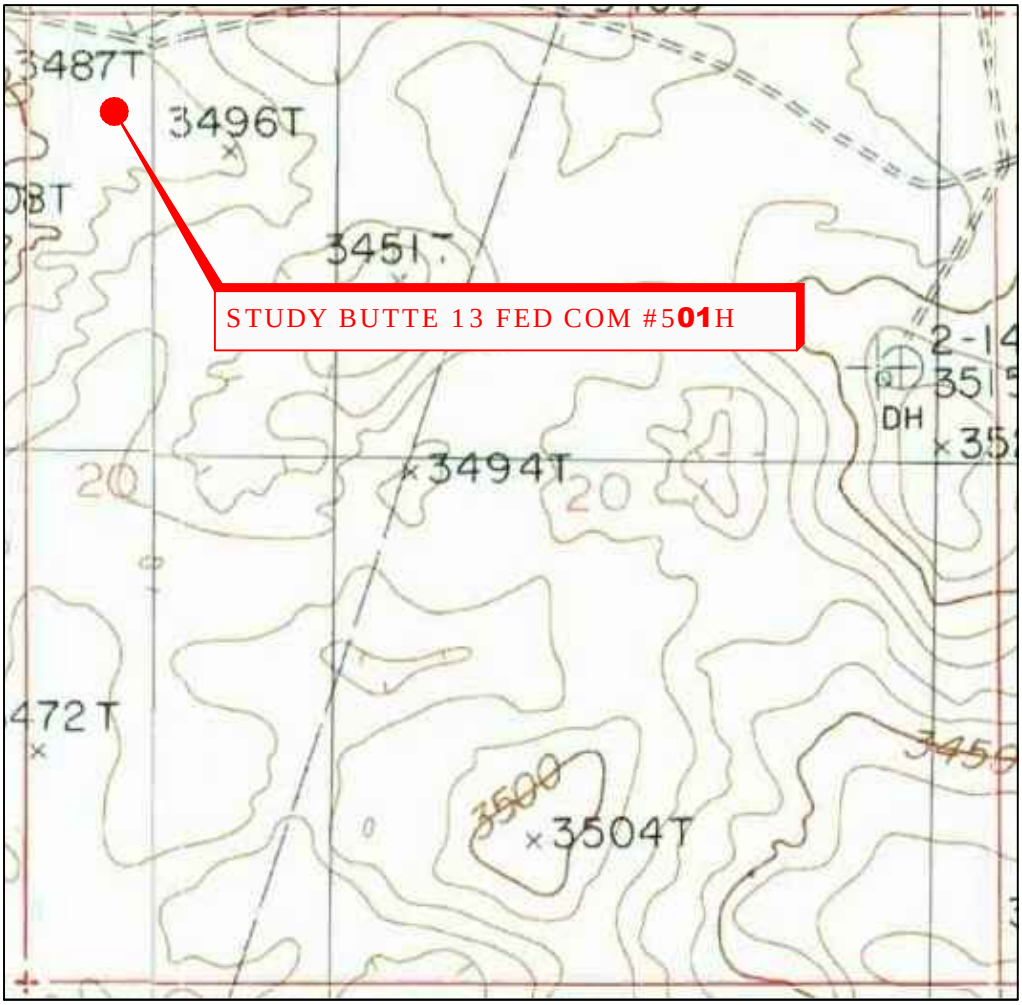
EOG Resources
Study Butte 13 Fed Com #501H

Well Site Diagram



LOCATION VERIFICATION MAP

NOT TO SCALE



SECTION 20, TWP. 18 SOUTH, RGE. 30 EAST, N. M. P. M., EDDY CO., NEW MEXICO

OPERATOR: EOG RESOURCES, INC.
LEASE: STUDY BUTTE 13
WELL NO.: 501H
ELEVATION: 3495'

LOCATION: 390' FNL & 475' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Illinois Camp NE, N.M. (1985)

