



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

Application for Permit to Drill

APD Package Report

Date Printed:

| | |
|--------------------|--------------|
| APD ID: | Well Status: |
| APD Received Date: | Well Name: |
| Operator: | Well Number: |

APD Package Report Contents

- Form 3160-3
- Operator Certification Report
- Application Report
- Application Attachments
 - Well Plat: 1 file(s)
- Drilling Plan Report
- Drilling Plan Attachments
 - Blowout Prevention Choke Diagram Attachment: 1 file(s)
 - Blowout Prevention BOP Diagram Attachment: 1 file(s)
 - Casing Design Assumptions and Worksheet(s): 6 file(s)
 - Hydrogen sulfide drilling operations plan: 1 file(s)
 - Proposed horizontal/directional/multi-lateral plan submission: 2 file(s)
 - Other Facets: 5 file(s)
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- SUPO Report
- SUPO Attachments
 - Existing Road Map: 1 file(s)
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 - Construction Materials source location attachment: 1 file(s)
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- PWD Report
- PWD Attachments
 - None

- Bond Report
- Bond Attachments
 - None

Form 3160-3
(October 2024)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

| | | |
|--|---------------------------------------|---|
| 1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone | | 5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. |
| 2. Name of Operator | | 9. API Well No. 30-025-56051 |
| 3a. Address | 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. 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

| | | |
|-------------------------|----------------------|--------|
| 25. Signature | Name (Printed/Typed) | Date |
| 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)

INSTRUCTIONS

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

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

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

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

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

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

ITEM 24: If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

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

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

PRINCIPAL PURPOSES: The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

ROUTINE USE: Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

EFFECT OF NOT PROVIDING INFORMATION: Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

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

The BLM connects this information to a new evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

Additional Operator Remarks

Location of Well

0. SHL: TR L / 1368 FSL / 802 FWL / TWSP: 26S / RANGE: 34E / SECTION: 2 / LAT: 32.0689622 / LONG: -103.4466756 (TVD: 0 feet, MD: 0 feet)
PPP: TR M / 100 FSL / 330 FWL / TWSP: 26S / RANGE: 34E / SECTION: 2 / LAT: 32.0654797 / LONG: -103.448199 (TVD: 11279 feet, MD: 11438 feet)
PPP: TR M / 0 FSL / 330 FWL / TWSP: 25S / RANGE: 34E / SECTION: 35 / LAT: 32.0797149 / LONG: -103.448202 (TVD: 11544 feet, MD: 16718 feet)
PPP: TR E / 2638 FNL / 330 FWL / TWSP: 25S / RANGE: 34E / SECTION: 35 / LAT: 32.0869787 / LONG: -103.4482031 (TVD: 11544 feet, MD: 20679 feet)
PPP: TR L / 1321 FSL / 330 FWL / TWSP: 25S / RANGE: 34E / SECTION: 35 / LAT: 32.0833468 / LONG: -103.4482026 (TVD: 11544 feet, MD: 19361 feet)
BHL: TR D / 100 FNL / 330 FWL / TWSP: 25S / RANGE: 34E / SECTION: 26 / LAT: 32.108468 / LONG: -103.4482197 (TVD: 11544 feet, MD: 27179 feet)

BLM Point of Contact

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

**PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL**

| | |
|------------------|---|
| OPERATOR'S NAME: | EOG Resources Incorporated |
| LEASE NO.: | NMNM 113898 NMNM 092200 NMNM 136224 NMNM 094114 VB 18210001 |
| COUNTY: | Lea County, New Mexico |

Wells:

The legal lands descriptions are located in Lea County, New Mexico (Table 1). The following surface hole locations are located in Township 26S, Range 34E, Section 2; bottom hole locations are located in Township 25S, Range 34E, Section 26.

Table 1: Legal Lands Descriptions

| Well Name | Surface Hole Legal Location* | Bottom Hole Legal Location* |
|--|------------------------------|-----------------------------|
| Well Pad A – Center of Pad: 1,585' FSL and 806' FWL | | |
| Ruby XL 2-26 Fed Com #101H | 1,467' FSL and 802' FWL | 100' FNL and 330' FWL |
| Ruby XL 2-26 Fed Com #102H | 1,626' FSL and 743' FWL | 100' FNL and 990' FWL |
| Ruby XL 2-26 Fed Com #103H | 1,845' FSL and 744' FWL | 100' FNL and 1,650' FWL |
| Ruby XL 2-26 Fed Com #201H | 1,560' FSL and 743' FWL | 100' FNL and 715' FWL |
| Ruby XL 2-26 Fed Com #202H | 1,745' FSL and 684' FWL | 100' FNL and 1,485' FWL |
| Ruby XL 2-26 Fed Com #301H | 1,434' FSL and 802' FWL | 100' FNL and 330' FWL |
| Ruby XL 2-26 Fed Com #302H | 1,686' FSL and 683' FWL | 100' FNL and 1,100' FWL |
| Ruby XL 2-26 Fed Com #303H | 1,845' FSL and 810' FWL | 100' FNL and 1,870' FWL |
| Ruby XL 2-26 Fed Com #401H | 1,527' FSL and 742' FWL | 100' FNL and 715' FWL |
| Ruby XL 2-26 Fed Com #402H | 1,752' FSL and 683' FWL | 100' FNL and 1,485' FWL |
| Ruby XL 2-26 Fed Com #501H | 1,401' FSL and 802' FWL | 100' FNL and 330' FWL |
| Ruby XL 2-26 Fed Com #502H | 1,593' FSL and 743' FWL | 100' FNL and 990' FWL |
| Ruby XL 2-26 Fed Com #503H | 1,845' FSL and 777' FWL | 100' FNL and 1,650' FWL |
| Ruby XL 2-26 Fed Com #591H | 1,368' FSL and 802' FWL | 100' FNL and 330' FWL |
| Ruby XL 2-26 Fed Com #592H | 1,719' FSL and 683' FWL | 100' FNL and 1,254' FWL |
| Ruby XL 2-26 Fed Com #PH1 | 1,485' FSL and 843' FWL | - |
| Well Pad B – Center of Pad: 1,002' FSL and 2,595' FEL | | |
| Ruby XL 2-26 Fed Com #104H | 1,104' FSL and 2,575' FWL | 100' FNL and 2,315' FWL |
| Ruby XL 2-26 Fed Com #105H | 1,263' FSL and 2,624' FEL | 100' FNL and 2,310' FEL |
| Ruby XL 2-26 Fed Com #304H | 1,137' FSL and 2,576' FWL | 100' FNL and 2,594' FWL |

