

Form 3160-3  
(June 2015)FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT  
**APPLICATION FOR PERMIT TO DRILL OR REENTER**

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No.
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address		9. API Well No. <b>30-025-53934</b>
3b. Phone No. (include area code)		10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish
		13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
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.   | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan.  | 5. Operator certification.  |
| 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). | 6. Such other site specific information and/or plans as may be requested by the BLM.            |

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
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.

(Continued on page 2)

\*(Instructions on page 2)



Approval Date: 10/04/2024



<b>C-102</b>  Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department <b>OIL CONSERVATION DIVISION</b>	Revised July 9, 2024	
		Submittal Type:	<input checked="" type="checkbox"/> Initial Submittal
			<input type="checkbox"/> Amended Report
			<input type="checkbox"/> As Drilled

## WELL LOCATION INFORMATION

API Number <b>30-025-53934</b>	Pool Code <b>97895</b>	Pool Name <b>WC-025 G-08 S213304D;BONE SPRING</b>
Property Code <b>336504</b>	Property Name <b>EILEEN 25 FED COM</b>	Well Number <b>603H</b>
OGRID No. <b>372165</b>	Operator Name <b>PERMIAN RESOURCES OPERATING, LLC</b>	Ground Level Elevation <b>3,677.00'</b>
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

## Surface Location

UL <b>O</b>	Section <b>25</b>	Township <b>20S</b>	Range <b>33E</b>	Lot	Ft. from N/S <b>266' FSL</b>	Ft. from E/W <b>2,641' FEL</b>	Latitude <b>32.537585°</b>	Longitude <b>-103.616751°</b>	County <b>LEA</b>
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## Bottom Hole Location

UL <b>C</b>	Section <b>24</b>	Township <b>20S</b>	Range <b>33E</b>	Lot	Ft. from N/S <b>100' FNL</b>	Ft. from E/W <b>2,255' FWL</b>	Latitude <b>32.565609°</b>	Longitude <b>-103.618025°</b>	County <b>LEA</b>
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Dedicated Acres <b>640.00</b>	Infill or Defining Well <b>INFILL</b>	Defining Well API	Overlapping Spacing Unit (Y/N) <b>N</b>	Consolidation Code
Order Numbers.			Well setbacks are under Common Ownership: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	

## Kick Off Point (KOP)

UL <b>O</b>	Section <b>25</b>	Township <b>20S</b>	Range <b>33E</b>	Lot	Ft. from N/S <b>266' FSL</b>	Ft. from E/W <b>2,641' FEL</b>	Latitude <b>32.537585°</b>	Longitude <b>-103.616751°</b>	County <b>LEA</b>
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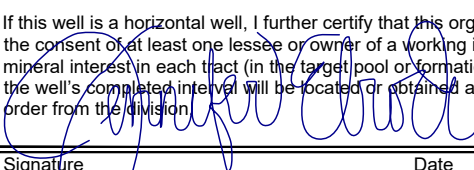

## First Take Point (FTP)

UL <b>N</b>	Section <b>25</b>	Township <b>20S</b>	Range <b>33E</b>	Lot	Ft. from N/S <b>100' FSL</b>	Ft. from E/W <b>2,255' FWL</b>	Latitude <b>32.537131°</b>	Longitude <b>-103.618028°</b>	County <b>LEA</b>
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## Last Take Point (LTP)

UL <b>C</b>	Section <b>24</b>	Township <b>20S</b>	Range <b>33E</b>	Lot	Ft. from N/S <b>100' FNL</b>	Ft. from E/W <b>2,255' FWL</b>	Latitude <b>32.565609°</b>	Longitude <b>-103.618025°</b>	County <b>LEA</b>
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Unitized Area or Area of Uniform Interest	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation:
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<b>OPERATOR CERTIFICATIONS</b>  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.   Date: <b>11/5/2024</b>		<b>SURVEYOR CERTIFICATIONS</b>  I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.   Date: <b>10/25/2024</b>	
Signature <b>JENNIFER ELROD</b> Date		Signature and Seal of Professional Surveyor	
Printed Name <b>JENNIFER.ELROD@PERMIANRES.COM</b>		Certificate Number <b>12177</b>	Date of Survey <b>10/25/2024</b>
Email Address			

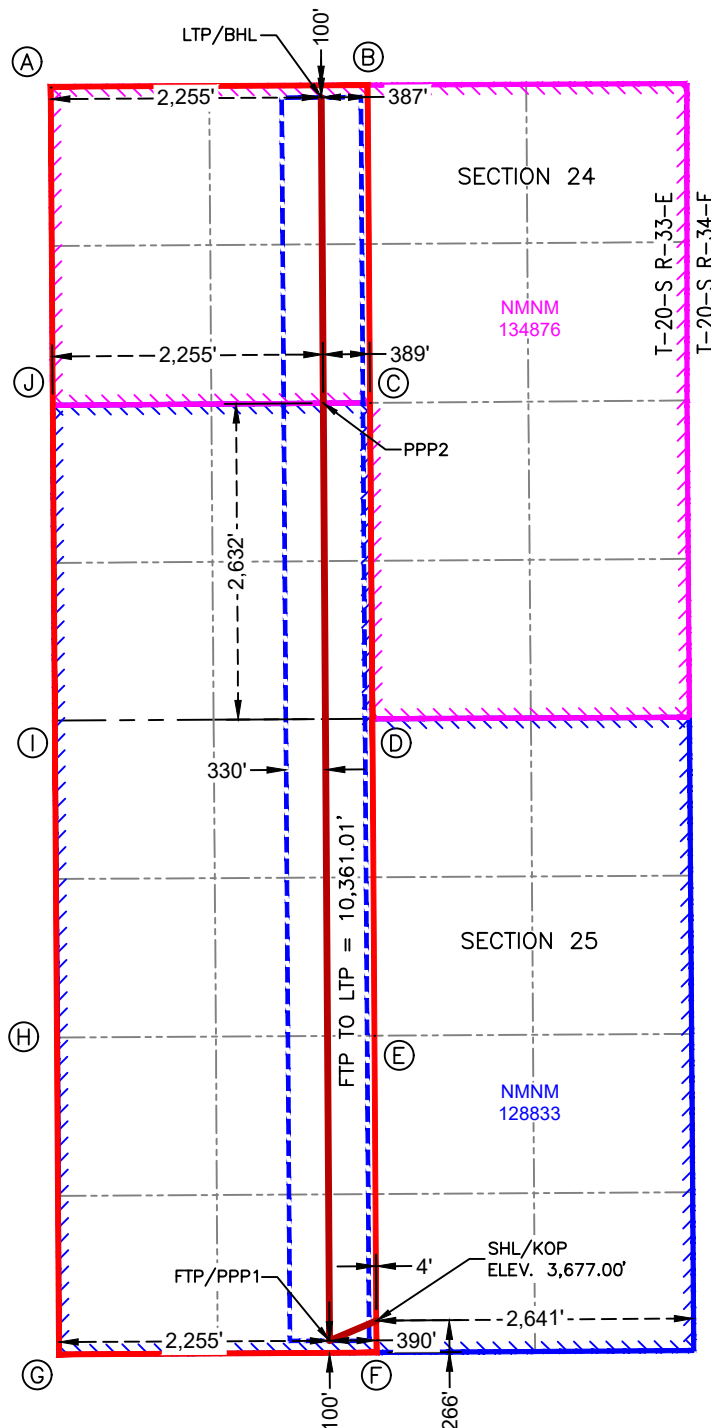
Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.



## 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 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.



**SURFACE HOLE LOCATION  
& KICK-OFF POINT**  
266' FSL & 2,641' FEL  
ELEV. = 3,677.00'  
NAD 83 X = 762,166.00'  
NAD 83 Y = 560,046.90'  
NAD 83 LAT = 32.537585°  
NAD 27 X = 720,984.86'  
NAD 27 Y = 559,984.83'  
NAD 27 LAT = 32.537462°  
NAD 27 LONG = -103.616260°

**FIRST TAKE POINT &  
PENETRATION POINT 1**  
100' FSL & 2,255' FWL  
NAD 83 X = 761,773.66'  
NAD 83 Y = 559,878.94'  
NAD 83 LAT = 32.537131°  
NAD 83 LONG = -103.618028°  
NAD 27 X = 720,592.53'  
NAD 27 Y = 559,816.87'  
NAD 27 LAT = 32.537008°  
NAD 27 LONG = -103.617537°

**PENETRATION POINT 2**  
2,632' FSL & 2,255' FWL  
NAD 83 X = 761,721.86'  
NAD 83 Y = 567,691.40'  
NAD 83 LAT = 32.558605°  
NAD 83 LONG = -103.618026°  
NAD 27 X = 720,540.95'  
NAD 27 Y = 567,629.10'  
NAD 27 LAT = 32.558482°  
NAD 27 LONG = -103.617534°

**LAST TAKE POINT &  
BOTTOM HOLE LOCATION**  
100' FNL & 2,255' FWL  
NAD 83 X = 761,704.95'  
NAD 83 Y = 570,239.73'  
NAD 83 LAT = 32.565609°  
NAD 83 LONG = -103.618025°  
NAD 27 X = 720,524.11'  
NAD 27 Y = 570,177.35'  
NAD 27 LAT = 32.565486°  
NAD 27 LONG = -103.617533°

HSU CORNER COORDINATES NEW MEXICO EAST - NAD 83	
A	N:570,328.89' E:759,449.30'
B	N:570,341.60' E:762,091.55'
C	N:567,694.41' E:762,111.22'
D	N:565,061.91' E:762,130.78'
E	N:562,421.18' E:762,147.47'
F	N:559,781.23' E:762,164.16'
G	N:559,765.69' E:759,519.38'
H	N:562,406.29' E:759,507.19'
I	N:565,047.38' E:759,484.59'
J	N:567,674.02' E:759,466.48'

HSU CORNER COORDINATES NEW MEXICO EAST - NAD 27	
A	N:570,266.53' E:718,268.48'
B	N:570,279.22' E:720,910.71'
C	N:567,632.11' E:720,930.30'
D	N:564,999.69' E:720,949.79'
E	N:562,359.04' E:720,966.41'
F	N:559,719.17' E:720,983.02'
G	N:559,703.64' E:718,338.27'
H	N:562,344.16' E:718,326.15'
I	N:564,985.17' E:718,303.63'
J	N:567,611.74' E:718,285.59'



## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	Permian Resources
<b>WELL NAME &amp; NO.:</b>	Eileen 25 Fed Com 603H
<b>LOCATION:</b>	Sec. 36-20S-22E-NMP
<b>COUNTY:</b>	Lea County, New Mexico <span style="float: right;">▼</span>

COA

H <sub>2</sub> S	<input checked="" type="radio"/> No		<input type="radio"/> Yes	
<b>Potash / WIPP</b>	<input type="radio"/> None	<input type="radio"/> Secretary	<input checked="" type="radio"/> R-111-Q	<input type="radio"/> Open Annulus
	4-String Design: Open 1st Int x 2nd Annulus (ICP 2 below Relief Zone)			<input type="radio"/> WIPP
<b>Cave / Karst</b>	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High	<input type="radio"/> Critical
<b>Wellhead</b>	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both	<input type="radio"/> Diverter
<b>Cementing</b>	<input type="radio"/> Primary Squeeze	<input type="radio"/> Cont. Squeeze	<input type="radio"/> EchoMeter	<input type="radio"/> DV Tool
<b>Special Req</b>	<input checked="" type="checkbox"/> Capitan Reef	<input type="checkbox"/> Water Disposal	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
<b>Waste Prev.</b>	<input type="radio"/> Self-Certification	<input type="radio"/> Waste Min. Plan	<input checked="" type="radio"/> APD Submitted prior to 06/10/2024	
<b>Additional Language</b>	<input checked="" type="checkbox"/> Flex Hose	<input type="checkbox"/> Casing Clearance	<input type="checkbox"/> Pilot Hole	<input checked="" type="checkbox"/> Break Testing
	<input checked="" type="checkbox"/> Four-String	<input checked="" type="checkbox"/> Offline Cementing	<input type="checkbox"/> Fluid-Filled	

### A. HYDROGEN SULFIDE

Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet 43 CFR 3176 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

***APD is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the updated order.***

### B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1660** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface. ***Set depth adjusted per BLM geologist.***
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic-type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500**



**pounds compressive strength**, whichever is greater. (This is to include the lead cement)

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

2. The minimum required fill of cement behind the **10-3/4** 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, Capitan Reef, or potash.**

❖ **Special Capitan Reef requirements:** Ensure FW based mud used across the Capitan interval

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

- Cement should tie-back **500 feet or 50 feet on top of the Capitan Reef, whichever is closer to surface** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

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

- Cement should tie-back **500 feet or 50 feet on top of the Capitan Reef, whichever is closer to surface** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

## 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. 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. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 2<sup>nd</sup> intermediate casing shoe shall be **10,000 (10M)** psi.
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.



- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one-inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

## D. SPECIAL REQUIREMENT (S)

### Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in 43 CFR 3171 and 3172.
- 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.

### 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 (575-689-5981 Lea 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.

### **Offline Cementing**

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



## 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 Lea County Petroleum Engineering Inspection Staff:

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig
    - i. Notify the BLM when moving in and removing the Spudder Rig.
    - ii. Notify the BLM when moving in the 2<sup>nd</sup> 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 2<sup>nd</sup> Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. 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.





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

# Operator Certification Data Report

10/22/2024

## 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:

Signed on: 08/12/2024

Title:

Street Address:

City:

State:

Zip:

Phone:

Email address:

## Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:





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

## Application Data

10/22/2024

APD ID: 10400081607

Submission Date: 11/11/2021

Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COM

Well Number: 603H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data  
reflects the most  
recent changes  
[Show Final Text](#)

### Section 1 - General

APD ID: 10400081607

Tie to previous NOS?

Submission Date: 11/11/2021

BLM Office: Carlsbad

User: CRAIG RICHARDSON

Title: Regulatory Specialist

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM128833

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: EILEEN 25 FED COM

Well Number: 603H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: LEA

Pool Name: BONE SPRING,  
SOUTH



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COM

Well Number: 603H

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: EILEEN 25 FED COM

Number: 504H/503H/603H/703H/704/303 H/203H

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: 15 FT

Distance to lease line: 100 FT

Reservoir well spacing assigned acres Measurement: 640 Acres

Well plat: LO\_EILEEN\_25\_FED\_COM\_603H\_C\_102\_S\_20211110140526.pdf

Well work start Date: 09/30/2022

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	266	FSL	264 1	FEL	20S	33E	25	Tract O	32.53758 51	- 103.6167 513	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 128833	367 7	0	0	Y
KOP Leg #1	50	FSL	225 5	FW L	20S	33E	25	Tract N	32.53699 34	- 103.6180 28	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 128833	- 709 5	107 92	107 72	Y



**Operator Name:** EOG RESOURCES INCORPORATED**Well Name:** EILEEN 25 FED COM**Well Number:** 603H

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 #1-1	100	FSL	2255	FWL	20S	33E	25	Tract N	32.5371307	- 103.618028	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 128833	- 7307	11012	10984	Y
EXIT Leg #1	100	FNL	2255	FWL	20S	33E	24	Tract C	32.5656091	- 103.6180251	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 134876	- 7572	21475	11249	Y
BHL Leg #1	100	FNL	2255	FWL	20S	33E	24	Tract C	32.5656091	- 103.6180251	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 134876	- 7572	21475	11249	Y





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

# Drilling Plan Data Report

10/22/2024

APD ID: 10400081607

Submission Date: 11/11/2021

Highlighted data  
reflects the most  
recent changes

Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COM

Well Number: 603H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
14264564	PERMIAN	3677	0	0	ALLUVIUM	NONE	N
14264565	TOP OF SALT	1837	1840	1840	SALT	NONE	N
14264566	YATES	325	3352	3352	SALT	NONE	N
14264567	CAPITAN REEF	67	3610	3610	SANDSTONE	NONE	N
14264568	DELAWARE SAND	-2060	5737	5737	LIMESTONE	NONE	N
14264570	BRUSHY CANYON	-2828	6505	6505	SANDSTONE	NATURAL GAS, OIL	N
14264571	BONE SPRING LIME	-4956	8633	8633	SANDSTONE	NATURAL GAS, OIL	N
14264572	BONE SPRING 1ST	-4956	8633	8633	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	N
14264573	BONE SPRING 2ND	-7123	10800	10800	LIMESTONE, SANDSTONE, SHALE	NATURAL GAS, OIL	Y
14264574	BONE SPRING 3RD	-7323	11000	11000	SANDSTONE	NATURAL GAS, OIL	N
14264575	WOLFCAMP	-7598	11275	11275	SHALE	NATURAL GAS, OIL	N

## Section 2 - Blowout Prevention

Pressure Rating (PSI): 5M

Rating Depth: 10601

**Equipment:** BOPE will meet all requirements for above listed system per 43 CFR 3172. BOPE with working pressure ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. 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 of the components installed will be functional, tested, and will meet all requirements per 43 CFR 3172. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing of the surface x intermediate annulus without breaking the connection between the BOP & wellhead. A variance is requested to utilize a flexible choke line (flexhose) from the BOP to choke manifold.

Requesting Variance? YES



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COMWell Number: 603H

**Variance request:** Break testing, flex hose, and offline cement variances, see attachments in section 8.

**Testing Procedure:** Operator requests to ONLY test broken pressure seals per API Standard 53 and the attachments in Section 8. The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a.when initially installed, b. whenever any seal subject to test pressure is broken, c. following related repairs, d. at 21-day intervals. Testing of the ram type preventer(s) and annual type preventer(s) shall be tested per 43 CFR 3172. TheBOPE configuration, choke manifold layout, and accumulator system will be in compliance with 43 CFR 3172. Bleedlines will discharge 100' from wellhead in non-H2S scenarios and 150' from wellhead in H2S scenarios.

**Choke Diagram Attachment:**  
EILEEN\_25\_FED\_COM\_5M\_CHOKE\_20240812071804.pdf

**BOP Diagram Attachment:**  
EILEEN\_25\_FED\_COM\_5M\_BOP\_20240812071811.pdf  
EILEEN\_25\_FED\_COM\_WELLHEAD\_20240812071820.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	13.37	NEW	API	N	0	1563	0	1563	3677	2114	1563	J-55	54.5	OTHER - BTC	1.46	1.93	DRY	4.91	DRY	4.61
2	INTERMEDIATE	12.25	10.75	NEW	API	N	0	3377	0	3377	3411	300	3377	J-55	45.5	OTHER - BTC SCC	6.61	3.6	DRY	4.19	DRY	4.1
3	INTERMEDIATE	9.875	8.625	NEW	API	N	0	5687	0	5687	3677	-2010	5687	OTHER	32	OTHER - MO-FXL	4.37	1.33	DRY	1.79	DRY	2.6
4	PRODUCTION	7.875	5.5	NEW	API	N	0	21475	0	11249	3677	-7572	21475	OTHER	20	OTHER - GEOCONN	1.9	1.98	BUOY	1.97	BUOY	1.97

Casing Attachments



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COM

Well Number: 603H

Casing Attachments

Casing ID: 1StringSURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing ID: 2StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

See\_previously\_attached\_Drill\_Plan\_20211110141245.pdf

Casing ID: 3StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

See\_previously\_attached\_Drill\_Plan\_20211110115337.pdf



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COMWell Number: 603H

Casing Attachments

Casing ID: 4StringPRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

See\_previously\_attached\_Drill\_Plan\_20210729093709.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	1563	1220	1.34	14.8	1630	50	Class C	Accelerator
INTERMEDIATE	Lead		0	2700	380	1.88	12.9	700	50	CLASS C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
INTERMEDIATE	Tail		2700	3377	150	1.34	14.8	200	50	CLASS C	Retarder
INTERMEDIATE	Lead		0	4540	370	1.88	12.9	680	50	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
INTERMEDIATE	Tail		4540	5687	150	1.33	14.8	190	25	CLASS C	SALT
PRODUCTION	Lead		6187	10792	340	2.41	11.5	800	0	CLASS H	POZ, Extender, Fluid Loss, Dispersant, Retarder
PRODUCTION	Tail		10792	21475	1080	1.73	12.5	1860	0	CLASS H	POZ, Extender, Fluid Loss, Dispersant, Retarder



**Operator Name:** EOG RESOURCES INCORPORATED**Well Name:** EILEEN 25 FED COM**Well Number:** 603H**Section 5 - Circulating Medium****Mud System Type:** Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

**Describe what will be on location to control well or mitigate other conditions:** Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

**Describe the mud monitoring system utilized:** Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

**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	1563	SPUD MUD	8.6	9.5							
1563	3377	SALT SATURATED	10	10							
3377	5687	WATER-BASED MUD	8.6	9.5							
5687	10792	SALT SATURATED	8.6	9.5							
5687	10792	SALT SATURATED	9	10							
10792	21475	OIL-BASED MUD	9	10							



**Operator Name:** EOG RESOURCES INCORPORATED**Well Name:** EILEEN 25 FED COM**Well Number:** 603H

## Section 6 - Test, Logging, Coring

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

Will utilize MWD/LWD (Gamma Ray logging) from intermediate hole to TD of the well.

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

DIRECTIONAL SURVEY, GAMMA RAY LOG,

**Coring operation description for the well:**

None

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 5850**Anticipated Surface Pressure:** 3375**Anticipated Bottom Hole Temperature(F):** 167**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards****Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations**

Eileen\_25\_Fed\_Com\_603H\_H2S\_Plan\_Summary\_20211110141506.pdf

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

Eileen\_25\_Fed\_Com\_603H\_Planning\_Report\_20211110141528.pdf

Eileen\_25\_Fed\_Com\_603H\_Wall\_Plot\_20211110141529.pdf

**Other proposed operations facets description:**

Well Plan and AC Report: attached

Batching Drilling Procedure: attached

Batching Drilling Procedure: attached

WBD: attached

Flex Hose Specs: attached

Offline Cementing Procedure: attached

Break Testing Procedure: attached

**Other proposed operations facets attachment:**

Eileen\_25\_Fed\_Com\_603H\_Rig\_Layout\_20211110141548.pdf

EILEEN\_25\_FED\_COM\_603H\_DRILLING\_PACKET\_4\_STRING\_20240812073600.pdf

EILEEN\_25\_FED\_COM\_603H\_WBD\_20240812073503.pdf

**Other Variance attachment:**

EILEEN\_25\_FED\_COM\_BATCH\_DRILLING\_OFFLINE\_CEMENTING\_PROCEDURE\_20240812073525.pdf

EILEEN\_25\_FED\_COM\_BREAK\_TESTING\_PROCEDURE\_20240812073531.pdf



**Operator Name:** EOG RESOURCES INCORPORATED

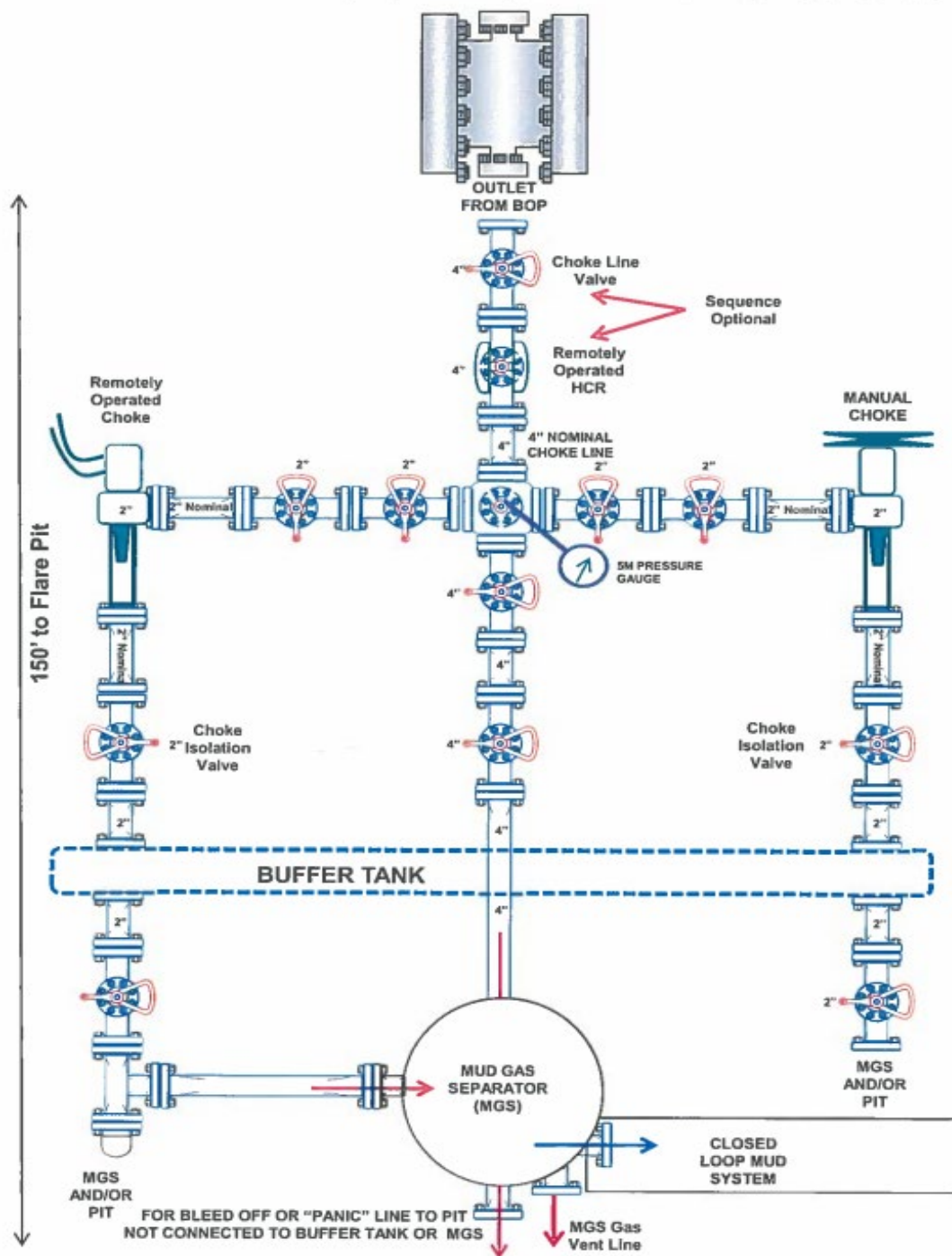
**Well Name:** EILEEN 25 FED COM

**Well Number:** 603H

EILEEN\_25\_FED\_COM\_FLEX\_HOSE\_20240812073536.pdf

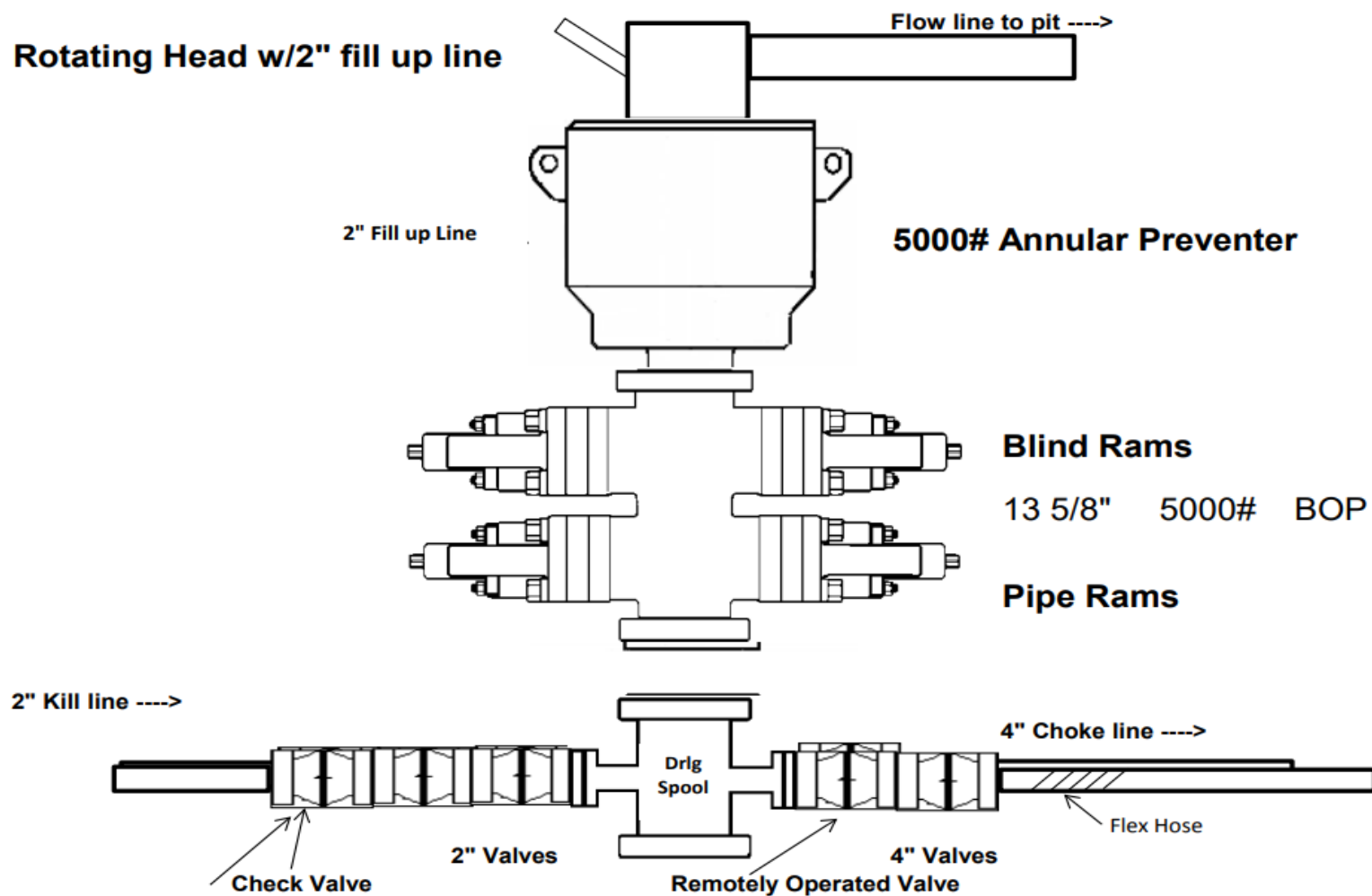


## 5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)

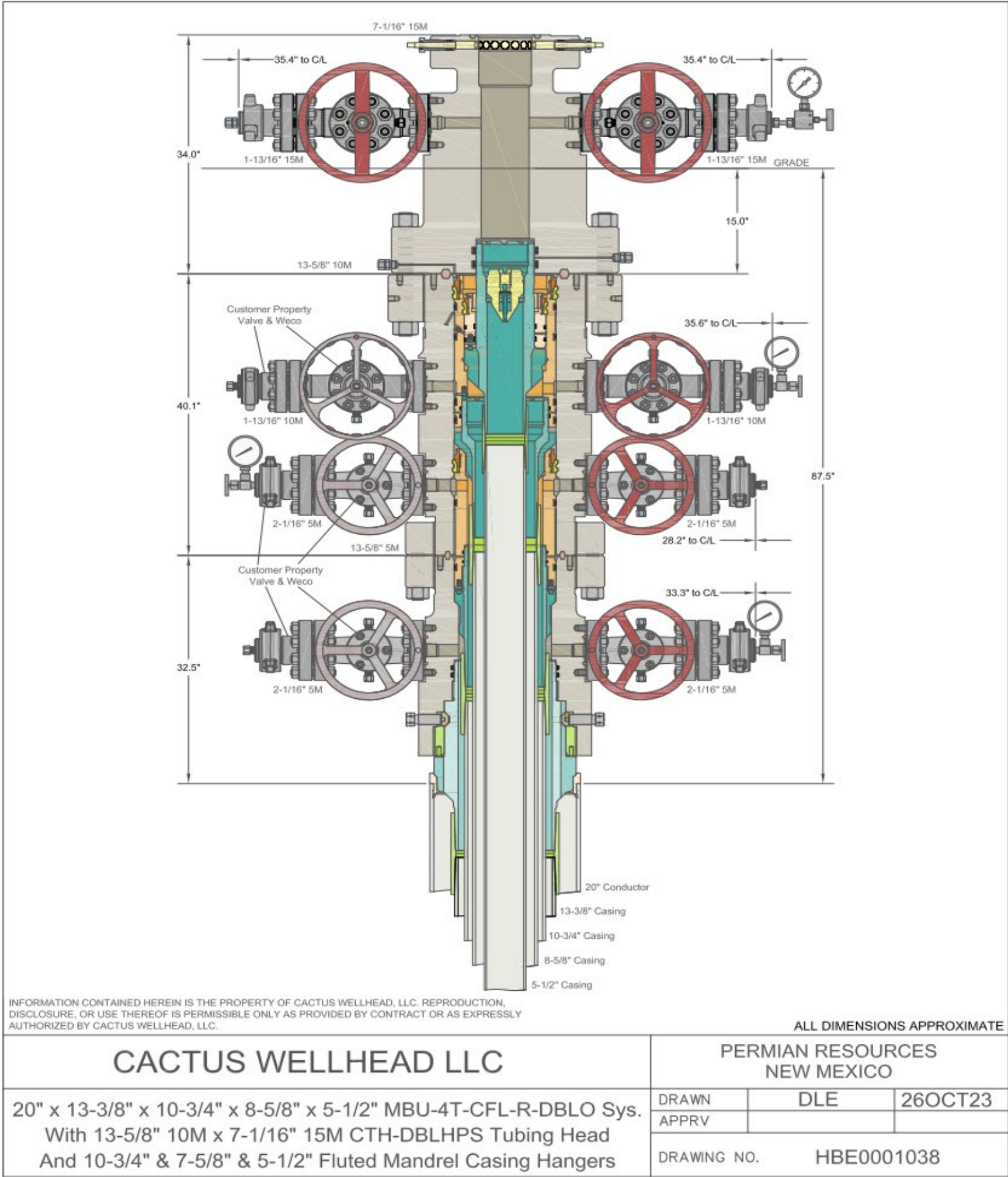




## 5,000 psi BOP Schematic









## Permian Resources - Eileen 25 Fed Com 603H

### 1. Geologic Formations

Formation	Lithology	Elevation	TVD	Target
Rustler	Sandstone	2194	1538	No
Top of Salt	Salt	1892	1840	No
Yates	Anhydrite/Shale	380	3352	No
Seven Rivers	Limestone	NP	NP	No
Capitan	Sandstone	122	3610	No
Delaware Sands	Sandstone	-2005	5737	No
Brushy Canyon	Sandstone	-2773	6505	No
Bone Spring Lime	Limestone/Shale	-4901	8633	No
1st Bone Spring Sand	Sandstone/Limestone/Shale	-5930	9662	No
2nd Bone Spring Sand	Sandstone/Limestone/Shale	-6445	10177	No
2nd Bone Spring Shale	Sandstone/Limestone/Shale	-7068	10800	Yes
3rd Bone Spring Sand	Sandstone/Limestone/Shale	-7268	11000	No
Wolfcamp	Shale	-7543	11275	No

### 2. Blowout Prevention

BOP installed and tested before drilling	Size?	Min. Required WP	Type	x	Tested to:
12.25	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
9.875	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
7.875	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		

**Equipment:** BOPE will meet all requirements for above listed system per 43 CFR 3172. BOPE with working pressure



**Equipment:** BOPE will meet all requirements for above listed system per 43 CFR 3172. BOPE with working pressure

ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. 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 of the components installed will be functional, tested, and will meet all requirements per 43 CFR 3172. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing of the surface x intermediate annulus without breaking the connection between the BOP & wellhead. A variance is requested to utilize a flexible choke line (flexhose) from the BOP to choke manifold.

#### Requesting Variance? YES

**Variance request:** Break testing, flex hose, and offline cement variances, see attachments in section 8.

**Testing Procedure:** Operator requests to ONLY test broken pressure seals per API Standard 53 and the attachments in Section 8. The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed, b. whenever any seal subject to test pressure is broken, c. following related repairs, d. at 21-day intervals. Testing of the ram type preventer(s) and annual type preventer(s) shall be tested per 43 CFR 3172. The BOPE configuration, choke manifold layout, and accumulator system will be in compliance with 43 CFR 3172. Bleed lines will discharge 100' from wellhead in non-H2S scenarios and 150' from wellhead in H2S scenarios.

Choke Diagram Attachment: 5M Choke Manifold

BOP Diagram Attachment: BOP Schematics

### 3. Casing

String	Hole Size	Casing Size	Top	Bottom	Top TVD	Bottom TVD	Length	Grade	Weight	Connection	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	1563	0	1563	1563	J55	54.5	BTC	1.46	1.93	Dry	4.91	Dry	4.61
Intermediate 1	12.25	10.75	0	3377	0	3377	3377	J55	45.5	BTC SCC	6.61	3.60	Dry	4.19	Dry	4.10
Intermediate 2	9.875	8.625	0	5687	0	5687	5687	HCL-80	32	MO-FXL	4.37	1.33	Dry	1.79	Dry	2.60
Production	7.875	5.5	0	21475	0	11249	21475	P110RY	20	GeoConn	1.90	1.98	Dry	1.97	Dry	1.97
BLM Min Safety Factor											1.125	1		1.6		1.6

Non API casing spec sheets and casing design assumptions attached.

### 4. Cement

String	Lead/Tail	Top MD	Bottom MD	Quantity (sx)	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	Tail	0	1563	1220	1.34	14.8	1630	50%	Class C	Accelerator
Intermediate 1	Lead	0	2700	380	1.88	12.9	700	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate 1	Tail	2700	3377	150	1.34	14.8	200	50%	Class C	Retarder
Intermediate 2	Lead	0	4540	370	1.88	12.9	680	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate 2	Tail	4540	5687	150	1.33	14.8	190	25%	Class C	Salt
Production	Lead	6187	10792	340	2.41	11.5	800	0%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	10792	21475	1080	1.73	12.5	1860	0%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

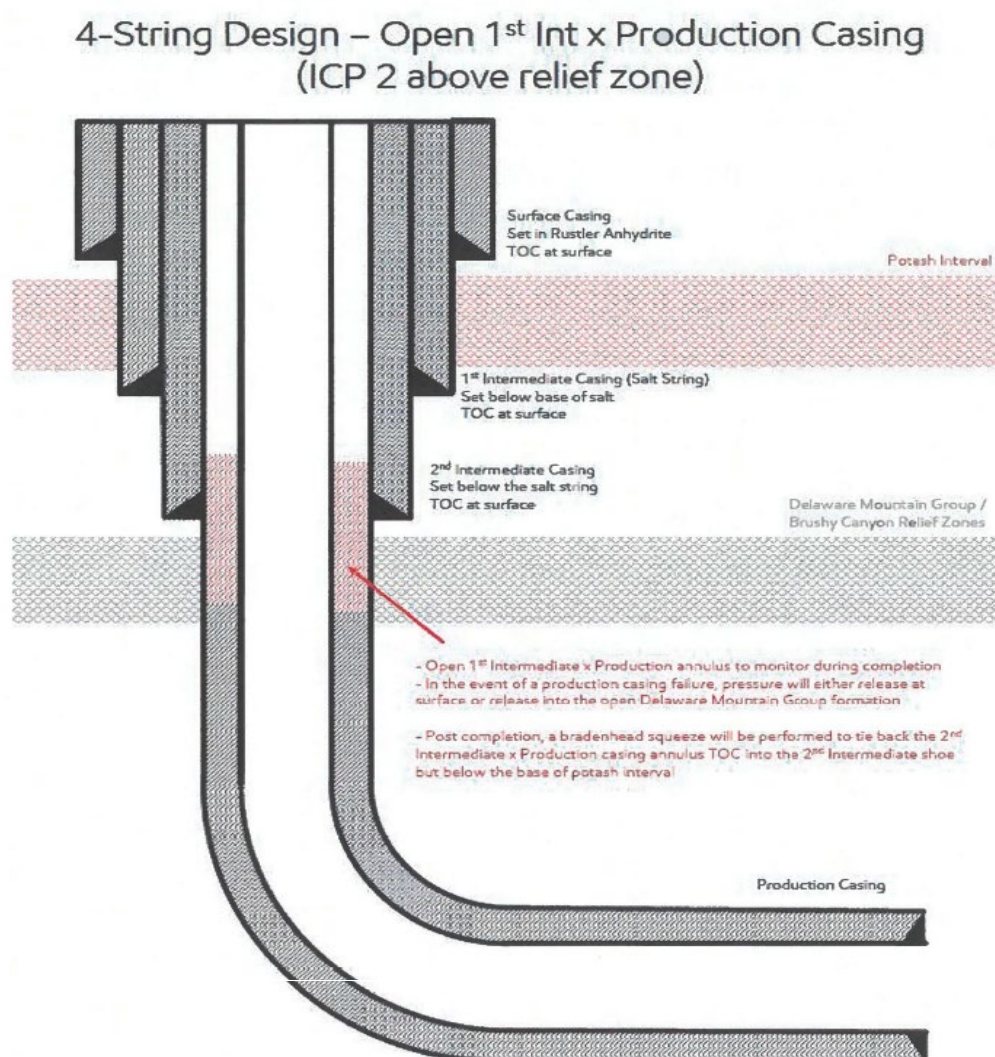


The WBD below depicts the cement design required for R111Q.

The annulus between the production and intermediate casing strings shall be actively monitored for pressure during hydraulic fracturing operations. If pressure communication is observed, indicating a possible production casing failure, hydraulic fracturing operations must immediately cease, and source of the pressure increase shall be investigated. During hydraulic fracturing operations, a pressure relief valve or appropriate venting system shall be installed to relieve pressure in the event of a production casing failure. The opening pressure of any pressure relief valves must be set below 50% of the intermediate casing burst rating. If the well design features an uncemented intermediate casing shoe (for example as shown in Exhibit B, Figure B) and the well approaches to within  $\frac{1}{4}$  mile of an offset well drilling, completing or producing from the Delaware Mountain Group, then the pressure relief valve opening pressure shall be set no more than 1000 psi and at no time shall the pressure on the annulus be allowed to exceed 1000 psi. This requirement can be waived by the offset well operator.

Production cement will be 500' below the 2<sup>nd</sup> intermediate shoe with 0% excess leaving the DMG uncemented as a pressure relief zone.

Bradenhead operations will be performed within 180 days of completing hydraulic fracturing operations, tying back cement at least 500' inside the 2<sup>nd</sup> intermediate shoe but below Marker Bed 126.



[Figure E] 4 String – Uncemented Annulus between 2<sup>nd</sup> Intermediate and Production Casing Strings



## 5. Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be used:** No

**Describe what will be on location to control well or mitigate other conditions:** Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

**Describe the mud monitoring system utilized:** Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

**Cuttings Volume:** 12590 Cu Ft

**Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	1563	Spud Mud	8.6	9.5
1563	3377	Salt Saturated	10	10
3377	5687	Fresh Water	8.6	9.5
5687	10792	Brine	9	10
10792	21475	OBM	9	10

## 6. Test, Logging, Coring

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

Will utilize MWD/LWD (Gamma Ray logging) from intermediate hole to TD of the well.