NO.	REVISION	DATE

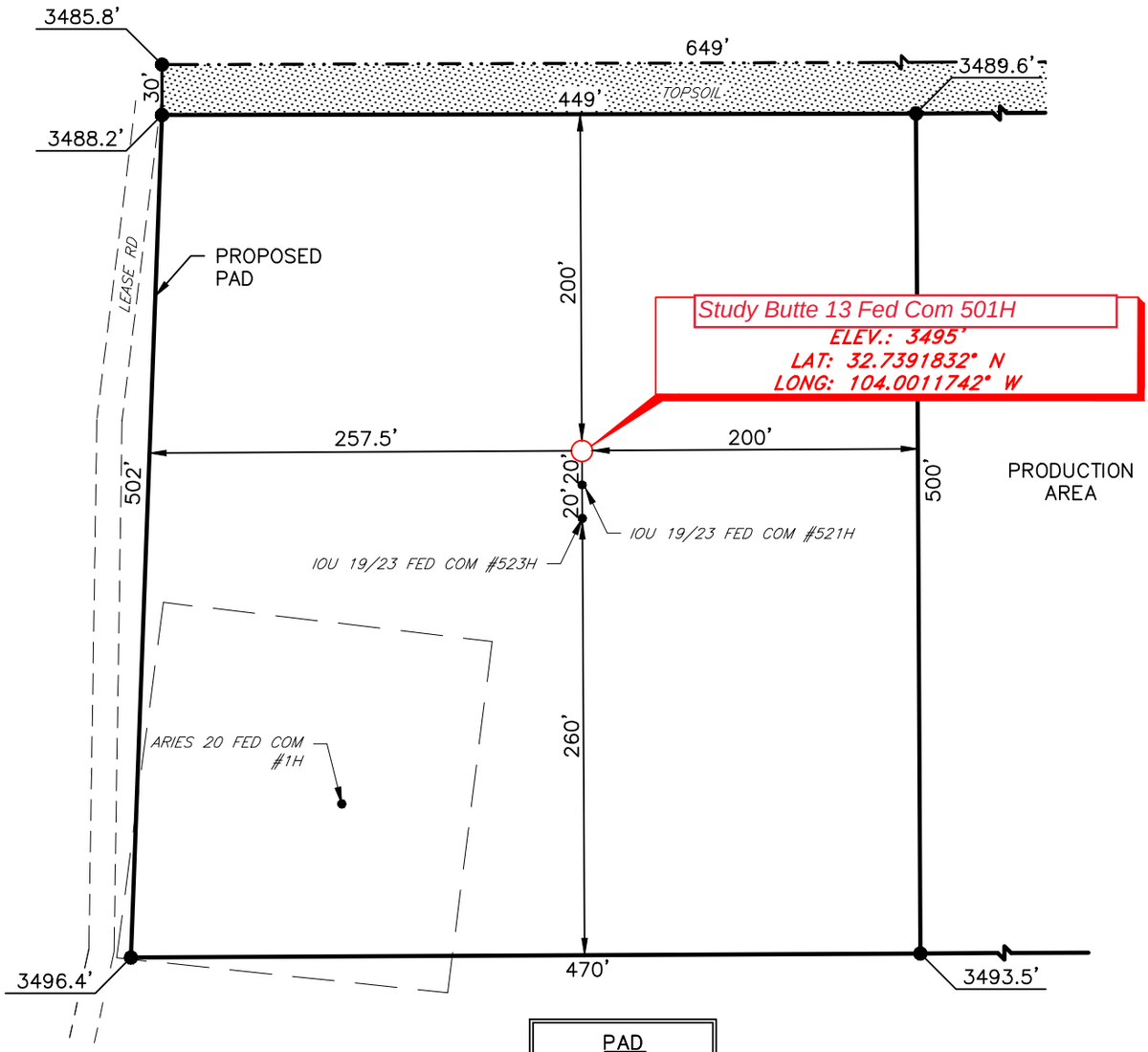
JOB NO.: LS25050439
DWG. NO.: 25050439-3

RRC ENERGY SERVICES, LLC.
701 S. CECIL ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S.
DATE: 05/09/2025
SURVEYED BY: ML/JH
DRAWN BY: JC
APPROVED BY: RMH
SHEET: 1 OF 1

EOG RESOURCES, INC.

STUDY BUTTE 13 FED COM 501H
(390' FNL & 475' FWL)
SECTION 20, T18S, R30E
N. M. P. M., EDDY COUNTY, NEW MEXICO



PAD
Sq. Ft. 230,069
Acres 5.282

DIRECTIONS TO LOCATION

From the intersection of CR #360 (Bluestem Rd.) and CR #250 (Grubbs Rd.);

Go North on CR #250 approx. 1.1 miles to lease road on the left;

Turn left and go West approx. 0.2 miles road curves right;

Continue north approx. 0.6 miles to a "Y";

Turn right at the "Y" and go North approx. 1.0 miles to a "T";

Turn left at "T" and go west approx. 0.7 miles to a lease road on the right;

Turn right and go North approx. 1.3 miles to location on the right.

SCALE: 1" = 100'
0 50 100

BEARINGS ARE NAD 83 GRID – NM EAST
DISTANCES ARE GROUND

I, R. M. Howett, a N. M. Professional Surveyor, hereby certify that I prepared this unclassified survey of a well location from an actual survey made on the ground under my direct supervision, said survey and plat meet the Min. Stds. for Land Surveying in the State of N. M. and are true and correct to the best of my knowledge and belief.