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

DIRECTIONAL SURVEY, GAMMA RAY LOG,

**Coring operation description for the well:**

N/A

## 7. Pressure

Anticipated Bottom Hole Pressure	5850	psi
Anticipated Surface Pressure	3375	psi
Anticipated Bottom Hole Temperature	167	°F
Anticipated Abnormal pressure, temp, or geo hazards	No	

## 8. Other Information

Well Plan and AC Report: attached

Batching Drilling Procedure: attached

Batching Drilling Procedure: attached

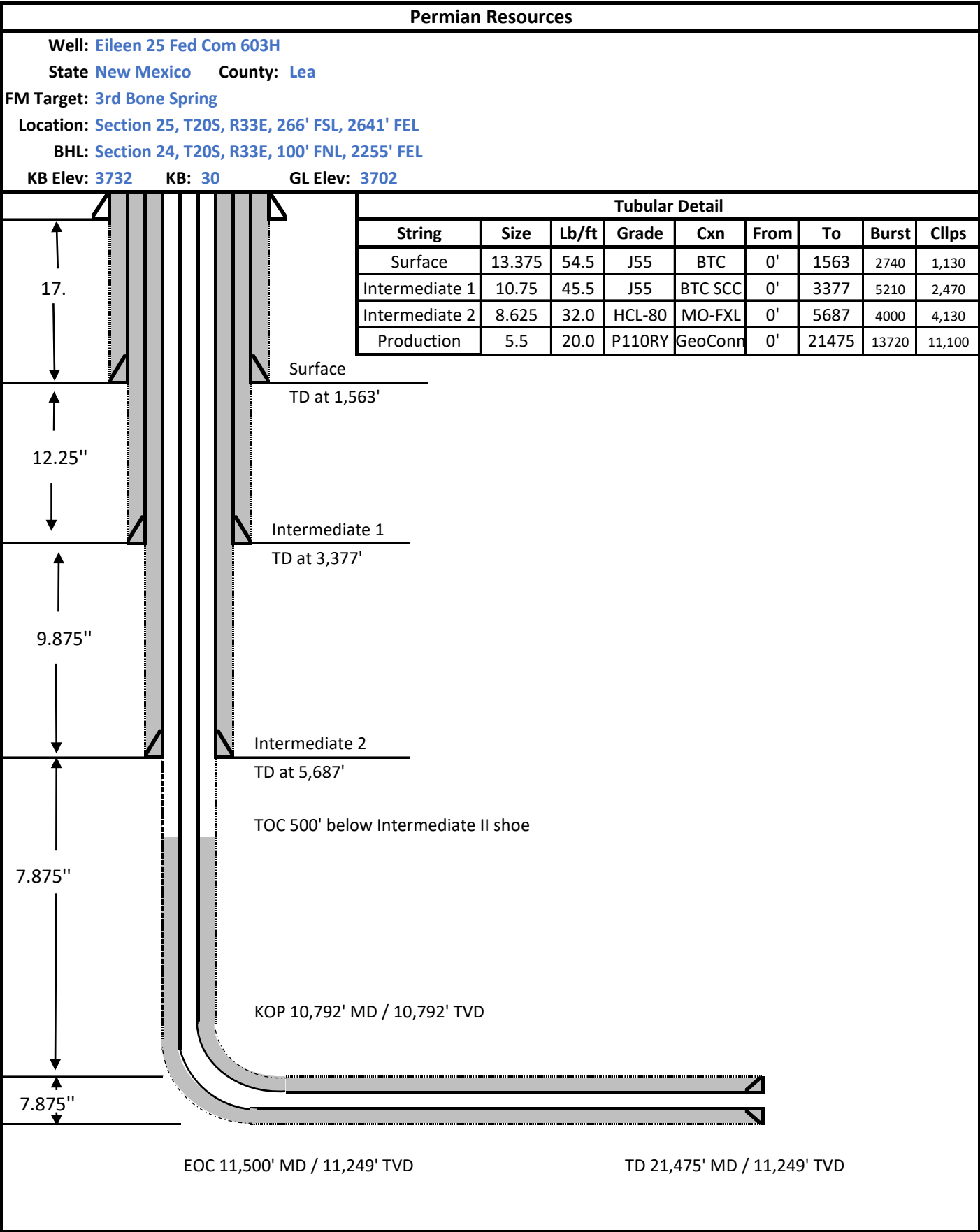
WBD: attached

Flex Hose Specs: attached

Offline Cementing Procedure: attached

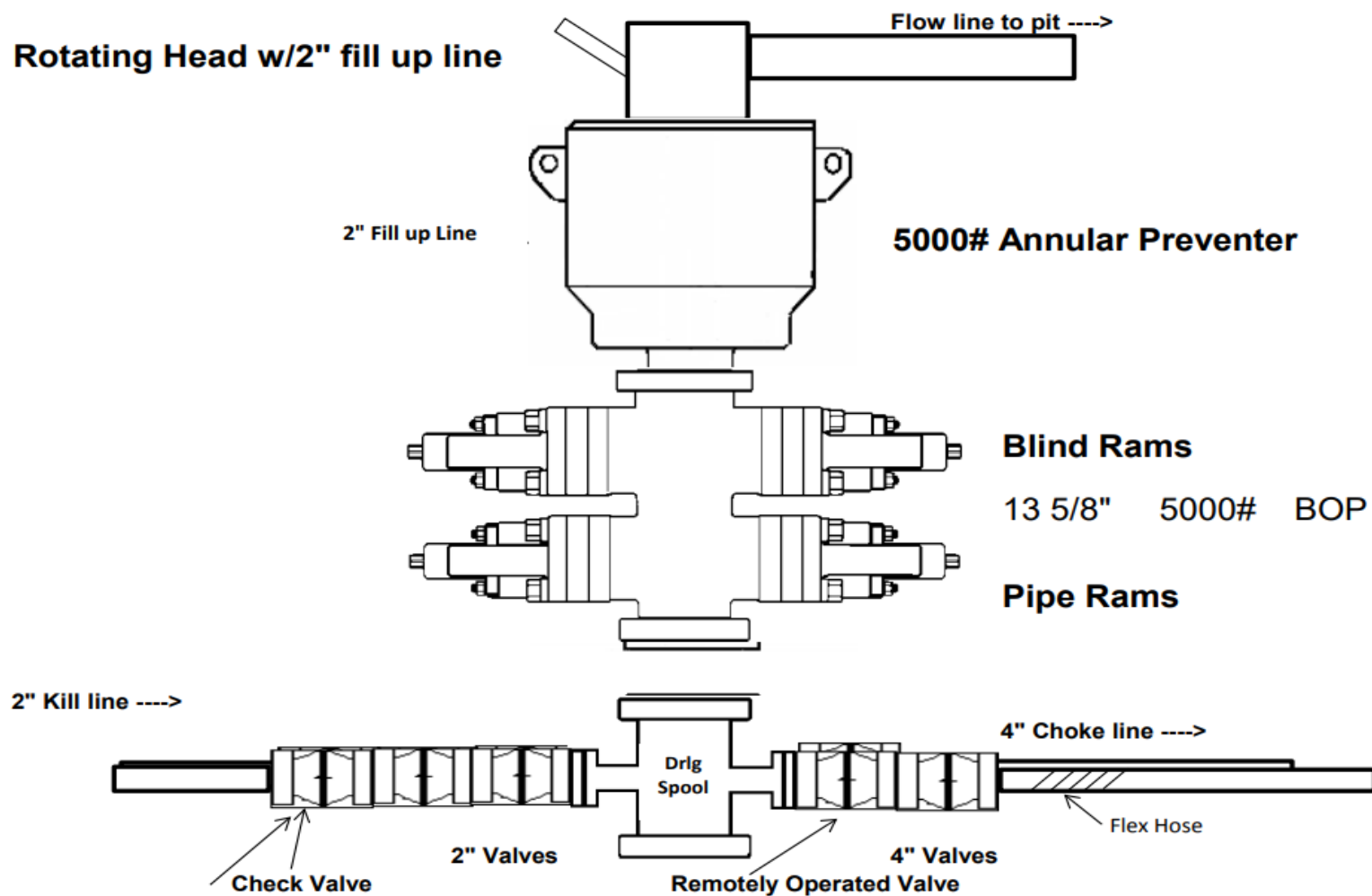
Break Testing Procedure: attached





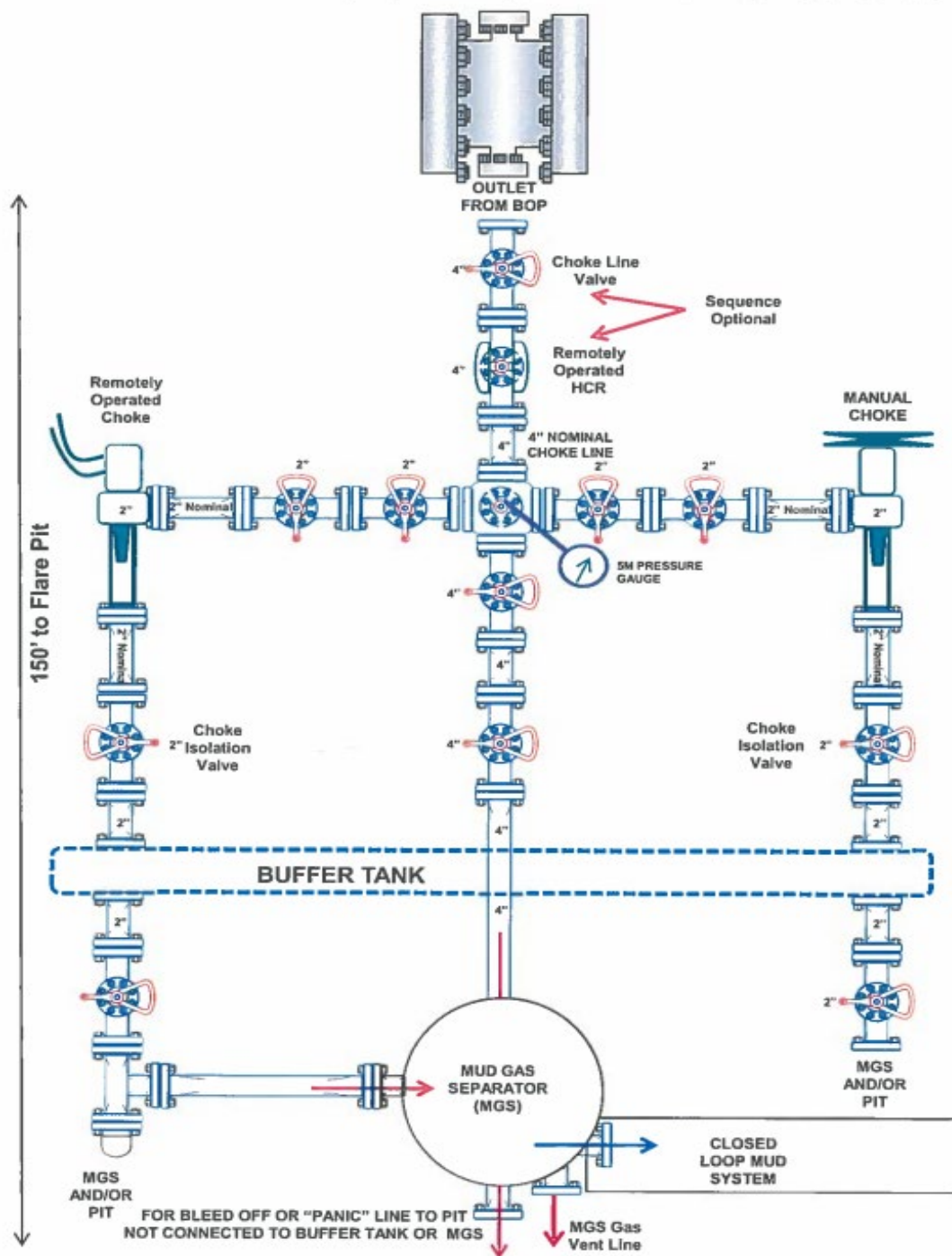


## 5,000 psi BOP Schematic





## 5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)








ContiTech

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014 Page: 9 / 113
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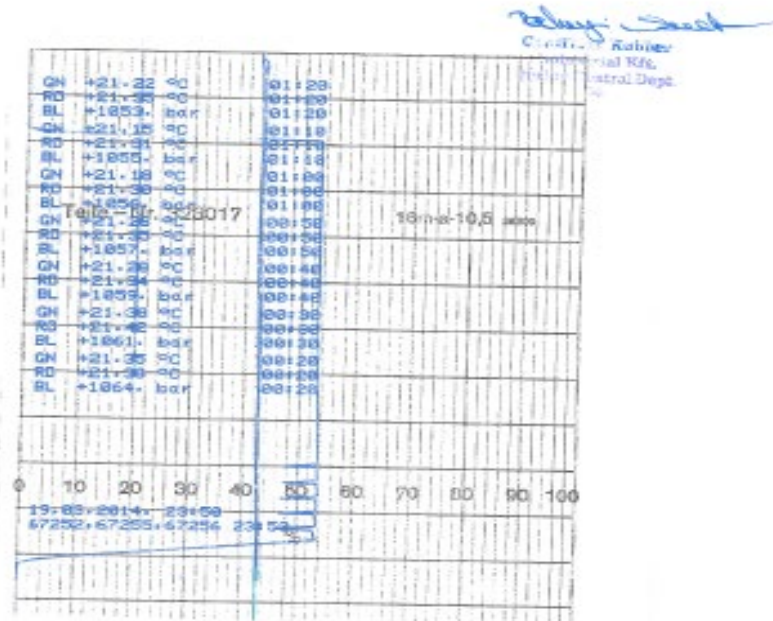
<b>QUALITY CONTROL INSPECTION AND TEST CERTIFICATE</b>				CERT. N°: 504	
PURCHASER: ContiTech Oil & Marine Corp.				P.O. N°: 4500409659	
CONTITECH RUBBER order N°: 538236		HOSE TYPE: 3" ID		Choke and Kill Hose	
HOSE SERIAL N°: 67255		NOMINAL / ACTUAL LENGTH: 10,67 m / 10,77 m			
W.P. 68,9 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min	
Pressure test with water at ambient temperature					
See attachment. ( 1 page )					
↑ 10 mm = 10 Min. → 10 mm = 20 MPa					
COUPLINGS Type		Serial N°		Quality	
3" coupling with		9251 9254		AISI 4130	
4 1/16" 10K API b.w. Flange end				AISI 4130	
				A0579N	
				035608	
<b>Not Designed For Well Testing</b>				<b>API Spec 16 C</b>	
				<b>Temperature rate:"B"</b>	
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date:		Inspector		Quality Control	
20. March 2014.				ContiTech Rubber Industrial Kft. Quality Control Dept. 	

CentTech Rubber Industrial Kft., Budapest 110, H-8728 Szeged | H-6701 P.O.Box 152 Szeged, Hungary  
Phone: +36 82 988 737 | Fax: +36 82 568 738 | e-mail: info@bud.centtech.hu | Internet: www.centtech-rubber.hu; www.centtech.hu  
The Court of Company Law of the Registry Court | Registry Court No: Cg.35-08-000503 | EU VAT No: HU18877208  
Bank data: Commercial Bank Zrt., Budapest | 10230108-26030003



ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No: 501, 504, 505

Page: 1 / 1







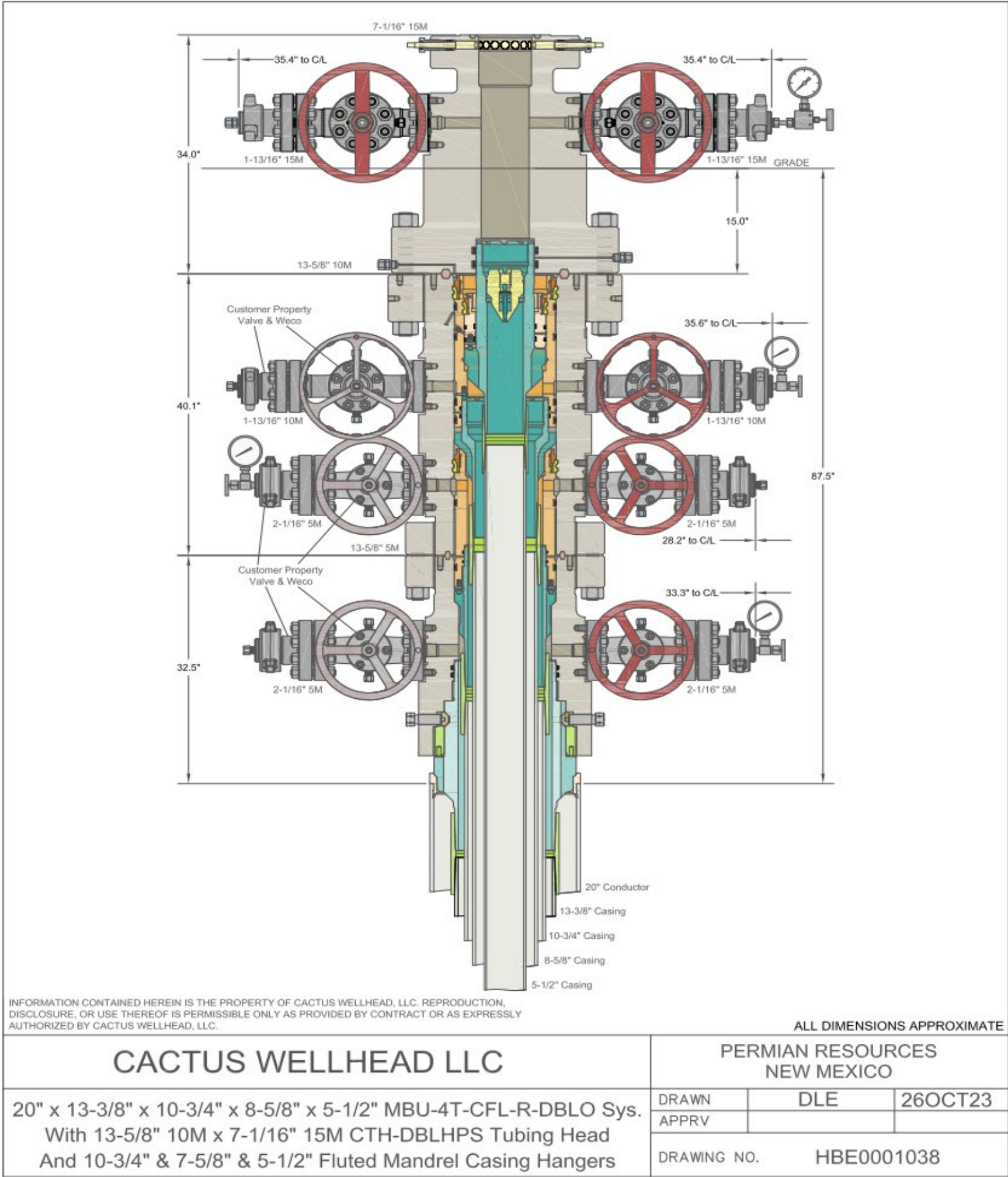
CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014
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	ContiTech

## Hose Data Sheet

CRI Order No.	538236
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500409659
Item No.	1
Hose Type	Flexible Hose
<b>Standard</b>	<b>API SPEC 16 C</b>
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St. steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

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## Permian Resources Casing Design Criteria

A sundry will be requested if any lesser grade or different size casing is substituted. All casing will be centralized as specified in On Shore Order II. Casing will be tested as specified in On Shore Order II.

### Casing Design Assumptions:

#### Surface

- 1) Burst Design Loads
  - a) Displacement to Gas
    - (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
  - b) Lost Returns with Mud Drop
    - (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

#### Intermediate I

- 1) Burst Design Loads
  - a) Displacement to Gas
    - (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.



- (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
  - b) Lost Returns with Mud Drop
    - (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    - 1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    - 1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

#### Intermediate or Intermediate II

- 1) Burst Design Loads
  - a) Gas Kick Profile
    - (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCDC regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
  - b) Lost Returns with Mud Drop
    - (1) Internal: Lost circulation at the deepest TVD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    - 1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    - 1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

#### Production

- 1) Burst Design Loads
  - a) Injection Down Casing
    - (1) Internal: Surface pressure plus injection fluid gradient.
    - (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test (Drilling)
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCDC regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - c) Casing Pressure Test (Production)
    - (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.



- having the greatest pressure.
- (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
- d) Tubing Leak
  - (1) Internal: SITP plus a packer fluid gradient to the top of packer.
  - (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
  - b) Full Evacuation
    - (1) Internal: Full void pipe.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    - 1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    - 1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

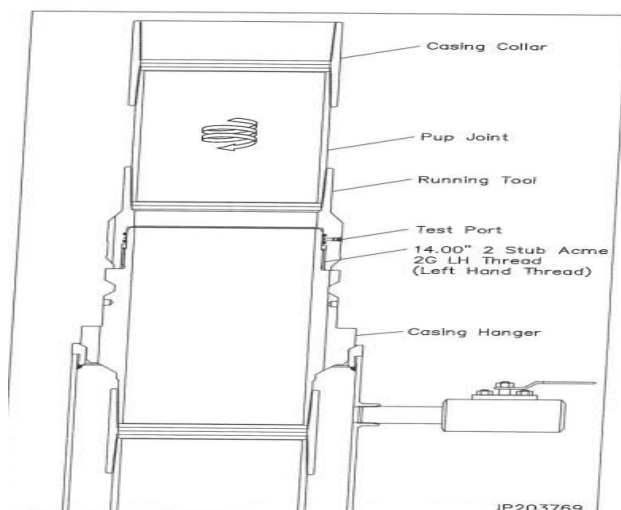


## Permian Resources

### Multi-Well Pad Batch Drilling & Off Line Cement Procedure

Surface Casing - PR intends to Batch set and offline cement all surface casing to a depth approved in the APD. Surface Holes will be batch drilled by a big rig. Appropriate notifications will be made prior to spudding the well, running, and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill Surface hole to Approved Depth with Surface Preset Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run casing with Cactus Multibowl system, with baseplate supported by Conductor.
3. Circulate 1.5 csg capacity.
4. Flow test – Confirm well is static.
5. Install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
  - a) Test Surface casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.



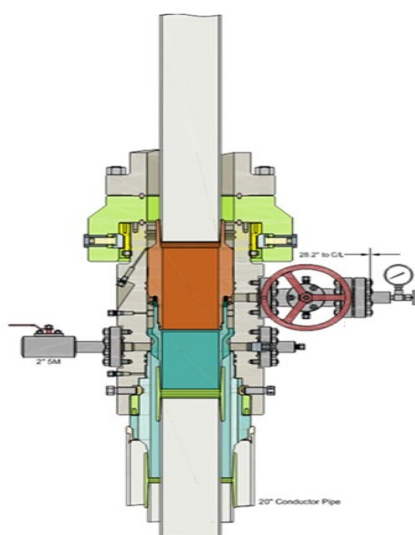


Intermediate 1 Casing – PR intends to Batch set all intermediate 1 casing strings to a depth approved in the APD, typically set into end of salts. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

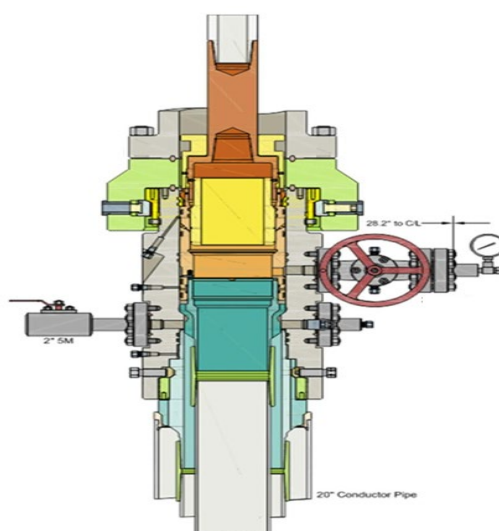
Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 1 as per requested break testing variance).

Install wear bushing then drill out 20" shoe-track.

1. Drill Intermediate 1 hole to approved casing point. Trip out of hole with BHA to run Casing.
2. Remove wear bushing then run and land Intermediate 1 casing with mandrel hanger in wellhead.
3. Flow test – Confirm well is static.
4. Set Annular packoff and pressure test. Test to 5k.
5. Install BPV, Nipple down BOP and install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
  - a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.

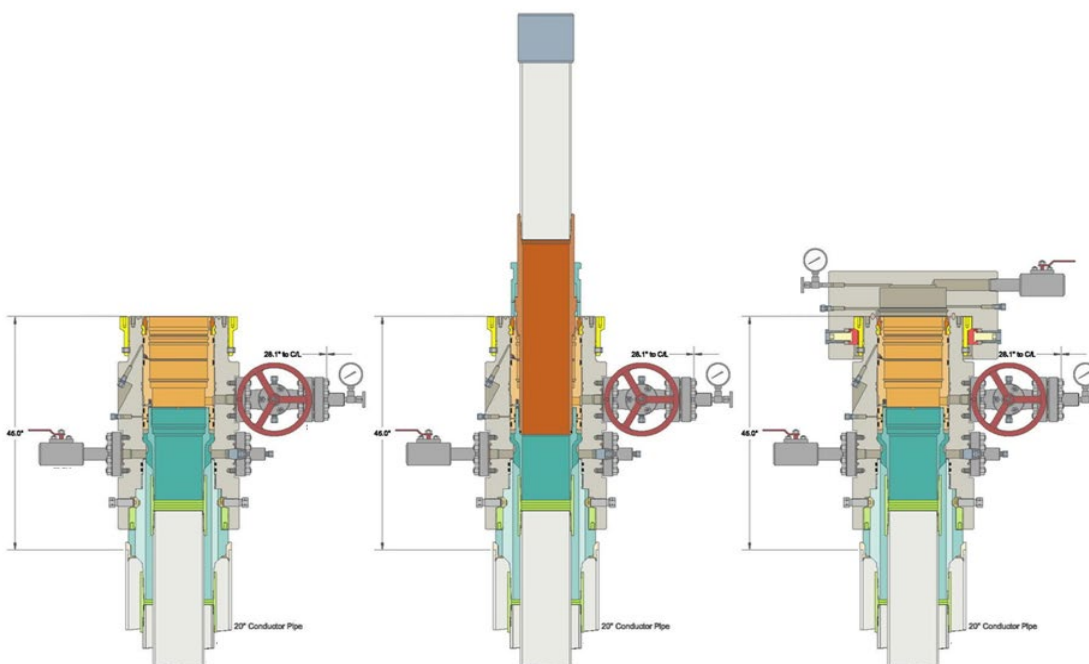


Run Intermediate Casing  
Land Intermediate Casing on Mandrel Hanger  
Cement Intermediate Casing  
Retrieve Running Tool



Run Packoff  
Test Upper and Lower Seals  
Engage Lockring  
Retrieve Running Tool





Intermediate 2 Casing – PR intends to Batch set all Intermediate 2 casing strings to a depth approved in the APD, typically set into Captain past losses. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 2 as per requested break testing variance).
2. Install wear bushing then drill out Intermediate 1 shoe-track.
3. Drill Intermediate 2 hole to approved casing point. Trip out of hole with BHA to run Casing.
4. Remove wear bushing then run and land Intermediate 2 casing with mandrel hanger in wellhead.
5. Flow test – Confirm well is static.
6. Set Annular packoff and pressure test. Test to 5k.
7. Install BPV, Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Perform green cement casing test.
  - a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
16. Rig down cementers and equipment
17. Install night cap with pressure gauge to monitor.



Production Casing – PR intends to Batch set all Production casings. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run Production Casing.
6. Remove wear bushing then run Production casing to TD landing casing mandrel in wellhead.
7. Cement Production string to surface with floats holding.



## **Permian Resources**

### **BOP Break Testing Variance Procedure**

**Subject:** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE). Permian Resources requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

#### **Background**

Title 43 CFR 3172, Drilling Operations, Sections 6.b.9.iv states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. 43 CFR 3172.13, Variances from minimum standards states, "An operator may request the authorized officer to approve a variance from any of the minimum standards prescribed in [§§ 3172.6](#) through [3172.12](#). All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, if appropriate, may approve the requested variance(s) if it is determined that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s)". Permian Resources feels the break testing the BOPE is such a situation. Therefore, as per 43 CFR 3172.13, Permian Resources submits this request for the variance.

#### **Supporting Documentation**

The language used in 43 CFR 3172 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time, there have been significant changes in drilling technology. The BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR 3172 was originally released. The Permian Resources drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack





Figure 2: BOP Winch System



American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. 43 CFR 3172 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, 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." See Table C.4 below for reference.

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API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure <sup>a,c</sup> psig (MPa)	Pressure Test—High Pressure <sup>a,c</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</sup>	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers <sup>a,c</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

<sup>a</sup> Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

<sup>b</sup> Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

<sup>c</sup> For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

<sup>d</sup> For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

<sup>e</sup> Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.



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

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

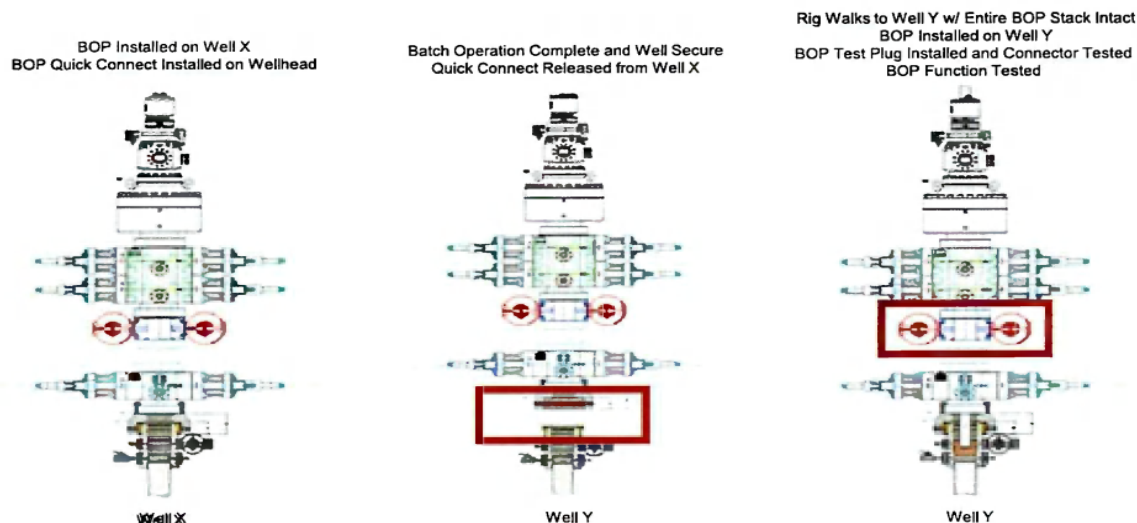
Permian Resources feels break testing and our current procedures meet the intent of 43 CFR 3172 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. Permian Resources internal standards require complete BOPE tests more often than that of 43 CFR 3172 (every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, Permian Resources performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of 43 CFR 3172.

### **Procedures**

- 1) Permian Resources will use this document for our break testing plan for New Mexico Delaware Basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
- 2) Permian Resources will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a) A full BOP test will be conducted on the first well on the pad.
  - b) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same formation depth or shallower.
  - c) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d) A full BOP test will be required prior to drilling any production hole.
- 3) After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a) Between the HCV valve and choke line connection
  - b) Between the BOP quick connect and the wellhead
- 4) The BOP is then lifted and removed from the wellhead by a hydraulic system.
- 5) After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
- 6) The connections mentioned in 3a and 3b will then be reconnected.
- 7) Install test plug into the wellhead using test joint or drill pipe.
- 8) A shell test is performed against the upper pipe rams testing the two breaks.
- 9) The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
- 10) Function tests will be performed on the following components: lower pipe rams, blind rams, and annular.
- 11) For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
- 12) A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.



**Note: Picture below highlights BOP components that will be tested during batch operations**



### Summary

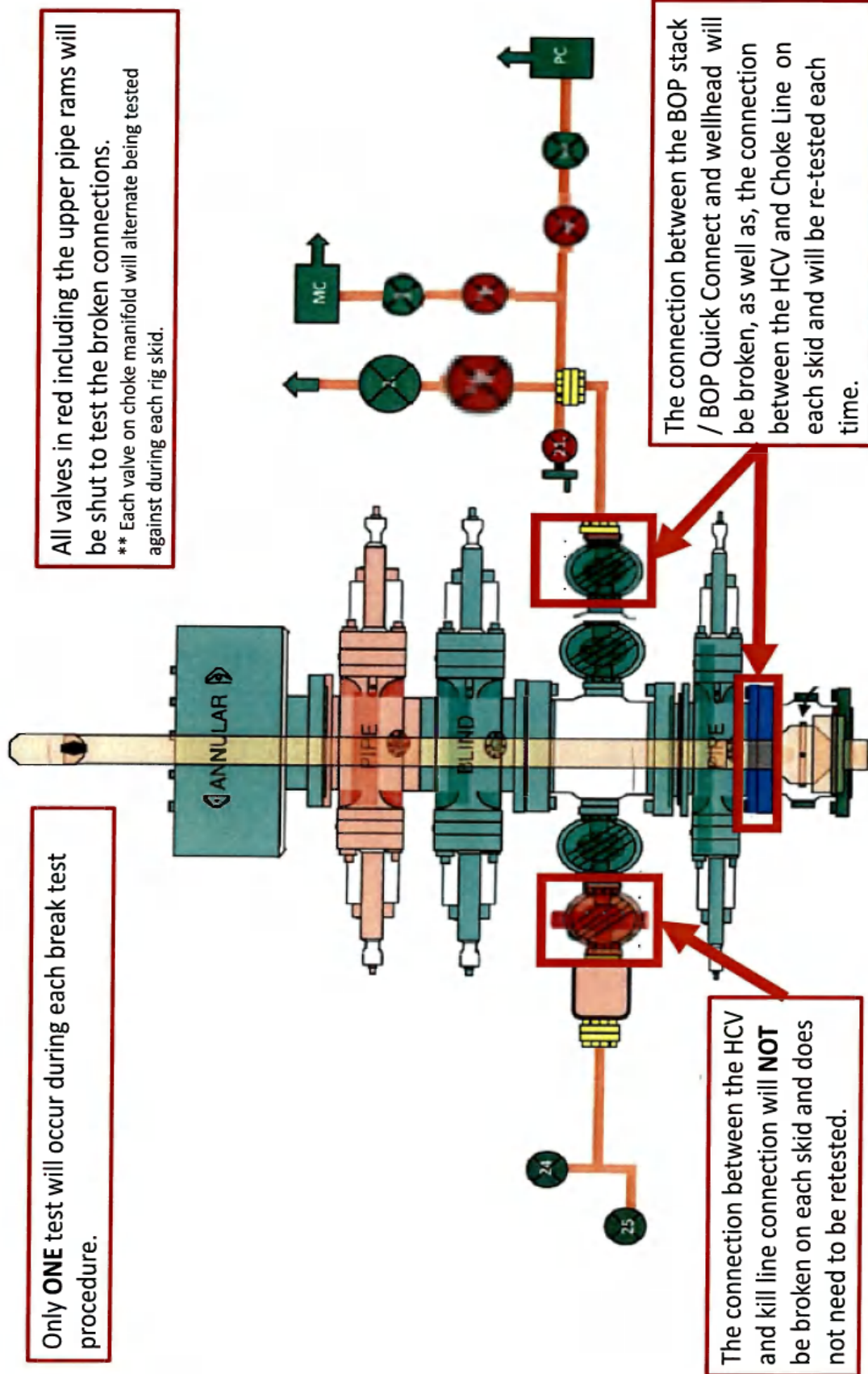
A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operations, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

- 1) After a full BOP test is conducted on the first well on the pad.
- 2) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same depth or shallower.
- 3) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
- 4) A full BOP test will be required prior to drilling the production hole.







SOP-12-F05  
Performance Data Sheet



**API 5CT Casing Performance Data Sheet**  
**10.750" 45.50 lb/ft J55**

Manufactured to specifications of API 5CT 10th edition and bears the API monogram.

Grade	J55
-------	-----

Sizes and Weights

OD	10.750 in
Nominal Wall Thickness	0.400 in
Nominal Weight, T&C	45.50 lb/ft
Nominal Weight, PE	44.26 lb/ft
Nominal ID	9.950 in
Standard Drift	9.794 in
Alternate Drift	9.875 in

Pipe Body Mechanical Properties

Minimum Yield Strength	55,000 psi
Maximum Yield Strength	80,000 psi
Minimum Tensile Strength	75,000 psi
Maximum Hardness	N/A

Minimum Performance

Collapse Pressure	2,470 psi
Minimal Internal Pressure Yield	5,210 psi
Pipe body Tension Yield	1,040,000 lbs
Joint Strength STC	692,000 lbs
Joint Strength LTC	N/A
Joint Strength BTC	1,063,000 lbs
Internal Pressure Leak Resistance STC/LTC Connections	6,880 lbs
Internal Pressure Leak Resistance BTC Connections	7,450 lbs

Special Clearance Coupling

OD	N/A
Minimum Length (NL)	10.625"
Diameter at Counterbore	13.515"
Width of Bearing Face	0.375"

Inspection and Testing

Visual	OD Longitudinal and independent 3rd party SEA
NDT	Weldline UT after hydrotest. Calibration notch sensitivity (% of specified wall thickness): 12.5%

Color code

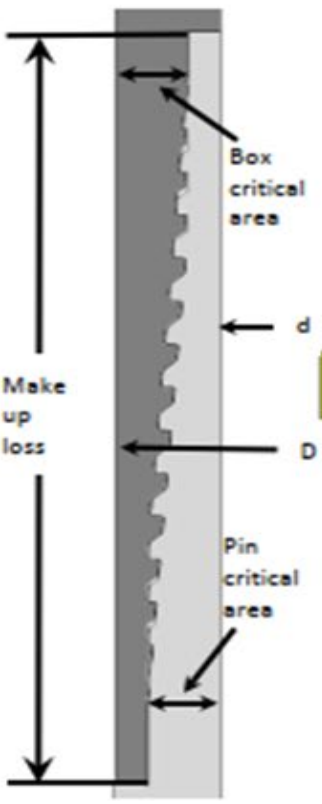
Pipe ends	One green band
Couplings	Green with one white band (alternate coupling: K55 - green)



<b>Metal One Corp.</b>  <b>Metal One</b>	<b>MO-FXL</b> <b>*1 Pipe Body: BMP P110HSCY MinYS125ksi Min95%WT</b> <b>Connection Data Sheet</b>	CDS#  Date	MO-FXL 8-5/8 32.0 P110HSCY MinYS125ksi Min95%WT 8-Sep-21
--	---	------------------	--

**MO-FXL**



Geometry	Imperial		S.I.	
<b>Pipe Body</b>				
Grade *1	P110HSCY		P110HSCY	
MinYS *1	125	ksi	125	ksi
Pipe OD ( D )	8 5/8	in	219.08	mm
Weight	32.00	lb/ft	47.68	kg/m
Actual weight	31.10		46.34	kg/m
Wall Thickness ( t )	0.352	in	8.94	mm
Pipe ID ( d )	7.921	in	201.19	mm
Pipe body cross section	9.149	in <sup>2</sup>	5,902	mm <sup>2</sup>
Drift Dia.	7.796	in	198.02	mm
-	-	-	-	-

<b>Connection</b>				
Box OD ( W )	8.625	in	219.08	mm
PIN ID	7.921	in	201.19	mm
Make up Loss	3.847	in	97.71	mm
Box Critical Area	5.853	in <sup>2</sup>	3686	mm <sup>2</sup>
Joint load efficiency	69	%	69	%
Thread Taper	1 / 10 ( 1.2" per ft )			
Number of Threads	5 TPI			


  

<b>Performance</b>				
<b>Performance Properties for Pipe Body</b>				
S.M.Y.S. *1	1,144	kips	5,087	kN
M.I.Y.P. *1	9,690	psi	66.83	MPa
Collapse Strength *1	4,300	psi	29.66	MPa
Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body *1: BMP P110HSCY: MinYS125ksi, Min95%WT, Collapse Strength 4,300psi				
<b>Performance Properties for Connection</b>				
Tensile Yield load	789 kips ( 69% of S.M.Y.S. )			
Min. Compression Yield	789 kips ( 69% of S.M.Y.S. )			
Internal Pressure	6,780 psi ( 70% of M.I.Y.P. )			
External Pressure	100% of Collapse Strength			
Max. DLS ( deg. /100ft)	29			

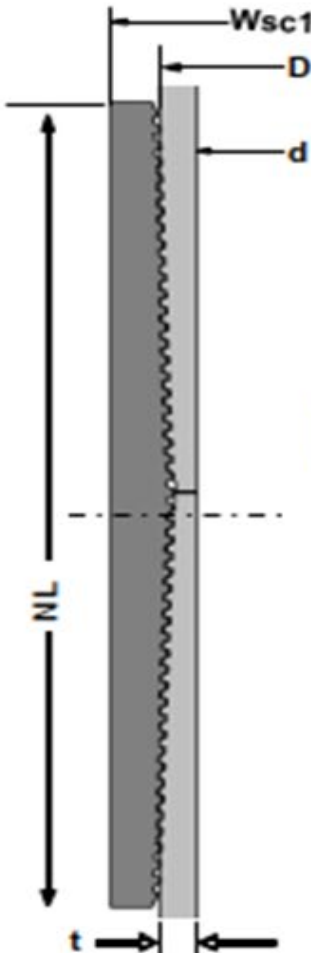
<b>Recommended Torque</b>				
Min.	13,600	ft-lb	18,400	N-m
Opti.	14,900	ft-lb	20,200	N-m
Max.	16,200	ft-lb	21,900	N-m
Operational Max.	28,400	ft-lb	38,500	N-m
Note : Operational Max. torque can be applied for high torque application				



<b>Metal One Corp.</b>  	<b>GEOCONN-SC</b> Pipe Body: SeAH P110RY(SMYS110ksi) & 95%RBW *1 Coupling: P110CY (SMYS110ksi) <b>Connection Data Sheet</b>		Page	MAI GC 5.5 20 SeAH PRY 95%RW
			Date	29-Sep-21
			Rev.	0

**GEOCONN-SC**



Geometry		Imperial		S.I.	
<b>Pipe Body</b>					
Grade *1	SeAH P110RY	-	SeAH P110RY		
SMYS	110	ksi	110	ksi	
Pipe OD ( D )	5.500	in	139.70	mm	
Weight	20.00	lb/ft	29.80	kg/m	
Wall Thickness ( t )	0.361	in	9.17	mm	
Pipe ID ( d )	4.778	in	121.36	mm	
Drift Dia.	4.653	in	118.19	mm	
<b>Connection</b>					
Coupling SMYS	110	ksi	110	ksi	
Coupling OD ( Wsc1 )	6.050	in	153.67	mm	
Coupling Length ( NL )	8.350	in	212.09	mm	
Make up Loss	4.125	in	104.78	mm	
Pipe Critical Area	5.83	in <sup>2</sup>	3,760	mm <sup>2</sup>	
Box Critical Area	6.00	in <sup>2</sup>	3,874	mm <sup>2</sup>	
Thread Taper	1 / 16 ( 3/4" per ft )				
Number of Threads	5 TPI				

Performance		Imperial		S.I.	
<b>Performance Properties for Pipe Body</b>					
S.M.Y.S.	641	kips	2,852	kN	
M.I.Y.P. *1	13,720	psi	94.62	MPa	
Collapse Strength	11,100	psi	76.55	MPa	
Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body *1 Pipe: SeAH P110RY (SMYS110ksi), Min Wall Thickness of Pipe Body: 95% of Nom wall					
<b>Performance Properties for Connection</b>					
Min. Connection Joint Strength	100% of S.M.Y.S.				
Min. Compression Yield	100% of S.M.Y.S.				
Internal Pressure	100% of M.I.Y.P.				
External Pressure	100% of Collapse Strength				
Max. DLS ( deg. /100ft)	>90				
<b>Recommended Torque</b>					
Min.	14,600	ft-lb	19,700	N-m	
Opti.	16,200	ft-lb	21,900	N-m	
Max.	17,800	ft-lb	24,100	N-m	
Operational Max.	19,500	ft-lb	26,400	N-m	
Note : Operational Max. torque can be applied for high torque application					

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The use of this information is at the reader/user's risk and no warranty is implied or expressed by Metal One Corporation or its parents, subsidiaries or affiliates (herein collectively referred to as "Metal One") with respect to the use of information contained herein. The information provided on this Connection Data Sheet is for informational purposes only, and was prepared by reference to engineering information that is specific to the subject products, without regard to safety-related factors, all of which are the sole responsibility of the operators and users of the subject connectors. Metal One assumes no responsibility for any errors with respect to this information.

Statements regarding the suitability of products for certain types of applications are based on Metal One's knowledge of typical requirements that are often placed on Metal One products in standard well configurations. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to [http://www.mto.co.jp/mto-con/ images/top/WebsiteTerms\\_Active\\_20333287\\_1.pdf](http://www.mto.co.jp/mto-con/ images/top/WebsiteTerms_Active_20333287_1.pdf) the contents of which are incorporated by reference into this Connection Data Sheet.



**EOG RESOURCES, INC.**  
**Eileen 25 Fed Com #603H**

## **Hydrogen Sulfide Plan Summary**

- A. All personnel shall receive proper H2S training in accordance with Onshore Order III.C.3.a.
- B. Briefing Area: two perpendicular areas will be designated by signs and readily accessible.
- C. Required Emergency Equipment:
  - Well control equipment
    - a. Flare line 150' from wellhead to be ignited by flare gun.
    - b. Choke manifold with a remotely operated choke.
    - c. Mud/gas separator
  - Protective equipment for essential personnel.

**Breathing apparatus:**

- a. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
- b. Work/Escapes packs — 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
- c. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.

**Auxiliary Rescue Equipment:**

- a. Stretcher
- b. Two OSHA full body harness
- c. 100 ft 5/8 inch OSHA approved rope
- d. 1-20# class ABC fire extinguisher

- H2S detection and monitoring equipment:

The stationary detector with three sensors will be placed in the upper dog house if equipped, set to visually alarm @ 10 ppm and audible @ 14 ppm. Calibrate a minimum of every 30 days or as needed. The sensors will be placed in the following places: Rig floor / Bell nipple / End of flow line or where well bore fluid is being discharged.

(Gas sample tubes will be stored in the safety trailer)

- Visual warning systems.

- a. One color code condition sign will be placed at the entrance to the site reflecting the possible conditions at the site.
- b. A colored condition flag will be on display, reflecting the current condition at the site at the time.
- c. Two wind socks will be placed in strategic locations, visible from all angles.

- Mud program:



**EOG RESOURCES, INC.**  
**Eileen 25 Fed Com #603H**

The mud program has been designed to minimize the volume of H<sub>2</sub>S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H<sub>2</sub>S bearing zones.

- Metallurgy:  
All drill strings, casings, tubing, wellhead, blowout preventer, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H<sub>2</sub>S service.
- Communication:  
Communication will be via cell phones and land lines where available.



**EOG RESOURCES, INC.**  
**Eileen 25 Fed Com #603H**

**Emergency Assistance Telephone List**

**PUBLIC SAFETY:** **911 or**

Lea County Sheriff's Department	(575) 396-3611
Rod Coffman	
Fire Department:	
Carlsbad	(575) 885-3125
Artesia	(575) 746-5050
Hospitals:	
Carlsbad	(575) 887-4121
Artesia	(575) 748-3333
Hobbs	(575) 392-1979
Dept. of Public Safety/Carlsbad	(575) 748-9718
Highway Department	(575) 885-3281
New Mexico Oil Conservation	(575) 476-3440
U.S. Dept. of Labor	(575) 887-1174

**EOG Resources, Inc.**

EOG / Midland	Office (432) 686-3600
---------------	-----------------------

**Company Drilling Consultants:**

Jett Dueitt	Cell (432) 230-4840
Blake Burney	

**Drilling Engineer**

Steve Munsell	Office (432) 686-3609
	Cell (432) 894-1256

**Drilling Manager**

Aj Dach	Office (432) 686-3751
	Cell (817) 480-1167

**Drilling Superintendent**

Jason Townsend	Office (432) 848-9209
	Cell (210) 776-5131

**H&P Drilling**

H&P Drilling	Office (432) 563-5757
H&P 415 Drilling Rig	Rig (432) 230-4840

**Tool Pusher:**

Johnathan Craig	Cell (817) 760-6374
Brad Garrett	

**Safety**

Brian Chandler (HSE Manager)	Office (432) 686-3695
	Cell (817) 239-0251





## Midland

Lea County, NM (NAD 83 NME)

Eileen 25 Fed Com

#603H

OH

Plan: Plan #0.1 RT

## Standard Planning Report

01 November, 2021



## EOG Resources

## Planning Report



<b>Database:</b>	PEDM	<b>Local Co-ordinate Reference:</b>	Well #603H
<b>Company:</b>	Midland	<b>TVD Reference:</b>	kb = 26' @ 3703.0usft
<b>Project:</b>	Lea County, NM (NAD 83 NME)	<b>MD Reference:</b>	kb = 26' @ 3703.0usft
<b>Site:</b>	Eileen 25 Fed Com	<b>North Reference:</b>	Grid
<b>Well:</b>	#603H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #0.1 RT		

<b>Project</b>	Lea County, NM (NAD 83 NME)		
<b>Map System:</b>	US State Plane 1983	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	North American Datum 1983		
<b>Map Zone:</b>	New Mexico Eastern Zone		

Site	Eileen 25 Fed Com				
Site Position:		Northing:	560,151.00 usft	Latitude:	32° 32' 16.456 N
From:	Map	Easting:	760,357.00 usft	Longitude:	103° 37' 21.428 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "		

Well	#603H					
Well Position	+N/-S	0.0 usft	Northing:	560,047.00 usft	Latitude:	32° 32' 15.307 N
	+E/-W	0.0 usft	Easting:	762,166.00 usft	Longitude:	103° 37' 0.305 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,677.0 usft
Grid Convergence:		0.39 °				

<b>Wellbore</b>	OH				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	11/1/2021	6.55	60.17	47,633.52028113

<b>Design</b>	Plan #0.1 RT				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	357.41	

<b>Plan Survey Tool Program</b>	<b>Date</b>	11/1/2021			
<b>Depth From (usft)</b>	<b>Depth To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Remarks</b>	
1	0.0	21,475.4	Plan #0.1 RT (OH)	EOG MWD+IFR1	
			MWD + IFR1		





EOG Resources  
Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Well #603H
Company:	Midland	TVD Reference:	kb = 26' @ 3703.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3703.0usft
Site:	Eileen 25 Fed Com	North Reference:	Grid
Well:	#603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1 RT		

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	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,061.5	5.23	240.92	2,061.2	-5.8	-10.4	2.00	2.00	0.00	240.92	
6,719.6	5.23	240.92	6,699.8	-212.2	-381.6	0.00	0.00	0.00	0.00	
6,981.1	0.00	0.00	6,961.0	-218.0	-392.0	2.00	-2.00	0.00	180.00	
10,791.6	0.00	0.00	10,771.5	-218.0	-392.0	0.00	0.00	0.00	0.00	KOP(Eileen 25 Fed C
11,012.1	26.46	0.00	10,984.2	-168.0	-392.0	12.00	12.00	0.00	0.00	FTP(Eileen 25 Fed C
11,541.6	90.00	359.61	11,248.9	259.5	-394.0	12.00	12.00	-0.07	-0.43	
18,926.3	90.00	359.61	11,249.0	7,644.0	-444.0	0.00	0.00	0.00	0.00	Fed Perf 1(Eileen 25 I
21,475.4	90.00	359.62	11,249.0	10,193.0	-461.0	0.00	0.00	0.00	85.80	PBHL(Eileen 25 Fed t



## EOG Resources

## Planning Report



Database:	PEDM	Local Co-ordinate Reference:	Well #603H
Company:	Midland	TVD Reference:	kb = 26' @ 3703.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3703.0usft
Site:	Eileen 25 Fed Com	North Reference:	Grid
Well:	#603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1 RT		

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
100.0	0.00	0.00	100.0	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
300.0	0.00	0.00	300.0	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
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	2.00	240.92	1,900.0	-0.8	-1.5	-0.8	2.00	2.00	0.00
2,000.0	4.00	240.92	1,999.8	-3.4	-6.1	-3.1	2.00	2.00	0.00
2,061.5	5.23	240.92	2,061.2	-5.8	-10.4	-5.3	2.00	2.00	0.00
2,100.0	5.23	240.92	2,099.5	-7.5	-13.5	-6.9	0.00	0.00	0.00
2,200.0	5.23	240.92	2,199.1	-11.9	-21.5	-11.0	0.00	0.00	0.00
2,300.0	5.23	240.92	2,298.6	-16.4	-29.4	-15.0	0.00	0.00	0.00
2,400.0	5.23	240.92	2,398.2	-20.8	-37.4	-19.1	0.00	0.00	0.00
2,500.0	5.23	240.92	2,497.8	-25.2	-45.4	-23.2	0.00	0.00	0.00
2,600.0	5.23	240.92	2,597.4	-29.7	-53.3	-27.2	0.00	0.00	0.00
2,700.0	5.23	240.92	2,697.0	-34.1	-61.3	-31.3	0.00	0.00	0.00
2,800.0	5.23	240.92	2,796.6	-38.5	-69.3	-35.4	0.00	0.00	0.00
2,900.0	5.23	240.92	2,896.1	-43.0	-77.2	-39.4	0.00	0.00	0.00
3,000.0	5.23	240.92	2,995.7	-47.4	-85.2	-43.5	0.00	0.00	0.00
3,100.0	5.23	240.92	3,095.3	-51.8	-93.2	-47.6	0.00	0.00	0.00
3,200.0	5.23	240.92	3,194.9	-56.2	-101.1	-51.6	0.00	0.00	0.00
3,300.0	5.23	240.92	3,294.5	-60.7	-109.1	-55.7	0.00	0.00	0.00
3,400.0	5.23	240.92	3,394.1	-65.1	-117.1	-59.8	0.00	0.00	0.00
3,500.0	5.23	240.92	3,493.6	-69.5	-125.0	-63.8	0.00	0.00	0.00
3,600.0	5.23	240.92	3,593.2	-74.0	-133.0	-67.9	0.00	0.00	0.00
3,700.0	5.23	240.92	3,692.8	-78.4	-141.0	-72.0	0.00	0.00	0.00
3,800.0	5.23	240.92	3,792.4	-82.8	-148.9	-76.0	0.00	0.00	0.00
3,900.0	5.23	240.92	3,892.0	-87.3	-156.9	-80.1	0.00	0.00	0.00
4,000.0	5.23	240.92	3,991.6	-91.7	-164.9	-84.2	0.00	0.00	0.00
4,100.0	5.23	240.92	4,091.1	-96.1	-172.8	-88.2	0.00	0.00	0.00
4,200.0	5.23	240.92	4,190.7	-100.6	-180.8	-92.3	0.00	0.00	0.00
4,300.0	5.23	240.92	4,290.3	-105.0	-188.8	-96.4	0.00	0.00	0.00
4,400.0	5.23	240.92	4,389.9	-109.4	-196.8	-100.4	0.00	0.00	0.00
4,500.0	5.23	240.92	4,489.5	-113.8	-204.7	-104.5	0.00	0.00	0.00
4,600.0	5.23	240.92	4,589.1	-118.3	-212.7	-108.6	0.00	0.00	0.00
4,700.0	5.23	240.92	4,688.6	-122.7	-220.7	-112.6	0.00	0.00	0.00
4,800.0	5.23	240.92	4,788.2	-127.1	-228.6	-116.7	0.00	0.00	0.00
4,900.0	5.23	240.92	4,887.8	-131.6	-236.6	-120.7	0.00	0.00	0.00
5,000.0	5.23	240.92	4,987.4	-136.0	-244.6	-124.8	0.00	0.00	0.00
5,100.0	5.23	240.92	5,087.0	-140.4	-252.5	-128.9	0.00	0.00	0.00
5,200.0	5.23	240.92	5,186.6	-144.9	-260.5	-132.9	0.00	0.00	0.00



## EOG Resources

## Planning Report



Database:	PEDM	Local Co-ordinate Reference:	Well #603H
Company:	Midland	TVD Reference:	kb = 26' @ 3703.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3703.0usft
Site:	Eileen 25 Fed Com	North Reference:	Grid
Well:	#603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1 RT		

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	5.23	240.92	5,286.1	-149.3	-268.5	-137.0	0.00	0.00	0.00
5,400.0	5.23	240.92	5,385.7	-153.7	-276.4	-141.1	0.00	0.00	0.00
5,500.0	5.23	240.92	5,485.3	-158.2	-284.4	-145.1	0.00	0.00	0.00
5,600.0	5.23	240.92	5,584.9	-162.6	-292.4	-149.2	0.00	0.00	0.00
5,700.0	5.23	240.92	5,684.5	-167.0	-300.3	-153.3	0.00	0.00	0.00
5,800.0	5.23	240.92	5,784.1	-171.5	-308.3	-157.3	0.00	0.00	0.00
5,900.0	5.23	240.92	5,883.7	-175.9	-316.3	-161.4	0.00	0.00	0.00
6,000.0	5.23	240.92	5,983.2	-180.3	-324.2	-165.5	0.00	0.00	0.00
6,100.0	5.23	240.92	6,082.8	-184.7	-332.2	-169.5	0.00	0.00	0.00
6,200.0	5.23	240.92	6,182.4	-189.2	-340.2	-173.6	0.00	0.00	0.00
6,300.0	5.23	240.92	6,282.0	-193.6	-348.1	-177.7	0.00	0.00	0.00
6,400.0	5.23	240.92	6,381.6	-198.0	-356.1	-181.7	0.00	0.00	0.00
6,500.0	5.23	240.92	6,481.2	-202.5	-364.1	-185.8	0.00	0.00	0.00
6,600.0	5.23	240.92	6,580.7	-206.9	-372.0	-189.9	0.00	0.00	0.00
6,700.0	5.23	240.92	6,680.3	-211.3	-380.0	-193.9	0.00	0.00	0.00
6,719.6	5.23	240.92	6,699.8	-212.2	-381.6	-194.7	0.00	0.00	0.00
6,800.0	3.62	240.92	6,780.0	-215.2	-387.0	-197.5	2.00	-2.00	0.00
6,900.0	1.62	240.92	6,879.9	-217.4	-391.0	-199.6	2.00	-2.00	0.00
6,981.1	0.00	0.00	6,961.0	-218.0	-392.0	-200.1	2.00	-2.00	0.00
7,000.0	0.00	0.00	6,979.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
7,100.0	0.00	0.00	7,079.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
7,200.0	0.00	0.00	7,179.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
7,300.0	0.00	0.00	7,279.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
7,400.0	0.00	0.00	7,379.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
7,500.0	0.00	0.00	7,479.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
7,600.0	0.00	0.00	7,579.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
7,700.0	0.00	0.00	7,679.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
7,800.0	0.00	0.00	7,779.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
7,900.0	0.00	0.00	7,879.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,000.0	0.00	0.00	7,979.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,100.0	0.00	0.00	8,079.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,200.0	0.00	0.00	8,179.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,300.0	0.00	0.00	8,279.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,400.0	0.00	0.00	8,379.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,500.0	0.00	0.00	8,479.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,600.0	0.00	0.00	8,579.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,700.0	0.00	0.00	8,679.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,800.0	0.00	0.00	8,779.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
8,900.0	0.00	0.00	8,879.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,000.0	0.00	0.00	8,979.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,100.0	0.00	0.00	9,079.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,200.0	0.00	0.00	9,179.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,300.0	0.00	0.00	9,279.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,400.0	0.00	0.00	9,379.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,500.0	0.00	0.00	9,479.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,600.0	0.00	0.00	9,579.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,700.0	0.00	0.00	9,679.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,800.0	0.00	0.00	9,779.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
9,900.0	0.00	0.00	9,879.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
10,000.0	0.00	0.00	9,979.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
10,100.0	0.00	0.00	10,079.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
10,200.0	0.00	0.00	10,179.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
10,300.0	0.00	0.00	10,279.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
10,400.0	0.00	0.00	10,379.9	-218.0	-392.0	-200.1	0.00	0.00	0.00



## EOG Resources

## Planning Report



Database:	PEDM	Local Co-ordinate Reference:	Well #603H
Company:	Midland	TVD Reference:	kb = 26' @ 3703.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3703.0usft
Site:	Eileen 25 Fed Com	North Reference:	Grid
Well:	#603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1 RT		

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)
10,500.0	0.00	0.00	10,479.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
10,600.0	0.00	0.00	10,579.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
10,700.0	0.00	0.00	10,679.9	-218.0	-392.0	-200.1	0.00	0.00	0.00
10,791.6	0.00	0.00	10,771.5	-218.0	-392.0	-200.1	0.00	0.00	0.00
10,800.0	1.00	0.00	10,779.9	-217.9	-392.0	-200.0	12.00	12.00	0.00
10,825.0	4.01	0.00	10,804.8	-216.8	-392.0	-198.9	12.00	12.00	0.00
10,850.0	7.01	0.00	10,829.7	-214.4	-392.0	-196.5	12.00	12.00	0.00
10,875.0	10.01	0.00	10,854.5	-210.7	-392.0	-192.8	12.00	12.00	0.00
10,900.0	13.01	0.00	10,878.9	-205.8	-392.0	-187.8	12.00	12.00	0.00
10,925.0	16.01	0.00	10,903.1	-199.5	-392.0	-181.6	12.00	12.00	0.00
10,950.0	19.01	0.00	10,927.0	-192.0	-392.0	-174.1	12.00	12.00	0.00
10,975.0	22.01	0.00	10,950.4	-183.2	-392.0	-165.3	12.00	12.00	0.00
11,000.0	25.01	0.00	10,973.3	-173.2	-392.0	-155.4	12.00	12.00	0.00
11,012.1	26.46	0.00	10,984.2	-168.0	-392.0	-150.1	12.00	12.00	0.00
11,025.0	28.01	359.98	10,995.7	-162.1	-392.0	-144.2	12.00	12.00	-0.19
11,050.0	31.01	359.93	11,017.4	-149.8	-392.0	-131.9	12.00	12.00	-0.17
11,075.0	34.01	359.90	11,038.5	-136.3	-392.0	-118.5	12.00	12.00	-0.14
11,100.0	37.01	359.87	11,058.9	-121.8	-392.1	-104.0	12.00	12.00	-0.12
11,125.0	40.01	359.84	11,078.4	-106.3	-392.1	-88.4	12.00	12.00	-0.10
11,150.0	43.01	359.82	11,097.2	-89.7	-392.1	-71.9	12.00	12.00	-0.09
11,175.0	46.01	359.80	11,115.0	-72.2	-392.2	-54.4	12.00	12.00	-0.08
11,200.0	49.01	359.78	11,131.9	-53.7	-392.3	-36.0	12.00	12.00	-0.07
11,225.0	52.01	359.76	11,147.8	-34.4	-392.4	-16.7	12.00	12.00	-0.07
11,250.0	55.01	359.75	11,162.6	-14.4	-392.4	3.4	12.00	12.00	-0.06
11,275.0	58.01	359.73	11,176.4	6.5	-392.5	24.2	12.00	12.00	-0.06
11,300.0	61.01	359.72	11,189.1	28.0	-392.6	45.7	12.00	12.00	-0.05
11,325.0	64.01	359.71	11,200.6	50.2	-392.7	67.9	12.00	12.00	-0.05
11,350.0	67.01	359.69	11,211.0	73.0	-392.9	90.6	12.00	12.00	-0.05
11,375.0	70.01	359.68	11,220.2	96.2	-393.0	113.9	12.00	12.00	-0.05
11,400.0	73.01	359.67	11,228.1	119.9	-393.1	137.6	12.00	12.00	-0.04
11,425.0	76.01	359.66	11,234.8	144.0	-393.3	161.6	12.00	12.00	-0.04
11,450.0	79.01	359.65	11,240.2	168.4	-393.4	186.0	12.00	12.00	-0.04
11,475.0	82.01	359.64	11,244.3	193.1	-393.6	210.7	12.00	12.00	-0.04
11,500.0	85.01	359.63	11,247.1	217.9	-393.7	235.5	12.00	12.00	-0.04
11,525.0	88.01	359.62	11,248.7	242.9	-393.9	260.4	12.00	12.00	-0.04
11,541.6	90.00	359.61	11,248.9	259.5	-394.0	277.0	12.00	12.00	-0.04
11,600.0	90.00	359.61	11,248.9	317.8	-394.4	335.3	0.00	0.00	0.00
11,700.0	90.00	359.61	11,248.9	417.8	-395.1	435.3	0.00	0.00	0.00
11,800.0	90.00	359.61	11,248.9	517.8	-395.8	535.2	0.00	0.00	0.00
11,900.0	90.00	359.61	11,248.9	617.8	-396.4	635.1	0.00	0.00	0.00
12,000.0	90.00	359.61	11,248.9	717.8	-397.1	735.0	0.00	0.00	0.00
12,100.0	90.00	359.61	11,248.9	817.8	-397.8	835.0	0.00	0.00	0.00
12,200.0	90.00	359.61	11,248.9	917.8	-398.5	934.9	0.00	0.00	0.00
12,300.0	90.00	359.61	11,249.0	1,017.8	-399.1	1,034.8	0.00	0.00	0.00
12,400.0	90.00	359.61	11,249.0	1,117.8	-399.8	1,134.8	0.00	0.00	0.00
12,500.0	90.00	359.61	11,249.0	1,217.8	-400.5	1,234.7	0.00	0.00	0.00
12,600.0	90.00	359.61	11,249.0	1,317.8	-401.2	1,334.6	0.00	0.00	0.00
12,700.0	90.00	359.61	11,249.0	1,417.8	-401.8	1,434.5	0.00	0.00	0.00
12,800.0	90.00	359.61	11,249.0	1,517.8	-402.5	1,534.5	0.00	0.00	0.00
12,900.0	90.00	359.61	11,249.0	1,617.8	-403.2	1,634.4	0.00	0.00	0.00
13,000.0	90.00	359.61	11,249.0	1,717.8	-403.9	1,734.3	0.00	0.00	0.00
13,100.0	90.00	359.61	11,249.0	1,817.8	-404.6	1,834.2	0.00	0.00	0.00
13,200.0	90.00	359.61	11,249.0	1,917.8	-405.2	1,934.2	0.00	0.00	0.00
13,300.0	90.00	359.61	11,249.0	2,017.8	-405.9	2,034.1	0.00	0.00	0.00





## EOG Resources

## Planning Report

Database:	PEDM	Local Co-ordinate Reference:	Well #603H
Company:	Midland	TVD Reference:	kb = 26' @ 3703.0usft
Project:	Lea County, NM (NAD 83 NME)	MD Reference:	kb = 26' @ 3703.0usft
Site:	Eileen 25 Fed Com	North Reference:	Grid
Well:	#603H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OH		
Design:	Plan #0.1 RT		

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)
13,400.0	90.00	359.61	11,249.0	2,117.8	-406.6	2,134.0	0.00	0.00	0.00
13,500.0	90.00	359.61	11,249.0	2,217.8	-407.3	2,233.9	0.00	0.00	0.00
13,600.0	90.00	359.61	11,249.0	2,317.8	-407.9	2,333.9	0.00	0.00	0.00
13,700.0	90.00	359.61	11,249.0	2,417.8	-408.6	2,433.8	0.00	0.00	0.00
13,800.0	90.00	359.61	11,249.0	2,517.8	-409.3	2,533.7	0.00	0.00	0.00
13,900.0	90.00	359.61	11,249.0	2,617.8	-410.0	2,633.6	0.00	0.00	0.00
14,000.0	90.00	359.61	11,249.0	2,717.8	-410.6	2,733.6	0.00	0.00	0.00
14,100.0	90.00	359.61	11,249.0	2,817.8	-411.3	2,833.5	0.00	0.00	0.00
14,200.0	90.00	359.61	11,249.0	2,917.8	-412.0	2,933.4	0.00	0.00	0.00
14,300.0	90.00	359.61	11,249.0	3,017.8	-412.7	3,033.4	0.00	0.00	0.00
14,400.0	90.00	359.61	11,249.0	3,117.8	-413.4	3,133.3	0.00	0.00	0.00
14,500.0	90.00	359.61	11,249.0	3,217.8	-414.0	3,233.2	0.00	0.00	0.00
14,600.0	90.00	359.61	11,249.0	3,317.8	-414.7	3,333.1	0.00	0.00	0.00
14,700.0	90.00	359.61	11,249.0	3,417.8	-415.4	3,433.1	0.00	0.00	0.00
14,800.0	90.00	359.61	11,249.0	3,517.8	-416.1	3,533.0	0.00	0.00	0.00
14,900.0	90.00	359.61	11,249.0	3,617.8	-416.7	3,632.9	0.00	0.00	0.00
15,000.0	90.00	359.61	11,249.0	3,717.8	-417.4	3,732.8	0.00	0.00	0.00
15,100.0	90.00	359.61	11,249.0	3,817.8	-418.1	3,832.8	0.00	0.00	0.00
15,200.0	90.00	359.61	11,249.0	3,917.8	-418.8	3,932.7	0.00	0.00	0.00
15,300.0	90.00	359.61	11,249.0	4,017.8	-419.4	4,032.6	0.00	0.00	0.00
15,400.0	90.00	359.61	11,249.0	4,117.8	-420.1	4,132.5	0.00	0.00	0.00
15,500.0	90.00	359.61	11,249.0	4,217.8	-420.8	4,232.5	0.00	0.00	0.00
15,600.0	90.00	359.61	11,249.0	4,317.8	-421.5	4,332.4	0.00	0.00	0.00
15,700.0	90.00	359.61	11,249.0	4,417.8	-422.2	4,432.3	0.00	0.00	0.00
15,800.0	90.00	359.61	11,249.0	4,517.8	-422.8	4,532.2	0.00	0.00	0.00
15,900.0	90.00	359.61	11,249.0	4,617.8	-423.5	4,632.2	0.00	0.00	0.00
16,000.0	90.00	359.61	11,249.0	4,717.7	-424.2	4,732.1	0.00	0.00	0.00
16,100.0	90.00	359.61	11,249.0	4,817.7	-424.9	4,832.0	0.00	0.00	0.00
16,200.0	90.00	359.61	11,249.0	4,917.7	-425.5	4,931.9	0.00	0.00	0.00
16,300.0	90.00	359.61	11,249.0	5,017.7	-426.2	5,031.9	0.00	0.00	0.00
16,400.0	90.00	359.61	11,249.0	5,117.7	-426.9	5,131.8	0.00	0.00	0.00
16,500.0	90.00	359.61	11,249.0	5,217.7	-427.6	5,231.7	0.00	0.00	0.00
16,600.0	90.00	359.61	11,249.0	5,317.7	-428.2	5,331.7	0.00	0.00	0.00
16,700.0	90.00	359.61	11,249.0	5,417.7	-428.9	5,431.6	0.00	0.00	0.00
16,800.0	90.00	359.61	11,249.0	5,517.7	-429.6	5,531.5	0.00	0.00	0.00
16,900.0	90.00	359.61	11,249.0	5,617.7	-430.3	5,631.4	0.00	0.00	0.00
17,000.0	90.00	359.61	11,249.0	5,717.7	-431.0	5,731.4	0.00	0.00	0.00
17,100.0	90.00	359.61	11,249.0	5,817.7	-431.6	5,831.3	0.00	0.00	0.00
17,200.0	90.00	359.61	11,249.0	5,917.7	-432.3	5,931.2	0.00	0.00	0.00
17,300.0	90.00	359.61	11,249.0	6,017.7	-433.0	6,031.1	0.00	0.00	0.00
17,400.0	90.00	359.61	11,249.0	6,117.7	-433.7	6,131.1	0.00	0.00	0.00
17,500.0	90.00	359.61	11,249.0	6,217.7	-434.3	6,231.0	0.00	0.00	0.00
17,600.0	90.00	359.61	11,249.0	6,317.7	-435.0	6,330.9	0.00	0.00	0.00
17,700.0	90.00	359.61	11,249.0	6,417.7	-435.7	6,430.8	0.00	0.00	0.00
17,800.0	90.00	359.61	11,249.0	6,517.7	-436.4	6,530.8	0.00	0.00	0.00
17,900.0	90.00	359.61	11,249.0	6,617.7	-437.1	6,630.7	0.00	0.00	0.00
18,000.0	90.00	359.61	11,249.0	6,717.7	-437.7	6,730.6	0.00	0.00	0.00
18,100.0	90.00	359.61	11,249.0	6,817.7	-438.4	6,830.5	0.00	0.00	0.00
18,200.0	90.00	359.61	11,249.0	6,917.7	-439.1	6,930.5	0.00	0.00	0.00
18,300.0	90.00	359.61	11,249.0	7,017.7	-439.8	7,030.4	0.00	0.00	0.00
18,400.0	90.00	359.61	11,249.0	7,117.7	-440.4	7,130.3	0.00	0.00	0.00
18,500.0	90.00	359.61	11,249.0	7,217.7	-441.1	7,230.3	0.00	0.00	0.00
18,600.0	90.00	359.61	11,249.0	7,317.7	-441.8	7,330.2	0.00	0.00	0.00
18,700.0	90.00	359.61	11,249.0	7,417.7	-442.5	7,430.1	0.00	0.00	0.00





## EOG Resources

## Planning Report

<b>Database:</b>	PEDM	<b>Local Co-ordinate Reference:</b>	Well #603H
<b>Company:</b>	Midland	<b>TVD Reference:</b>	kb = 26' @ 3703.0usft
<b>Project:</b>	Lea County, NM (NAD 83 NME)	<b>MD Reference:</b>	kb = 26' @ 3703.0usft
<b>Site:</b>	Eileen 25 Fed Com	<b>North Reference:</b>	Grid
<b>Well:</b>	#603H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OH		
<b>Design:</b>	Plan #0.1 RT		

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)	
18,800.0	90.00	359.61	11,249.0	7,517.7	-443.1	7,530.0	0.00	0.00	0.00	
18,900.0	90.00	359.61	11,249.0	7,617.7	-443.8	7,630.0	0.00	0.00	0.00	
18,926.3	90.00	359.61	11,249.0	7,644.0	-444.0	7,656.3	0.00	0.00	0.00	
19,000.0	90.00	359.61	11,249.0	7,717.7	-444.5	7,729.9	0.00	0.00	0.00	
19,100.0	90.00	359.61	11,249.0	7,817.7	-445.2	7,829.8	0.00	0.00	0.00	
19,200.0	90.00	359.61	11,249.0	7,917.7	-445.8	7,929.7	0.00	0.00	0.00	
19,300.0	90.00	359.61	11,249.0	8,017.7	-446.5	8,029.7	0.00	0.00	0.00	
19,400.0	90.00	359.61	11,249.0	8,117.7	-447.2	8,129.6	0.00	0.00	0.00	
19,500.0	90.00	359.61	11,249.0	8,217.7	-447.9	8,229.5	0.00	0.00	0.00	
19,600.0	90.00	359.62	11,249.0	8,317.7	-448.5	8,329.4	0.00	0.00	0.00	
19,700.0	90.00	359.62	11,249.0	8,417.7	-449.2	8,429.4	0.00	0.00	0.00	
19,800.0	90.00	359.62	11,249.0	8,517.7	-449.9	8,529.3	0.00	0.00	0.00	
19,900.0	90.00	359.62	11,249.0	8,617.7	-450.6	8,629.2	0.00	0.00	0.00	
20,000.0	90.00	359.62	11,249.0	8,717.7	-451.2	8,729.1	0.00	0.00	0.00	
20,100.0	90.00	359.62	11,249.0	8,817.7	-451.9	8,829.1	0.00	0.00	0.00	
20,200.0	90.00	359.62	11,249.0	8,917.7	-452.6	8,929.0	0.00	0.00	0.00	
20,300.0	90.00	359.62	11,249.0	9,017.7	-453.2	9,028.9	0.00	0.00	0.00	
20,400.0	90.00	359.62	11,249.0	9,117.6	-453.9	9,128.8	0.00	0.00	0.00	
20,500.0	90.00	359.62	11,249.0	9,217.6	-454.6	9,228.8	0.00	0.00	0.00	
20,600.0	90.00	359.62	11,249.0	9,317.6	-455.2	9,328.7	0.00	0.00	0.00	
20,700.0	90.00	359.62	11,249.0	9,417.6	-455.9	9,428.6	0.00	0.00	0.00	
20,800.0	90.00	359.62	11,249.0	9,517.6	-456.5	9,528.5	0.00	0.00	0.00	
20,900.0	90.00	359.62	11,249.0	9,617.6	-457.2	9,628.5	0.00	0.00	0.00	
21,000.0	90.00	359.62	11,249.0	9,717.6	-457.9	9,728.4	0.00	0.00	0.00	
21,100.0	90.00	359.62	11,249.0	9,817.6	-458.5	9,828.3	0.00	0.00	0.00	
21,200.0	90.00	359.62	11,249.0	9,917.6	-459.2	9,928.2	0.00	0.00	0.00	
21,300.0	90.00	359.62	11,249.0	10,017.6	-459.8	10,028.2	0.00	0.00	0.00	
21,400.0	90.00	359.62	11,249.0	10,117.6	-460.5	10,128.1	0.00	0.00	0.00	
21,475.4	90.00	359.62	11,249.0	10,193.0	-461.0	10,203.4	0.00	0.00	0.00	

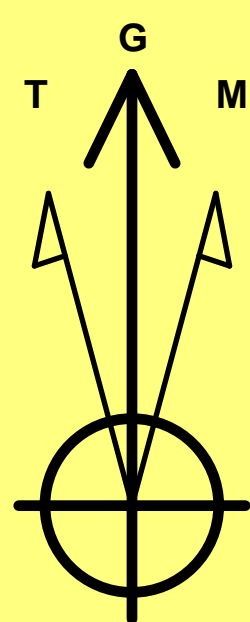
Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
KOP(Eileen 25 Fed Cor - hit/miss target - Shape - Point	0.00	0.00	10,771.5	-218.0	-392.0	559,829.00	761,774.00	32° 32' 13.176 N	103° 37' 4.901 W	
FTP(Eileen 25 Fed Com - plan hits target center - Point	0.00	0.00	10,984.2	-168.0	-392.0	559,879.00	761,774.00	32° 32' 13.671 N	103° 37' 4.897 W	
Fed Perf 1(Eileen 25 Fed - plan hits target center - Point	0.00	0.00	11,249.0	7,644.0	-444.0	567,691.00	761,722.00	32° 33' 30.973 N	103° 37' 4.891 W	
PBHL(Eileen 25 Fed Co - plan hits target center - Point	0.00	0.00	11,249.0	10,193.0	-461.0	570,240.00	761,705.00	32° 33' 56.195 N	103° 37' 4.890 W	



Lea County, NM (NAD 83 NME)

Eileen 25 Fed Com #603H

Plan #0.1 RT



Azimuths to Grid North  
True North: -0.39°  
Magnetic North: 6.16°

Magnetic Field  
Strength: 47633.5nT  
Dip Angle: 60.17°  
Date: 11/1/2021  
Model: IGRF2020

To convert a Magnetic Direction to a Grid Direction, Add 6.16°  
To convert a Magnetic Direction to a True Direction, Add 6.55° East  
To convert a True Direction to a Grid Direction, Subtract 0.39°

PROJECT DETAILS: Lea County, NM (NAD 83 NME)

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

WELL DETAILS: #603H

3677.0  
kb = 26° @ 3703.0usft  
Northing 560047.00 Easting 762166.00 Latitude 32° 32' 15.307 N Longitude 103° 37' 0.305 W

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Target
1	0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2	1800.0	0.00	0.00	1800.0	0.0	0.0	0.00	0.00	0.0	
3	2061.5	5.23	240.92	2061.2	-5.8	-10.4	2.00	240.92	-5.3	
4	6719.6	5.23	240.92	6699.8	-212.2	-381.6	0.00	0.00	-194.7	
5	6981.1	0.00	0.00	6961.0	-218.0	-392.0	2.00	180.00	-200.1	
6	10791.6	0.00	0.00	10771.5	-218.0	-392.0	0.00	0.00	-200.1	KOP(Eileen 25 Fed Com #603H)
7	11012.1	26.46	0.00	10984.2	-168.0	-392.0	12.00	0.00	-150.1	FTP(Eileen 25 Fed Com #603H)
8	11541.6	90.00	359.61	11248.9	259.5	-394.0	12.00	-0.43	277.0	
9	18926.3	90.00	359.61	11249.0	7644.0	-444.0	0.00	0.00	7656.3	Fed Perf 1(Eileen 25 Fed Com #603H)
10	21475.4	90.00	359.62	11249.0	10193.0	-461.0	0.00	85.80	10203.4	PBHL(Eileen 25 Fed Com #603H)

CASING DETAILS

No casing data is available

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting
KOP(Eileen 25 Fed Com #603H)	10771.5	-218.0	-392.0	559829.00	761774.00
FTP(Eileen 25 Fed Com #603H)	10984.2	-168.0	-392.0	559879.00	761774.00
Fed Perf 1(Eileen 25 Fed Com #603H)	11249.0	7644.0	-444.0	567691.00	761722.00
PBHL(Eileen 25 Fed Com #603H)	11249.0	10193.0	-461.0	570240.00	761705.00

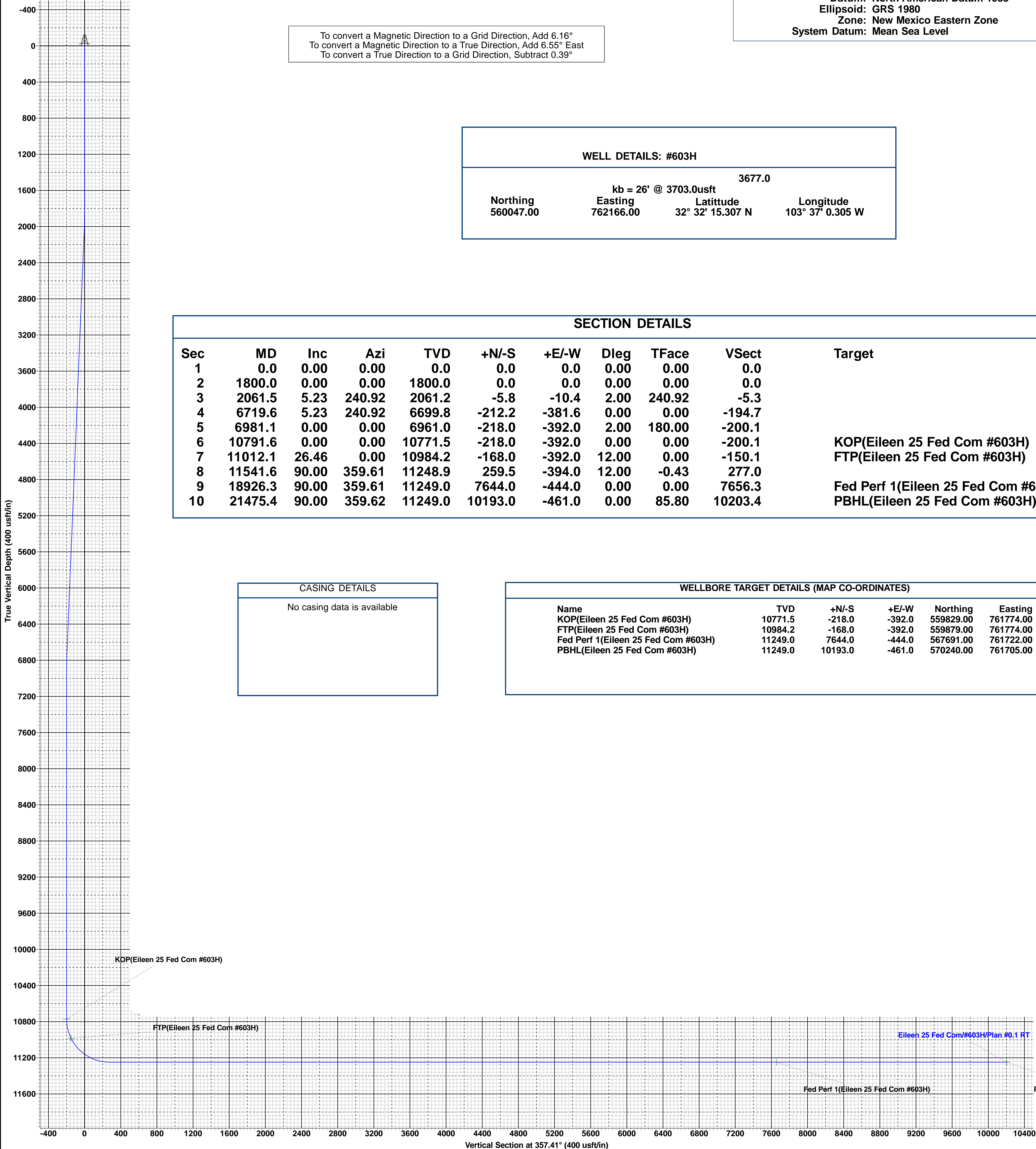
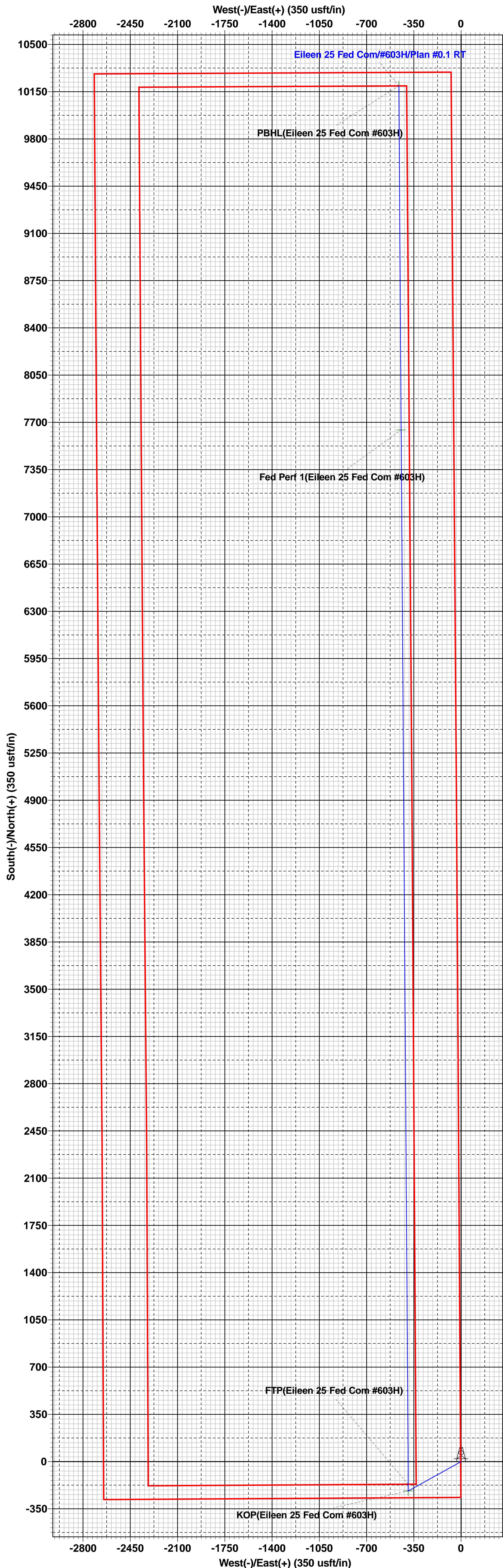
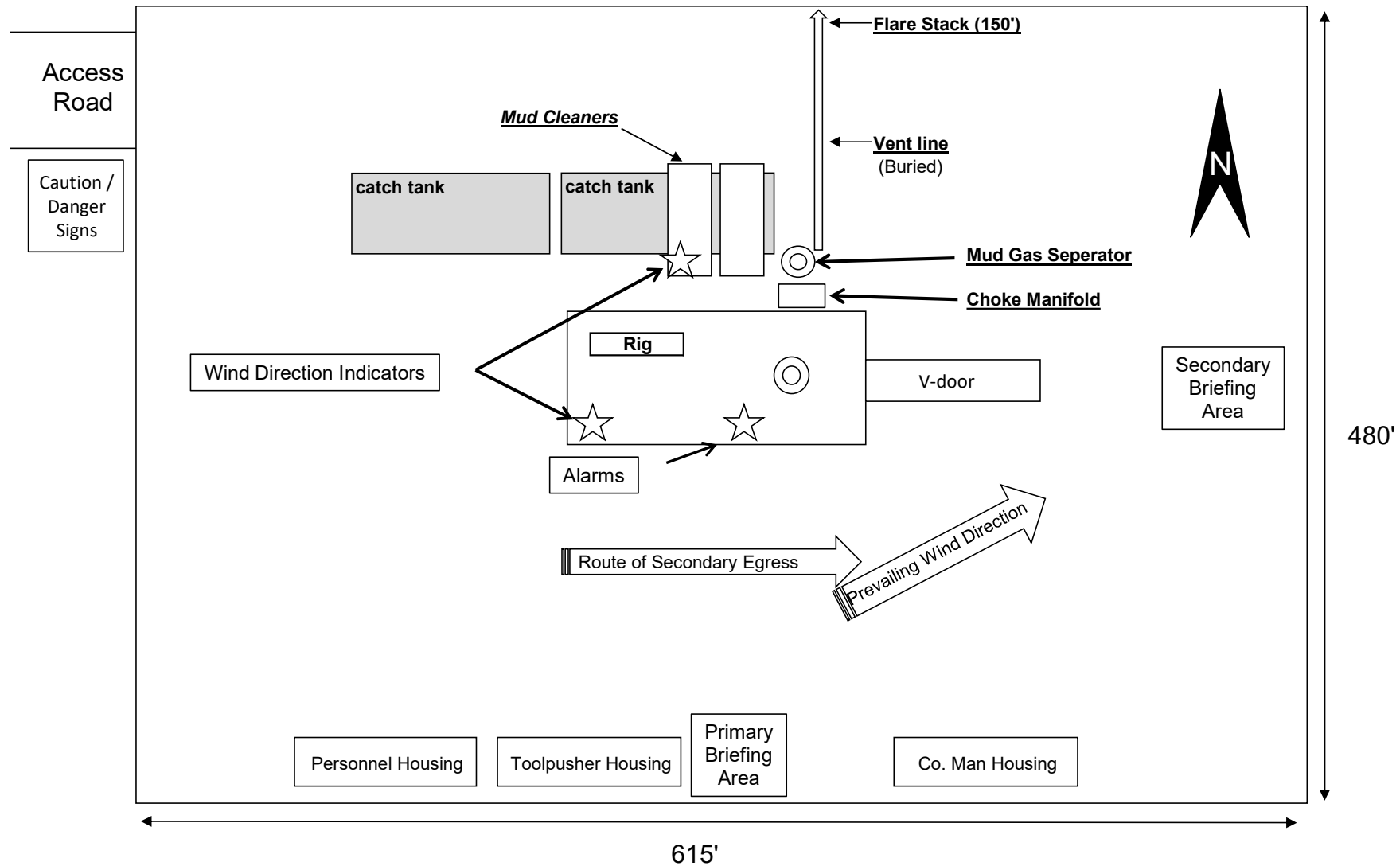




Exhibit 4  
EOG Resources  
Eileen 25 Fed Com #603H

Well Site Diagram





## Permian Resources - Eileen 25 Fed Com 603H

### 1. Geologic Formations

Formation	Lithology	Elevation	TVD	Target
Rustler	Sandstone	2194	1538	No
Top of Salt	Salt	1892	1840	No
Yates	Anhydrite/Shale	380	3352	No
Seven Rivers	Limestone	NP	NP	No
Capitan	Sandstone	122	3610	No
Delaware Sands	Sandstone	-2005	5737	No
Brushy Canyon	Sandstone	-2773	6505	No
Bone Spring Lime	Limestone/Shale	-4901	8633	No
1st Bone Spring Sand	Sandstone/Limestone/Shale	-5930	9662	No
2nd Bone Spring Sand	Sandstone/Limestone/Shale	-6445	10177	No
2nd Bone Spring Shale	Sandstone/Limestone/Shale	-7068	10800	Yes
3rd Bone Spring Sand	Sandstone/Limestone/Shale	-7268	11000	No
Wolfcamp	Shale	-7543	11275	No

### 2. Blowout Prevention

BOP installed and tested before drilling	Size?	Min. Required WP	Type	x	Tested to:
12.25	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
9.875	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		
7.875	13-5/8"	5M	Annular	x	2500 psi
			Blind Ram	x	5000 psi
			Pipe Ram	x	
			Double Ram		
			Other*		

**Equipment:** BOPE will meet all requirements for above listed system per 43 CFR 3172. BOPE with working pressure



**Equipment:** BOPE will meet all requirements for above listed system per 43 CFR 3172. BOPE with working pressure

ratings in excess of anticipated maximum surface pressure will be utilized for well control from drill out of surface casing to TMD. 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 of the components installed will be functional, tested, and will meet all requirements per 43 CFR 3172. The wellhead will be a multibowl speed head allowing for hangoff of intermediate casing of the surface x intermediate annulus without breaking the connection between the BOP & wellhead. A variance is requested to utilize a flexible choke line (flexhose) from the BOP to choke manifold.

#### Requesting Variance? YES

**Variance request:** Break testing, flex hose, and offline cement variances, see attachments in section 8.

**Testing Procedure:** Operator requests to ONLY test broken pressure seals per API Standard 53 and the attachments in Section 8. The BOP test shall be performed before drilling out of the surface casing shoe and will occur at a minimum: a. when initially installed, b. whenever any seal subject to test pressure is broken, c. following related repairs, d. at 21-day intervals. Testing of the ram type preventer(s) and annual type preventer(s) shall be tested per 43 CFR 3172. The BOPE configuration, choke manifold layout, and accumulator system will be in compliance with 43 CFR 3172. Bleed lines will discharge 100' from wellhead in non-H2S scenarios and 150' from wellhead in H2S scenarios.

Choke Diagram Attachment: 5M Choke Manifold

BOP Diagram Attachment: BOP Schematics

### 3. Casing

String	Hole Size	Casing Size	Top	Bottom	Top TVD	Bottom TVD	Length	Grade	Weight	Connection	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
Surface	17.5	13.375	0	1563	0	1563	1563	J55	54.5	BTC	1.46	1.93	Dry	4.91	Dry	4.61
Intermediate 1	12.25	10.75	0	3377	0	3377	3377	J55	45.5	BTC SCC	6.61	3.60	Dry	4.19	Dry	4.10
Intermediate 2	9.875	8.625	0	5687	0	5687	5687	HCL-80	32	MO-FXL	4.37	1.33	Dry	1.79	Dry	2.60
Production	7.875	5.5	0	21475	0	11249	21475	P110RY	20	GeoConn	1.90	1.98	Dry	1.97	Dry	1.97
BLM Min Safety Factor											1.125	1		1.6		1.6

Non API casing spec sheets and casing design assumptions attached.