Robert M. Howett
Robert M. Howett NM PS 19680

ROBERT M. HOWETT
NEW MEXICO
19680
05/25/25
PROFESSIONAL SURVEYOR

NO.	REVISION	DATE

JOB NO.: LS25050439
DWG. NO.: 25050439–5

RRC
ENERGY SERVICES, LLC.
701 S. CECIL ST., HOBBS, NM 88240 (575) 964–8200

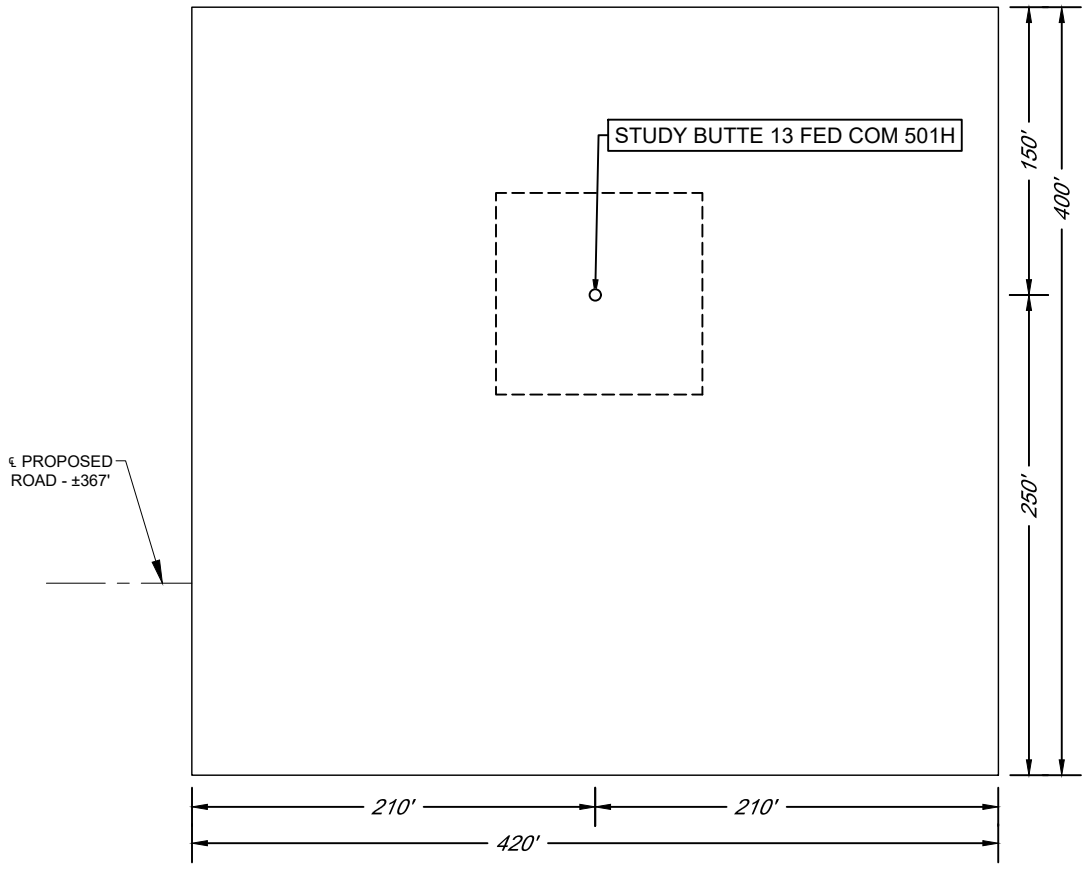
SCALE: 1" = 100'
DATE: 05/09/2025
SURVEYED BY: ML/JH
DRAWN BY: JC
APPROVED BY: RMH
SHEET: 1 OF 1

EXHIBIT 2C

RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

SECTION 13, TOWNSHIP 18-S, RANGE 29-E, N.M.P.M.
EDDY COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 60'



LEASE NAME & WELL NO.: STUDY BUTTE 13 FED COM 501H

501H LATITUDE N 32.7426624 501H LONGITUDE W 104.0348917

Surface Use Plan of Operations

Introduction

The following surface use plan of operations will be followed and carried out once the APD is approved. No other disturbance will be created other than what was submitted in this surface use plan. If any other surface disturbance is needed after the APD is approved, a BLM approved sundry notice or right of way application will be acquired prior to any new surface disturbance.

Before any surface disturbance is created, stakes or flagging will be installed to mark boundaries of permitted areas of disturbance, including soils storage areas. As necessary, slope, grade, and other construction control stakes will be placed to ensure construction in accordance with the surface use plan. All boundary markers will be maintained in place until final construction cleanup is completed. If disturbance boundary markers are disturbed or knocked down, they will be replaced before construction proceeds.

If terms and conditions are attached to the approved APD and amend any of the proposed actions in this surface use plan, we will adhere to the terms and conditions.