### 4. Cement

String	Lead/Tail	Top MD	Bottom MD	Quantity (sx)	Yield	Density	Cu Ft	Excess %	Cement Type	Additives
Surface	Tail	0	1563	1220	1.34	14.8	1630	50%	Class C	Accelerator
Intermediate 1	Lead	0	2700	380	1.88	12.9	700	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate 1	Tail	2700	3377	150	1.34	14.8	200	50%	Class C	Retarder
Intermediate 2	Lead	0	4540	370	1.88	12.9	680	50%	Class C	EconoCem-HLC + 5% Salt + 5% Kol-Seal
Intermediate 2	Tail	4540	5687	150	1.33	14.8	190	25%	Class C	Salt
Production	Lead	6187	10792	340	2.41	11.5	800	0%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder
Production	Tail	10792	21475	1080	1.73	12.5	1860	0%	Class H	POZ, Extender, Fluid Loss, Dispersant, Retarder

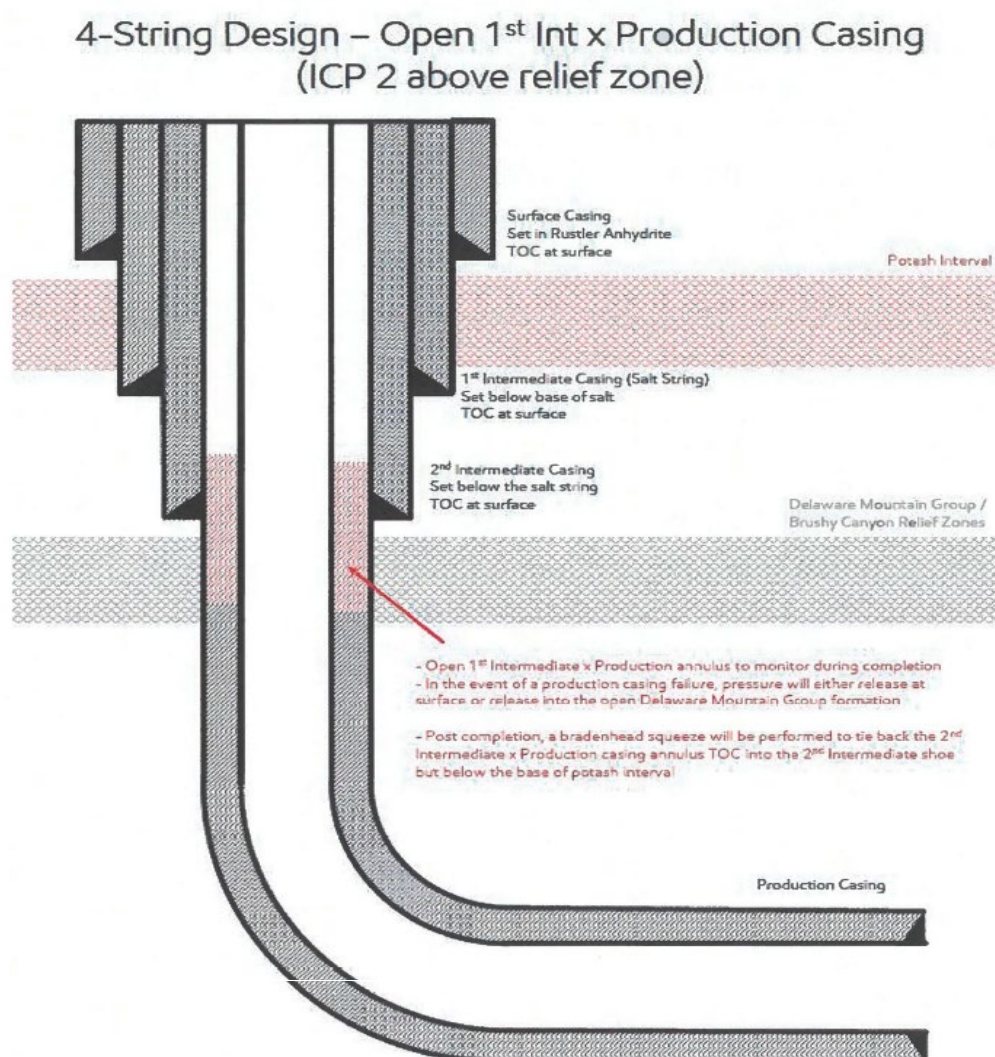


The WBD below depicts the cement design required for R111Q.

The annulus between the production and intermediate casing strings shall be actively monitored for pressure during hydraulic fracturing operations. If pressure communication is observed, indicating a possible production casing failure, hydraulic fracturing operations must immediately cease, and source of the pressure increase shall be investigated. During hydraulic fracturing operations, a pressure relief valve or appropriate venting system shall be installed to relieve pressure in the event of a production casing failure. The opening pressure of any pressure relief valves must be set below 50% of the intermediate casing burst rating. If the well design features an uncemented intermediate casing shoe (for example as shown in Exhibit B, Figure B) and the well approaches to within  $\frac{1}{4}$  mile of an offset well drilling, completing or producing from the Delaware Mountain Group, then the pressure relief valve opening pressure shall be set no more than 1000 psi and at no time shall the pressure on the annulus be allowed to exceed 1000 psi. This requirement can be waived by the offset well operator.

Production cement will be 500' below the 2<sup>nd</sup> intermediate shoe with 0% excess leaving the DMG uncemented as a pressure relief zone.

Bradenhead operations will be performed within 180 days of completing hydraulic fracturing operations, tying back cement at least 500' inside the 2<sup>nd</sup> intermediate shoe but below Marker Bed 126.



[Figure E] 4 String – Uncemented Annulus between 2<sup>nd</sup> Intermediate and Production Casing Strings



## 5. Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be used:** No

**Describe what will be on location to control well or mitigate other conditions:** Sufficient quantities of mud materials will be on the well site at all times for the purpose of assuring well control and maintaining wellbore integrity. Surface interval will employ fresh water mud. The intermediate hole will utilize a saturated brine fluid to inhibit salt washout. The production hole will employ brine based and oil base fluid to inhibit formation reactivity and of the appropriate density to maintain well control.

**Describe the mud monitoring system utilized:** Centrifuge separation system. Open tank monitoring with EDR will be used for drilling fluids and return volumes. Open tank monitoring will be used for cement and cuttings return volumes. Mud properties will be monitored at least every 24 hours using industry accepted mud check practices.

**Cuttings Volume:** 12590 Cu Ft

**Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight	Max Weight
0	1563	Spud Mud	8.6	9.5
1563	3377	Salt Saturated	10	10
3377	5687	Fresh Water	8.6	9.5
5687	10792	Brine	9	10
10792	21475	OBM	9	10

## 6. Test, Logging, Coring

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

Will utilize MWD/LWD (Gamma Ray logging) from intermediate hole to TD of the well.

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

DIRECTIONAL SURVEY, GAMMA RAY LOG,

**Coring operation description for the well:**

N/A

## 7. Pressure

Anticipated Bottom Hole Pressure	5850	psi
Anticipated Surface Pressure	3375	psi
Anticipated Bottom Hole Temperature	167	°F
Anticipated Abnormal pressure, temp, or geo hazards	No	

## 8. Other Information

Well Plan and AC Report: attached

Batching Drilling Procedure: attached

Batching Drilling Procedure: attached

WBD: attached

Flex Hose Specs: attached

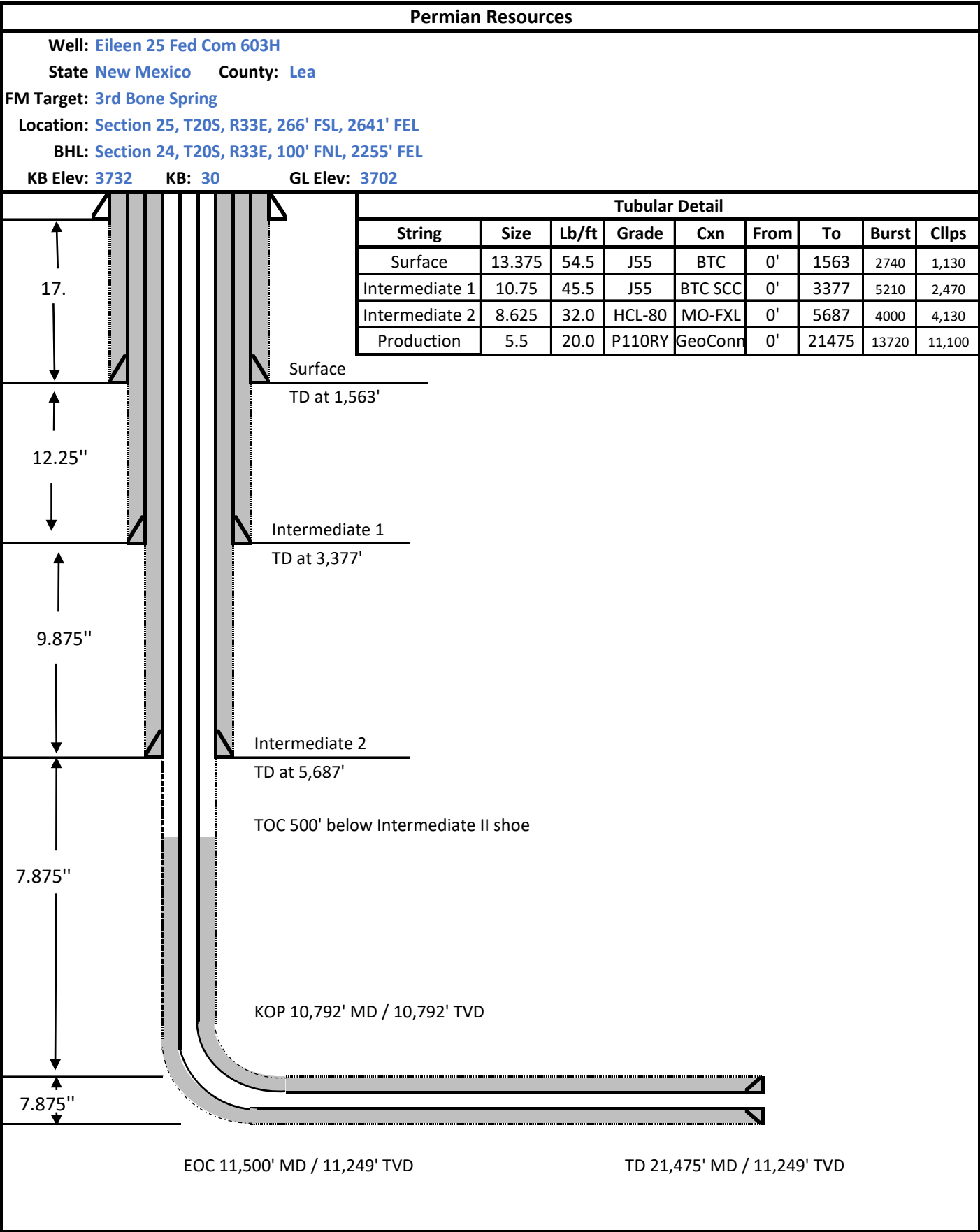
Offline Cementing Procedure: attached

Break Testing Procedure: attached



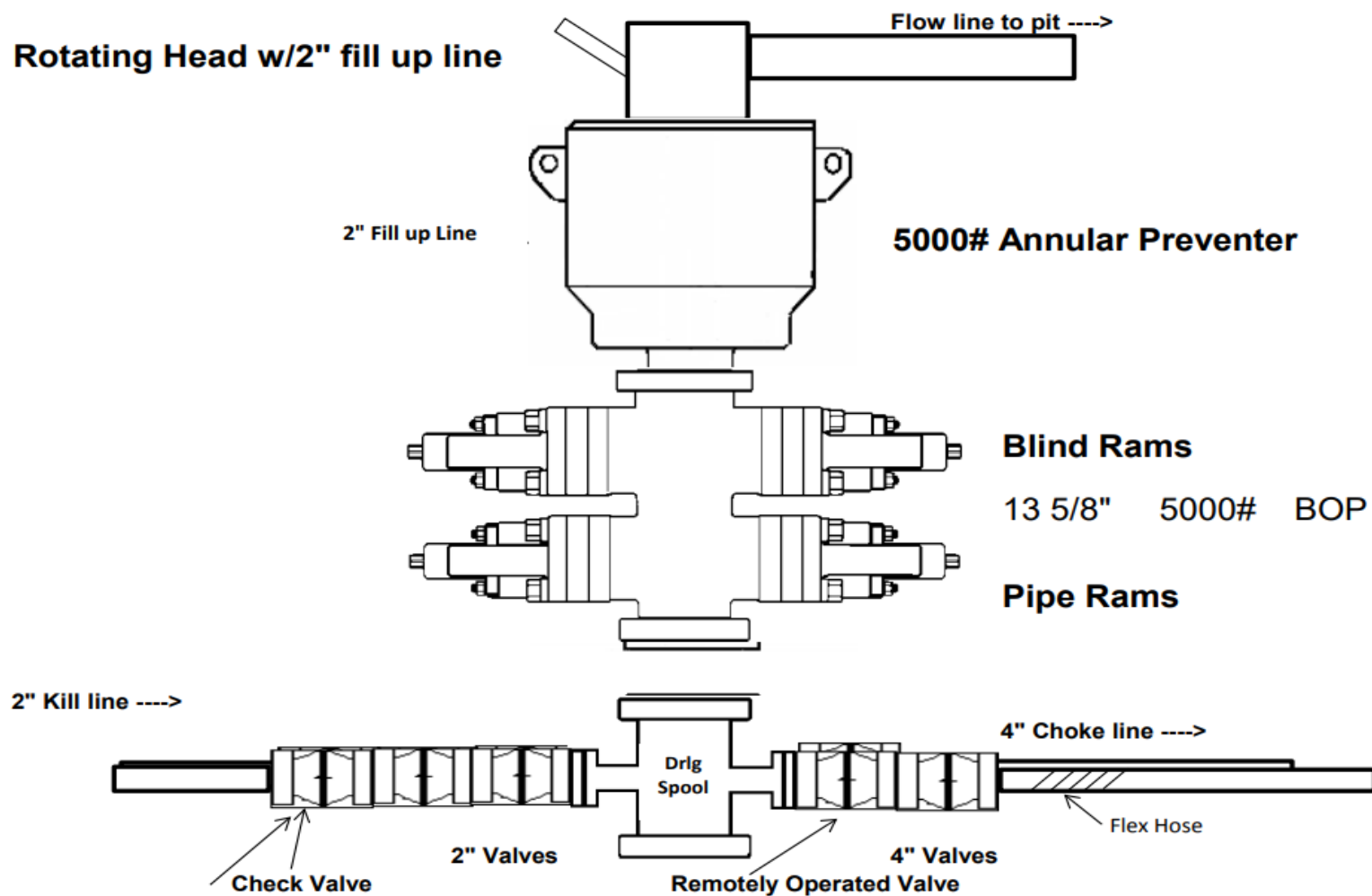






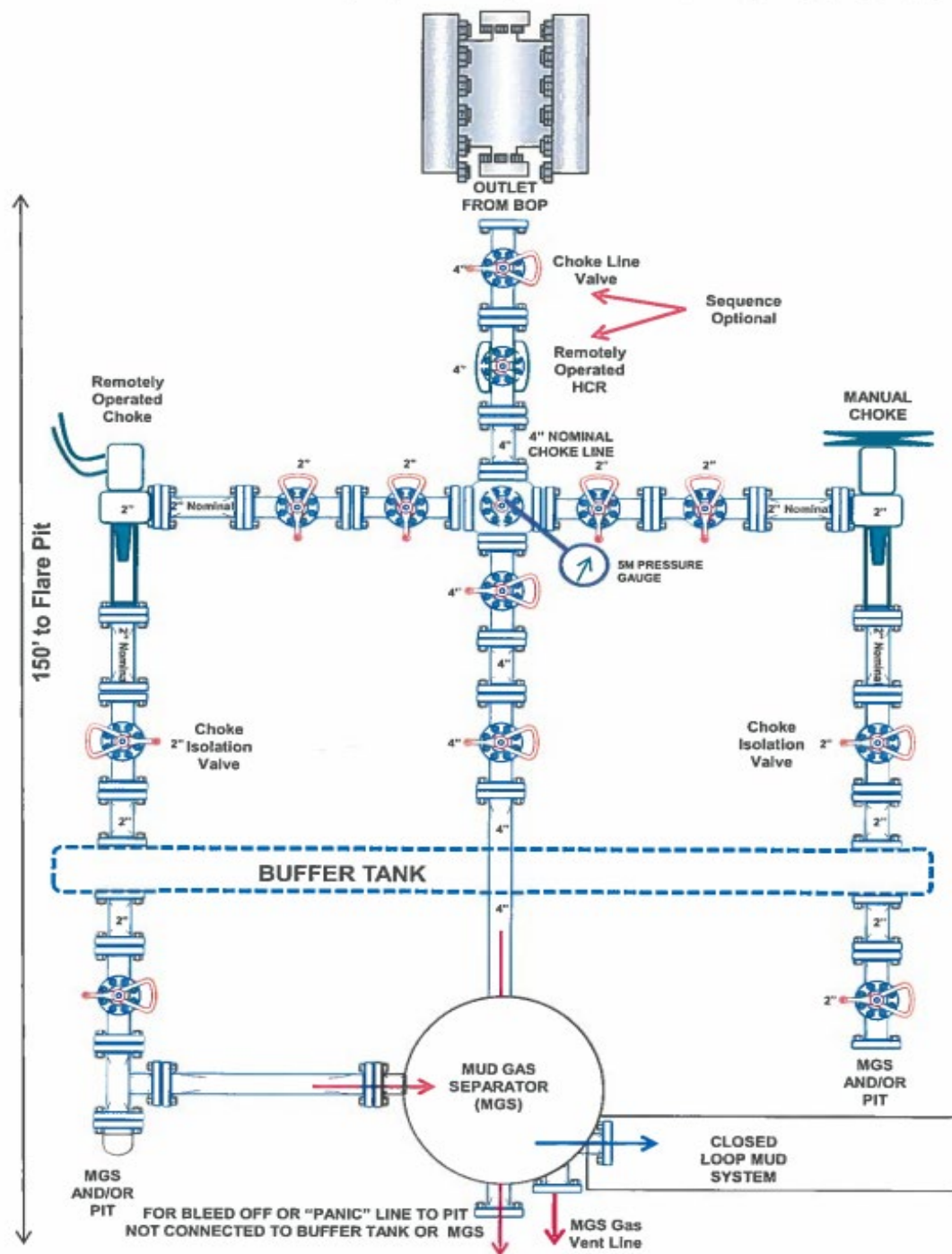


## 5,000 psi BOP Schematic





## 5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)







ContiTech

CONTITECH RUBBER  
Industrial Kft.

No:QC-DB- 210/ 2014

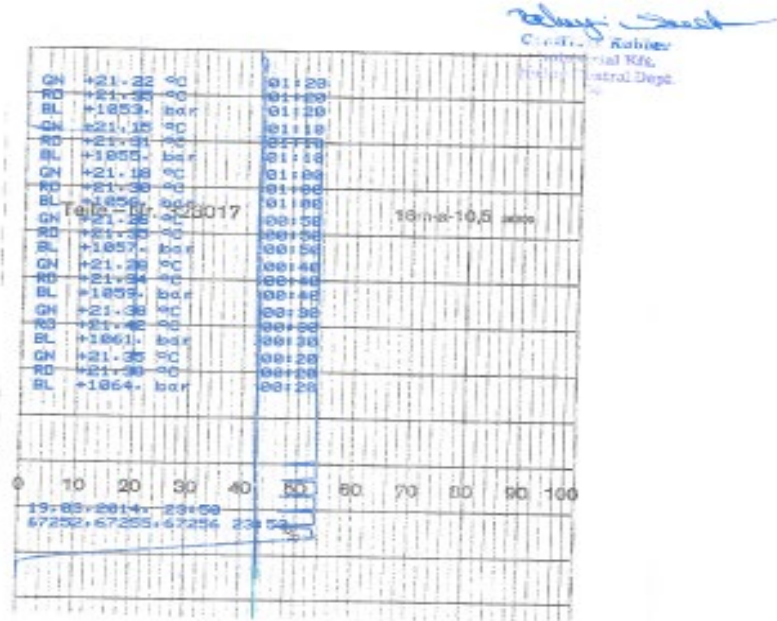
Page: 9 / 113

QUALITY CONTROL INSPECTION AND TEST CERTIFICATE				CERT. N°: 504	
PURCHASER: ContiTech Oil & Marine Corp.				P.O. N°: 4500408659	
CONTITECH RUBBER order N°: 538236		HOSE TYPE: 3" ID		Choke and Kill Hose	
HOSE SERIAL N°: 67255		NOMINAL / ACTUAL LENGTH: 10,67 m / 10,77 m			
W.P. 68,9 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature           See attachment. ( 1 page )           ↑ 10 mm = 10 Min. → 10 mm = 20 MPa					
COUPLINGS Type		Serial N°		Quality	
3" coupling with		9251 9254		AISI 4130	
4 1/16" 10K API b.w. Flange end				AISI 4130	
Not Designed For Well Testing				API Spec 16 C	
				Temperature rate:"B"	
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date:		Inspector		Quality Control	
20. March 2014.				ContiTech Rubber Industrial Kft. Quality Control Dept. <i>[Signature]</i>	

ContiTech Rubber Industrial Kft. | Budapest | 10. H-6728 Szeged | H-6701 P.O.Box 152 Szeged, Hungary  
 Phone: +36 62 568 727 | Fax: +36 62 568 728 | e-mail: info@bud.contitech.hu | Internet: www.contitech-rubber.hu; www.contitech.hu  
 The Court of Company Registration | Registry Court No: Cg-95-08-202503 | EU VAT No: HU1937205  
 Bank data: Commerzbank Zrt., Budapest | 14220108-20630003



ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No: 501, 504, 505  
Page: 1 / 1







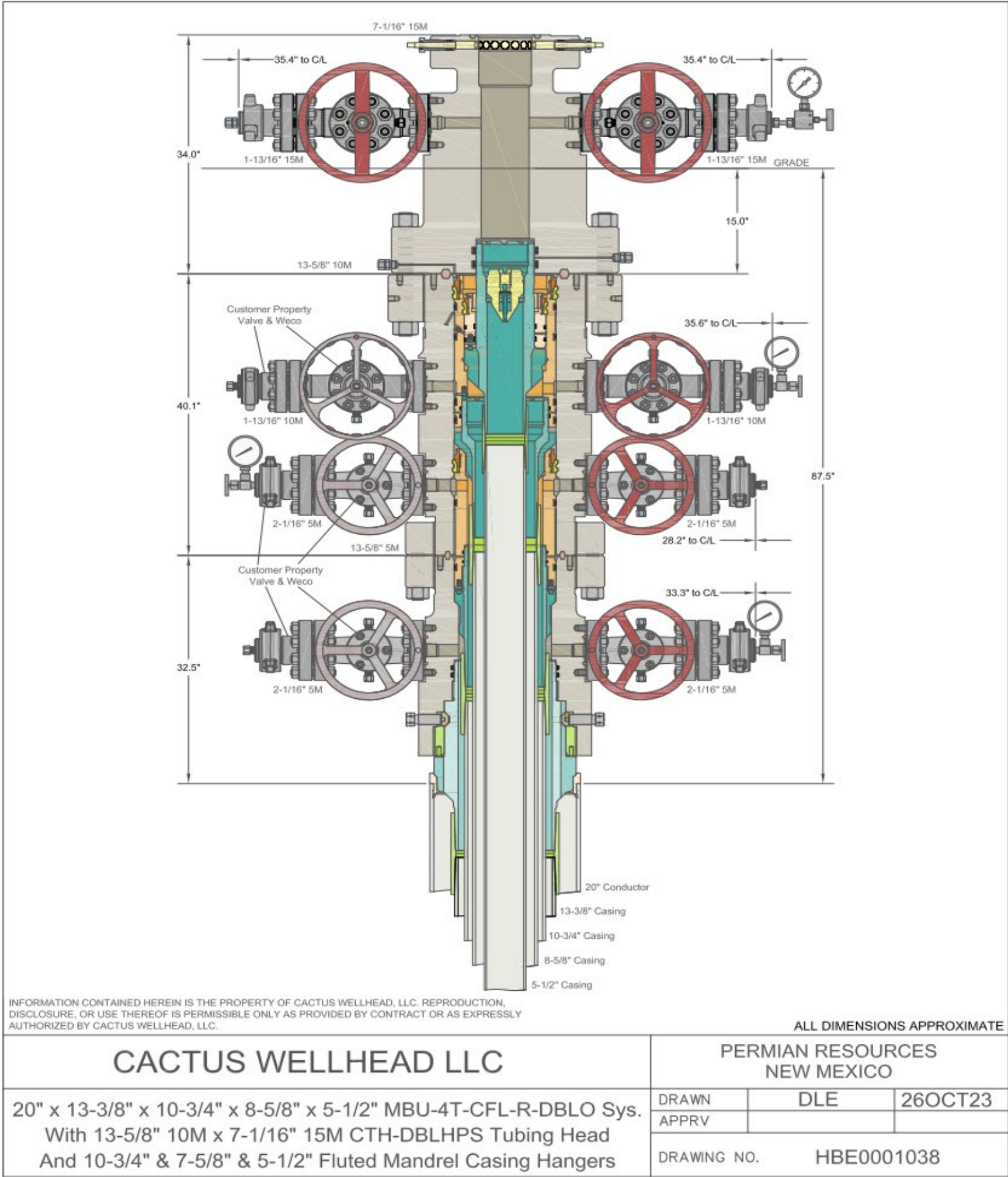
CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014
	Page: 15 / 113
	ContiTech

## Hose Data Sheet

CRI Order No.	538236
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500409659
Item No.	1
Hose Type	Flexible Hose
<b>Standard</b>	<b>API SPEC 16 C</b>
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St. steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

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## Permian Resources Casing Design Criteria

A sundry will be requested if any lesser grade or different size casing is substituted. All casing will be centralized as specified in On Shore Order II. Casing will be tested as specified in On Shore Order II.

### Casing Design Assumptions:

#### Surface

- 1) Burst Design Loads
  - a) Displacement to Gas
    - (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
  - b) Lost Returns with Mud Drop
    - (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

#### Intermediate I

- 1) Burst Design Loads
  - a) Displacement to Gas
    - (1) Internal: Assumes a full column of gas in the casing with a gas gradient of 0.7 psi/ft in the absence of better information. It is limited to the controlling pressure based on the maximum expected pore pressure within the next drilling interval.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCD regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.



- (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
  - b) Lost Returns with Mud Drop
    - (1) Internal: Lost circulation at the TD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    - 1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    - 1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

#### Intermediate or Intermediate II

- 1) Burst Design Loads
  - a) Gas Kick Profile
    - (1) Internal: Load profile based on influx encountered in lateral portion of wellbore with a maximum influx volume of 150 bbl and a kick intensity of 1.5 ppg using maximum anticipated MW of 9.9 ppg.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCDC regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight from TOC to surface and cement slurry weight from TOC to shoe.
  - b) Lost Returns with Mud Drop
    - (1) Internal: Lost circulation at the deepest TVD of the next hole section and the fluid level falls to a depth where the hydrostatic pressure of the mud column equals pore pressure at the depth of the lost circulation zone.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    - 1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    - 1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

#### Production

- 1) Burst Design Loads
  - a) Injection Down Casing
    - (1) Internal: Surface pressure plus injection fluid gradient.
    - (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
  - b) Casing Pressure Test (Drilling)
    - (1) Internal: Displacement fluid plus surface pressure required to comply with regulatory casing test pressure requirements of Onshore Oil and Gas Order No. 2 and NM NMAC 19.15.16 of NMOCDC regulations.
    - (2) External: Mud weight to TOC and cement mix water gradient (8.4 ppg) below TOC.
  - c) Casing Pressure Test (Production)
    - (1) Internal: The design pressure test should be the greater of the planned test pressure prior to simulation down the casing, the regulatory test pressure, and the expected gas lift system pressure. The design test fluid should be the fluid associated with the pressure test having the greatest pressure.



- having the greatest pressure.
- (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
- d) Tubing Leak
  - (1) Internal: SITP plus a packer fluid gradient to the top of packer.
  - (2) External: Mud base-fluid density to top of cement and cement mix water gradient (8.4 ppg) below TOC.
- 2) Collapse Loads
  - a) Cementing
    - (1) Internal: Displacement fluid density.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
  - b) Full Evacuation
    - (1) Internal: Full void pipe.
    - (2) External: Mud weight to TOC and cement slurry(s) density below TOC.
- 3) Tension Loads
  - a) Overpull Force
    - 1. Axial: Buoyant weight of the string plus planned 100,000 lbs applied in stuck pipe situation.
  - b) Green Cement Casing Test
    - 1. Axial: Buoyant weight of the string plus cement plug bump pressure load.

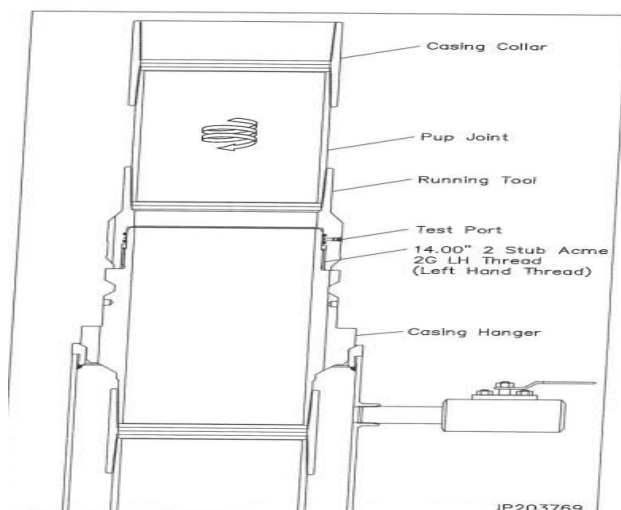


## Permian Resources

### Multi-Well Pad Batch Drilling & Off Line Cement Procedure

Surface Casing - PR intends to Batch set and offline cement all surface casing to a depth approved in the APD. Surface Holes will be batch drilled by a big rig. Appropriate notifications will be made prior to spudding the well, running, and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill Surface hole to Approved Depth with Surface Preset Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run casing with Cactus Multibowl system, with baseplate supported by Conductor.
3. Circulate 1.5 csg capacity.
4. Flow test – Confirm well is static.
5. Install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
  - a) Test Surface casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.



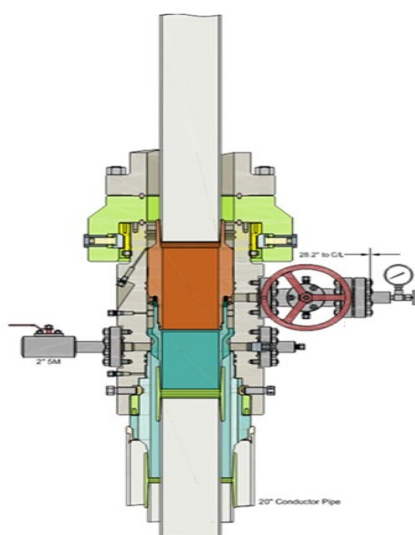


Intermediate 1 Casing – PR intends to Batch set all intermediate 1 casing strings to a depth approved in the APD, typically set into end of salts. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

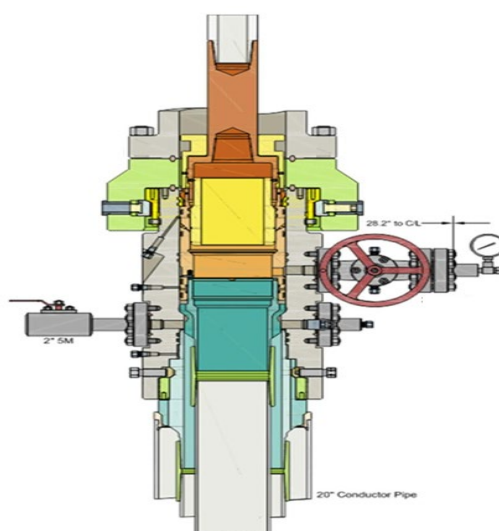
Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 1 as per requested break testing variance).

Install wear bushing then drill out 20" shoe-track.

1. Drill Intermediate 1 hole to approved casing point. Trip out of hole with BHA to run Casing.
2. Remove wear bushing then run and land Intermediate 1 casing with mandrel hanger in wellhead.
3. Flow test – Confirm well is static.
4. Set Annular packoff and pressure test. Test to 5k.
5. Install BPV, Nipple down BOP and install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
  - a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.

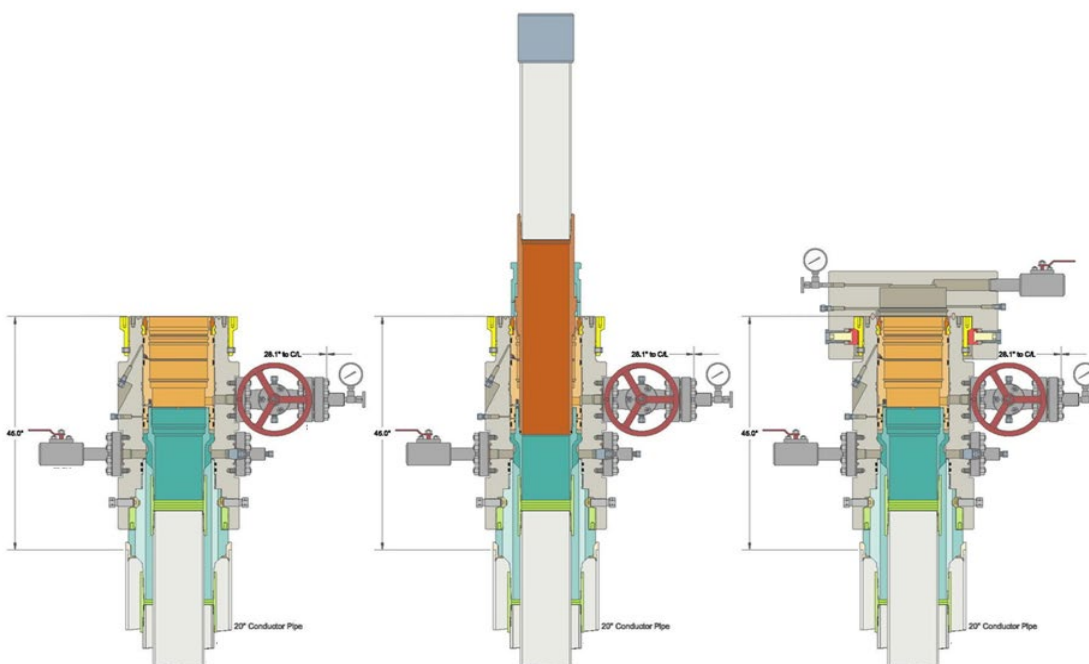


Run Intermediate Casing  
Land Intermediate Casing on Mandrel Hanger  
Cement Intermediate Casing  
Retrieve Running Tool



Run Packoff  
Test Upper and Lower Seals  
Engage Lockring  
Retrieve Running Tool





Intermediate 2 Casing – PR intends to Batch set all Intermediate 2 casing strings to a depth approved in the APD, typically set into Captain past losses. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 2 as per requested break testing variance).
2. Install wear bushing then drill out Intermediate 1 shoe-track.
3. Drill Intermediate 2 hole to approved casing point. Trip out of hole with BHA to run Casing.
4. Remove wear bushing then run and land Intermediate 2 casing with mandrel hanger in wellhead.
5. Flow test – Confirm well is static.
6. Set Annular packoff and pressure test. Test to 5k.
7. Install BPV, Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Perform green cement casing test.
  - a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
16. Rig down cementers and equipment
17. Install night cap with pressure gauge to monitor.



Production Casing – PR intends to Batch set all Production casings. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run Production Casing.
6. Remove wear bushing then run Production casing to TD landing casing mandrel in wellhead.
7. Cement Production string to surface with floats holding.



## Permian Resources BOP Break Testing Variance Procedure

**Subject:** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE). Permian Resources requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

### **Background**

Title 43 CFR 3172, Drilling Operations, Sections 6.b.9.iv states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. 43 CFR 3172.13, Variances from minimum standards states, "An operator may request the authorized officer to approve a variance from any of the minimum standards prescribed in [§§ 3172.6](#) through [3172.12](#). All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, if appropriate, may approve the requested variance(s) if it is determined that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s)". Permian Resources feels the break testing the BOPE is such a situation. Therefore, as per 43 CFR 3172.13, Permian Resources submits this request for the variance.

### **Supporting Documentation**

The language used in 43 CFR 3172 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time, there have been significant changes in drilling technology. The BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR 3172 was originally released. The Permian Resources drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack





Figure 2: BOP Winch System



American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. 43 CFR 3172 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, 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." See Table C.4 below for reference.

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API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure <sup>a,c</sup> psig (MPa)	Pressure Test—High Pressure <sup>a,c</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</sup>	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers <sup>a,c</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

<sup>a</sup> Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

<sup>b</sup> Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

<sup>c</sup> For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

<sup>d</sup> For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

<sup>e</sup> Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.



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

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

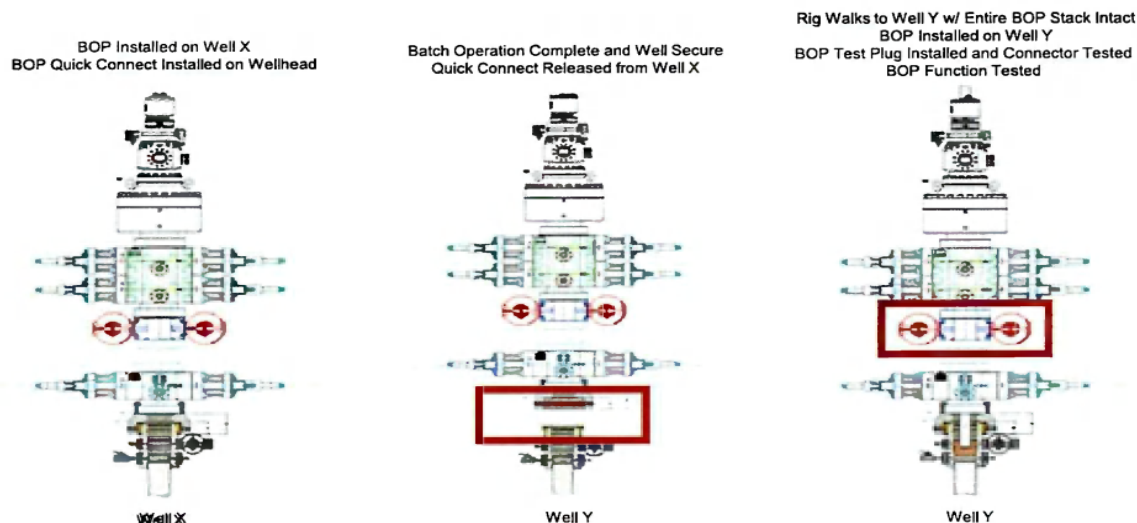
Permian Resources feels break testing and our current procedures meet the intent of 43 CFR 3172 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. Permian Resources internal standards require complete BOPE tests more often than that of 43 CFR 3172 (every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, Permian Resources performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of 43 CFR 3172.

### **Procedures**

- 1) Permian Resources will use this document for our break testing plan for New Mexico Delaware Basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
- 2) Permian Resources will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a) A full BOP test will be conducted on the first well on the pad.
  - b) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same formation depth or shallower.
  - c) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d) A full BOP test will be required prior to drilling any production hole.
- 3) After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a) Between the HCV valve and choke line connection
  - b) Between the BOP quick connect and the wellhead
- 4) The BOP is then lifted and removed from the wellhead by a hydraulic system.
- 5) After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
- 6) The connections mentioned in 3a and 3b will then be reconnected.
- 7) Install test plug into the wellhead using test joint or drill pipe.
- 8) A shell test is performed against the upper pipe rams testing the two breaks.
- 9) The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
- 10) Function tests will be performed on the following components: lower pipe rams, blind rams, and annular.
- 11) For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
- 12) A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.



**Note: Picture below highlights BOP components that will be tested during batch operations**



### Summary

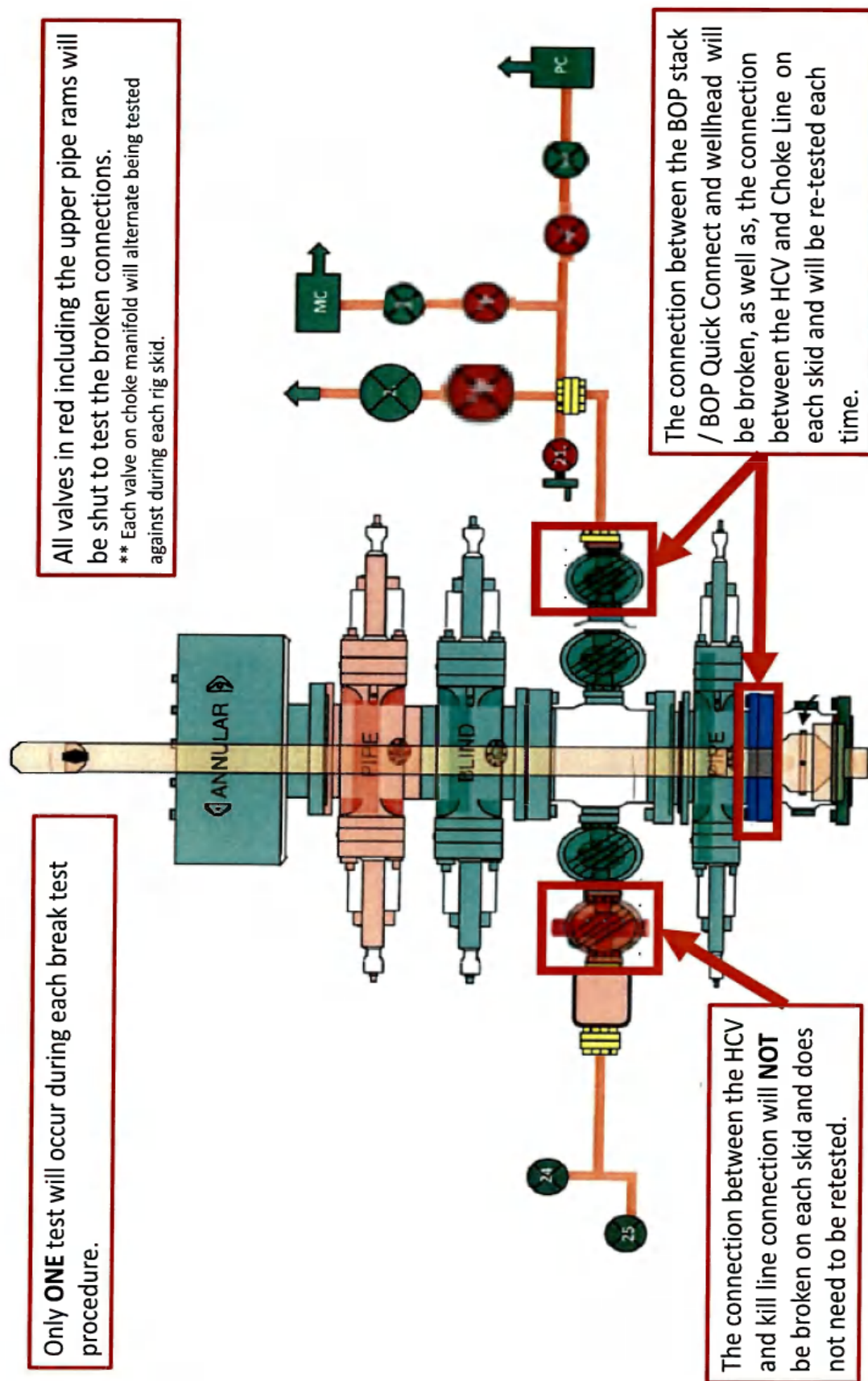
A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operations, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

- 1) After a full BOP test is conducted on the first well on the pad.
- 2) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same depth or shallower.
- 3) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
- 4) A full BOP test will be required prior to drilling the production hole.







SOP-12-F05  
Performance Data Sheet



API 5CT Casing Performance Data Sheet  
10.750" 45.50 lb/ft J55

Manufactured to specifications of API 5CT 10th edition and bears the API monogram.

Grade	J55
-------	-----

Sizes and Weights

OD	10.750 in
Nominal Wall Thickness	0.400 in
Nominal Weight, T&C	45.50 lb/ft
Nominal Weight, PE	44.26 lb/ft
Nominal ID	9.950 in
Standard Drift	9.794 in
Alternate Drift	9.875 in

Pipe Body Mechanical Properties

Minimum Yield Strength	55,000 psi
Maximum Yield Strength	80,000 psi
Minimum Tensile Strength	75,000 psi
Maximum Hardness	N/A

Minimum Performance

Collapse Pressure	2,470 psi
Minimal Internal Pressure Yield	5,210 psi
Pipe body Tension Yield	1,040,000 lbs
Joint Strength STC	692,000 lbs
Joint Strength LTC	N/A
Joint Strength BTC	1,063,000 lbs
Internal Pressure Leak Resistance STC/LTC Connections	6,880 lbs
Internal Pressure Leak Resistance BTC Connections	7,450 lbs

Special Clearance Coupling

OD	N/A
Minimum Length (NL)	10.625"
Diameter at Counterbore	13.515"
Width of Bearing Face	0.375"

Inspection and Testing

Visual	OD Longitudinal and independent 3rd party SEA
NDT	Weldline UT after hydrotest. Calibration notch sensitivity (% of specified wall thickness): 12.5%

Color code

Pipe ends	One green band
Couplings	Green with one white band (alternate coupling: K55 - green)



Metal One Corp.