1. Existing Roads

a. The existing access road route to the proposed project is depicted on STUDY BUTTE 13 FED COM 501H VICINTY. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of this surface use plan..

b. The existing access road route to the proposed project does not cross lease or unit boundaries, so a BLM right-of-way grant will not be acquired for this proposed road route.

c. The operator will improve or maintain existing roads in a condition the same as or better than before operations begin. The operator will repair pot holes, clear ditches, repair the crown, etc. All existing structures on the entire access route such as cattleguards, other range improvement projects, culverts, etc. will be properly repaired or replaced if they are damaged or have deteriorated beyond practical use.

d. We will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or wind events. BLM written approval will be acquired before application of surfactants, binding agents, or other dust suppression chemicals on roadways.

2. New or Reconstructed Access Roads

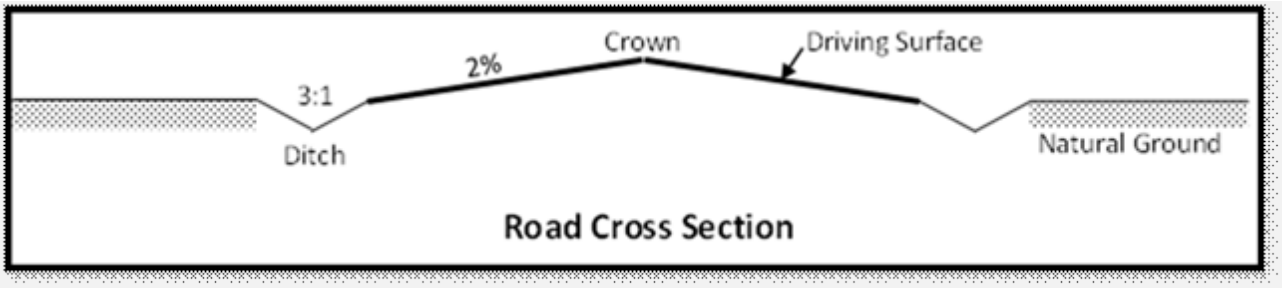
a. An access road will be needed for this proposed project. See the survey plat for the location of the access road.

b. The length of access road needed to be constructed for this proposed project is about 8268 feet.

c. The maximum driving width of the access road will be 24 feet. The maximum width of surface disturbance when constructing the access road will not exceed 25 feet. All areas outside of the driving surface will be revegetated.

d. The access road will be constructed with 6 inches of compacted CALICHE.

e. When the road travels on fairly level ground, the road will be crowned and ditched with a 2% slope from the tip of the road crown to the edge of the driving surface. The ditches will be 3 feet wide with 3:1 slopes. See Road Cross Section diagram below.



f. The access road will be constructed with a ditch on each side of the road.

g. The maximum grade for the access road will be 5 percent.

h. No turnouts will be constructed on the proposed access road.

i. No cattleguards will be installed for this proposed access road.

j. No BLM right-of-way grant is needed for the construction of this access road.

k. No culverts will be constructed for this proposed access road.

l. No low water crossings will be constructed for the access road.

m. Since the access road is on level ground, no lead-off ditches will be constructed for the proposed access road.

n. Newly constructed or reconstructed roads, on surface under the jurisdiction of the Bureau of Land Management, will be constructed as outlined in the BLM "Gold Book" and to meet the standards of the anticipated traffic flow and all anticipated weather requirements as needed. Construction will include ditching, draining, crowning and capping or sloping and dipping the roadbed as necessary to provide a well-constructed and safe road.

3. Location of Existing Wells

a. STUDY BUTTE 13 FED COM 501H RADIUS of the APD depicts all known wells within a one mile radius of the proposed well.

b. There is no other information regarding wells within a one mile radius.

4. Location of Existing and/or Proposed Production Facilities

a. All permanent, lasting more than 6 months, above ground structures including but not limited to pumpjacks, storage tanks, barrels, pipeline risers, meter housing, etc. that are not subject to safety requirements will be painted a non-reflective paint color, Shale Green, from the BLM Standard Environmental Colors chart, unless another color is required in the APD Conditions of Approval.

b. If any type of production facilities are located on the well pad, they will be strategically placed to allow for maximum interim reclamation, recontouring, and revegetation of the well location.

c. A production facility is proposed to be installed on the proposed well location. Production from the well will be processed on site in the production facility. N/A depicts the location of the production facilities as they relate to the well and well pad.

d. The proposed production facility will have a secondary containment structure that is constructed to hold the capacity of 1-1/2 times the largest tank, plus freeboard to account for percipitation, unless more stringent protective requirements are deemed necessary.

e. There is no other diagram that depicts production facilities.

If any plans change regarding the production facility or other infrastructure (pipeline, electric line, etc.), we will submit a sundry notice or right of way (if applicable) prior to installation or construction.

Electric Line(s)

a. No electric line will be applied for with this APD.

5. Location and Types of Water

a. The source and location of the water supply are as follows: Water will be delivered by a third party who will see Right of Way independent of the APD.

b. STUDY BUTTE WATER AND CALICHE MAP depicts the proposed route for a 12 inch LAY-FLAT temporary (<90 days) water pipeline supplying water for drilling operations.