Metal One

MO-FXL

\*1 Pipe Body: BMP P110HSCY MinYS125ksi  
Min95%WT

Connection Data Sheet

CDS#

Date

MO-FXL 8-5/8 32.0

P110HSCY

MinYS125ksi

Min95%WT

8-Sep-21

Geometry

Imperial

S.I.

Pipe Body

Grade *1	P110HSCY		P110HSCY	
MinYS *1	125	ksi	125	ksi
Pipe OD ( D )	8 5/8	in	219.08	mm
Weight	32.00	lb/ft	47.68	kg/m
Actual weight	31.10		46.34	kg/m
Wall Thickness ( t )	0.352	in	8.94	mm
Pipe ID ( d )	7.921	in	201.19	mm
Pipe body cross section	9.149	in <sup>2</sup>	5,902	mm <sup>2</sup>
Drift Dia.	7.796	in	198.02	mm
-	-	-	-	-

Connection

Box OD ( W )	8.625	in	219.08	mm
PIN ID	7.921	in	201.19	mm
Make up Loss	3.847	in	97.71	mm
Box Critical Area	5.853	in <sup>2</sup>	3686	mm <sup>2</sup>
Joint load efficiency	69	%	69	%
Thread Taper	1 / 10 ( 1.2" per ft )			
Number of Threads	5 TPI			

Performance

Performance Properties for Pipe Body

S.M.Y.S. *1	1,144	kips	5,087	kN
M.I.Y.P. *1	9,690	psi	66.83	MPa
Collapse Strength *1	4,300	psi	29.66	MPa

Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body

M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body

\*1: BMP P110HSCY: MinYS125ksi, Min95%WT, Collapse Strength 4,300psi

Performance Properties for Connection

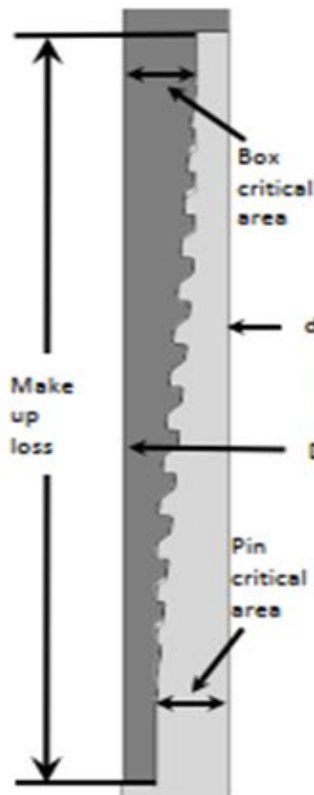
Tensile Yield load	789 kips ( 69% of S.M.Y.S. )			
Min. Compression Yield	789 kips ( 69% of S.M.Y.S. )			
Internal Pressure	6,780 psi ( 70% of M.I.Y.P. )			
External Pressure	100% of Collapse Strength			
Max. DLS ( deg. /100ft)	29			

Recommended Torque


Min.	13,600	ft-lb	18,400	N-m
Opti.	14,900	ft-lb	20,200	N-m
Max.	16,200	ft-lb	21,900	N-m
Operational Max.	28,400	ft-lb	38,500	N-m

Note : Operational Max. torque can be applied for high torque application

MO-FXL

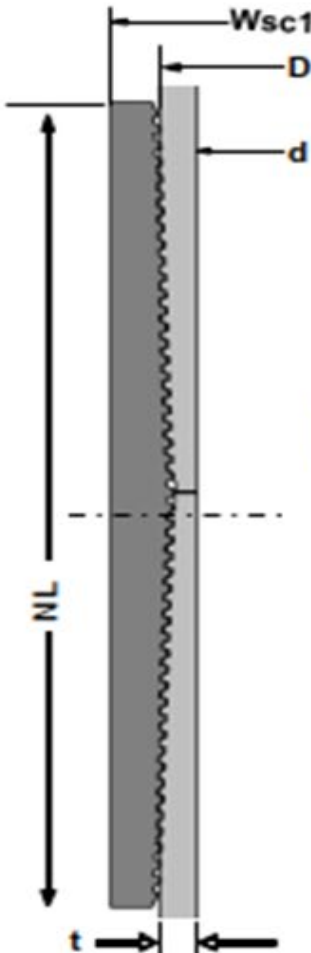




<b>Metal One Corp.</b>  	<b>GEOCONN-SC</b> Pipe Body: SeAH P110RY(SMYS110ksi) & 95%RBW *1 Coupling: P110CY (SMYS110ksi) <b>Connection Data Sheet</b>		Page	MAI GC 5.5 20 SeAH PRY 95%RW	
			Date	29-Sep-21	
			Rev.	0	

**GEOCONN-SC**



Geometry		Imperial		S.I.	
<b>Pipe Body</b>					
Grade *1	SeAH P110RY	-	SeAH P110RY		
SMYS	110	ksi	110	ksi	
Pipe OD ( D )	5.500	in	139.70	mm	
Weight	20.00	lb/ft	29.80	kg/m	
Wall Thickness ( t )	0.361	in	9.17	mm	
Pipe ID ( d )	4.778	in	121.36	mm	
Drift Dia.	4.653	in	118.19	mm	
<b>Connection</b>					
Coupling SMYS	110	ksi	110	ksi	
Coupling OD ( Wsc1 )	6.050	in	153.67	mm	
Coupling Length ( NL )	8.350	in	212.09	mm	
Make up Loss	4.125	in	104.78	mm	
Pipe Critical Area	5.83	in <sup>2</sup>	3,760	mm <sup>2</sup>	
Box Critical Area	6.00	in <sup>2</sup>	3,874	mm <sup>2</sup>	
Thread Taper	1 / 16 ( 3/4" per ft )				
Number of Threads	5 TPI				

Performance		Imperial		S.I.	
<b>Performance Properties for Pipe Body</b>					
S.M.Y.S.	641	kips	2,852	kN	
M.I.Y.P. *1	13,720	psi	94.62	MPa	
Collapse Strength	11,100	psi	76.55	MPa	
Note S.M.Y.S.= Specified Minimum YIELD Strength of Pipe body M.I.Y.P. = Minimum Internal Yield Pressure of Pipe body *1 Pipe: SeAH P110RY (SMYS110ksi), Min Wall Thickness of Pipe Body: 95% of Nom wall					
<b>Performance Properties for Connection</b>					
Min. Connection Joint Strength	100% of S.M.Y.S.				
Min. Compression Yield	100% of S.M.Y.S.				
Internal Pressure	100% of M.I.Y.P.				
External Pressure	100% of Collapse Strength				
Max. DLS ( deg. /100ft)	>90				
<b>Recommended Torque</b>					
Min.	14,800	ft-lb	19,700	N-m	
Opti.	16,200	ft-lb	21,900	N-m	
Max.	17,800	ft-lb	24,100	N-m	
Operational Max.	19,500	ft-lb	26,400	N-m	
Note : Operational Max. torque can be applied for high torque application					

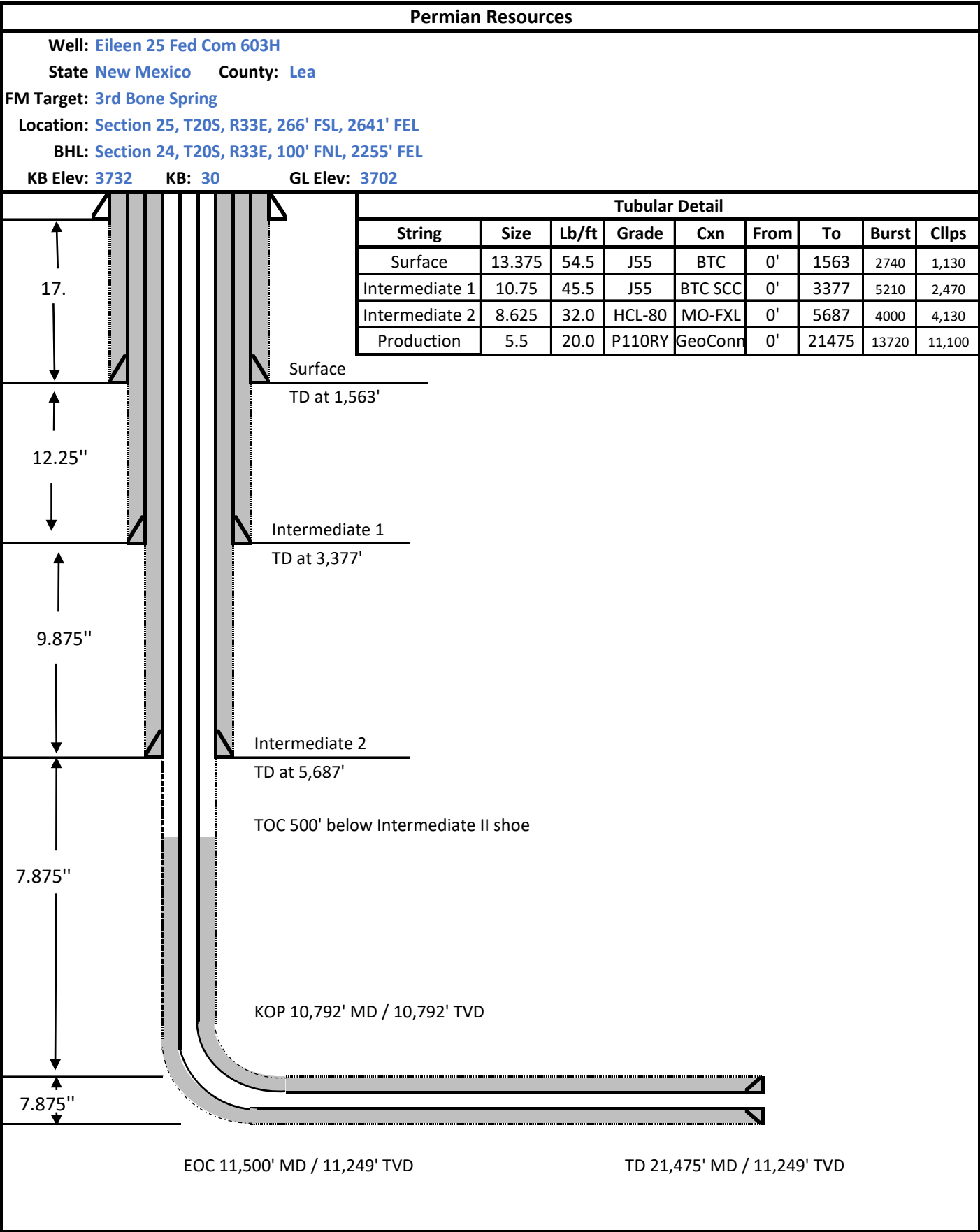
**Legal Notice**

The use of this information is at the reader/user's risk and no warranty is implied or expressed by Metal One Corporation or its parents, subsidiaries or affiliates (herein collectively referred to as "Metal One") with respect to the use of information contained herein. The information provided on this Connection Data Sheet is for informational purposes only, and was prepared by reference to engineering information that is specific to the subject products, without regard to safety-related factors, all of which are the sole responsibility of the operators and users of the subject connectors. Metal One assumes no responsibility for any errors with respect to this information.

Statements regarding the suitability of products for certain types of applications are based on Metal One's knowledge of typical requirements that are often placed on Metal One products in standard well configurations. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application.

The products described in this Connection Data Sheet are not recommended for use in deep water offshore applications. For more information, please refer to [http://www.mto.com/mao-con/images/top/WebsiteTerms\\_Active\\_20333287\\_1.pdf](http://www.mto.com/mao-con/images/top/WebsiteTerms_Active_20333287_1.pdf) the contents of which are incorporated by reference into this Connection Data Sheet.





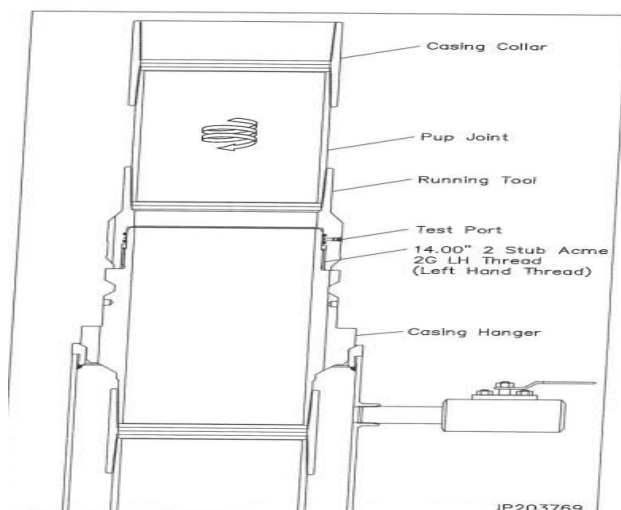


## Permian Resources

### Multi-Well Pad Batch Drilling & Off Line Cement Procedure

Surface Casing - PR intends to Batch set and offline cement all surface casing to a depth approved in the APD. Surface Holes will be batch drilled by a big rig. Appropriate notifications will be made prior to spudding the well, running, and cementing casing and prior to skidding to the rig to the next well on pad.

1. Drill Surface hole to Approved Depth with Surface Preset Rig and perform wellbore cleanup cycles. Trip out and rack back drilling BHA.
2. Run casing with Cactus Multibowl system, with baseplate supported by Conductor.
3. Circulate 1.5 csg capacity.
4. Flow test – Confirm well is static.
5. Install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
  - a) Test Surface casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.



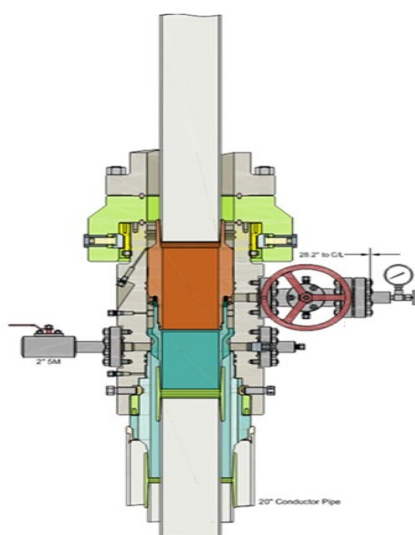


Intermediate 1 Casing – PR intends to Batch set all intermediate 1 casing strings to a depth approved in the APD, typically set into end of salts. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

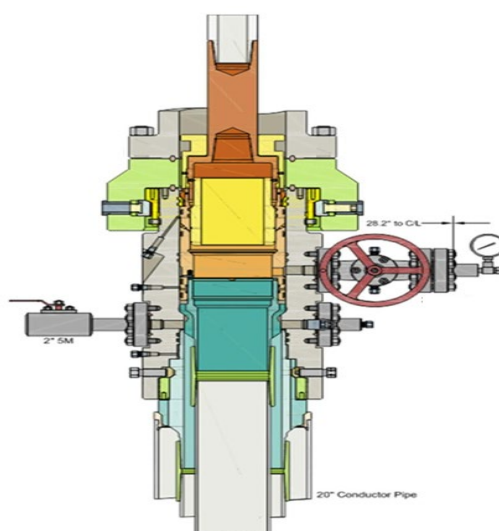
Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 1 as per requested break testing variance).

Install wear bushing then drill out 20" shoe-track.

1. Drill Intermediate 1 hole to approved casing point. Trip out of hole with BHA to run Casing.
2. Remove wear bushing then run and land Intermediate 1 casing with mandrel hanger in wellhead.
3. Flow test – Confirm well is static.
4. Set Annular packoff and pressure test. Test to 5k.
5. Install BPV, Nipple down BOP and install cap flange.
6. Skid rig to next well on pad
7. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
8. Install offline cement tool.
9. Rig up cementers.
10. Circulate bottoms up with cement truck
11. Commence planned cement job, take returns through the annulus wellhead valve
12. After plug is bumped confirm floats hold and well is static
13. Perform green cement casing test.
  - a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
14. Rig down cementers and equipment
15. Install night cap with pressure gauge to monitor.

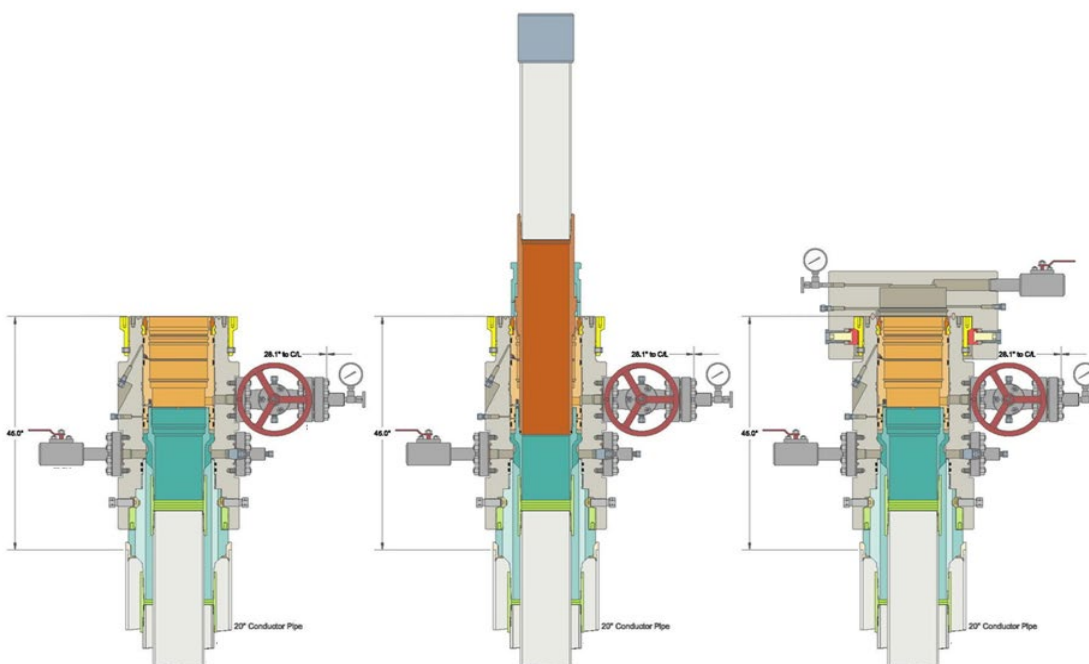


Run Intermediate Casing  
Land Intermediate Casing on Mandrel Hanger  
Cement Intermediate Casing  
Retrieve Running Tool



Run Packoff  
Test Upper and Lower Seals  
Engage Lockring  
Retrieve Running Tool





Intermediate 2 Casing – PR intends to Batch set all Intermediate 2 casing strings to a depth approved in the APD, typically set into Captain past losses. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE (testing will be performed on the first Intermediate 2 as per requested break testing variance).
2. Install wear bushing then drill out Intermediate 1 shoe-track.
3. Drill Intermediate 2 hole to approved casing point. Trip out of hole with BHA to run Casing.
4. Remove wear bushing then run and land Intermediate 2 casing with mandrel hanger in wellhead.
5. Flow test – Confirm well is static.
6. Set Annular packoff and pressure test. Test to 5k.
7. Install BPV, Nipple down BOP and install cap flange.
8. Skid rig to next well on pad
9. Remove cap flange (confirm well is static before removal)
  - a) If well is not static use the casing outlet valves to kill well
  - b) Drillers method will be used in well control event
  - c) High pressure return line will be rigged up to lower casing valve and run to choke manifold to control annular pressure
  - d) Kill mud will be circulated once influx is circulated out of hole
  - e) Confirm well is static and remove cap flange to start offline cement operations
10. Install offline cement tool.
11. Rig up cementers.
12. Circulate bottoms up with cement truck
13. Commence planned cement job, take returns through the annulus wellhead valve
14. After plug is bumped confirm floats hold and well is static
15. Perform green cement casing test.
  - a) Test casing (.22 psi/ft or 1500 psi whichever is greater) - not to exceed 70% casing burst.
16. Rig down cementers and equipment
17. Install night cap with pressure gauge to monitor.



Production Casing – PR intends to Batch set all Production casings. Appropriate notifications will be made prior Testing BOPE, and prior to running/cementing all casing strings.

1. Rig will remove the nightcap and install and test BOPE.
2. Install wear bushing then drill Intermediate shoe-track.
3. Drill Vertical hole to KOP – Trip out for Curve BHA.
4. Drill Curve, landing in production interval – Trip for Lateral BHA.
5. Drill Lateral / Production hole to Permitted BHL, perform cleanup cycles and trip out to run Production Casing.
6. Remove wear bushing then run Production casing to TD landing casing mandrel in wellhead.
7. Cement Production string to surface with floats holding.



## Permian Resources BOP Break Testing Variance Procedure

**Subject:** Request for a Variance Allowing break Testing of the Blowout Preventer Equipment (BOPE). Permian Resources requests a variance to ONLY test broken pressure seals on the BOPE and function test BOP when skidding a drilling rig between multiple wells on a pad.

### **Background**

Title 43 CFR 3172, Drilling Operations, Sections 6.b.9.iv states that the BOP test must be performed whenever any seal subject to test pressure is broken. The current interpretation of the Bureau of Land Management (BLM) requires a complete BOP test and not just a test of the affected component. 43 CFR 3172.13, Variances from minimum standards states, "An operator may request the authorized officer to approve a variance from any of the minimum standards prescribed in [§§ 3172.6](#) through [3172.12](#). All such requests shall be submitted in writing to the appropriate authorized officer and provide information as to the circumstances which warrant approval of the variance(s) requested and the proposed alternative methods by which the related minimum standard(s) are to be satisfied. The authorized officer, after considering all relevant factors, if appropriate, may approve the requested variance(s) if it is determined that the proposed alternative(s) meet or exceed the objectives of the applicable minimum standard(s)". Permian Resources feels the break testing the BOPE is such a situation. Therefore, as per 43 CFR 3172.13, Permian Resources submits this request for the variance.

### **Supporting Documentation**

The language used in 43 CFR 3172 became effective on December 19, 1988 and has remained the standard for regulating BLM onshore drilling operations for over 30 years. During this time, there have been significant changes in drilling technology. The BLM continues to use the variance request process to allow for the use of modern technology and acceptable engineering practices that have arisen since 43 CFR 3172 was originally released. The Permian Resources drilling rig fleet has many modern upgrades that allow the intact BOP stack to be moved between well slots on a multi-well pad, as well as, wellhead designs that incorporate quick connects facilitating release of the BOP from the wellhead without breaking any BOP stack components apart. These technologies have been used extensively offshore, and other regulators, API, and many operators around the world have endorsed break testing as safe and reliable.

Figure 1: Winch System attached to BOP Stack





Figure 2: BOP Winch System



American Petroleum Institute (API) standards, specification and recommended practices are considered the industry standard and are consistently utilized and referenced by the industry. 43 CFR 3172 recognizes API recommended Practices (RP) 53 in its original development. API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth Edition, December 2018, Annex C, Table C.4) recognizes break testing as an acceptable practice. Specifically, API Standard 53, 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." See Table C.4 below for reference.

62

API STANDARD 53

Table C.4—Initial Pressure Testing, Surface BOP Stacks

Component to be Pressure Tested	Pressure Test—Low Pressure <sup>a,c</sup> psig (MPa)	Pressure Test—High Pressure <sup>a,c</sup>	
		Change Out of Component, Elastomer, or Ring Gasket	No Change Out of Component, Elastomer, or Ring Gasket
Annular preventer <sup>b</sup>	250 to 350 (1.72 to 2.41)	RWP of annular preventer	MASP or 70% annular RWP, whichever is lower.
Fixed pipe, variable bore, blind, and BSR preventers <sup>a,c</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventer or wellhead system, whichever is lower	ITP
Choke and kill line and BOP side outlet valves below ram preventers (both sides)	250 to 350 (1.72 to 2.41)	RWP of side outlet valve or wellhead system, whichever is lower	ITP
Choke manifold—upstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of ram preventers or wellhead system, whichever is lower	ITP
Choke manifold—downstream of chokes <sup>a</sup>	250 to 350 (1.72 to 2.41)	RWP of valve(s), line(s), or MASP for the well program, whichever is lower	
Kelly, kelly valves, drill pipe safety valves, IBOPs	250 to 350 (1.72 to 2.41)	MASP for the well program	

<sup>a</sup> Pressure test evaluation periods shall be a minimum of five minutes.

No visible leaks.

The pressure shall remain stable during the evaluation period. The pressure shall not decrease below the intended test pressure.

<sup>b</sup> Annular(s) and VBR(s) shall be pressure tested on the largest and smallest OD drill pipe to be used in well program.

<sup>c</sup> For pad drilling operations, moving from one wellhead to another within the 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

<sup>a</sup> For surface offshore operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented during the initial test. For land operations, the ram BOPs shall be pressure tested with the ram locks engaged and the closing and locking pressure vented at commissioning and annually.

<sup>a</sup> Adjustable chokes are not required to be full sealing devices. Pressure testing against a closed choke is not required.



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

Break testing has been approved by the BLM in the past with other operators based on the detailed information provided in this document.

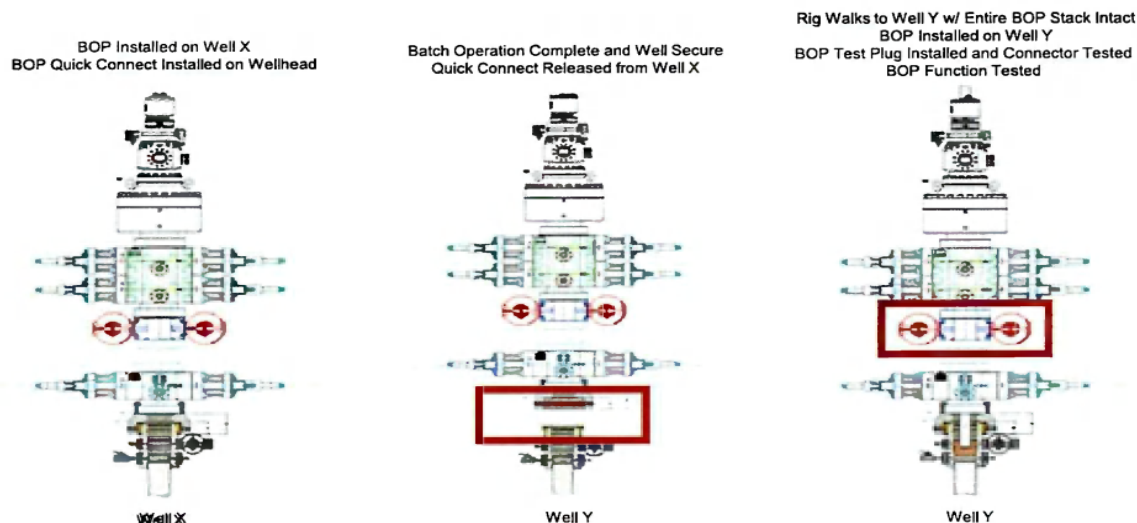
Permian Resources feels break testing and our current procedures meet the intent of 43 CFR 3172 and often exceed it. There has been no evidence that break testing results in more components failing than seen on full BOP tests. Permian Resources internal standards require complete BOPE tests more often than that of 43 CFR 3172 (every 21 days). In addition to function testing the annular, pipe rams and blind rams after each BOP nipple up, Permian Resources performs a choke drill with the rig crew prior to drilling out every casing shoe. This is additional training for the rig crew that exceeds the requirements of 43 CFR 3172.

### **Procedures**

- 1) Permian Resources will use this document for our break testing plan for New Mexico Delaware Basin. The summary below will be referenced in the APD or Sundry Notice and receive approval prior to implementing this variance.
- 2) Permian Resources will perform BOP break testing on multi-wells pads where multiple intermediate sections can be drilled and cased within the 21-day BOP test window.
  - a) A full BOP test will be conducted on the first well on the pad.
  - b) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same formation depth or shallower.
  - c) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
  - d) A full BOP test will be required prior to drilling any production hole.
- 3) After performing a complete BOP test on the first well, the intermediate hole section will be drilled and cased, two breaks would be made on the BOP equipment.
  - a) Between the HCV valve and choke line connection
  - b) Between the BOP quick connect and the wellhead
- 4) The BOP is then lifted and removed from the wellhead by a hydraulic system.
- 5) After skidding to the next well, the BOP is moved to the wellhead by the same hydraulic system and installed.
- 6) The connections mentioned in 3a and 3b will then be reconnected.
- 7) Install test plug into the wellhead using test joint or drill pipe.
- 8) A shell test is performed against the upper pipe rams testing the two breaks.
- 9) The shell test will consist of a 250 psi low test and a high test to the value submitted in the APD or Sundry (e.g. 5,000 psi or 10,000psi).
- 10) Function tests will be performed on the following components: lower pipe rams, blind rams, and annular.
- 11) For a multi-well pad the same two breaks on the BOP would be made and on the next wells and steps 4 through 10 would be repeated.
- 12) A second break test would only be done if the intermediate hole section being drilled could not be completed within the 21 day BOP test window.



**Note: Picture below highlights BOP components that will be tested during batch operations**



### Summary

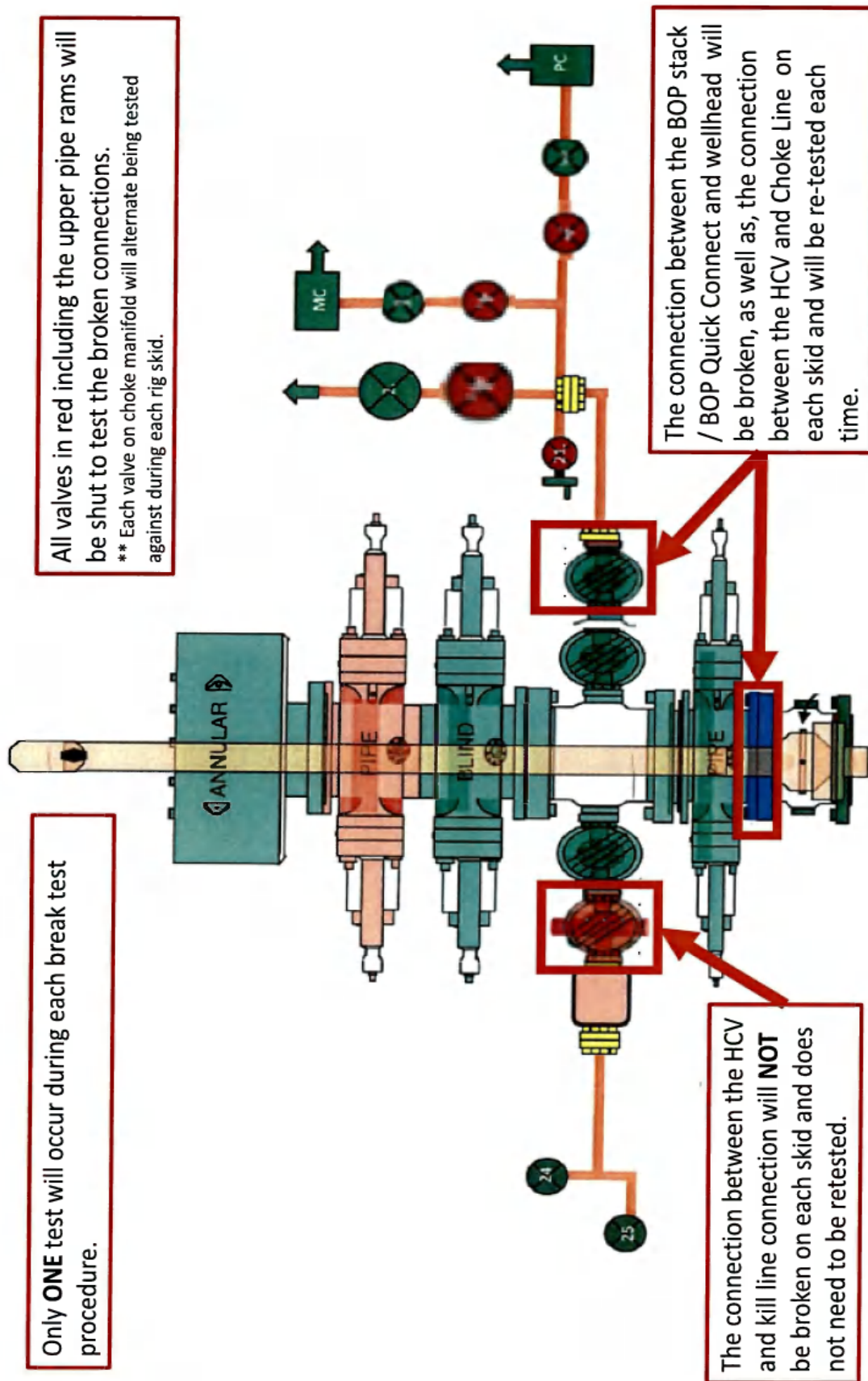
A variance is requested to ONLY test broken pressure seals on the BOP equipment when moving from wellhead to wellhead which is in compliance with API Standard 53. API Standard 53 states, that for pad drilling operations, moving from one wellhead to another within 21 days, pressure testing is required for pressure-containing and pressure-controlling connections when the integrity of a pressure seal is broken.

The BOP will be secured by a hydraulic carrier or cradle. The BLM will be contacted if a Well Control event occurs prior to the commencement of a BOPE Break Testing operation.

Based on public data and the supporting documentation submitted herein to the BLM, we will request permission to ONLY retest broken pressure seals if the following conditions are met:

- 1) After a full BOP test is conducted on the first well on the pad.
- 2) The first intermediate hole section drilled on the pad will be the deepest. All the remaining hole sections will be the same depth or shallower.
- 3) A full BOP test will be required if the intermediate hole section being drilled has a MASP over 5M.
- 4) A full BOP test will be required prior to drilling the production hole.







SOP-12-F05  
Performance Data Sheet



API 5CT Casing Performance Data Sheet  
10.750" 45.50 lb/ft J55

Manufactured to specifications of API 5CT 10th edition and bears the API monogram.

Grade	J55
-------	-----

Sizes and Weights

OD	10.750 in
Nominal Wall Thickness	0.400 in
Nominal Weight, T&C	45.50 lb/ft
Nominal Weight, PE	44.26 lb/ft
Nominal ID	9.950 in
Standard Drift	9.794 in
Alternate Drift	9.875 in

Pipe Body Mechanical Properties

Minimum Yield Strength	55,000 psi
Maximum Yield Strength	80,000 psi
Minimum Tensile Strength	75,000 psi
Maximum Hardness	N/A

Minimum Performance

Collapse Pressure	2,470 psi
Minimal Internal Pressure Yield	5,210 psi
Pipe body Tension Yield	1,040,000 lbs
Joint Strength STC	692,000 lbs
Joint Strength LTC	N/A
Joint Strength BTC	1,063,000 lbs
Internal Pressure Leak Resistance STC/LTC Connections	6,880 lbs
Internal Pressure Leak Resistance BTC Connections	7,450 lbs

Special Clearance Coupling

OD	N/A
Minimum Length (NL)	10.625"
Diameter at Counterbore	13.515"
Width of Bearing Face	0.375"

Inspection and Testing

Visual	OD Longitudinal and independent 3rd party SEA
NDT	Weldline UT after hydrotest. Calibration notch sensitivity (% of specified wall thickness): 12.5%

Color code



Pipe ends	One green band
Couplings	Green with one white band (alternate coupling: K55 - green)





ContiTech

CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014 Page: 9 / 113
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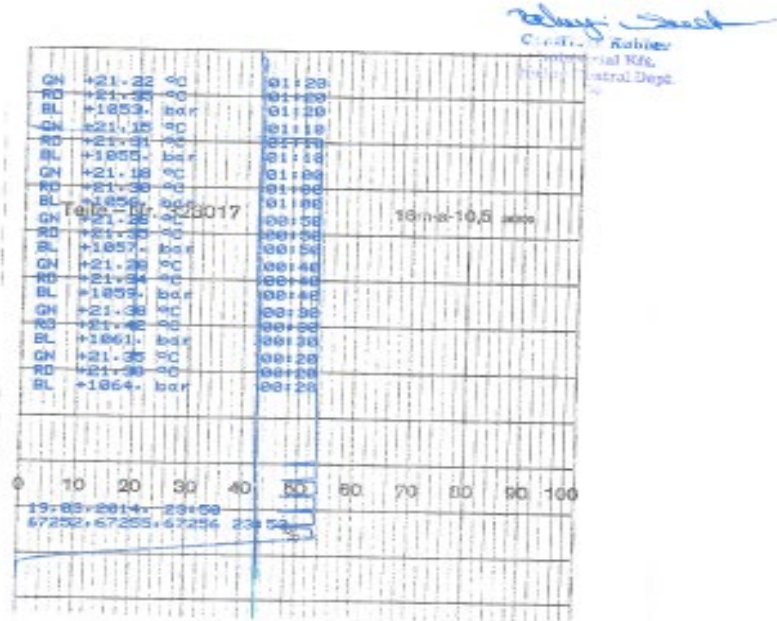
<b>QUALITY CONTROL INSPECTION AND TEST CERTIFICATE</b>				CERT. N°: 504	
PURCHASER: ContiTech Oil & Marine Corp.				P.O. N°: 4500409659	
CONTITECH RUBBER order N°: 538236		HOSE TYPE: 3" ID		Choke and Kill Hose	
HOSE SERIAL N°: 67255		NOMINAL / ACTUAL LENGTH: 10,67 m / 10,77 m			
W.P. 68,9 MPa 10000 psi		T.P. 103,4 MPa 15000 psi		Duration: 60 min.	
Pressure test with water at ambient temperature					
See attachment. ( 1 page )					
↑ 10 mm = 10 Min. → 10 mm = 20 MPa					
COUPLINGS Type		Serial N°		Quality	
3" coupling with		9251 9254		AISI 4130	
4 1/16" 10K API b.w. Flange end				AISI 4130	
				A0579N	
				035608	
<b>Not Designed For Well Testing</b>				<b>API Spec 16 C</b>	
				<b>Temperature rate:"B"</b>	
All metal parts are flawless					
WE CERTIFY THAT THE ABOVE HOSE HAS BEEN MANUFACTURED IN ACCORDANCE WITH THE TERMS OF THE ORDER INSPECTED AND PRESSURE TESTED AS ABOVE WITH SATISFACTORY RESULT.					
STATEMENT OF CONFORMITY: We hereby certify that the above items/equipment supplied by us are in conformity with the terms, conditions and specifications of the above Purchaser Order and that these items/equipment were fabricated inspected and tested in accordance with the referenced standards, codes and specifications and meet the relevant acceptance criteria and design requirements.					
COUNTRY OF ORIGIN HUNGARY/EU					
Date:		Inspector		Quality Control	
20. March 2014.				ContiTech Rubber Industrial Kft. Quality Control Dept.  	

Centrotech Rubber Industrial Kft., Budapest 110, H-8728 Szeged | H-6701 P.O.Box 152 Szeged, Hungary  
Phone: +36 82 568 737 | Fax: +36 82 568 738 | e-mail: info@bud.centrotech.hu | Internet: www.centrotech-rubber.hu; www.centrotech.hu  
The Court of Gyeonggi County at Registry Court | Registry Court No: Gg-30-04-000503 | EU VAT No: HU1837209  
Bank data: Commerzbank Zrt., Budapest | 16020106-26030003



ATTACHMENT OF QUALITY CONTROL INSPECTION AND TEST CERTIFICATE No: 501, 504, 505

Page: 1 / 1







CONTITECH RUBBER Industrial Kft.	No:QC-DB- 210/ 2014
	Page: 15 / 113
	ContiTech

## Hose Data Sheet

CRI Order No.	538236
Customer	ContiTech Oil & Marine Corp.
Customer Order No	4500409659
Item No.	1
Hose Type	Flexible Hose
<b>Standard</b>	<b>API SPEC 16 C</b>
Inside dia in inches	3
Length	35 ft
Type of coupling one end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
Type of coupling other end	FLANGE 4.1/16" 10K API SPEC 6A TYPE 6BX FLANGE C/W BX155 R.GR.SOUR
H2S service NACE MR0175	Yes
Working Pressure	10 000 psi
Design Pressure	10 000 psi
Test Pressure	15 000 psi
Safety Factor	2,25
Marking	USUAL PHOENIX
Cover	NOT FIRE RESISTANT
Outside protection	St. steel outer wrap
Internal stripwound tube	No
Lining	OIL + GAS RESISTANT SOUR
Safety clamp	No
Lifting collar	No
Element C	No
Safety chain	No
Safety wire rope	No
Max.design temperature [°C]	100
Min.design temperature [°C]	-20
Min. Bend Radius operating [m]	0,90
Min. Bend Radius storage [m]	0,90
Electrical continuity	The Hose is electrically continuous
Type of packing	WOODEN CRATE ISPM-15

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

# SUPO Data Report

10/22/2024

APD ID: 10400081607

Submission Date: 11/11/2021

Highlighted data  
reflects the most  
recent changes

Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COM

Well Number: 603H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

LO\_EILEEN\_25\_FED\_COM\_603H\_VIC\_S\_20211110141610.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

### ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

## Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

EILEEN\_25\_FED\_COM\_ROADS\_SEC25\_REV1\_S\_20240812073701.pdf

EILEEN\_25\_FED\_COM\_ROADS\_SEC36\_S\_20240812073707.pdf

New road type: RESOURCE

Length: 2998

Feet

Width (ft.): 30

Max slope (%): 2

Max grade (%): 5

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 24

**New road access erosion control:** Newly constructed or reconstructed roads 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.

**New road access plan or profile prepared?** N



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COMWell Number: 603H

New road access plan

Access road engineering design? N

Access road engineering design

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: 6 of Compacted Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: 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.

Access other construction information:

Access miscellaneous information:

Number of access turnouts:Access turnout map:

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: No Drainage crossings

Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

LO\_EILEEN\_25\_FED\_COM\_603H\_MILE\_RADIUS\_S\_20211110141634.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: SECTION 25, TOWNSHIP 20-S, RANGE 33-E, N.M.P.M. LEA COUNTY, NEW MEXICO

Production Facilities map:

EILEEN\_25\_FED\_COM\_CTB\_20240812073726.pdf

EILEEN\_25\_FED\_COM\_603H\_703H\_704H\_FL\_S\_20240812073737.pdf



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COMWell Number: 603H

- EILEEN\_25\_FED\_COM\_ELECTRIC\_SEC25\_S\_20240812073747.pdf
- EILEEN\_25\_FED\_COM\_ELECTRIC\_SEC36\_S\_20240812073752.pdf
- EILEEN\_25\_FED\_COM\_GAS\_SEC25\_S\_20240812073757.pdf
- EILEEN\_25\_FED\_COM\_GL\_SEC29\_20240812073803.pdf
- EILEEN\_25\_FED\_COM\_GL\_SEC30\_S\_20240812073809.pdf
- EILEEN\_25\_FED\_COM\_WATER\_SEC20\_S\_20240812073816.pdf
- EILEEN\_25\_FED\_COM\_WATER\_SEC21\_S\_20240812073822.pdf
- EILEEN\_25\_FED\_COM\_WATER\_SEC25\_S\_20240812073828.pdf
- EILEEN\_25\_FED\_COM\_WATER\_SEC29\_S\_20240812073835.pdf
- EILEEN\_25\_FED\_COM\_WATER\_SEC30\_S\_20240812073840.pdf
- EILEEN\_25\_FED\_COM\_INFRASTRUCTURE\_20240812073907.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: RECYCLED

Water source use type: OTHER

**Describe use type:** The source and location of the water location will be drilled using a combination of water mud program. (i) Water will be obtained from commercial water to location by trucks using existing and proposed roads attached. (ii) Water may as be supplied from frac ponds temporary above ground surface lines a shown on the n 4-inch lay-flat lines and up to five 12-inch lay-flat lines for freshwater. Freshwater is defined as containing less than 500 mg/L of Total Solids (TDS), exhibiting no petroleum sheen when shaken, and not undergoing mechanical processes that expose it to heavy metals or other contaminants. Water to utilize up to five 12-inch lay-flat lines for the purpose of water being defined as the reconditioning of produced water include mechanical and chemical processes. Freshwater Heartthrob Water Pit located in Section 17, Township 24-S, Range 33-E, Lea County, New Mexico. Treated Produced Water Sources: 1. EOG Resources Section 16 , Township 24-S, Range 33-E, Lea County, New Mexico. Temporary surface lines would originate from a single water source location in the surrounding area of the proposed action and be to minimal disturbance. Temporary surface line(s) shall be edge of the existing disturbance (i.e., edge of bar/borrow road or other man-made addition to the landscape). A permit shall be used. All vehicle equipment will remain within the existing disturbance showing the locations of the temporary surface lines will be included in the Environmental Assessment. Electron micrographs shall be submitted with the Environmental Assessment. The proposed route for up to five temporary above ground surface lines the surface for a time (>180 days). Temporary above ground surface lines water for drilling and completions operations.

Source latitude:

Source longitude:

Source datum:



**Operator Name:** EOG RESOURCES INCORPORATED**Well Name:** EILEEN 25 FED COM**Well Number:** 603H

OTHER

**Describe use type:** The source and location of the water location will be drilled using a combination of water mud program. (i) Water will be obtained from commercial water to location by trucks using existing and proposed roads attached. (ii) Water may as be supplied from frac ponds temporary above ground surface lines a shown on the n 4-inch lay-flat lines and up to five 12-inch lay-flat lines for freshwater. Freshwater is defined as containing less than Solids (TDS), exhibiting no petroleum sheen when stand mechanical processes that expose it to heavy metals or to utilize up to five 12-inch lay-flat lines for the purpose of water being defined as the reconditioning of produced water include mechanical and chemical processes. Freshwater Heartthrob Water Pit located in Section 17, Township 24-S, Range 33-E, Lea County, New Mexico. Treated Produced Water Sources: 1. EOG Res Section 16 , Township 24-S, Range 33-E, Lea County, New Mexico. lines would originate from a single water source location in the surrounding area of the proposed action and be to minimal disturbance. Temporary surface line(s) shall be edge of the existing disturbance (i.e., edge of bar/borrow road or other man-made addition to the landscape). A p be used. All vehicle equipment will remain within the exi showing the locations of the temporary surface lines will be included in the Environmental Assessment. Electron shall be submitted with the Environmental Assessment. proposed route for up to five temporary above ground s the surface for a time (>180 days). Temporary above gr water for drilling and completions operations.

**Water source permit type:** WATER RIGHT**Water source transport method:** TRUCKING  
PIPELINE**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**

Eileen\_25\_Fed\_Com\_Water\_20240607065552.pdf

**Water source comments:****New water well?** N



**Operator Name:** EOG RESOURCES INCORPORATED**Well Name:** EILEEN 25 FED COM**Well Number:** 603H**New Water Well Info****Well latitude:****Well Longitude:****Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):****Est thickness of aquifer:****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**

Eileen\_25\_Fed\_Com\_Caliche\_20240607065614.pdf



**Operator Name:** EOG RESOURCES INCORPORATED**Well Name:** EILEEN 25 FED COM**Well Number:** 603H**Section 7 - Methods for Handling****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 NM**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: 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)

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

**Disposal location description:** 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)

**Waste type:** GARBAGE**Waste content description:** TRASH GENERATED ONSITE**Amount of waste:****Waste disposal frequency :** Weekly**Safe containment description:** ENCLOSED DUMPSTERS**Safe containmant attachment:**



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COM

Well Number: 603H

Waste disposal type: OTHER

Disposal location ownership: OTHER

Disposal type description: LEA CO NM LANDFILL

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

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.)

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 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 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.

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?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COM

Well Number: 603H

Section 9 - Well Site

Well Site Layout Diagram:

LO\_EILEEN\_25\_FED\_COM\_603H\_SITE\_S\_20211110141743.pdf

LO\_EILEEN\_25\_FED\_COM\_603H\_WELLSITE\_S\_20211110141743.pdf

Eileen\_25\_Fed\_Com\_603H\_Rig\_Layout\_20211110141755.pdf

Comments: Exhibit 2A-Wellsite, Exhibit 2B-Padsite, Exhibit 4-Rig Layout

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: EILEEN 25 FED COM

Multiple Well Pad Number: 504H/503H/603H/703H/704/303H/203H

Recontouring

LO\_EILEEN\_25\_FED\_COM\_603H\_RECLAMATION\_S\_20211110141806.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



**Operator Name:** EOG RESOURCES INCORPORATED**Well Name:** EILEEN 25 FED COM**Well Number:** 603H

excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respreads evenly on the site following topsoil resspreading. 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**

**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****Will seed be harvested for use in site reclamation?** N**Seed harvest description:****Seed harvest description attachment:**



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COM

Well Number: 603H

Seed

Seed Table

Seed Summary	
Seed Type	Pounds/Acre

Total pounds/Acre:

Seed reclamation

Operator Contact/Responsible Official

First Name:

Last Name:

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 Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:



**Operator Name:** EOG RESOURCES INCORPORATED**Well Name:** EILEEN 25 FED COM**Well Number:** 603H**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:**

## Section 12 - Other

**Right of Way needed?** Y**Use APD as ROW?** Y**ROW Type(s):** 288100 ROW – O&G Pipeline

## ROW

**SUPO Additional Information:** An onsite meeting was conducted on July 8th, 2024. We plan to use (6) 12-inch lay flat hoses to transport water and (6) 4-inch polylines or layflat for drilling and frac operations. We are asking for 4 associated pipelines all depicted on the attached INFRASTRUCTURE MAP and associated pipeline plats: EILEEN 25 FED COM\_603H\_703H\_704H\_FL EILEEN 25 FED COM\_GL\_SEC25\_SEC29\_SEC30 EILEEN 25 FED COM\_WATER\_SEC20\_SEC21\_SEC25\_SEC29\_SEC30 The well will be produced using gas lift as the artificial lift method. Produced water will be transported via pipeline to the EOG produced water gathering system

**Use a previously conducted onsite?** N

**Previous Onsite information:**

## Other SUPO

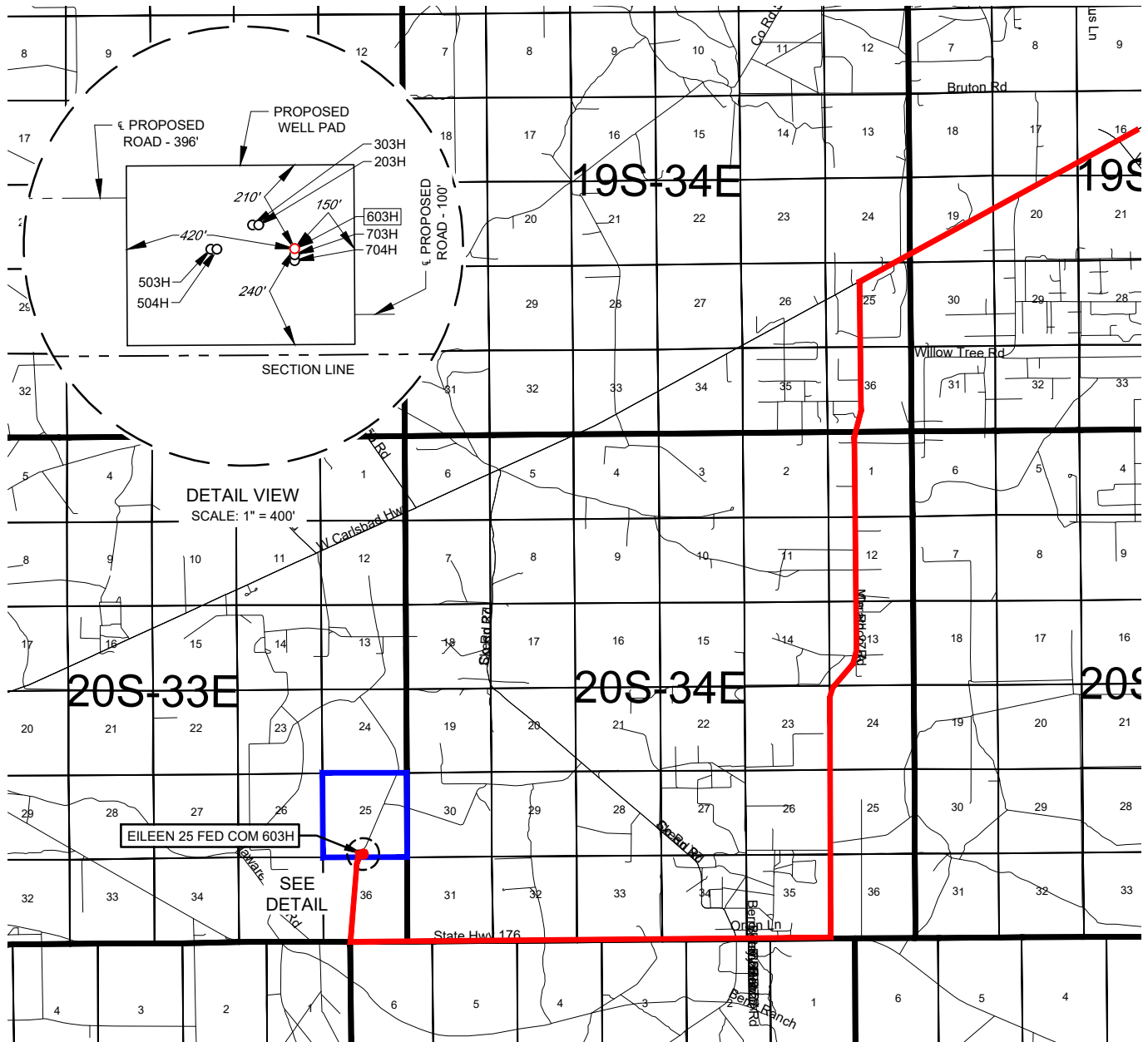
SUPO\_EILEEN\_25\_FED\_COM\_603H\_20211110141829.pdf

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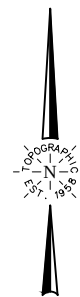
EXHIBIT 2  
VICINITY MAPLEASE NAME & WELL NO.: EILEEN 25 FED COM 603HSECTION 25 TWP 20-S RGE 33-E SURVEY N.M.P.M.  
COUNTY LEA STATE NM  
DESCRIPTION 266' FSL & 2641' FEL

## DISTANCE &amp; DIRECTION

FROM INT. OF NM-18 N. & US-180, GO WEST ON US-180  $\pm 23.6$  MILES,  
THENCE SOUTH (LEFT) ON COUNTY RD. 27-A  $\pm 7.9$  MILES, THENCE  
WEST (RIGHT) ON NM-176 W  $\pm 5.7$  MILES, THENCE NORTH (RIGHT) ON A  
LEASE ROAD  $\pm 1.0$  MILES, THENCE WEST (LEFT) ON A PROPOSED ROAD  
 $\pm 396$  FEET TO A POINT  $\pm 440$  FEET NORTHWEST OF THE LOCATION.

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.

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.



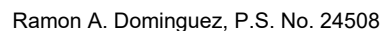
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0' 5000' 10000'



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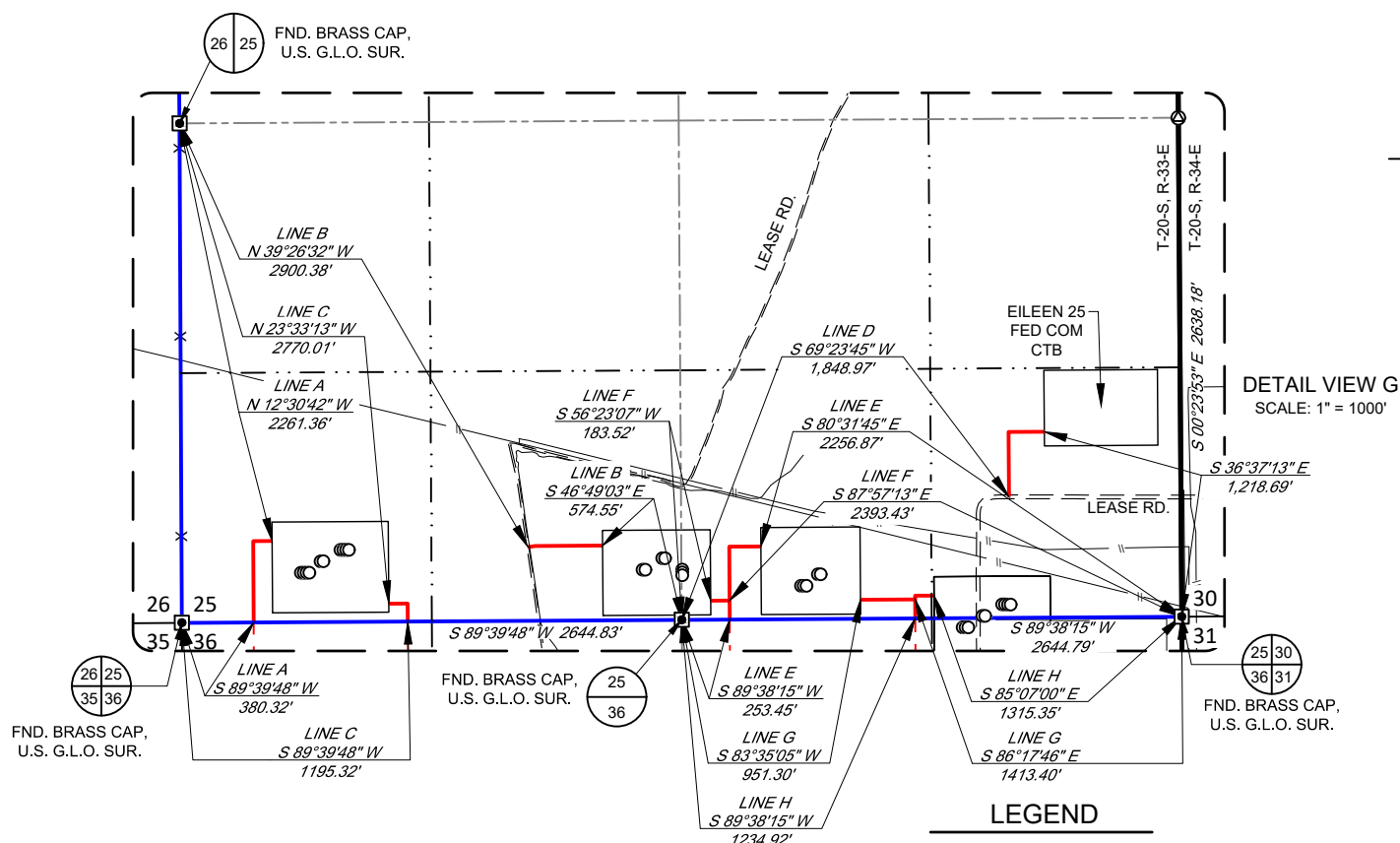
**eog resources, inc.**

EILEEN 25 FED COM ROAD EASEMENTS	REVISION:		NOTES: 1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. 3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. AND MADE FOR THIS TRANSACTION ONLY.  4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING 5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT 6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
	INT	DATE	
	TCG	07/18/24	
DATE: 09/30/21			
FILE: EP_EILEEN_25_FC_ROADS_SEC25_REV1			
DRAWN BY: MML			
SHEET : 1 OF 3			

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SECTION 25, TOWNSHIP 20-S, RANGE 33-E, N.M.P.M.  
LEA COUNTY, NEW MEXICO



LINE TABLE A		
LINE	BEARING	DISTANCE
A1	N 00°20'53" W	430.11'
A2	N 89°39'07" E	100.00'

LINE TABLE B		
LINE	BEARING	DISTANCE
B1	N 81°20'16" E	38.72'
B2	N 89°39'21" E	357.15'

LINE TABLE C		
LINE	BEARING	DISTANCE
C1	N 00°20'53" W	94.95'
C2	S 89°39'07" W	100.00'

LINE TABLE D		
LINE	BEARING	DISTANCE
1	S 89°36'25" W	189.44'
2	S 00°23'35" E	342.91'












LINE TABLE E		
LINE	BEARING	DISTANCE
E1	N 00°20'53" W	385.49'
E2	N 89°39'07" E	167.53'

LINE	BEARING	DISTANCE
F1	S 89°39'07" W	100.00'

LINE TABLE G		
LINE	BEARING	DISTANCE
G1	S 89°39'07" W	288.94'

LINE	BEARING	DISTANCE
H1	N 00°20'53" W	120.29'
H2	N 89°39'07" E	100.00'

## LEGEND

- |   |                       |
|---|-----------------------|
|  | RANGE LINE            |
|  | SECTION LINE          |
|  | SURVEYED BASELINE     |
|  | TRACT BORDER          |
|  | EDGE OF EASEMENT      |
|  | ROAD WAY              |
|  | FENCE LINE            |
|  | EXISTING PIPELINE     |
|  | POINT OF INTERSECTION |
|  | MONUMENT              |
|  | CALCULATED CORNER     |



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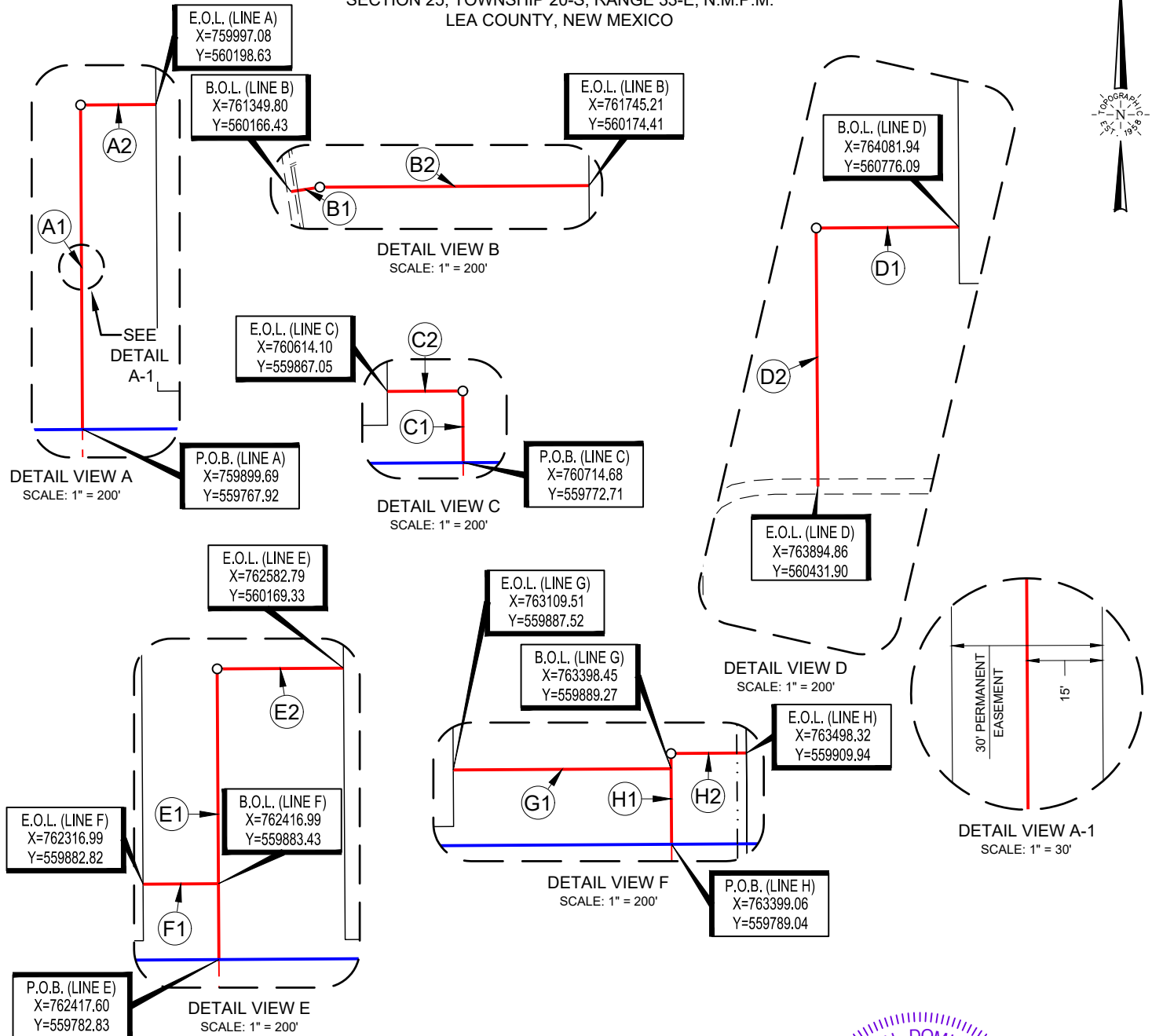


7/22/2024 11:03:57 AM

Ramon A. Dominguez, P.S. No. 24508

EILEEN 25 FED COM ROAD EASEMENTS	REVISION:		NOTES: 1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. 3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.  4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING 5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT 6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
	INT	DATE	
	TCG	07/18/24	
DATE: 09/30/21			
FILE: EP_EILEEN_25_FC_ROADS_SEC25_REV1			
DRAWN BY: MML			
SHEET : 2 OF 3			



SECTION 25, TOWNSHIP 20-S, RANGE 33-E, N.M.P.M.  
LEA COUNTY, NEW MEXICO

481 WINSBROOK ROAD, Ste. 200 • BENBROOK, TEXAS 76126  
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TEXAS FIRM REGISTRATION NO. 10042504  
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7/22/2024 11:03:58 AM

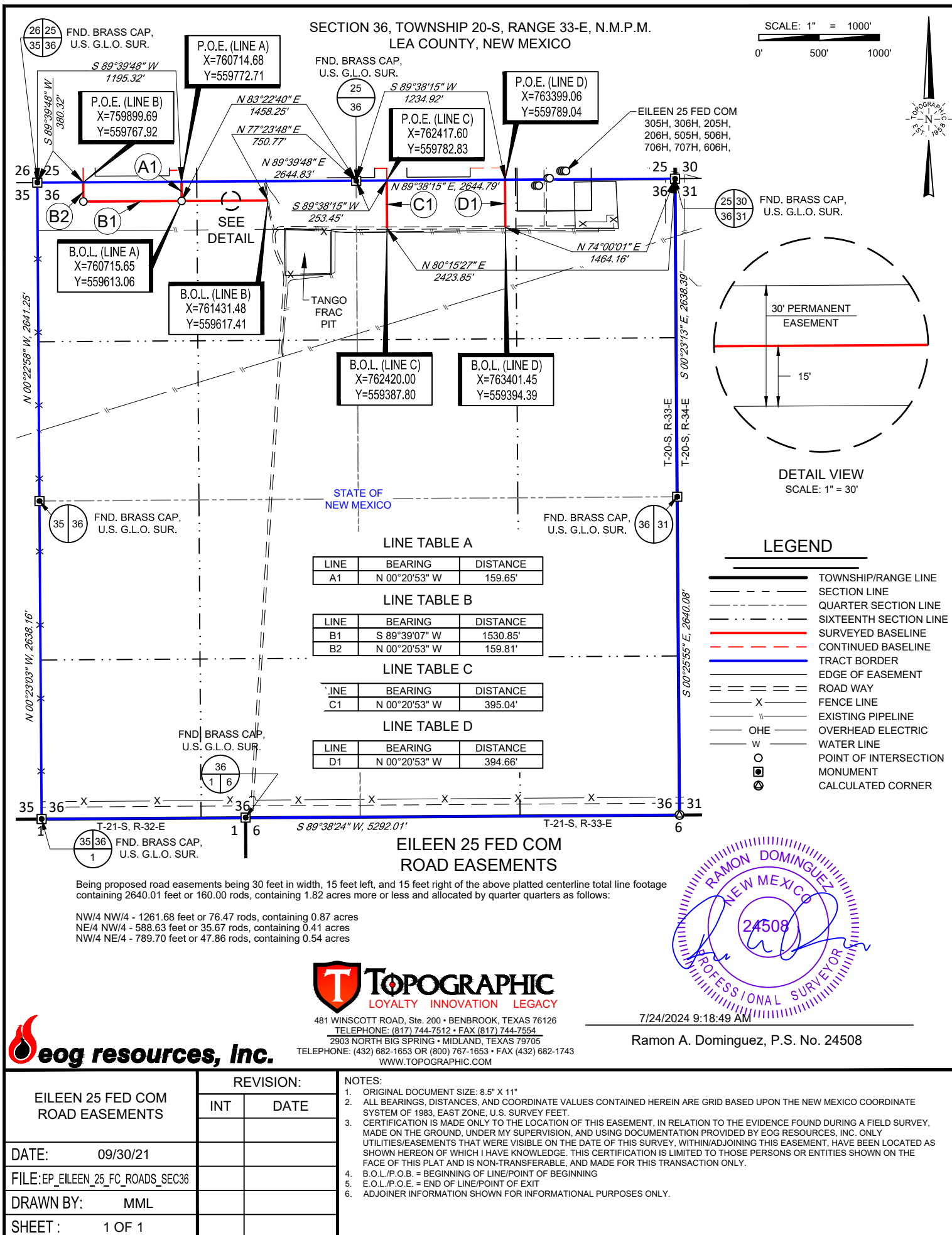
Ramon A. Dominguez, P.S. No. 24508



EILEEN 25 FED COM ROAD EASEMENTS	REVISION:		NOTES:
	INT	DATE	
DATE: 09/30/21	TCG	07/18/24	1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. 3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY. 4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING 5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT 6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
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SHEET: 3 OF 3			

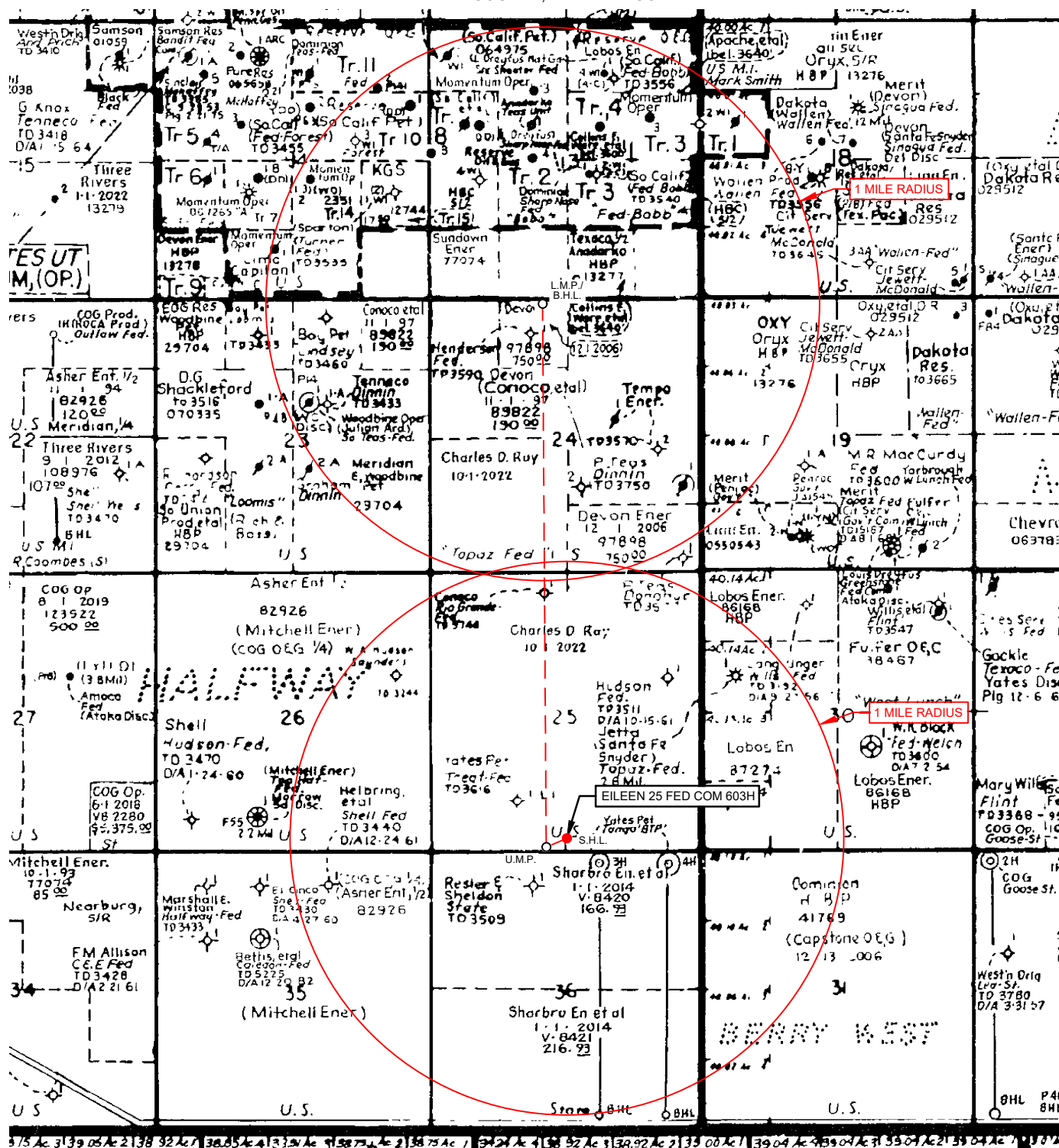
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## EXHIBIT 3

SECTION 25, TOWNSHIP 20-S, RANGE 33-E, N.M.P.M.  
LEA COUNTY, NEW MEXICO

LEASE NAME &amp; WELL NO.: EILEEN 25 FED COM 603H

SCALE: NTS

603H LATITUDE N 32.5375851

603H LONGITUDE W 103.6167513

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.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  
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LINE	BEARING	DISTANCE
1	S 89°36'25" W	600.00'
2	N 00°23'35" W	400.00'
3	N 89°36'25" E	600.00'
4	S 00°23'35" E	400.00'



481 WINSOTT ROAD, Ste. 200 • BENBROOK, TEXAS 76126  
TELEPHONE: (817) 744-7512 • FAX (817) 744-7554  
TEXAS FIRM REGISTRATION NO. 10042504  
[WWW.TOPOGRAPHIC.COM](http://WWW.TOPOGRAPHIC.COM)

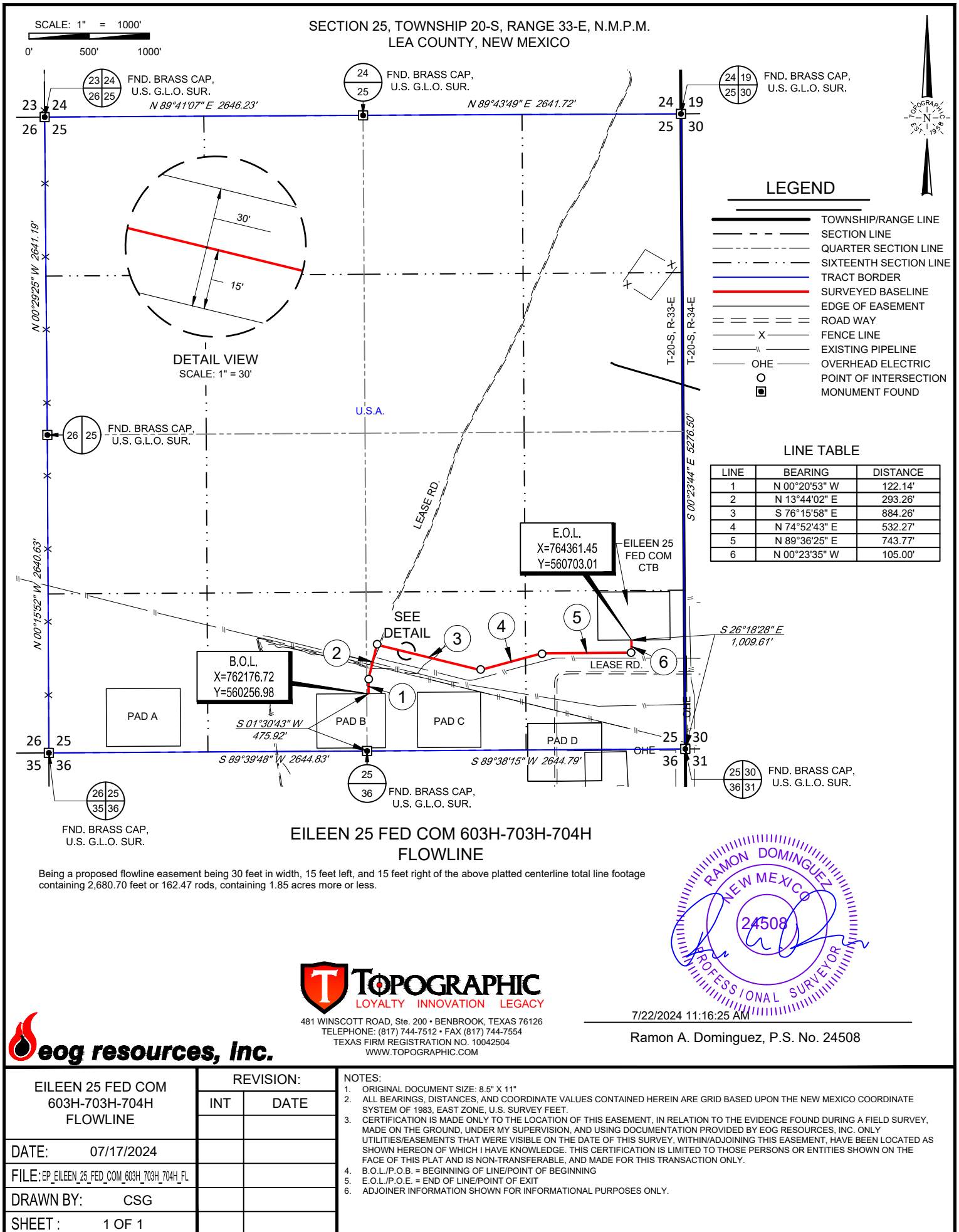
7/22/2024 11:15:34 AM

Ramon A. Dominguez, P.S. No. 24508

EILEEN 25 FED COM CTB	REVISION:		NOTES: 1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. 3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY. 4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING 5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT 6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
	INT	DATE	
DATE: 07/17/2024			
FILE:BO_EILEEN_25_FED_COM_CTB			
DRAWN BY: CSG			
SHEET: 1 OF 1			

S:\SURVEY\EOG MIDLAND\FILEEN 25 FED\FINAL PRODUCTS\BO FILEEN 25 FED COM CTB.DWG 7/22/2024 11:15:33 AM wnotgrass







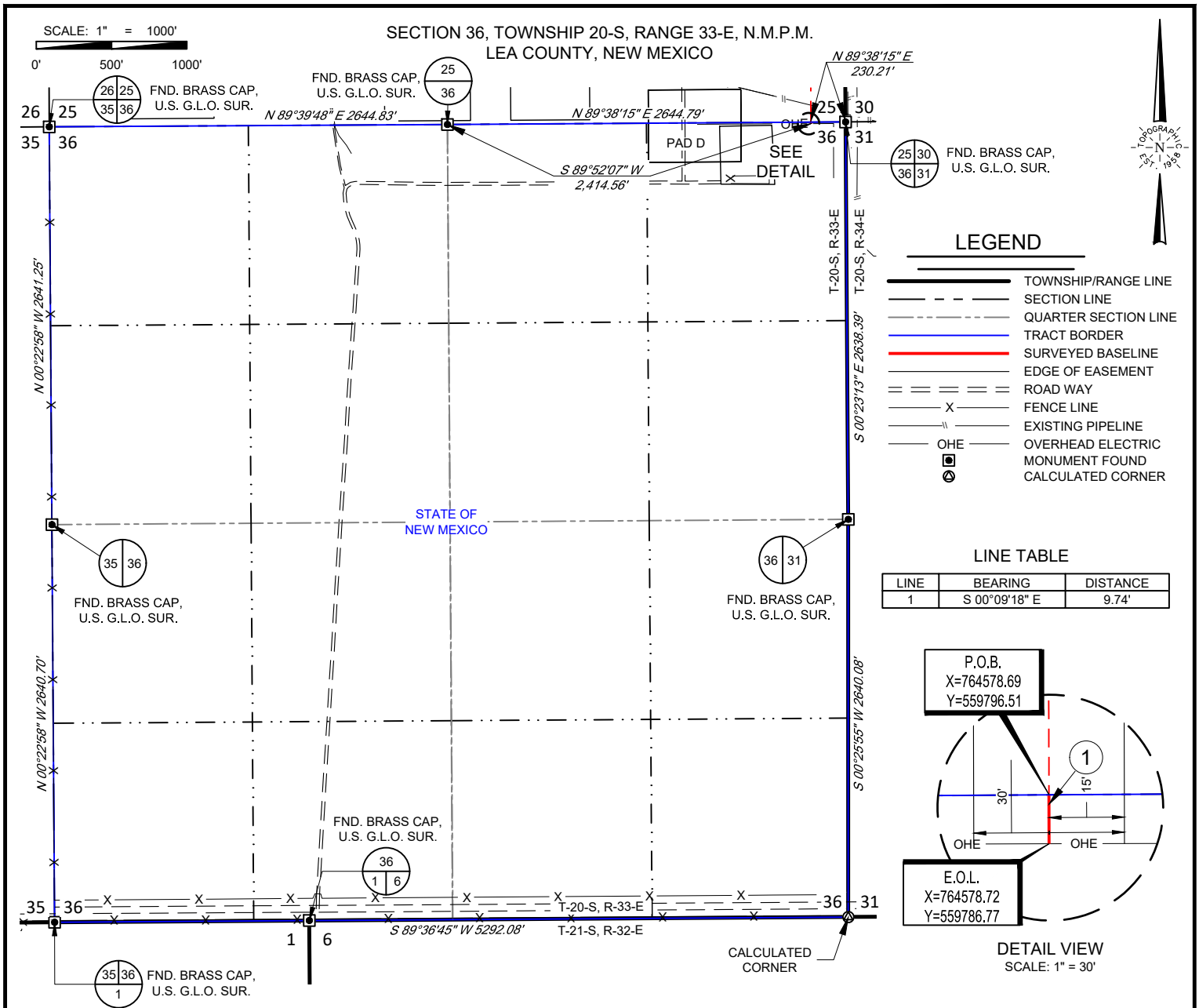
Ramon A. Dominguez, P.S. No. 24508



**eog resources, inc.**

EILEEN 25 FED COM ELECTRICAL	REVISION:		NOTES: 1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. 3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE. AND MADE FOR THIS TRANSACTION ONLY.  4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING 5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT 6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
	INT	DATE	
DATE: 07/17/2024			
FILE: EP_EILEEN_25_FED_COM_ELECTRIC_SEC25			
DRAWN BY: CSG			
SHEET : 1 OF 1			





## EILEEN 25 FED COM ELECTRICAL

Being a proposed electrical easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 9.74 feet or 0.59 rods, containing 0.01 acres more or less and allocated by quarter quarters as follows:

NE/4 NE/4 - 9.74 or 0.59 rods, containing 0.01 acres



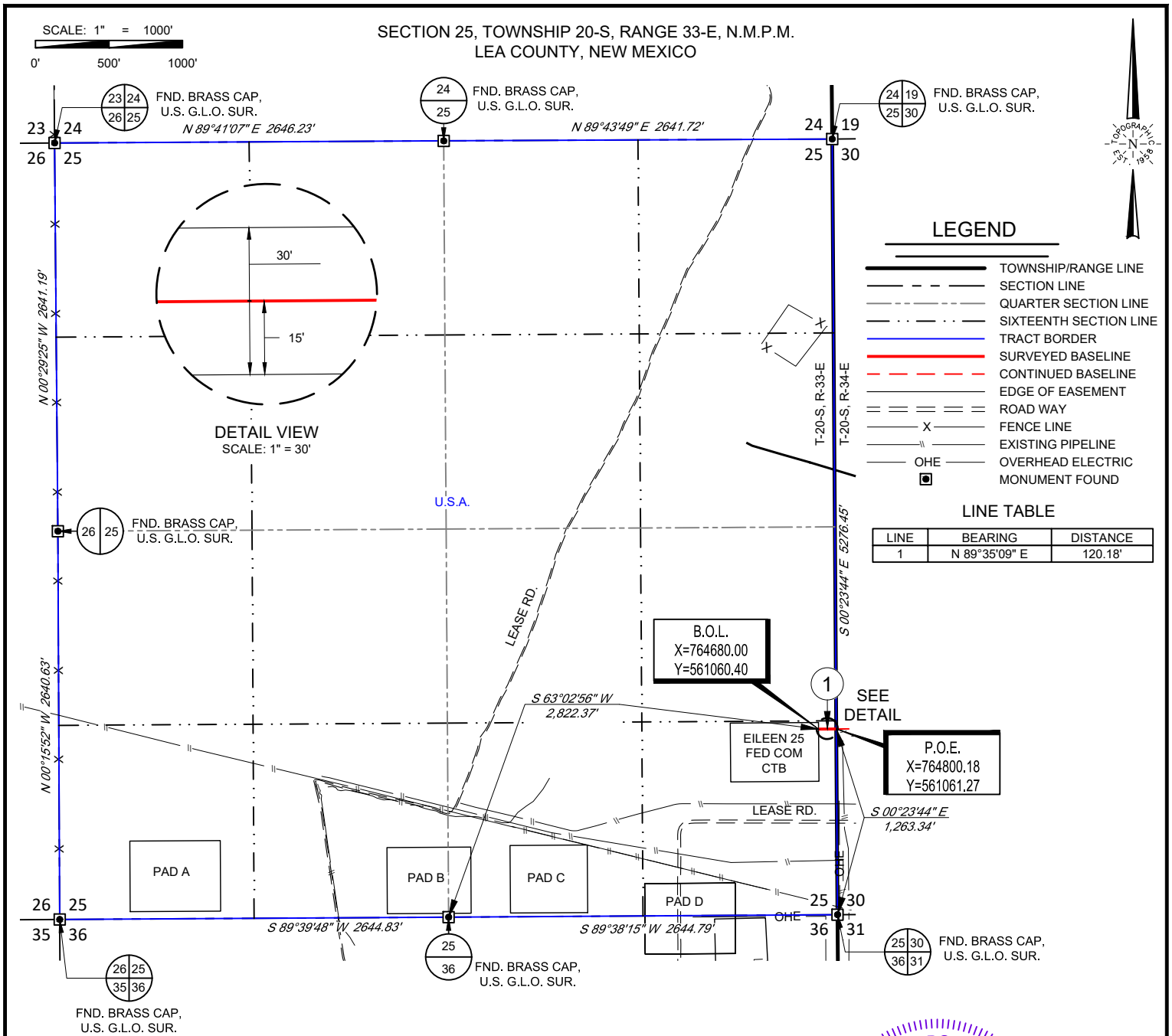
7/22/2024 11:16:49 AM

Ramon A. Dominguez, P.S. No. 24508

EILEEN 25 FED COM ELECTRICAL	REVISION:		NOTES:
	INT	DATE	
DATE: 07/17/2024			<p>1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"</p> <p>2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.</p> <p>3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.</p> <p>4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING</p> <p>5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT</p> <p>6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.</p>
FILE: EP_EILEEN_25_FED_COM_ELECTRIC_SEC36			
DRAWN BY: CSG			
SHEET: 1 OF 1			

S:\SURVEY\EOG\_MIDLAND\EILEEN\_25\_FED\FINAL\_PRODUCTS\EP\_EILEEN\_25\_FED\_COM\_ELECTRIC\_SEC36.DWG 7/22/2024 11:16:48 AM wnotgrass





## EILEEN 25 FED COM GAS

Being a proposed gas easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 120.18 feet or 7.28 rods, containing 0.08 acres more or less.