6. Construction Material

a. Caliche will be supplied from pits shown on the attached caliche source map.
Caliche utilized for the drilling pad will be obtained either from an existing approved mineral pit, or by benching into a hill, which will allow the pad to be level with existing caliche from the cut, or extracted by “Flipping” the well location. A mineral material permit will be obtained from BLM prior to excavating any caliche on Federal Lands. Amount will vary for each pad. The procedure for “Flipping” a well location is as follows:
*□
-An adequate amount of topsoil/root zone (usually top 6 inches of soil) will be stripped from the proposed well location and stockpiled along the side of the well location as depicted on the well site diagram/survey plat.
-An area will be used within the proposed well site dimensions to excavate caliche.
Subsoil will be removed and stockpiled within the surveyed well pad dimensions.
-Once caliche/surfacing mineral is found, the mineral material will be excavated and stock piled within the approved drilling pad dimensions.
-Then, subsoil will be pushed back in the excavated hole and caliche will be spread accordingly across the entire well pad and road (if available).
-Neither caliche, nor subsoil will be stock piled outside of the well pad dimensions. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat.
*□
In the event that no caliche is found onsite, caliche will be hauled in from a BLM approved caliche pit or other established mineral pit. A BLM mineral material permit will be acquired prior to obtaining any mineral material from BLM pits or federal land.

7. Methods for Handling Waste

a. Drilling fluids and produced oil and water from the well during drilling and completion operations will be stored safely and disposed of properly in an NMOCD approved disposal facility.

b. Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around the well site will be collected for disposal.

c. Human waste and grey water will be properly contained and disposed of properly at a state approved disposal facility.

d. After drilling and completion operations, trash, chemicals, salts, frac sand and other waste material will be removed and disposed of properly at a state approved disposal facility.

e. The well will be drilled utilizing a closed loop system. Drill cutting will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

8. Ancillary Facilities

a. No ancillary facilities will be needed for this proposed project.

9. Well Site Layout

a. The following information is presented in the well site survey plat or diagram:

i. reasonable scale (near 1":50')

ii. well pad dimensions

iii. well pad orientation

iv. drilling rig components

v. proposed access road

vi. elevations of all points

vii. topsoil stockpile

viii. reserve pit location/dimensions if applicable

ix. other disturbances needed (flare pit, stinger, frac farm pad, etc.)

x. existing structures within the 600' x 600' archaeoligical surveyed area (pipelines, electric lines, well pads, etc

b. The proposed drilling pad was staked and surveyed by a professional surveyor. The attached survey plat of the well site depicts the drilling pad layout as staked.

c. A title of a well site diagram is STUDY BUTTE 13 FED COM RIG LAYOUT. This diagram depicts the RIG LAYOUT.

d. Topsoil Salvaging

i. Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respread evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils. Contaminated soil will not be stockpiled, but properly treated and handled prior to topsoil salvaging.

10. Plans for Surface Reclamation

Reclamation Objectives

i. The objective of interim reclamation is to restore vegetative cover and a portion of the landform sufficient to maintain healthy, biologically active topsoil; control erosion; and minimize habitat and forage loss, visual impact, and weed infestation, during the life of the well or facilities.

ii. The long-term objective of final reclamation is to return the land to a condition similar to what existed prior to disturbance. This includes restoration of the landform and natural vegetative community, hydrologic systems, visual resources, and wildlife habitats. To ensure that the long-term objective will be reached through human and natural processes, actions will be taken to ensure standards are met for site stability, visual quality, hydrological functioning, and vegetative productivity.

iii. The BLM will be notified at least 3 days prior to commencement of any reclamation procedures.

iv. If circumstances allow, interim reclamation and/or final reclamation actions will be completed no later than 6 months from when the final well on the location has been completed or plugged. We will gain written permission from the BLM if more time is needed.

v. Interim reclamation will be performed on the well site after the well is drilled and completed. STUDY BUTTE 13 FED COM 501H RECLAMATION depicts the location and dimensions of the planned interim reclamation for the well site.

Interim Reclamation Procedures (If performed)

1. Within 30 days of well completion, the well location and surrounding areas will be cleared of, and maintained free of, all materials, trash, and equipment not required for production.

2. In areas planned for interim reclamation, all the surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

3. The areas planned for interim reclamation will then be recontoured to the original contour if feasible, or if not feasible, to an interim contour that blends with the surrounding topography as much as possible. Where applicable, the fill material of the well pad will be backfilled into the cut to bring the area back to the original contour. The interim cut and fill slopes prior to re-seeding will not be steeper than a 3:1 ratio, unless the adjacent native topography is steeper. Note: Constructed slopes may be much steeper during drilling, but will be recontoured to the above ratios during interim reclamation.

4. Topsoil will be evenly respread and aggressively revegetated over the entire disturbed area not needed for all-weather operations including cuts & fills. To seed the area, the proper BLM seed mixture, free of noxious weeds, will be used. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

5. Proper erosion control methods will be used on the area to control erosion, runoff and siltation of the surrounding area.