7/22/2024 11:17:01 AM

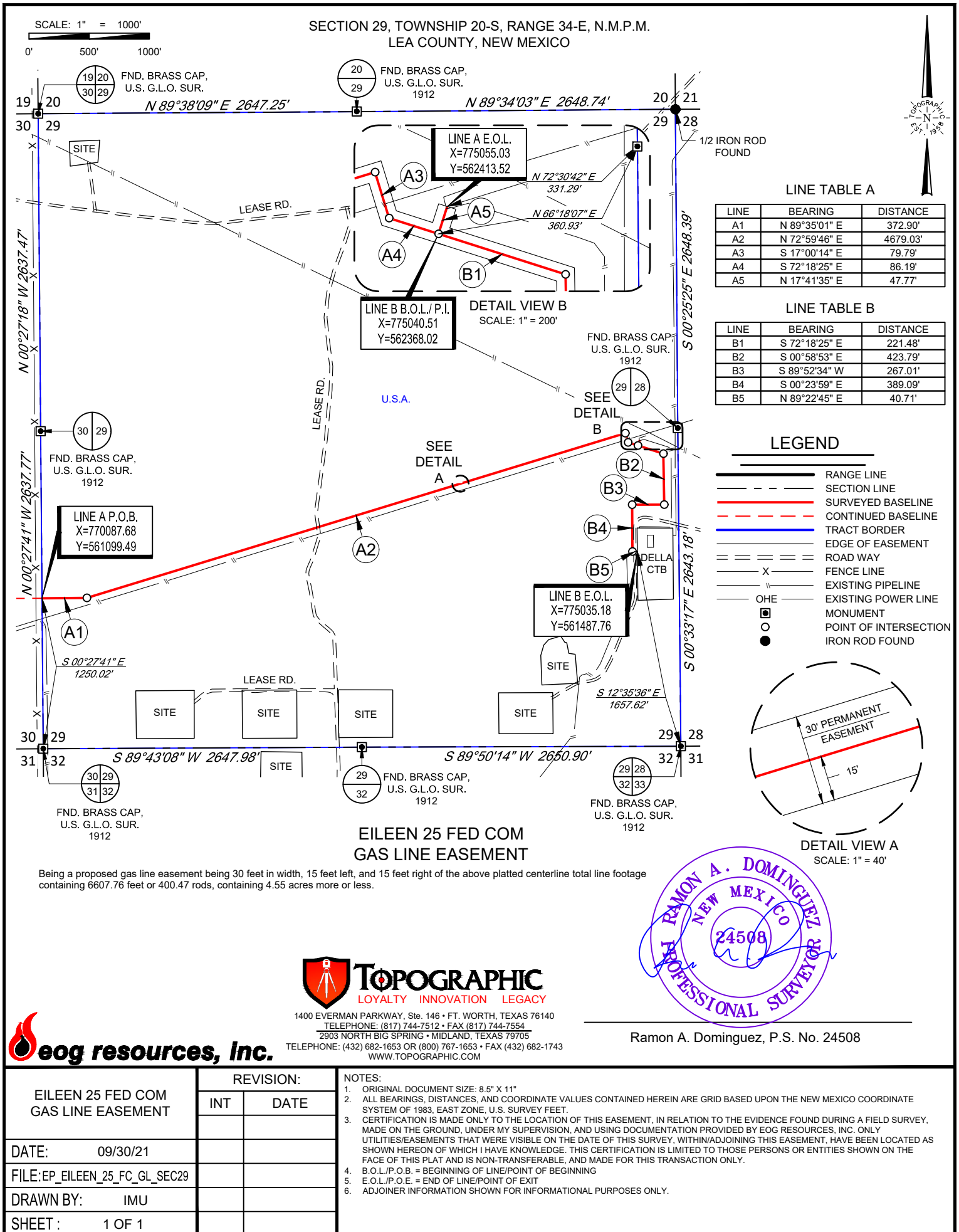
Ramon A. Dominguez, P.S. No. 24508



EILEEN 25 FED COM GAS	REVISION:		NOTES:
	INT	DATE	
DATE: 07/17/2024			1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. 3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY. 4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING 5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT 6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
FILE:EP_EILEEN_25_FED_COM_GAS_SEC25			
DRAWN BY: CSG			
SHEET: 1 OF 1			

S:\SURVEY\EOG\_MIDLAND\EILEEN\_25\_FED\FINAL\_PRODUCTS\EP\_EILEEN\_25\_FED\_COM\_GAS\_SEC25.DWG 7/22/2024 11:17:00 AM wnotgrass

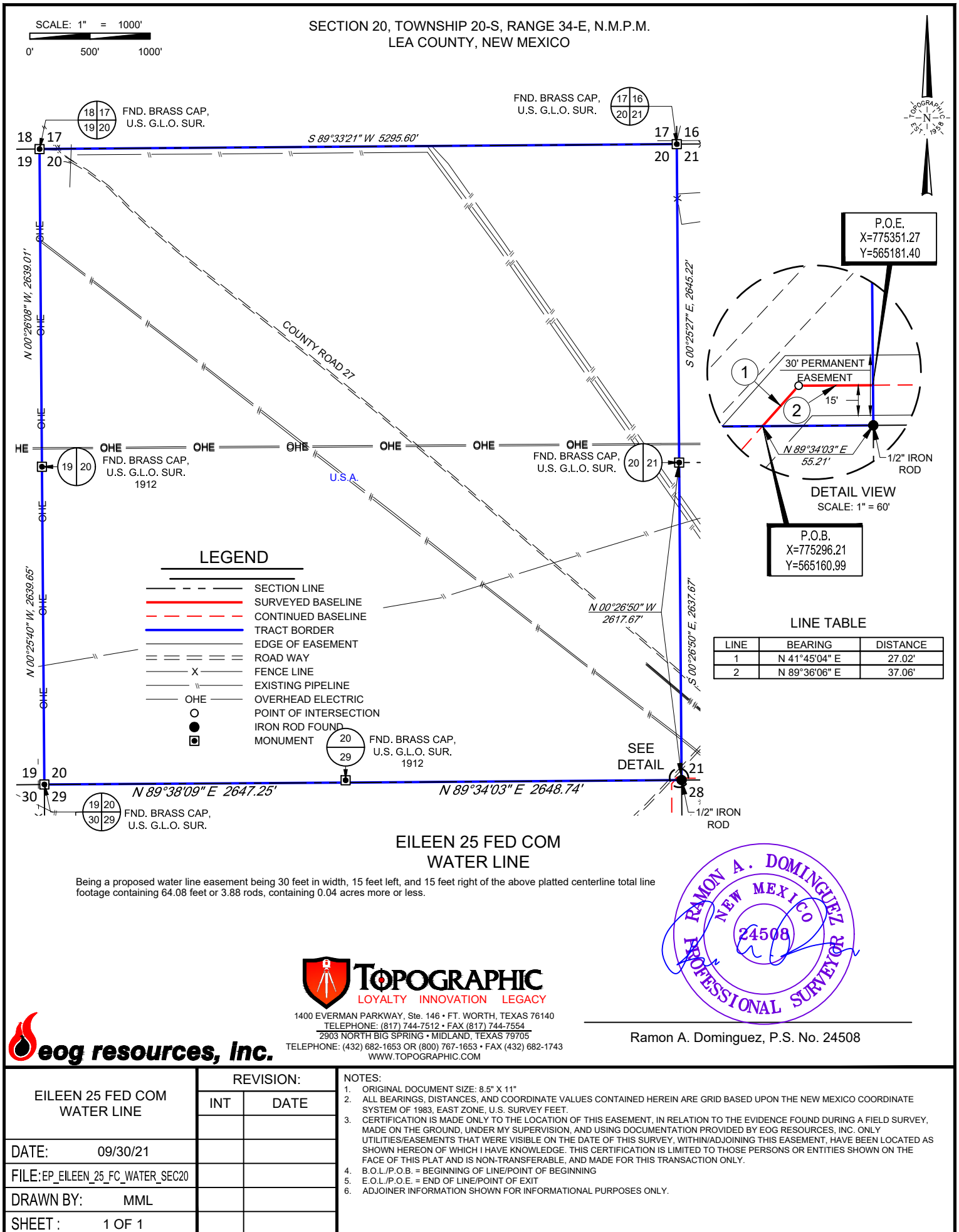




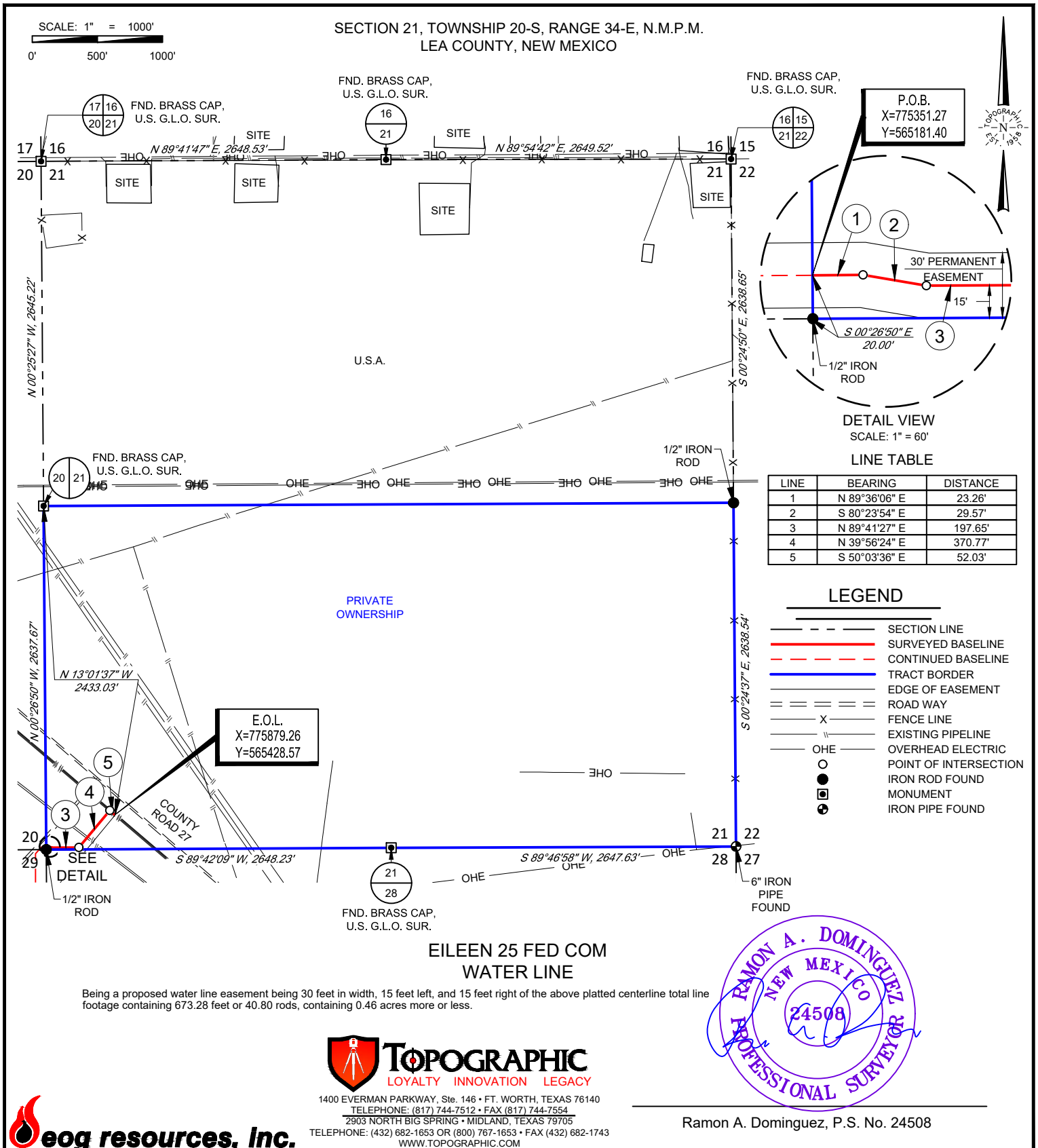












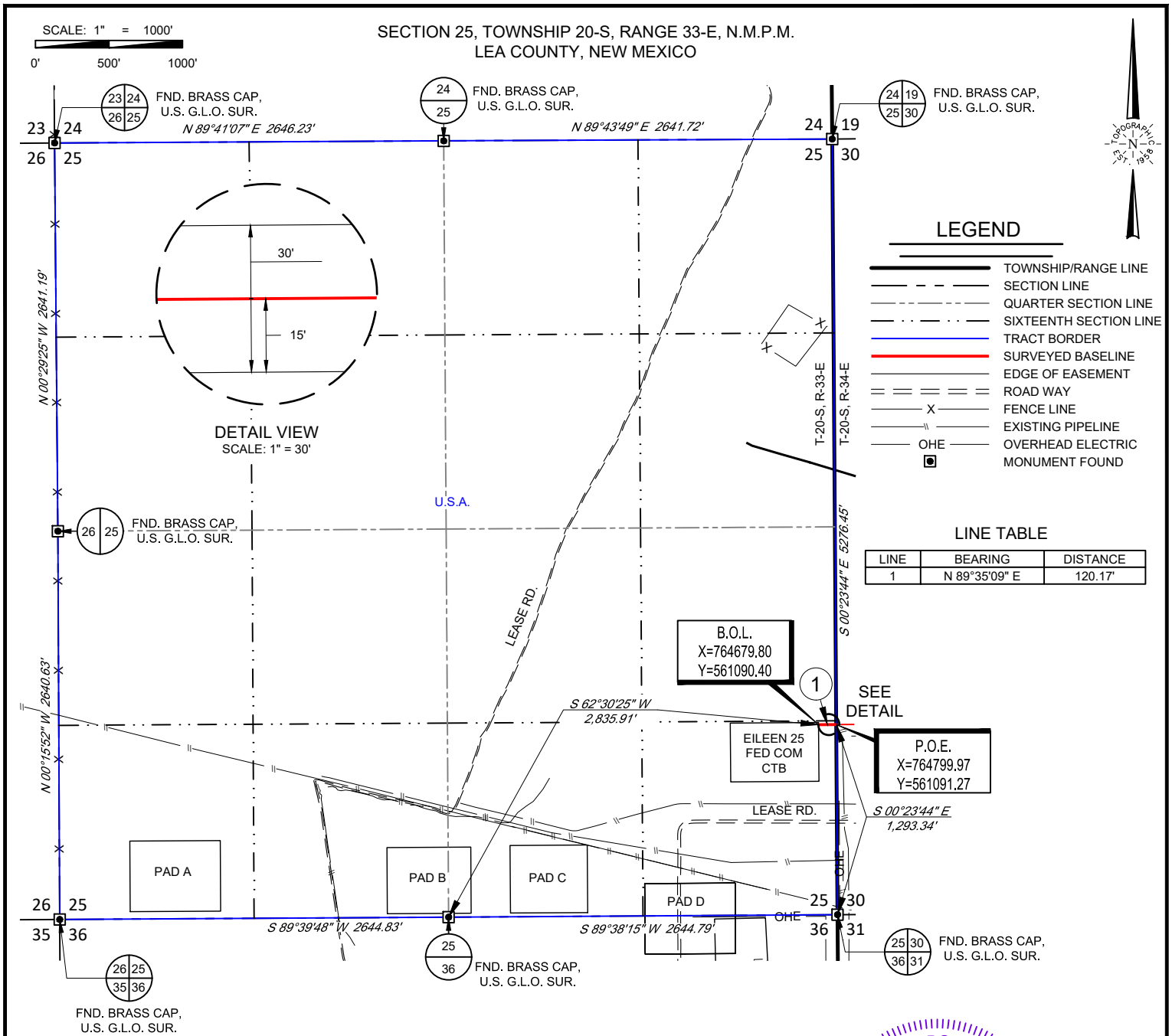
**eoog resources, Inc.**

EILEEN 25 FED COM WATER LINE	REVISION:	
	INT	DATE
DATE: 09/30/21		
FILE:EP_EILEEN_25_FC_WATER_SEC21		
DRAWN BY: MML		
SHEET: 1 OF 1		

## NOTES:

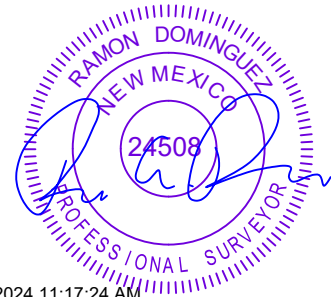
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.
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5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT
6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.





## EILEEN 25 FED COM WATER

Being a proposed water easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 120.17 feet or 7.28 rods, containing 0.08 acres more or less.



7/22/2024 11:17:24 AM

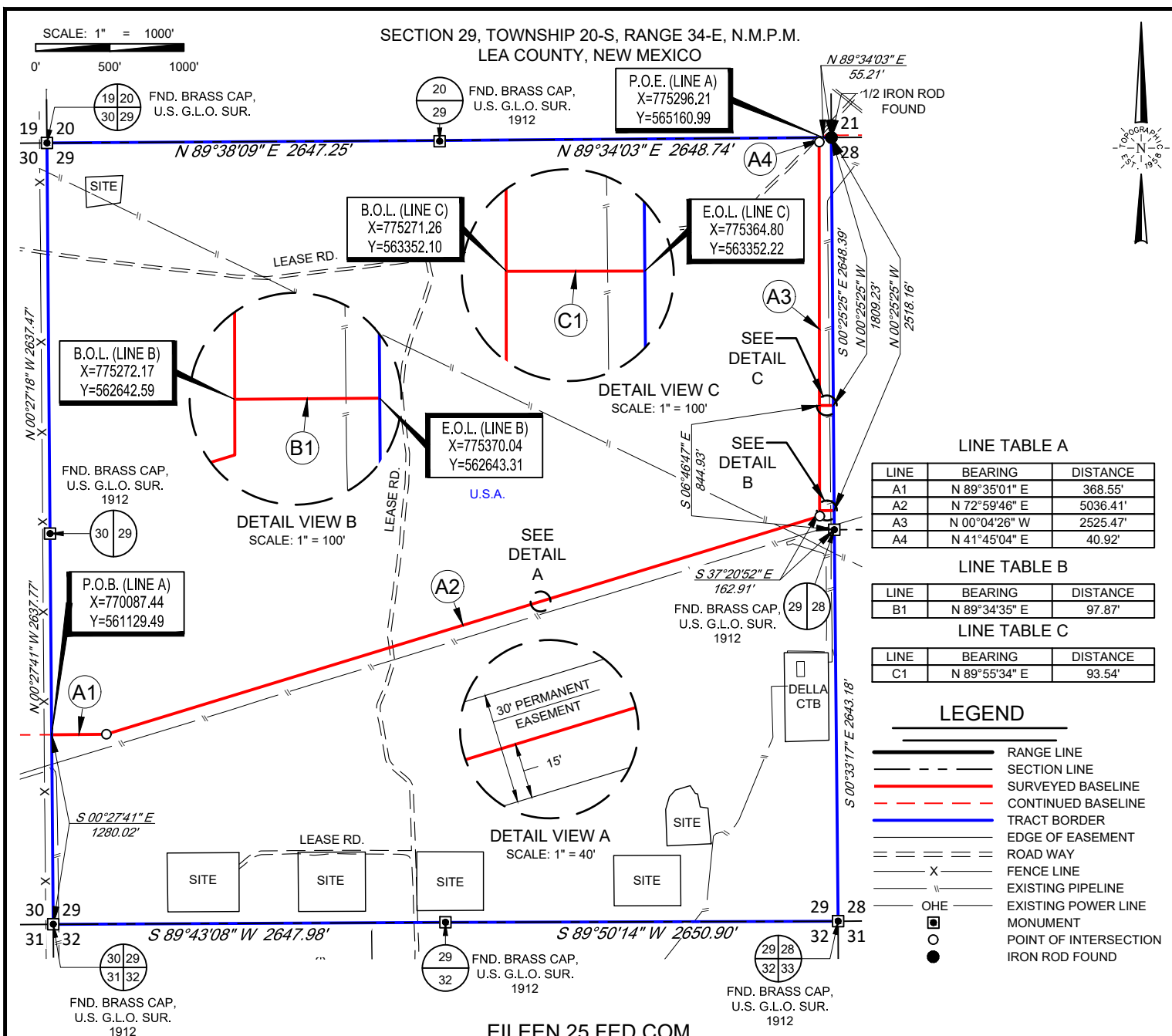
Ramon A. Dominguez, P.S. No. 24508



EILEEN 25 FED COM WATER	REVISION:		NOTES:
	INT	DATE	
DATE: 07/17/2024			1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET. 3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY. 4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING 5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT 6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
FILE: EP_EILEEN_25_FED_COM_WATER_SEC25			
DRAWN BY: CSG			
SHEET: 1 OF 1			

S:\SURVEY\EOG\_MIDLAND\EILEEN\_25\_FED\FINAL\_PRODUCTS\EP\_EILEEN\_25\_FED\_COM\_WATER\_SEC25.DWG 7/22/2024 11:17:23 AM wnotgrass





### EILEEN 25 FED COM WATER LINE

Being a proposed water line easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 8162.76 feet or 494.71 rods, containing 5.62 acres more or less.



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TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743  
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**eog resources, Inc.**



Ramon A. Dominguez, P.S. No. 24508

EILEEN 25 FED COM WATER LINE	REVISION:		NOTES:
	INT	DATE	
DATE: 09/30/21			<p>1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"</p> <p>2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON THE NEW MEXICO COORDINATE SYSTEM OF 1983, EAST ZONE, U.S. SURVEY FEET.</p> <p>3. CERTIFICATION IS MADE ONLY TO THE LOCATION OF THIS EASEMENT, IN RELATION TO THE EVIDENCE FOUND DURING A FIELD SURVEY, MADE ON THE GROUND, UNDER MY SUPERVISION, AND USING DOCUMENTATION PROVIDED BY EOG RESOURCES, INC. ONLY UTILITIES/EASEMENTS THAT WERE VISIBLE ON THE DATE OF THIS SURVEY, WITHIN/ADJOINING THIS EASEMENT, HAVE BEEN LOCATED AS SHOWN HEREON OF WHICH I HAVE KNOWLEDGE. THIS CERTIFICATION IS LIMITED TO THOSE PERSONS OR ENTITIES SHOWN ON THE FACE OF THIS PLAT AND IS NON-TRANSFERABLE, AND MADE FOR THIS TRANSACTION ONLY.</p> <p>4. B.O.L./P.O.B. = BEGINNING OF LINE/POINT OF BEGINNING</p> <p>5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT</p> <p>6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.</p>
FILE:EP_EILEEN_25_FC_WATER_SEC29			
DRAWN BY: MML			
SHEET: 1 OF 1			

S:\SURVEY\EOG\_MIDLAND\EILEEN\_25\_FED\FINAL\_PRODUCTS\EP\_EILEEN\_25\_FC\_WATER\_SEC29.DWG 10/2/2021 11:26:13 AM adisabella



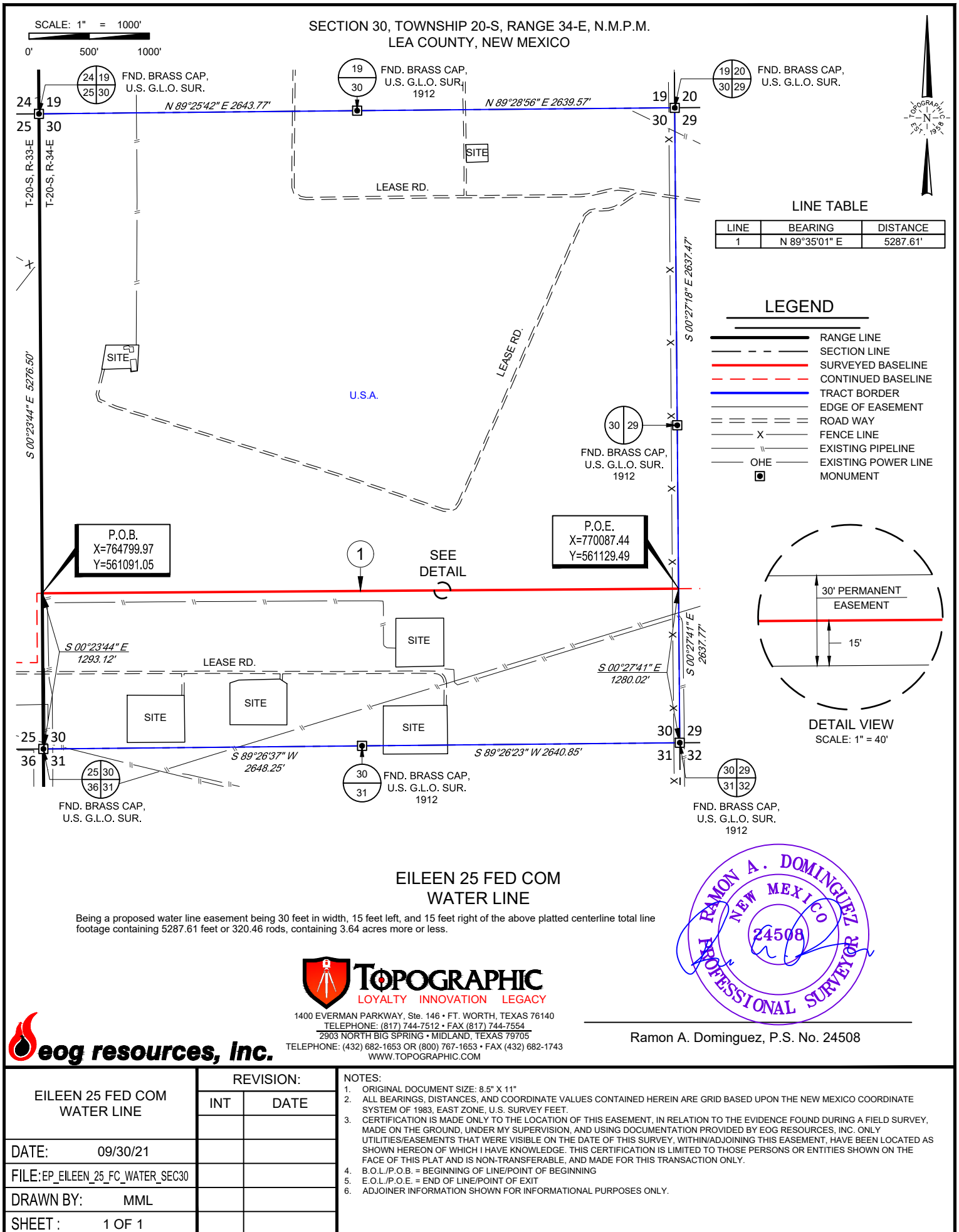
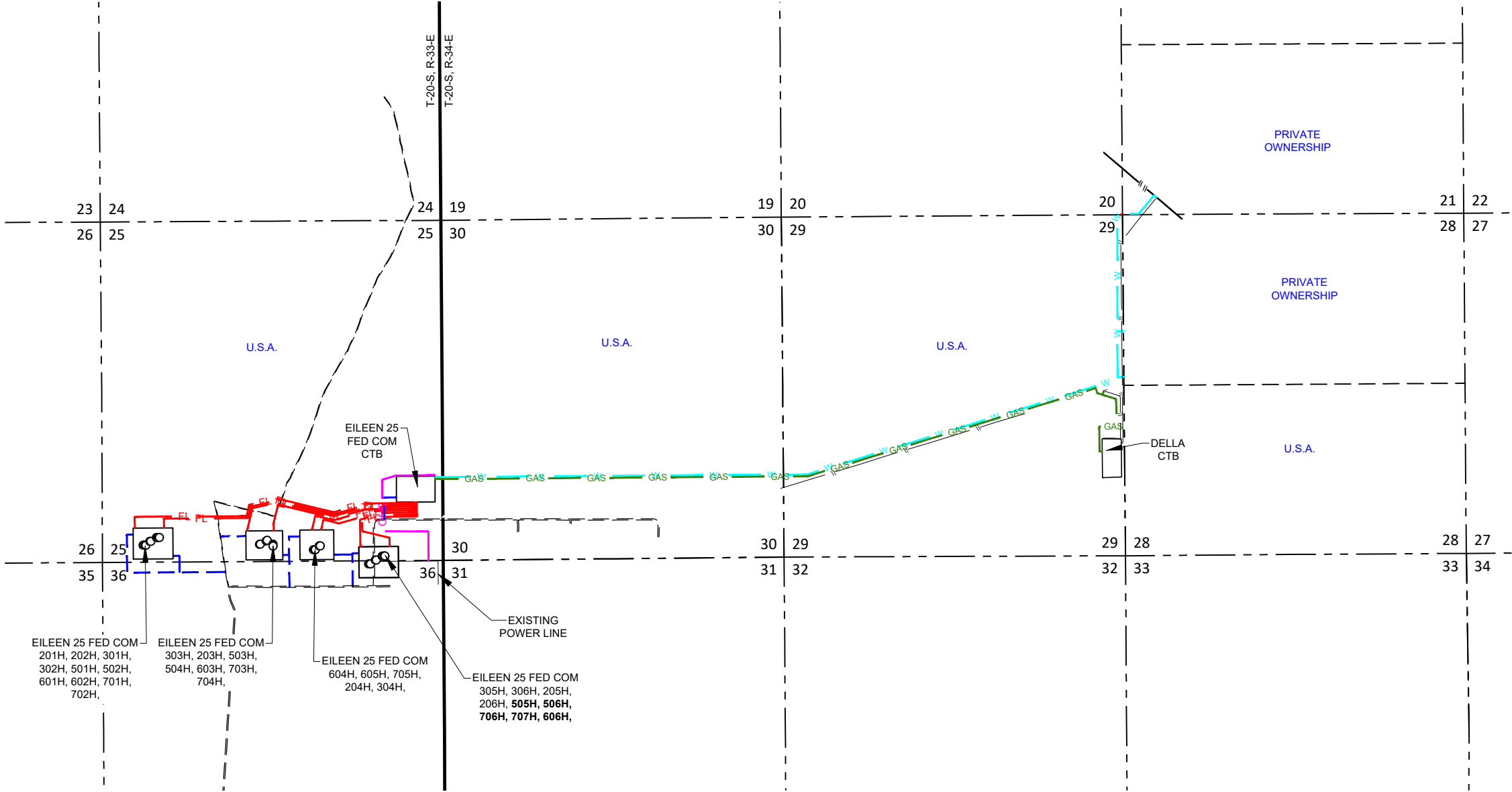
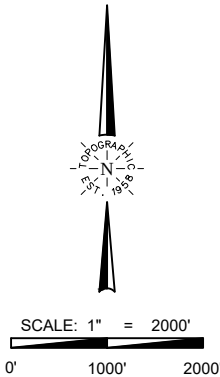






EXHIBIT 5  
SECTION 25, TOWNSHIP 20-S, RANGE 33-E, N.M.P.M.  
SECTIONS 20,21,29, & 30, TOWNSHIP 20-S, RANGE 34-E, N.M.P.M.  
LEA COUNTY, NEW MEXICO

EILEEN 25 FED COM  
OVERALL SKETCH



T

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LOYALTY INNOVATION LEGACY

481 WINSBROOK ROAD, Ste. 200 • BENBROOK, TEXAS 76126

TELEPHONE: (817) 744-7512 • FAX (817) 744-7554

TEXAS FIRM REGISTRATION NO. 10042504

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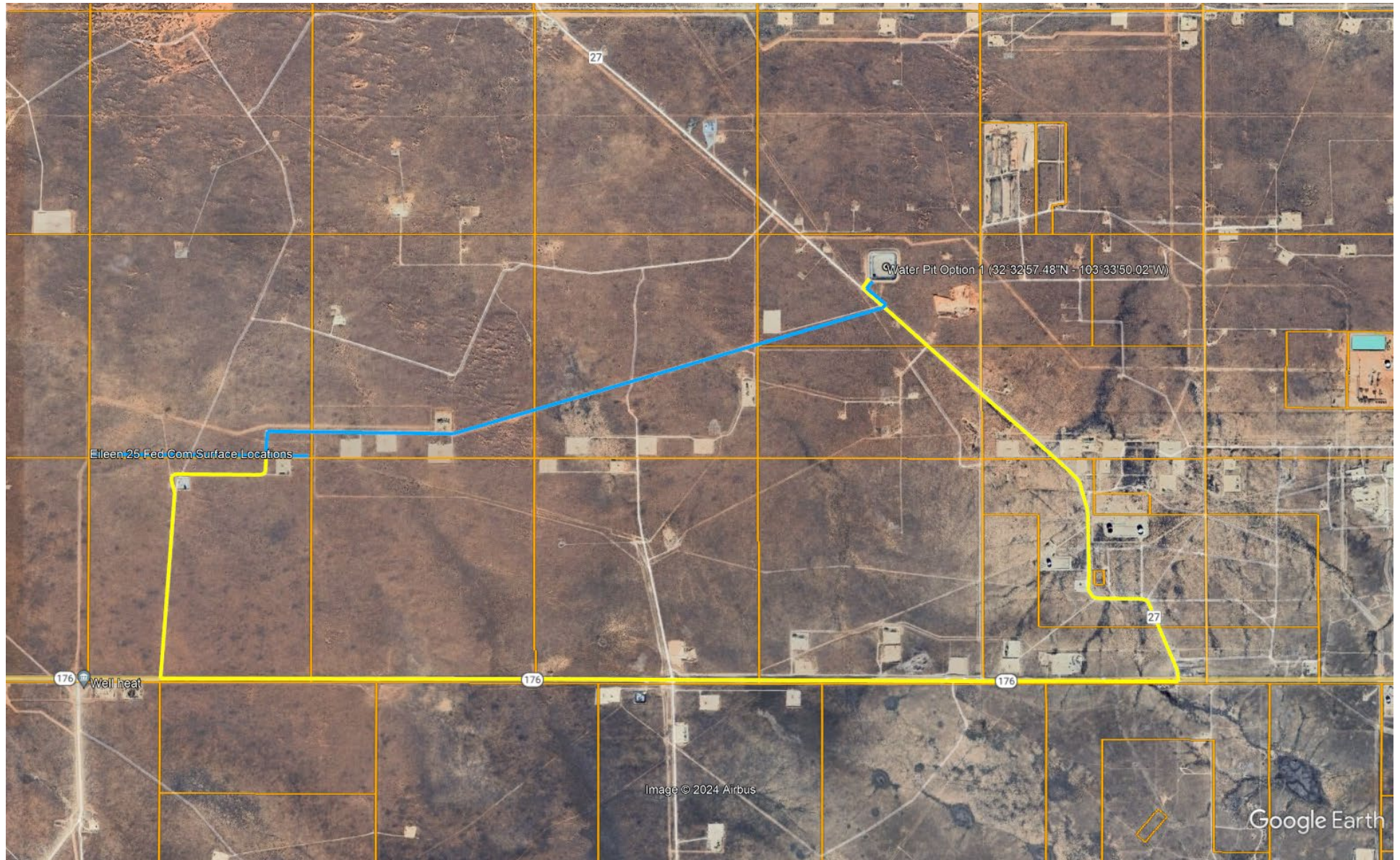
LEGEND

- TOWNSHIP LINE
- SECTION LINE
- PROPOSED ROAD
- PROPOSED FLOWLINE
- PROPOSED GAS LIFT LINE
- PROPOSED ELECTRIC
- PROPOSED WATER LINE
- PROPOSED GAS LINE
- PROPOSED OIL LINE
- ROAD WAY
- EXISTING PIPELINE
- EXISTING POWER LINE

EILEEN 25 FED COM OVERALL SKETCH	REVISION:	
	JTS	07/23/2024
DATE: 09/23/2021		
FILE:SK_EILEEN_25_FC_OVERALL_REV1		
DRAWN BY: MML		
SHEET : 1 OF 1		



## Eileen 25 Fed Com Water Map



Water Pit Option 1 is in the NW4/NE4 of Section 28, Township 20S, Range 34E (32°32'57.48"N—103°33'50.02" W). The plan is to lay six (12") above-ground flat lines following existing disturbances from the pit to the Eileen locations. The Line would leave the pit crossing Sections 28, 29, 30, Township 20S, Range 34E, and Section 25, Township 20S, Range 33E for approx. 3.5 miles. Access would be using Hwy 27 from the pit, heading south for 2.51 miles, turning right, heading west on Hwy 176 for 4.58 miles, turning right onto the lease road, and heading north for 1.32 miles.



Caliche Map Eileen 25 Fed Com



Caliche Pit Option 1 is located in the SW4/SW4 of Section 32, Township 20S, Range 34E, in Lea County, New Mexico (32°31'27.04"N - 103°34'46.34"W). From Hwy 176, head west for 2.30. Turn right onto Lease Road, heading north for 1.35 miles.



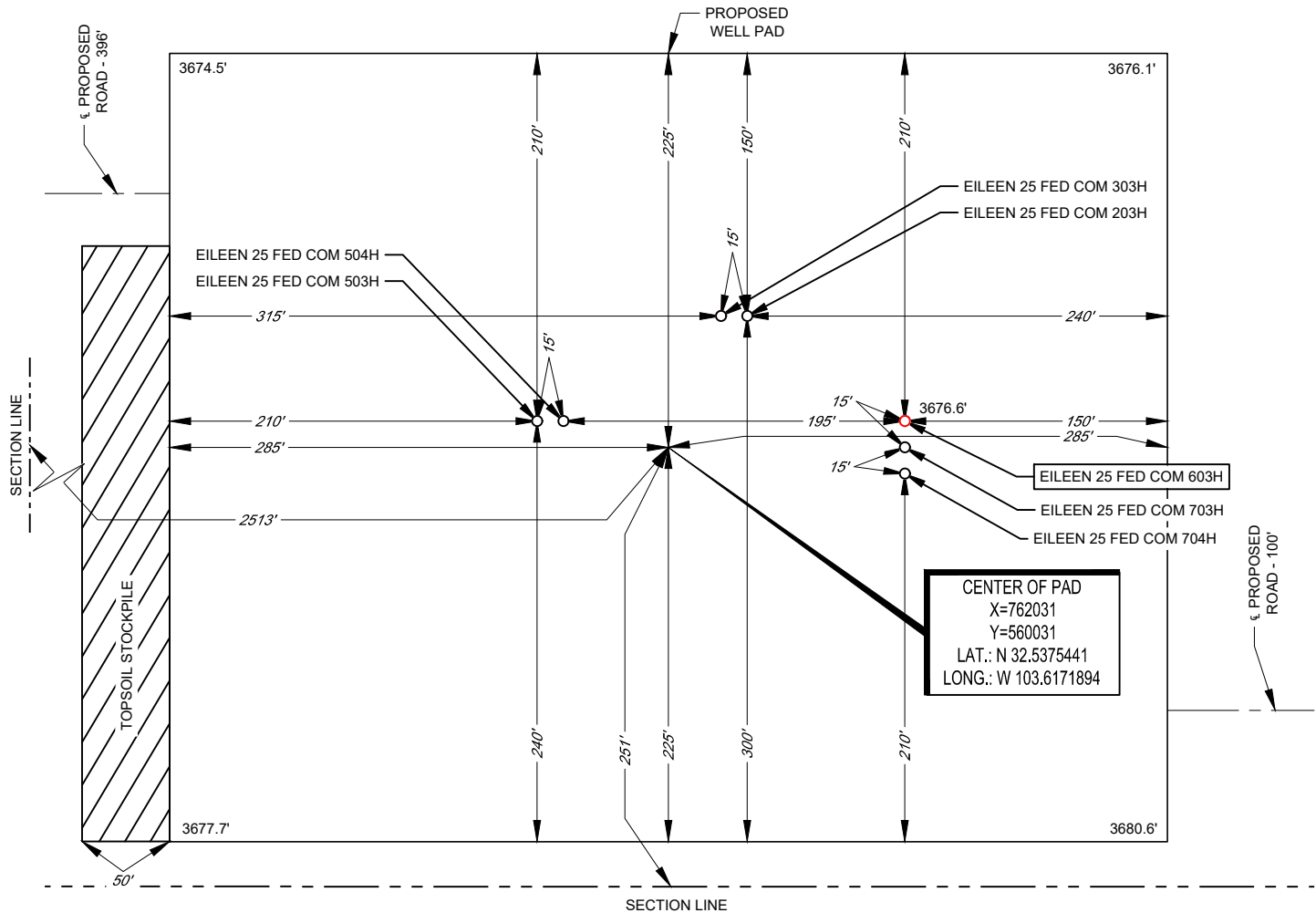


## LEGEND

----- SECTION LINE  
 --- -- -- PROPOSED ROAD

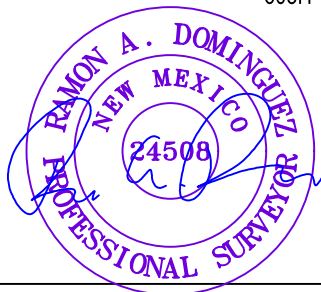
SECTION 25, TOWNSHIP 20-S, RANGE 33-E, N.M.P.M.  
 LEA COUNTY, NEW MEXICO

DETAIL VIEW  
 SCALE: 1" = 100'



LEASE NAME & WELL NO.: EILEEN 25 FED COM 603H  
 603H LATITUDE N 32.5375851 603H LONGITUDE W 103.6167513

CENTER OF PAD IS 251' FSL & 2513' FWL



Ramon A. Dominguez, P.S. No. 24508

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. ELEVATIONS USED ARE NAVD88, OBTAINED THROUGH AN OPUS SOLUTION.

THIS PROPOSED PAD SITE 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. ONLY THE DATA SHOWN ABOVE IS BEING CERTIFIED TO. ALL OTHER INFORMATION WAS INTENTIONALLY OMITTED. THIS PLAT IS ONLY INTENDED TO BE USED FOR A PERMIT AND IS NOT A BOUNDARY SURVEY. 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.

ORIGINAL DOCUMENT SIZE: 8.5" X 11"



SCALE: 1" = 100'  
 0' 50' 100'



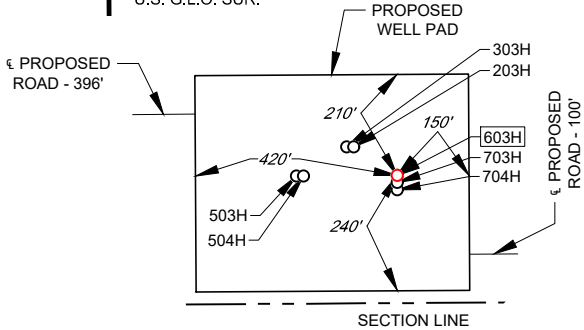
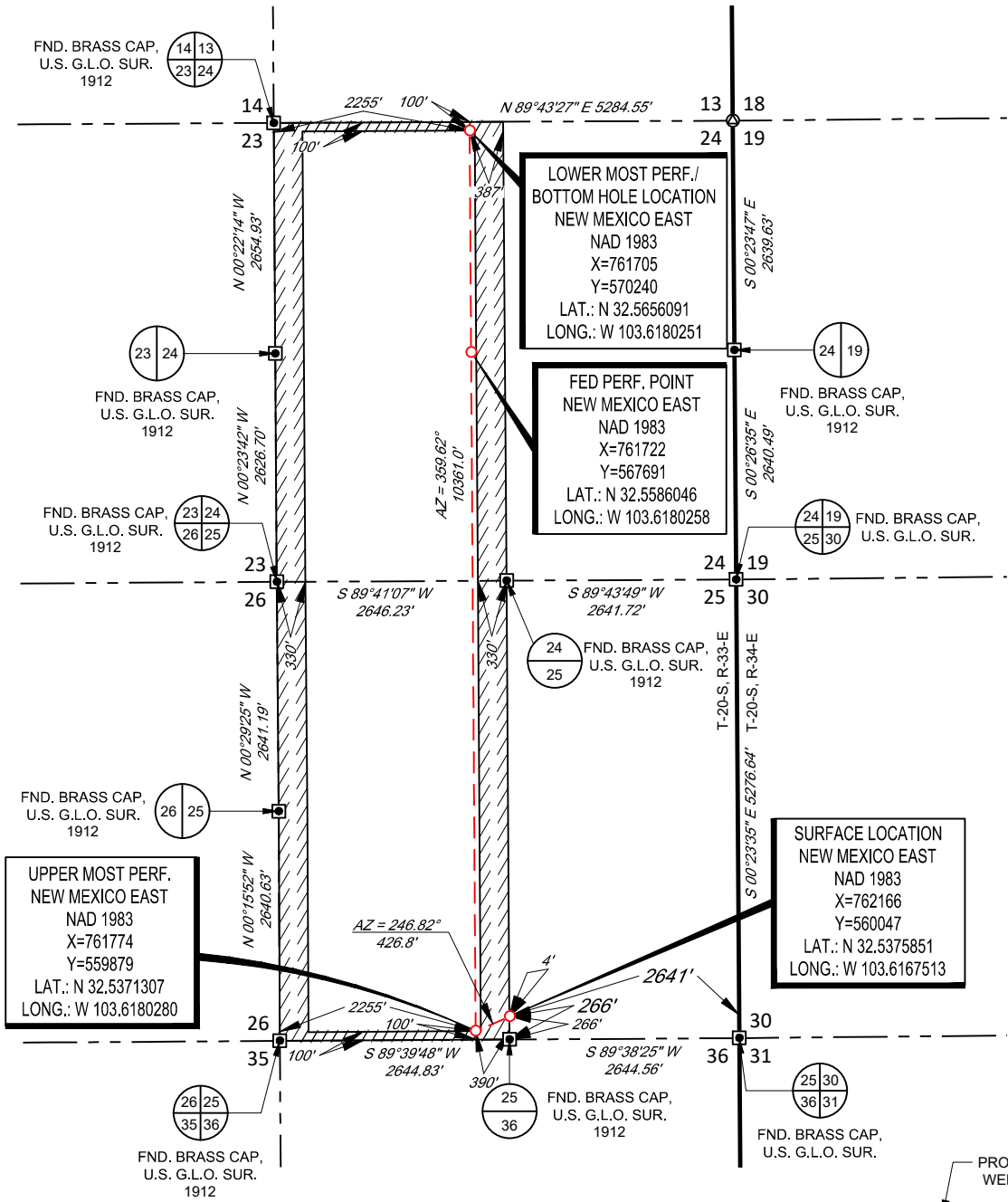
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 TELEPHONE: (817) 744-7512 • FAX (817) 744-7554  
 2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705  
 TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743  
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EXHIBIT 2A

SECTION 25, TOWNSHIP 20-S, RANGE 33-E, N.M.P.M.  
LEA COUNTY, NEW MEXICO



DETAIL VIEW  
SCALE: 1" = 400'

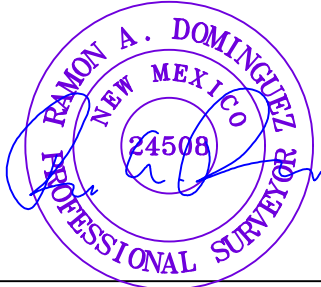
LEASE NAME & WELL NO.: EILEEN 25 FED COM 603H

SECTION 25 TWP 20-S RGE 33-E SURVEY N.M.P.M.  
COUNTY LEA STATE NM  
DESCRIPTION 266' FSL & 2641' FEL

DISTANCE & DIRECTION  
FROM INT. OF NM-18 N. & US-180, GO WEST ON US-180 ±23.6 MILES,  
THENCE SOUTH (LEFT) ON COUNTY RD. 27-A ±7.9 MILES, THENCE  
WEST (RIGHT) ON NM-176 W ±5.7 MILES, THENCE NORTH (RIGHT) ON A  
LEASE ROAD ±1.0 MILES, THENCE WEST (LEFT) ON A PROPOSED ROAD  
±396 FEET TO A POINT ±440 FEET NORTHWEST OF THE LOCATION.

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.



Ramon A. Dominguez, P.S. No. 24508  
September 07, 2021

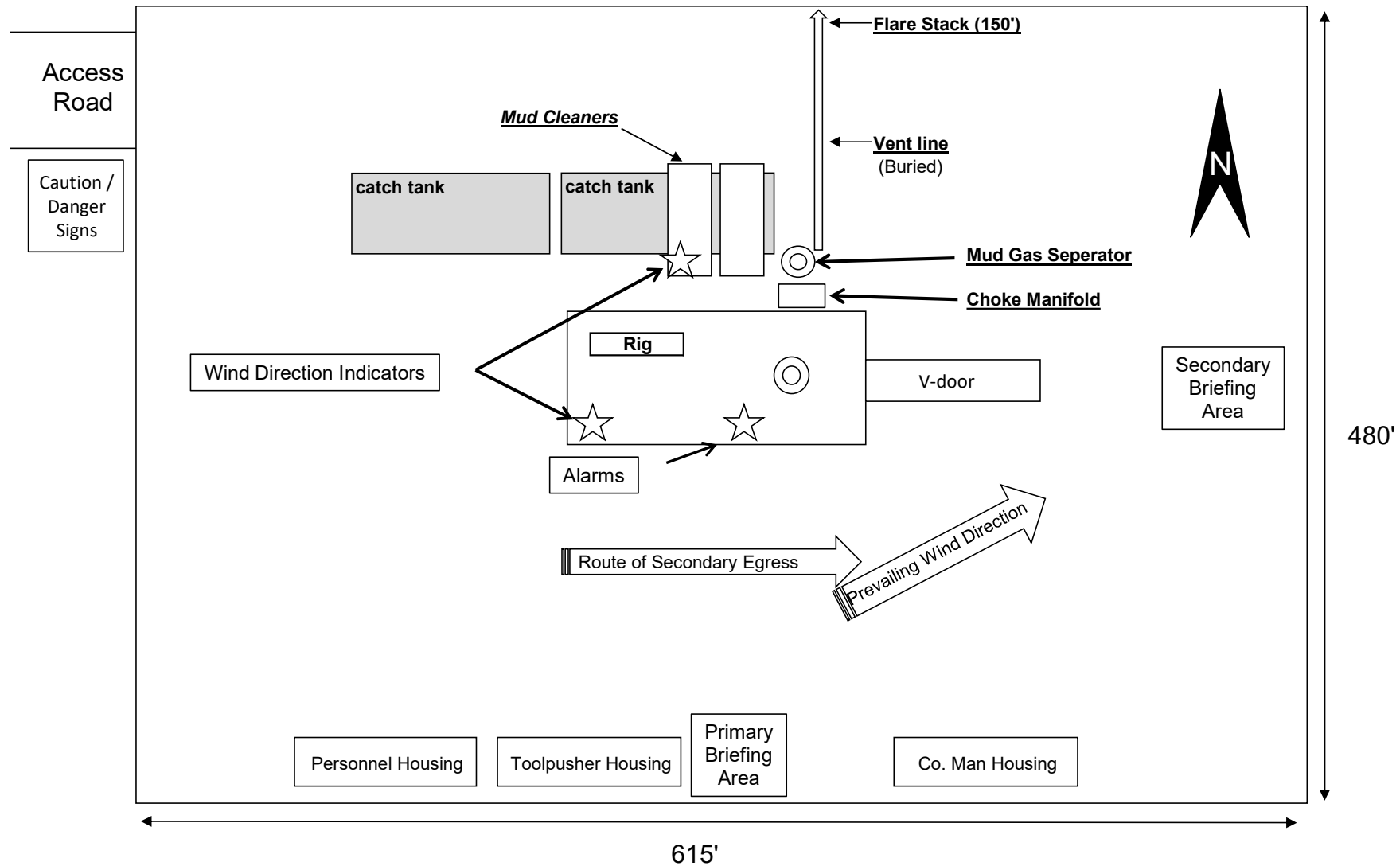
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LOYALTY INNOVATION LEGACY

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Exhibit 4  
EOG Resources  
Eileen 25 Fed Com #603H

Well Site Diagram



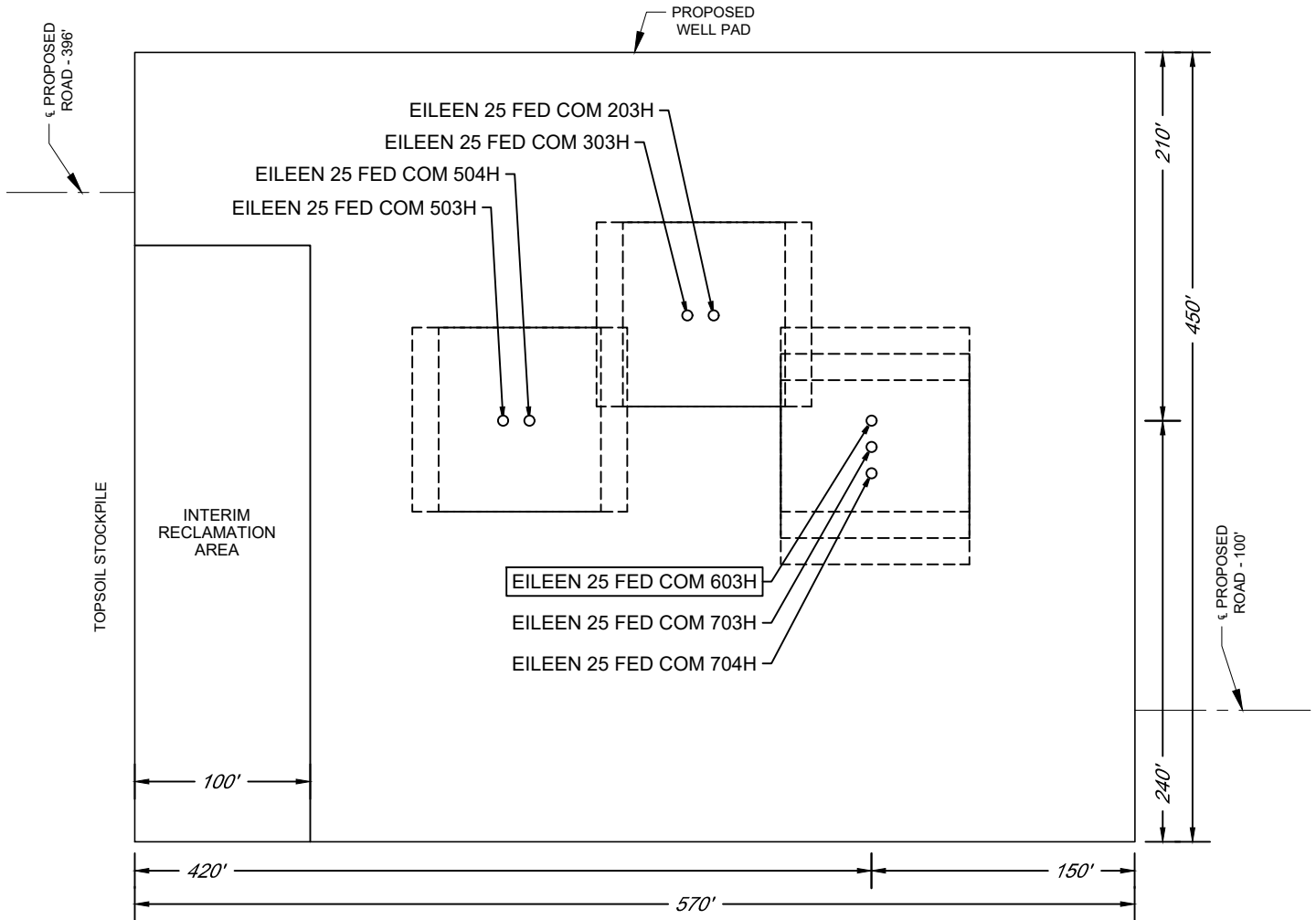


# EXHIBIT 2C

## RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

SECTION 25, TOWNSHIP 20-S, RANGE 33-E, N.M.P.M.  
LEA COUNTY, NEW MEXICO

DETAIL VIEW  
SCALE: 1" = 100'



LEASE NAME & WELL NO.: EILEEN 25 FED COM 603H  
603H LATITUDE N 32.5375851 603H LONGITUDE W 103.6167513



EOG Resources, Inc.  
EILEEN 25 FED COM 603H

SHL: 266 FSL & 2641 FEL, Section: 25, T.20S., R.33E.  
BHL: 100 FNL & 2255 FWL, Section: 24, T.20S., R.33E.

# 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 EILEEN 25 FED COM 603H VICINITY. 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 496 feet.
- c. The maximum driving width of the access road will be 30 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.

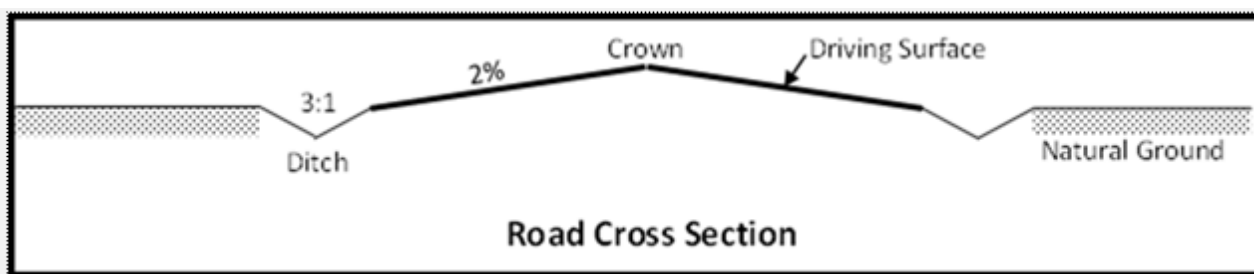


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EILEEN 25 FED COM 603H

BHL: 100 FNL &amp; 2255 FWL, Section: 24, T.20S., R.33E.



- 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 20 percent.
- h. No turnouts will be constructed on the proposed access road.
- i. No cattleguards will be installed for this proposed access road.
- j. Since the proposed access road crosses lease boundaries, a right-of-way will be required for this access road. A right-of-way grant will be applied for through the BLM. The access road will not be constructed until an approved BLM right-of-way grant is acquired.
- 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. EILEEN 25 FED COM 603H 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 off the proposed well location. Production from the well will be processed at this production facility. EILEEN 25 FED COM CTB depicts the location of the production facilities.
- 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 precipitation, unless more stringent



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protective requirements are deemed necessary.

e. EILEEN 25 FED COM INFRASTRUCTURE depicts the production facility as well.

f. A pipeline to transport production from the proposed well to the production facility will be installed.

i. We plan to install a 6 inch buried FLEX STEEL pipeline from the proposed well to the offsite production facility. The proposed length of the pipeline will be 797 feet. The working pressure of the pipeline will be about 1440 psi. A 50 feet wide work area will be needed to install the buried pipeline. In areas where blading is allowed, topsoil will be stockpiled and separated from the excavated trench mineral material. Final reclamation procedures will match the procedures in Plans for Surface Reclamation. When the excavated soil is backfilled, it will be compacted to prevent subsidence. No berm over the pipeline will be evident.

ii. EILEEN 25 FED COM INFRASTRUCTURE depicts the proposed production pipeline route from the well to the existing production facility.

iii. The proposed pipeline does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

**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. We plan to install an overhead electric line for the proposed well. The proposed length of the electric line will be 4000 feet. EILEEN 25 FED COM INFRASTRUCTURE depicts the location of the proposed electric line route. The electric line will be construction to provide protection from raptor electrocution.

b. The proposed electric line does not cross lease boundaries, so a right of way grant will not need to be acquired from the BLM.

## **5. Location and Types of Water**

a. The source and location of the water supply are as follows: The source and location of the water supply are as follows: This location will be drilled using a combination of water mud systems as outline in the drilling program (i) Water will be obtained from commercial water stations in the area and hauled to location by trucks using existing and proposed roads as depicted on the road map attached (ii) Water may as be supplied from frac ponds and transported to location by temporary above ground surface lines a shown on the map

EOG plans to utilize up to five 4 inch polyethylene and or layflat lines and up to five 12 inch layflat lines for the purpose of transporting freshwater Freshwater is defined as containing less than 10\_000 mg\_I Total Dissolved Solids (TDS)\_ exhibiting no petroleum sheen when standing\_ and not previously used in mechanical processes that expose it to heavy metals or other potential toxins

EOG plans to utilize up to five 4 inch polyethylene and up to five 12 inch layflat lines for the purpose of transporting treated produced water being defined as the reconditioning of produced water to a reusable form and may include mechanical and chemical processes

Water Sources:

Temporary surface lines would originate from a single water source location or multiple water source locations in the surrounding area of the proposed action and be temporarily laid above ground with minimal disturbance Temporary surface line(s) shall be laid no more than 10 feet from the edge of the existing disturbance (ie\_ edge of bar\_borrow ditch\_ road surface or two track road or other man made addition to the landscape) A push off arm or other mechanism will be used All vehicle equipment will remain within the existing disturbance



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Map or maps showing the locations of the temporary surface lines will be provided with the APD and will be included in the Environmental Assessment. Electronic map file (shape file or KMZ file) shall be submitted with the Environmental Assessment.

Eileen 25 Fed Com Water Map depicts the proposed route for up to five temporary above ground surface lines and maybe installed on the surface for a time (>180 days). Temporary above ground surface lines shall supply water for drilling and completions operations.

b. EILEEN 25 FED COM WATER AND CALICHE MAP depicts the proposed route for a 12 inch LAY-FLAT AND/OR POLY 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



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## 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' archaeological 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 EILEEN 25 FED COM 603H 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 resspreading. 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



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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. EILEEN 25 FED COM 603H 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



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EILEEN 25 FED COM 603H

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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. Surface flow lines will follow existing or proposed, well-traveled roads.

An onsite meeting was conducted on 5/6/21

We plan to use 5, 12-inch lay flat hoses to transport water with an option to use 5, 4-inch poly lines for drilling and frac operations.

We are asking for 2 associated pipelines all depicted on the attached EILEEN 25 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 (4)

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

EILEEN 25 FED COM 603H VICINITY - Existing Road

EILEEN 25 FED COM 603H RADIUS - Wells Within One Mile

EILEEN 25 FED COM CTB - Production Facilities Diagram

EILEEN 25 FED COM INFRASTRUCTURE - Additional Production Facilities Diagram

EILEEN 25 FED COM INFRASTRUCTURE - Production Pipeline

EILEEN 25 FED COM INFRASTRUCTURE - Electric Line

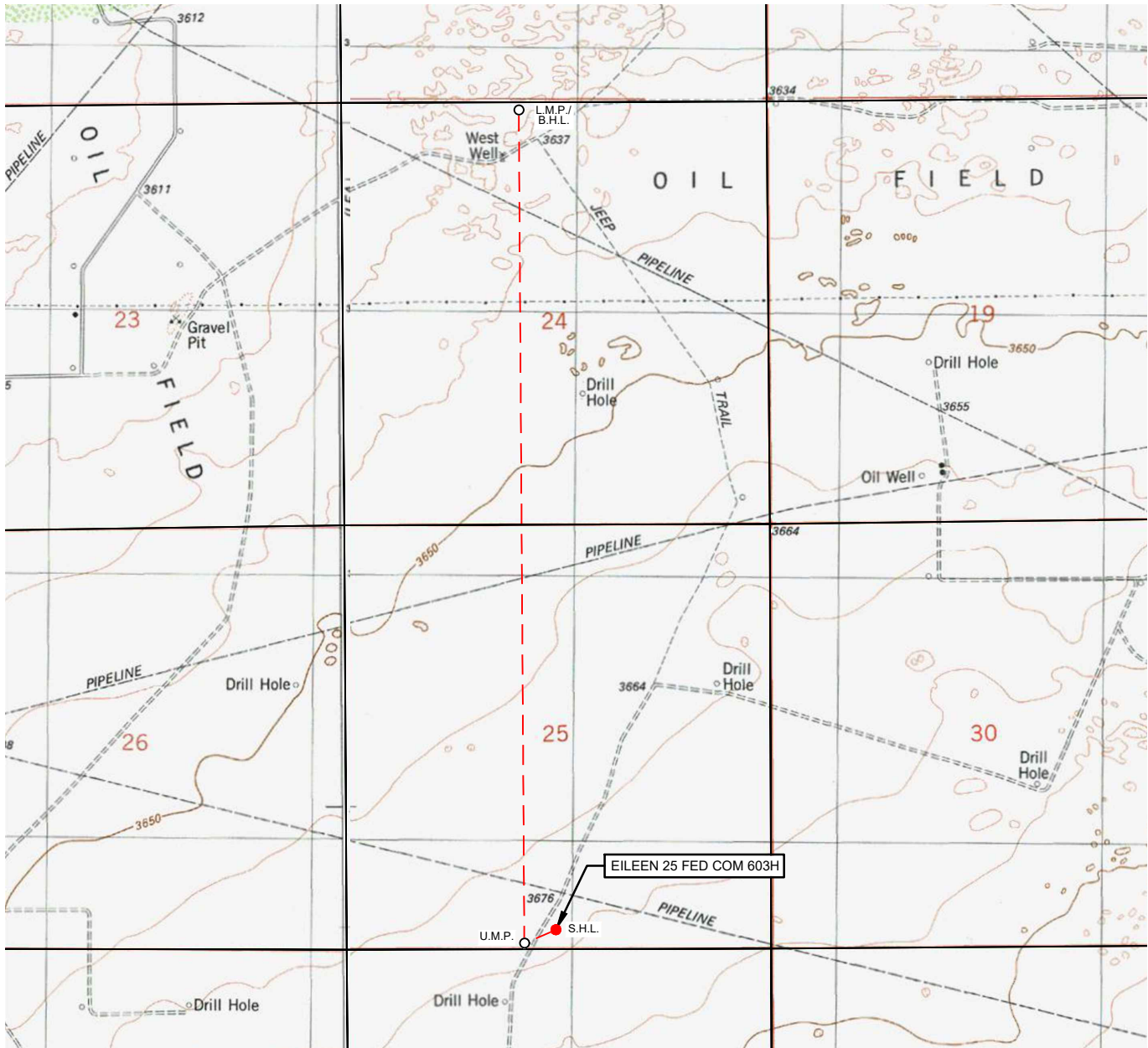
EILEEN 25 FED COM WATER AND CALICHE MAP - Drilling Water Pipeline

EILEEN 25 FED COM 603H RIG LAYOUT - Well Site Diagram

EILEEN 25 FED COM 603H RECLAMATION - Interim Reclamation



## LOCATION &amp; ELEVATION VERIFICATION MAP

LEASE NAME & WELL NO.: EILEEN 25 FED COM 603H

SECTION 25 TWP 20-S RGE 33-E SURVEY N.M.P.M.  
 COUNTY LEA STATE NM ELEVATION 3677'  
 DESCRIPTION 266' FSL & 2641' FEL

LATITUDE N 32.5375851 LONGITUDE W 103.6167513

SCALE: 1" = 2000'  
 0' 1000' 2000'

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.

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.



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

## PWD Data Report

10/22/2024

**APD ID:** 10400081607

**Submission Date:** 11/11/2021

**Operator Name:** EOG RESOURCES INCORPORATED

**Well Name:** EILEEN 25 FED COM

**Well Number:** 603H

**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):**

**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:**

**Describe 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:** EILEEN 25 FED COM

**Well Number:** 603H

**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:**

**Unlined pit PWD on or off channel:**

**Unlined pit PWD discharge volume (bbl/day):**

**Unlined pit**

**Precipitated solids disposal:**

**Describe 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):**

**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**

**State**

**Unlined Produced Water Pit Estimated**

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



**Operator Name:** EOG RESOURCES INCORPORATED**Well Name:** EILEEN 25 FED COM**Well Number:** 603H**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):****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):****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:****Section 6 -****Would you like to utilize Other PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD discharge volume (bbl/day):**



Operator Name: EOG RESOURCES INCORPORATED

Well Name: EILEEN 25 FED COM

Well Number: 603H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements





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

## Bond Info Data

10/22/2024

**APD ID:** 10400081607

**Submission Date:** 11/11/2021

Highlighted data  
reflects the most  
recent changes  
[Show Final Text](#)

**Operator Name:** EOG RESOURCES INCORPORATED

**Well Name:** EILEEN 25 FED COM

**Well Number:** 603H

**Well Type:** OIL WELL

**Well Work Type:** Drill

### Bond

**Federal/Indian APD:** FED

**BLM Bond number:** NM2308

**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**

**Reclamation bond number:**

**Reclamation bond amount:**

**Reclamation bond rider amount:**

**Additional reclamation bond information**



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:** Permian Resources Operating, LLC **OGRID:** 372165 **Date:** 06 / 19 / 2024

**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
See Attached Spreadsheet						

**IV. Central Delivery Point Name:** EILEEN CTB SESW \_\_\_\_\_ [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
See Attached Spreadsheet						

**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 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.



Page 8

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:
Printed Name: JENNIFER ELROD
Title: SR. REGULATORY ANALYST
E-mail Address: jennifer.elrod@permianres.com
Date: 6/19/2024
Phone: 940-452-6214
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
Approved By:
Title:
Approval Date:
Conditions of Approval:



WELL NAME	API	UL/SECT/T/R	FOOTAGES	ANTICIPATED OIL BBL/D	ANTICIPATED GAS MCF/D	ANTICIPATED WATER BBL/D
EILEEN 25 FED COM 501H		M-25-20S-33E		1190	1074	3282
EILEEN 25 FED COM 502H		M-25-20S-33E		1190	1074	3282
EILEEN 25 FED COM 503H		N-25-20S-33E		1190	1074	3282
EILEEN 25 FED COM 504H		N-25-20S-33E		1190	1074	3282
EILEEN 25 FED COM 505H		P-25-20S-33E		1190	1074	3282
EILEEN 25 FED COM 506H		P-25-20S-33E		1190	1074	3282
EILEEN 25 FED COM 601H		M-25-20S-33E		1225	1142	1272
EILEEN 25 FED COM 602H		M-25-20S-33E		1225	1142	1272
EILEEN 25 FED COM 603H		O-25-20S-33E		1225	1142	1272
EILEEN 25 FED COM 604H		O-25-20S-33E		1225	1142	1272
EILEEN 25 FED COM 605H		O-25-20S-33E		1225	1142	1272
EILEEN 25 FED COM 606H		A-36-20S-33E		1225	1142	1272
EILEEN 25 FED COM 172H		M-25-20S-33E		1225	1142	1272
EILEEN 25 FED COM 173H		N-25-20S-33E		1225	1142	1272
EILEEN 25 FED COM 174H		P-25-20S-33E		1225	1142	1272
WELL NAME	API	SPUD	TD	COMPLETION DATE	FLOW BACK DATE	FIRST PRODUCTION
EILEEN 25 FED COM 501H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 502H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 503H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 504H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 505H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 506H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 601H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 602H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 603H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 604H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 605H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 606H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 172H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 173H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25
EILEEN 25 FED COM 174H		11-Jan-25	1-May-25	1-Jul-25	1-Aug-25	1-Aug-25



WELL NAME	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF
EILEEN 25 FED COM 501H		759	282675
EILEEN 25 FED COM 502H		759	282675
EILEEN 25 FED COM 503H		759	282675
EILEEN 25 FED COM 504H		759	282675
EILEEN 25 FED COM 505H		759	282675
EILEEN 25 FED COM 506H		759	282675
EILEEN 25 FED COM 601H		740	275545
EILEEN 25 FED COM 602H		740	275545
EILEEN 25 FED COM 603H		740	275545
EILEEN 25 FED COM 604H		740	275545
EILEEN 25 FED COM 605H		740	275545
EILEEN 25 FED COM 606H		740	275545
EILEEN 25 FED COM 172H		740	275545
EILEEN 25 FED COM 173H		740	275545
EILEEN 25 FED COM 174H		740	275545



## Permian Resources Operating, LLC (372165)

**Natural Gas Management Plan Descriptions****VI. Separation Equipment:**

Permian utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations. Our goal is to maintain 5 minutes of retention time in the test vessel and 20 minutes in the heater treater at peak production rates. The gas produced is routed from the separator to the gas sales line.

**VII. Operational Practices:***Drilling*

During Permian's drilling operations it is uncommon for venting or flaring to occur. If flaring is needed due to safety concerns, gas will be routed to a flare and volumes will be estimated.

*Flowback*

During completion/recompletion flowback operations, after separation flowback begins and as soon as it is technically feasible, Permian routes gas through a permanent separator and the controlled facility where the gas is either sold or flared through a high-pressure flare if needed.

*Production*

Per 19.15.27.8.D, Permian's facilities are designed to minimize waste. Our produced gas will only be vented or flared in an emergency or malfunction situation, except as allowed for normal operations noted in 19.15.27.8.D(2) & (4). All gas that is flared is metered. All gas that may be vented will be estimated.

*Performance Standards*

Permian utilizes a production forecast from our Reservoir Engineering team to appropriately size each permanent, 3-phase separator and heater treater utilized for production operations.

All of Permian's permanent storage tanks associated with production operations which are routed to a flare or control device are equipped with an automatic gauging system.

All of Permian's flare stacks, both currently installed and for future installation, are:

- 1) Appropriately sized and designed to ensure proper combustion efficiency.
- 2) Equipped with an automatic ignitor or continuous pilot.
- 3) Anchored and located at least 100 feet from the well and storage tanks.

Permian's field operations and HSE teams have implemented an AVO inspection schedule that adheres to the requirements of 19.15.27.8.E(5).

All of our operations and facilities are designed to minimize waste. We routinely employ the following methods and practices:

- Closed-loop systems
- Enclosed and properly sized tanks



## Permian Resources Operating, LLC (372165)

- Vapor recovery units to maximize recovery of low-pressure gas streams and potential unauthorized emissions
- Low-emitting or electric engines whenever practical
- Combustors and flare stacks in the event of a malfunction or emergency
- Routine facility inspections to identify leaking components, functioning control devices, such as flares and combustors, and repair / replacement of malfunctioning components where applicable

*Measurement or estimation*

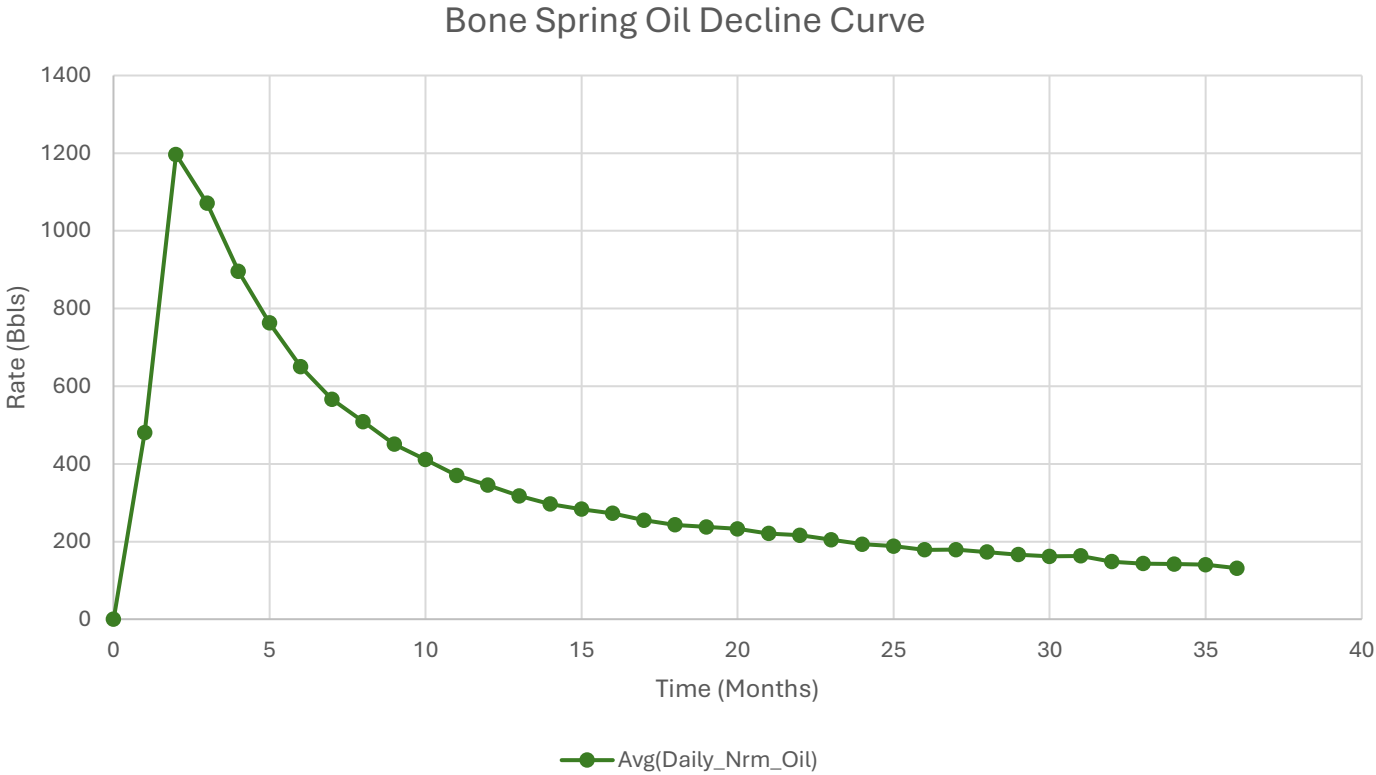
Permian measures or estimates the volumes of natural gas vented, flared and/or beneficially used for all of our drilling, completing and producing wells. We utilize accepted industry standards and methodology which can be independently verified. Annual GOR testing is completed on our wells and will be submitted as required by the OCD. None of our equipment is designed to allow diversion around metering elements except during inspection, maintenance and repair operations.

**VIII. Best Management Practices:**

Permian utilizes the following BMPs to minimize venting during active and planned maintenance activities:

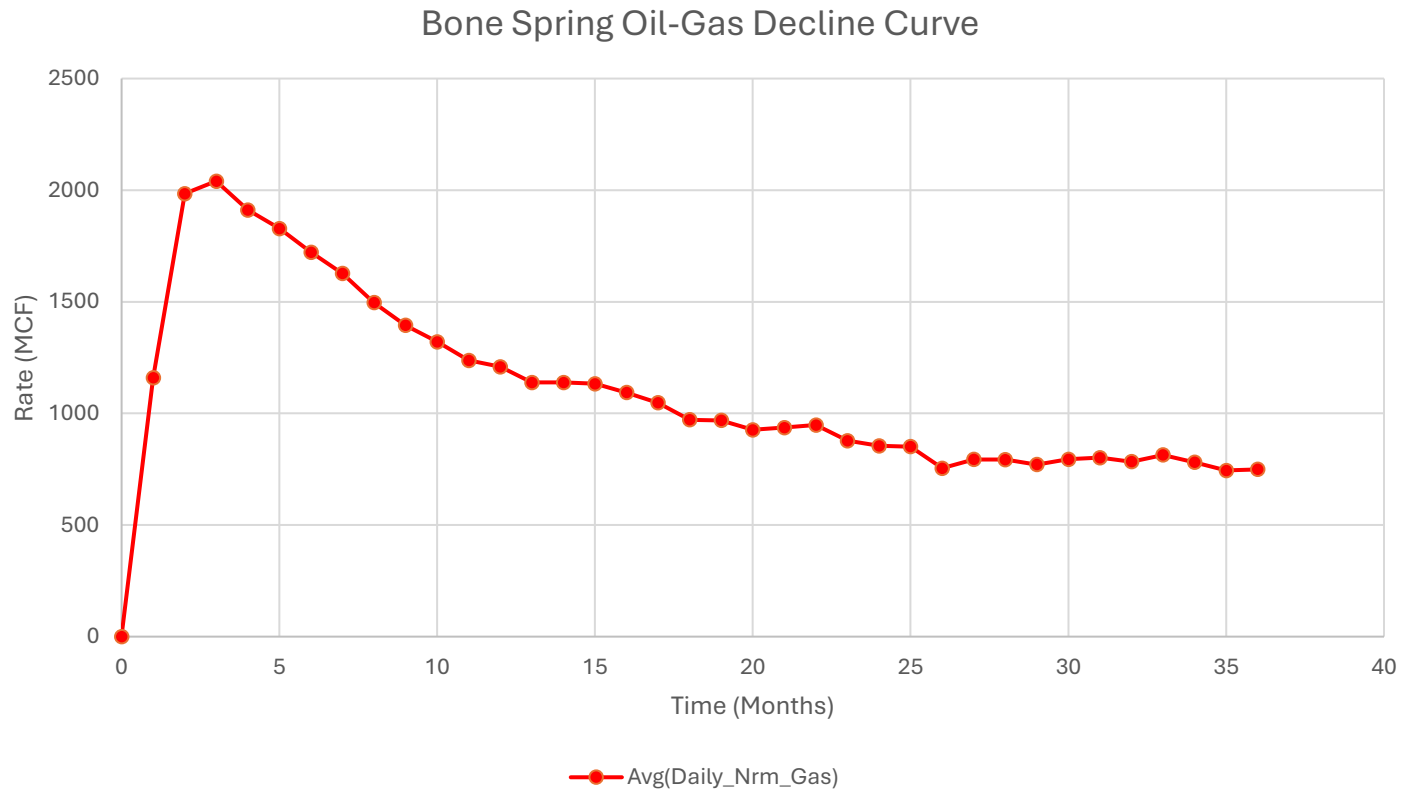
- Use a closed-loop process wherever possible during planned maintenance activities, such as blowdowns, liquid removal, and work over operations.
- Employ low-emitting or electric engines for equipment, such as compressors
- Adhere to a strict preventative maintenance program which includes routine facility inspections, identification of component malfunctions, and repairing or replacing components such as hatches, seals, valves, etc. where applicable
- Utilize vapor recovery units (VRU's) to maximize recovery of volumes of low-pressure gas streams and potential unauthorized emissions
- Route low pressure gas and emissions streams to a combustion device to prevent venting where necessary





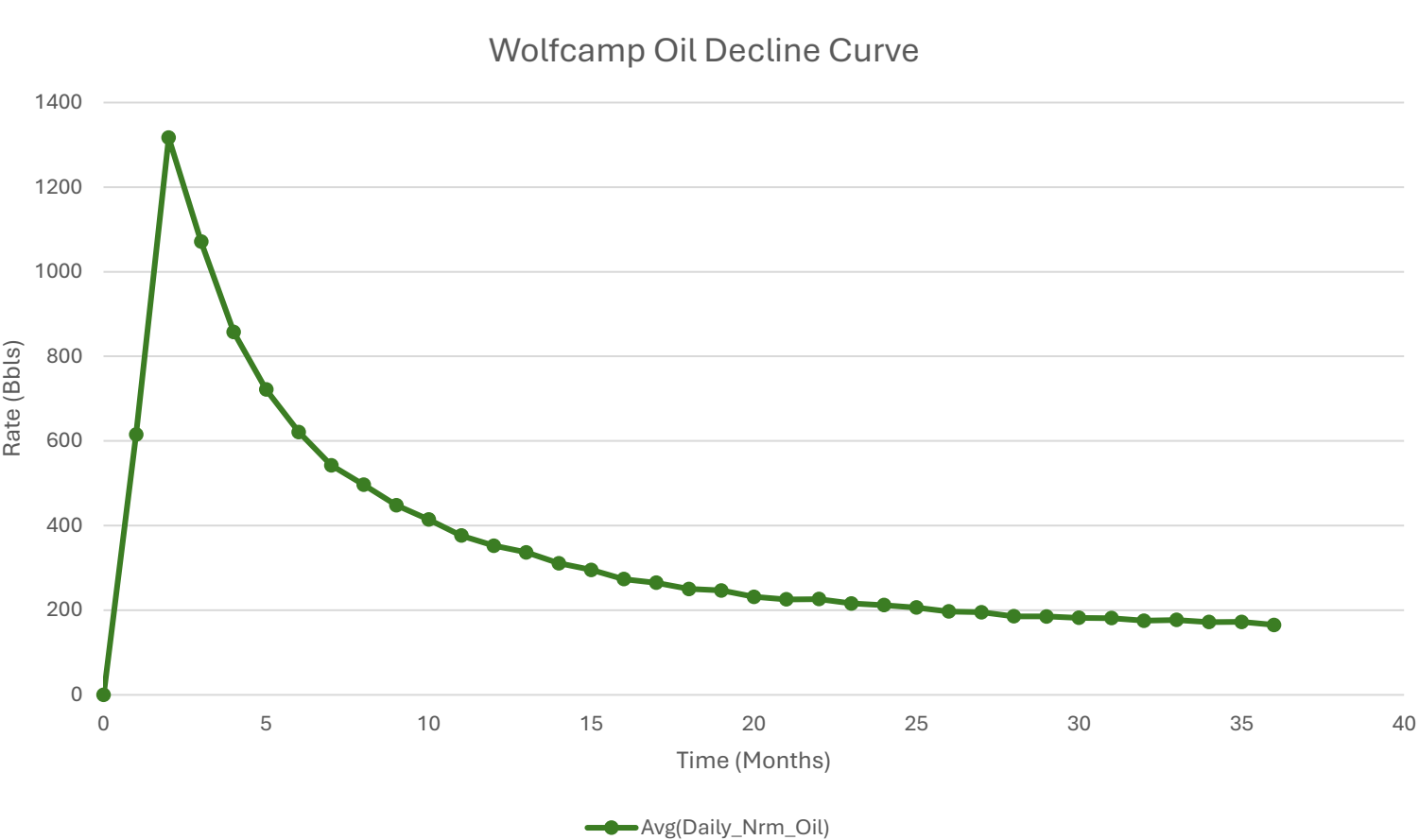
1. Represented curve is generic based on 3-Years available information for the Bone Spring formation and may not be representative of forecasted production or actual volumes.
2. Decline curves are based on an average 10,000ft lateral length. Multiple factors may influence production and decline curves, including but not limited to: lateral length and completion type.





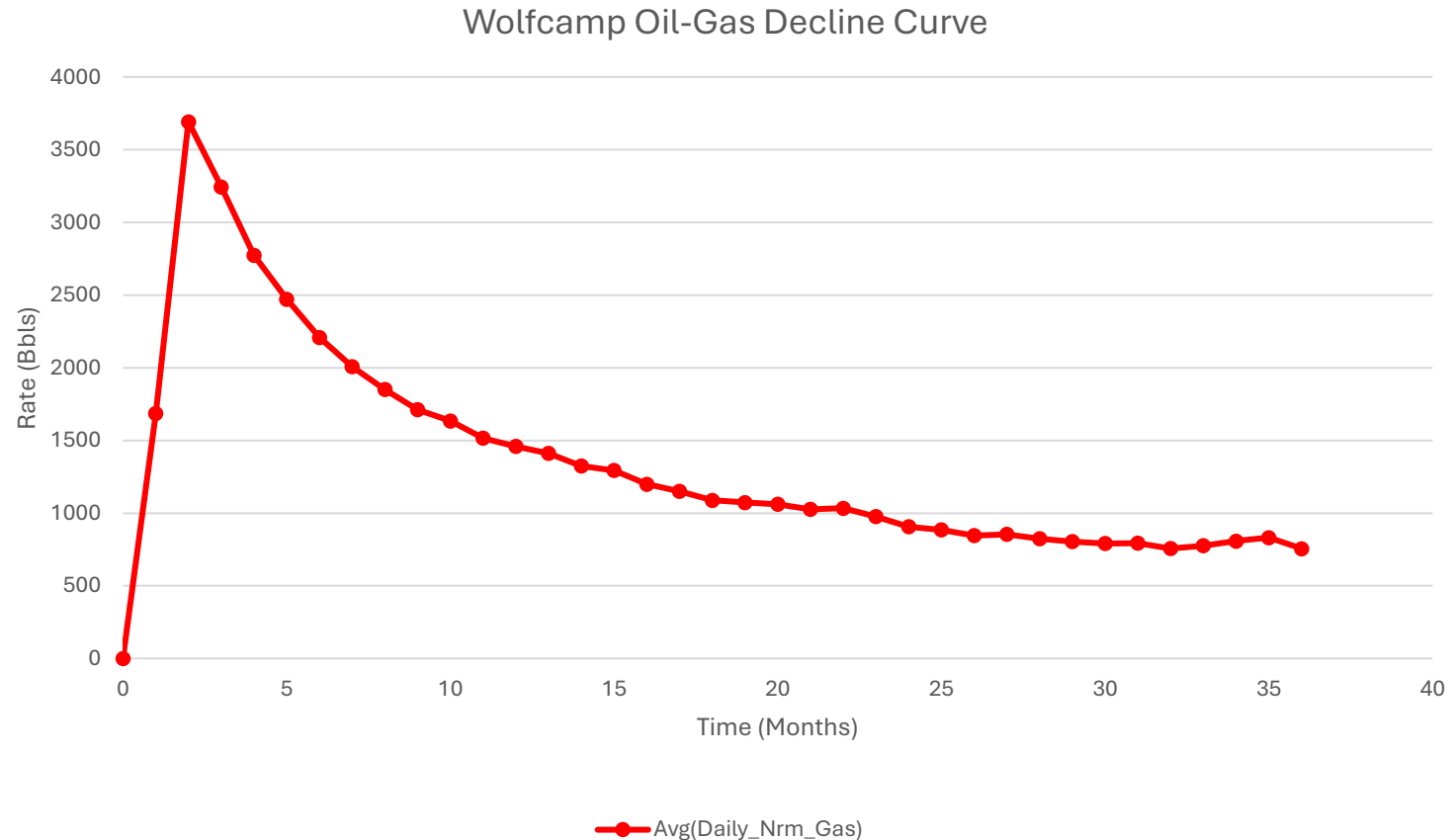
1. Represented curve is generic based on 3-Years available information for the Bone Spring formation and may not be representative of forecasted production or actual volumes.
2. Decline curves are based on an average 10,000ft lateral length. Multiple factors may influence production and decline curves, including but not limited to: lateral length and completion type.





1. Represented curve is generic based on 3-Years available information for the Bone Spring formation and may not be representative of forecasted production or actual volumes.
2. Decline curves are based on an average 10,000ft lateral length. Multiple factors may influence production and decline curves, including but not limited to: lateral length and completion type.





1. Represented curve is generic based on 3-Years available information for the Bone Spring formation and may not be representative of forecasted production or actual volumes.
2. Decline curves are based on an average 10,000ft lateral length. Multiple factors may influence production and decline curves, including but not limited to: lateral length and completion type.



Form 3160-5  
(June 2015)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

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

**SUNDRY NOTICES AND REPORTS ON WELLS**  
**Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.**

5. Lease Serial No.	Please see attached
6. If Indian, Allottee or Tribe Name	

SUBMIT IN TRIPLICATE - Other instructions on page 2		7. If Unit of CA/Agreement, Name and/or No.
1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		8. Well Name and No. Please see attached
2. Name of Operator Permian Resources Operating,LLC (372165)		9. API Well No. Please see attached
3a. Address 300 N Marienfeld St., Suite 1000 Midland, TX 79701	3b. Phone No. (include area code) (432) 400-0185	10. Field and Pool or Exploratory Area Please see attached
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) Please see attached		11. Country or Parish, State Lea County, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input checked="" type="checkbox"/> Other
	<input type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	CHANGE OF OPERATOR
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

This Is notification that Permian Resources Operating, LLC is taking over operations of the following leases, please see attached.

Permian Resources Operating, LLC, as the new operator, accepts all applicable terms, conditions, stipulations and restrictions concerning operations conducted on this lease, or portion of lease described.


Bond Coverage: BLM Bond File No.: B001841

Change of Operator Effective: 01/29/2024

Former Operator: EOG Resources, Inc.

EOG Representative Signature Star L Harrell

See Conditions of Approval

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) Kanicia Schlichting	Title Regulatory Specialist
Signature 	Date 10/07/2024

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by JENNIFER SANCHEZ	Digitally signed by JENNIFER SANCHEZ Date: 2024.10.09 09:53:48 -06'00'	
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Title Petroleum Engineer	Date 10/09/2024
	Office RFO	

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.

(Instructions on page 2)



Well Name	Lease Number	API Number	Location	County	Pool	APD ID Number	APD Status
Eileen 25 Fed Com 501H	NMNM128833	Pending	Unit M, Sec 25, T20S, R33E, 320' FSL & 735' FWL	Lea	Bone Spring, South	10400081561	Approved
Eileen 25 Fed Com 502H	NMNM128833	Pending	Unit M, Sec 25, T20S, R33E, 320' FSL & 750' FWL	Lea	Bone Spring, South	10400081595	Approved
Eileen 25 Fed Com 503H	NMNM128833	Pending	Unit N, Sec 25, T20S, R33E, 266' FSL & 2438' FWL	Lea	Bone Spring, South	10400081601	Approved
Eileen 25 Fed Com 504H	NMNM128833	Pending	Unit N, Sec 25, T20S, R33E, 266' FSL & 2453' FWL	Lea	Bone Spring, South	10400081606	Approved
Eileen 25 Fed Com 505H	NMNM128833	Pending	Unit P, Sec 25, T20S, R33E, 10' FSL & 1055' FEL	Lea	Bone Spring, South	10400081610	Approved
Eileen 25 Fed Com 506H	NMNM128833	Pending	Unit P, Sec 25, T20S, R33E, 10' FSL & 1040' FEL	Lea	Bone Spring, South	10400081616	Approved
Eileen 25 Fed Com 601H	NMNM128833	Pending	Unit M, Sec 25, T20S, R33E, 260' FSL & 630' FWL	Lea	Bone Spring, South	10400081598	Approved
Eileen 25 Fed Com 602H	NMNM128833	Pending	Unit M, Sec 25, T20S, R33E, 260' FSL & 645' FWL	Lea	Bone Spring, South	10400081600	Approved
Eileen 25 Fed Com 603H	NMNM128833	Pending	Unit O, Sec 25, T20S, R33E, 266' FSL & 2841' FEL	Lea	Bone Spring, South	10400081607	Approved
Eileen 25 Fed Com 604H	NMNM128833	Pending	Unit O, Sec 25, T20S, R33E, 175' FSL & 2013' FEL	Lea	Bone Spring, South	10400081629	Approved
Eileen 25 Fed Com 605H	NMNM128833	Pending	Unit O, Sec 25, T20S, R33E, 175' FSL & 1998' FEL	Lea	Bone Spring, South	10400081633	Approved
Eileen 25 Fed Com 606H	NMNM128833	Pending	Unit A, Sec 36, T20S, R33E, 50' FNL & 1130' FEL	Lea	Bone Spring, South	10400081621	Approved



### **Change of Operator Conditions of Approval**

1. Tank battery must be bermed/diked (must be able to contain 1 1/2 times the volume of the largest tank) within 90 days.
2. Submit for approval of water disposal method within 60 days, if changes have been made from previously approved disposal method.
3. Review facility diagram on file, and submit updated facility diagrams, as per Onshore Order #3 within 60 day.
4. This agency shall be notified of any spill or discharge as required by NTL-3A.
5. All outstanding environmental issue must be addressed within 90 days. Contact Jim Amos for inspection and to resolve environmental issues. 575-234-5909
6. Install legible well sign on location with operator name, well name and number, lease number, unit number, 1/4 1/4, section, township, and range. NMOCD requires the API number on well signs.
7. Subject to like approval by NMOCD.
8. All Reporting to ONRR (OGOR Reports) must be brought current within 30 days of this approval including any past history.
9. If this well is incapable of producing in paying quantities submit NOI to plug and abandon this well or obtain approval to do otherwise within 90 days.
10. Submit plan for approval of well operations for all TA/SI wells within 30 days of this approval to change operator.
11. If not in place acquire operating rights on this lease within 30 days with BLM office in Santa Fe, NM.

**JAM**



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

Action 399765

CONDITIONS

Operator: Permian Resources Operating, LLC 300 N. Marienfeld St Ste 1000 Midland, TX 79701	OGRID: 372165
	Action Number: 399765
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
jelrod32	Cement is required to circulate on both surface and intermediate1 strings of casing.	11/5/2024
jelrod32	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	11/5/2024
pkautz	File As Drilled C-102 and a directional Survey with C-104 completion packet.	11/17/2024
pkautz	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.	11/17/2024
pkautz	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.	11/17/2024