6. The interim reclamation will be monitored periodically to ensure that vegetation has reestablished and that erosion is controlled.

Final Reclamation (well pad, buried pipelines, etc.)

1. Prior to final reclamation procedures, the well pad, road, and surrounding area will be cleared of material, trash, and equipment.

2. All surfacing material will be removed and returned to the original mineral pit or recycled to repair or build roads and well pads.

3. All disturbed areas, including roads, pipelines, pads, production facilities, and interim reclaimed areas will be recontoured to the contour existing prior to initial construction or a contour that blends indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation

areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

4. After all the disturbed areas have been properly prepared, the areas will be seeded with the proper BLM seed mixture, free of noxious weeds. Final seedbed preparation will consist of contour cultivating to a depth of 4 to 6 inches within 24 hours prior to seeding, dozer tracking, or other imprinting in order to break the soil crust and create seed germination micro-sites.

5. Proper erosion control methods will be used on the entire area to control erosion, runoff and siltation of the surrounding area.

6. All unused equipment and structures including pipelines, electric line poles, tanks, etc. that serviced the well will be removed.

7. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

11. Surface Ownership

a. The surface ownership of the proposed project is FEDERAL.

12. Other Information

a. An onsite meeting was conducted on 12/8/2020
Surface flow lines will follow existing or proposed, well-traveled roads.
An onsite meeting was conducted on 5/11/21
We plan to use 1, 12-inch lay flat hoses to transport water with an option to use 1, 4-inch poly lines for drilling and frac operations.
We are asking for 1 associated pipelines all depicted on the attached STUDY BUTTE 13 FED COM INFRASTRUCTURE sketch and associated pipeline plats:
One 6-inch flex steel gas lift line servicing all wells on lease
One 6-inch flex steel production flowline per well
One 24-inch produced water disposal line from the CTB to the water disposal tie-in.
One 20-inch produced gas sales line from the CTB to the gas pipeline tie-in.
The well is planned to be produced using gas lift as the artificial lift method.
Produced water will be transported via pipeline to the EOG produced water gathering system.

13. Maps and Diagrams

STUDY BUTTE 13 FED COM 501H VICINTY - Existing Road
STUDY BUTTE 13 FED COM 501H RADIUS - Wells Within One Mile
N/A - Production Facilities Diagram
STUDY BUTTE WATER AND CALICHE MAP - Drilling Water Pipeline
STUDY BUTTE 13 FED COM RIG LAYOUT - Well Site Diagram
STUDY BUTTE 13 FED COM 501H RECLAMATION - Interim Reclamation

EOG Resources, Inc.

Surface Use Plan of Operations Section 7 Methods for Handling Waste Attachment

Human waste managed by third-party vendors. ROW construction waste contained in on-site portable toilets maintained by third party vendor. During drilling activities waste is managed by third party vendor utilizing onsite aerobic (treatment) wastewater management. Liquids treated through the aerobic system are transferred to via water line to CTBs for reuse by EOG. All solid waste remaining after treatment process are pumped into an enclosed waste transfer truck at the time of rig down and taken to one of the following disposal facilities by the third-party vendor: Qual Run Services LLC (a Licensed Waste Management Service Facility in Reeves County, Texas) or ReUse OilField Services (a Licensed Waste Management Facility in Mentone, TX)

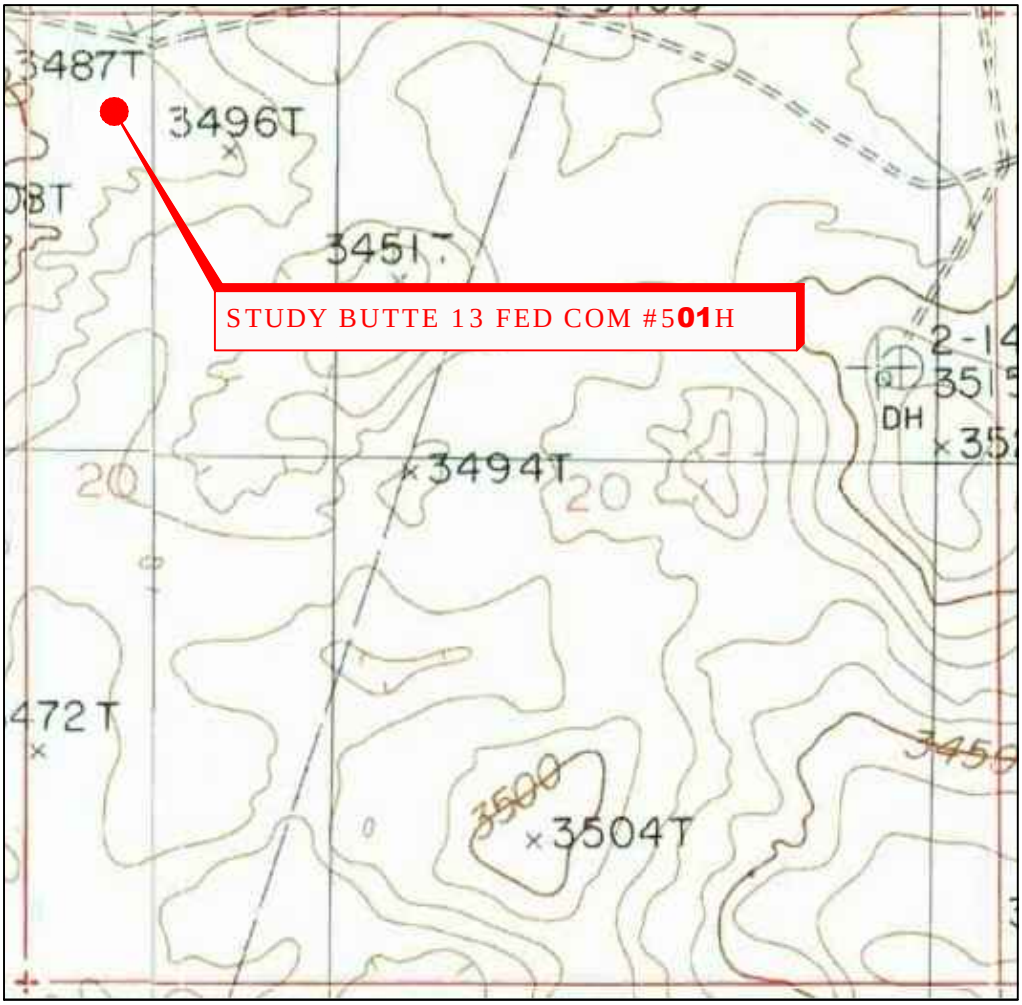
Trash dumpsters are utilized to contain garbage onsite. Dumpsters are maintained by a third-party vendor. All trash is hauled to Lee County, NM landfill.

EOG utilizes a Closed Loop System, cuttings leave the rig and enter low/highwall cuttings bin. Cuttings are then transferred to trucks for transportation to a State of New Mexico approved disposal facility. Primary disposal location for EOG's NM operations is the North Delaware Basin Disposal Facility in Jal, New Mexico which is a privately owned commercial facility. Some EOG locations within New Mexico may require transportation of cuttings to other licensed commercial disposal facilities based on geographic location.

Drilling fluids and produced oil and water from the well during drilling and completion operations will be stored onsite in frac tanks and disposed of at the time of rig down. Primary disposal location for EOG's NM operations is the North Delaware Basin Disposal facility in Jal, New Mexico which is a privately owned commercial facility. Some EOG locations within New Mexico may require transportation of cuttings to other licensed commercial disposal facilities based on geographic location.

LOCATION VERIFICATION MAP

NOT TO SCALE



SECTION 20, TWP. 18 SOUTH, RGE. 30 EAST, N. M. P. M., EDDY CO., NEW MEXICO

OPERATOR: EOG RESOURCES, INC.
LEASE: STUDY BUTTE 13
WELL NO.: 501H
ELEVATION: 3495'

LOCATION: 390' FNL & 475' FWL
CONTOUR INTERVAL: 10'
USGS TOPO. SOURCE MAP:
Illinois Camp NE, N.M. (1985)

NO.	REVISION	DATE

JOB NO.: LS25050439
DWG. NO.: 25050439-3

RRC ENERGY SERVICES, LLC.
701 S. CECIL ST., HOBBS, NM 88240 (575) 964-8200

SCALE: N. T. S.
DATE: 05/09/2025
SURVEYED BY: ML/JH
DRAWN BY: JC
APPROVED BY: RMH
SHEET: 1 OF 1

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

PWD Data Report
12/01/2025

APD ID: 10400079376 **Submission Date:** 08/20/2021

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

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

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD Surface Owner Description:

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Lined pit Monitor description:

Lined pit Monitor

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Other PWD Surface Owner Description:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

Do you propose to put the produced water to beneficial use?

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

Precipitated Solids Permit

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

State

Unlined Produced Water Pit Estimated

Unlined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information

Section 4 -

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD Surface Owner Description:

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection

Underground Injection Control (UIC) Permit?

UIC Permit

Section 5 - Surface

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD Surface Owner Description :

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Operator Name: EOG RESOURCES INCORPORATED

Well Name: STUDY BUTTE 13 FED COM **Well Number:** 501H

Section 6 -

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

PWD Surface Owner Description:

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements

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

Bond Info Data
12/01/2025

APD ID: 10400079376
Submission Date: 08/20/2021
Operator Name: EOG RESOURCES INCORPORATED
Well Name: STUDY BUTTE 13 FED COM
Well Number: 501H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Bond

Federal/Indian APD: FED

BLM Bond number: NMB106709157

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: ___EOG Resources, Inc._____ **OGRID:** _____7377_____ **Date:** 12/1/2025

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
STUDY BUTTE 13 FED COM 501H		D-20-18S-30E	390 FNL & 475' FWL	+/- 1000	+/- 3500	+/- 3000

IV. Central Delivery Point Name: ___Study Butte 13 Fed Com CTB_____ [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
STUDY BUTTE 13 FED COM 501H		12/15/25	12/31/25	2/01/26	3/01/26	4/01/26

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. ***If Operator checks this box, Operator will select one of the following:***

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- **(a)** power generation on lease;
- **(b)** power generation for grid;
- **(c)** compression on lease;
- **(d)** liquids removal on lease;
- **(e)** reinjection for underground storage;
- **(f)** reinjection for temporary storage;
- **(g)** reinjection for enhanced oil recovery;
- **(h)** fuel cell production; and
- **(i)** other alternative beneficial uses approved by the division.

Section 4 - Notices

1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: Star L Harrell
Printed Name: Star L Harrell
Title: Regulatory Advisor
E-mail Address: Star_Harrell@eogresources.com
Date: 12/1/2025
Phone: (432) 848-9161

OIL CONSERVATION DIVISION **(Only applicable when submitted as a standalone form)**
Approved By:
Title:
Approval Date:
Conditions of Approval:

Natural Gas Management Plan
Items VI-VIII

VI. Separation Equipment: Attach a complete description of how Operator will size separation equipment to optimize gas capture.

- Separation equipment will be sized to provide adequate separation for anticipated rates.
- Adequate separation relates to retention time for Liquid – Liquid separation and velocity for Gas-Liquid separation.
- Collection systems are appropriately sized to handle facility production rates on all (3) phases.
- Ancillary equipment and metering is selected to be serviced without flow interruptions or the need to release gas from the well.

VII. Operational Practices: Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F 19.15.27.8 NMAC.

Drilling Operations

- All flare stacks will be properly sized. The flare stacks will be located at a minimum 100' from the nearest surface hole location on the pad.
- All natural gas produced during drilling operations will be flared, unless there is an equipment malfunction and/or to avoid risk of an immediate and substantial adverse impact on safety and the environment, at which point the gas will be vented.

Completions/Recompletions Operations

- New wells will not be flowed back until they are connected to a properly sized gathering system.
- The facility will be built/sized for maximum anticipated flowrates and pressures to minimize waste.
- For flowback operations, multiple stages of separation will be used as well as excess VRU and blowers to make sure waste is minimized off the storage tanks and facility.
- During initial flowback, the well stream will be routed to separation equipment.
- At an existing facility, when necessary, post separation natural gas will be flared until it meets pipeline specifications, at which point it will be turned into a collection system.
- At a new facility, post separation natural gas will be vented until storage tanks can safely function, at which point it will be flared until it meets pipeline spec.

Production Operations

- Weekly AVOs will be performed on all facilities.
- All flares will be equipped with auto-ignition systems and continuous pilot operations.
- After a well is stabilized from liquid unloading, the well will be turned back into the collection system.
- All plunger lift systems will be optimized to limit the amount of waste.
- All tanks will have automatic gauging equipment installed.
- Leaking thief hatches found during AVOs will be cleaned and properly re-sealed.

Performance Standards

- Production equipment will be designed to handle maximum anticipated rates and pressure.
- All flared gas will be combusted in a flare stack that is properly sized and designed to ensure proper combustion.
- Weekly AVOs will be performed on all wells and facilities that produce more than 60 Mcfd.

Measurement & Estimation

- All volume that is flared and vented that is not measured will be estimated.
- All measurement equipment for flared volumes will conform to API 14.10.
- No meter bypasses with be installed.

- When metering is not practical due to low pressure/low rate, the vented or flared volume will be estimated.

VIII. Best Management Practices: Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

- During downhole well maintenance, EOG will use best management practices to vent as minimally as possible.
- Prior to the commencement of any maintenance, the tank or vessel will be isolated from the rest of the facilities.
- All valves upstream of the equipment will be closed and isolated.
- After equipment has been isolated, the equipment will be blown down to as low a pressure as possible into the collection system.
- If the equipment being maintained cannot be relieved into the collection system, it shall be released to a tank where the vapor can either be captured or combusted if possible.
- After downhole well maintenance, natural gas will be flared until it reaches pipeline specification.

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

ACKNOWLEDGMENTS

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 530826
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

☑	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 530826
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
sharrell1	Cement is required to circulate on both surface and intermediate1 strings of casing.	12/1/2025
sharrell1	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	12/1/2025
ward.rikala	Notify the OCD 24 hours prior to casing & cement.	12/19/2025
ward.rikala	File As Drilled C-102 and a directional Survey with C-104 completion packet.	12/19/2025
ward.rikala	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	12/19/2025
ward.rikala	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	12/19/2025