| Well Name | Surface Hole Legal Location* | Bottom Hole Legal Location* |
|--|------------------------------|-----------------------------|
| Ruby XL 2-26 Fed Com #203H | 978' FSL and 2,635' FWL | 100' FNL and 2,255' FWL |
| Ruby XL 2-26 Fed Com #204H | 1,263' FSL and 2,636' FWL | 100' FNL and 2,255' FEL |
| Ruby XL 2-26 Fed Com #403H | 1,011' FSL and 2,635' FWL | 100' FNL and 2,255' FWL |
| Ruby XL 2-26 Fed Com #404H | 1,203' FSL and 2,576' FWL | 100' FNL and 2,255' FEL |
| Ruby XL 2-26 Fed Com #504H | 1,044' FSL and 2,635' FWL | 100' FNL and 2,315' FWL |
| Ruby XL 2-26 Fed Com #505H | 1,170' FSL and 2,576' FWL | 100' FNL and 2,310' FEL |
| Ruby XL 2-26 Fed Com #593H | 945' FSL and 2,635' FWL | 100' FNL and 2,178' FEL |
| Ruby XL 2-26 Fed Com #594H | 1,263' FSL and 2,591' FEL | 100' FNL and 2,178' FEL |
| Ruby XL 2-26 Fed Com #751H | 885' FSL and 2,598' FEL | 100' FNL and 330' FWL |
| Ruby XL 2-26 Fed Com #752H | 852' FSL and 2,598' FEL | 100' FNL and 1,100' FWL |
| Ruby XL 2-26 Fed Com #753H | 819' FSL and 2,598' FEL | 100' FNL and 1,870' FWL |
| Ruby XL 2-26 Fed Com #754H | 786' FSL and 2,598' FEL | 100' FNL and 2,594' FWL |
| Ruby XL 2-26 Fed Com #PH2 | 1,265' FSL and 2,558' FEL | - |
| Well Pad C – Center of Pad: 1,001' FSL and 1,428' FEL | | |
| Ruby XL 2-26 Fed Com #106H | 1,008' FSL and 1,495' FEL | 100' FNL and 1,650' FEL |
| Ruby XL 2-26 Fed Com #205H | 1,102' FSL and 1,554' FEL | 100' FNL and 1,485' FEL |
| Ruby XL 2-26 Fed Com #305H | 942' FSL and 1,496' FEL | 100' FNL and 1,870' FEL |
| Ruby XL 2-26 Fed Com #306H | 1,168' FSL and 1,553' FEL | 100' FNL and 1,100' FEL |
| Ruby XL 2-26 Fed Com #405H | 1,041' FSL and 1,494' FEL | 100' FNL and 1,485' FEL |
| Ruby XL 2-26 Fed Com #506H | 975' FSL and 1,495' FEL | 100' FNL and 1,650' FEL |
| Ruby XL 2-26 Fed Com #507H | 1,201' FSL and 1,552' FEL | 100' FNL and 990' FEL |
| Ruby XL 2-26 Fed Com #595H | 1,135' FSL and 1,553' FEL | 100' FNL and 1,254' FEL |
| Ruby XL 2-26 Fed Com #755H | 783' FSL and 1,438' FEL | 100' FNL and 1,870' FEL |
| Ruby XL 2-26 Fed Com #756H | 815' FSL and 1,437' FEL | 100' FNL and 1,100' FEL |
| Ruby XL 2-26 Fed Com #757H | 849' FSL and 1,437' FEL | 100' FNL and 330' FEL |
| Ruby XL 2-26 Fed Com #PH3 | 882' FSL and 1,437' FEL | - |
| Ruby XL 2-26 Fed Com #PH4 | 1,260' FSL and 1,492' FEL | - |
| Ruby XL 2-26 Fed Com #PH5 | 1,260' FSL and 1,459' FEL | - |
| Ruby XL 2-26 Fed Com #PH6 | 1,260' FSL and 1,426' FEL | - |
| Ruby XL 2-26 Fed Com #PH7 | 1,259' FSL and 1,393' FEL | - |
| Well Pad D – Center of Pad: 1,001' FSL and 622' FEL | | |
| Ruby XL 2-26 Fed Com #107H | 785' FSL and 625' FEL | 100' FNL and 990' FEL |
| Ruby XL 2-26 Fed Com #108H | 1,010' FSL and 685' FEL | 100' FNL and 330' FEL |
| Ruby XL 2-26 Fed Com #206H | 851' FSL and 625' FEL | 100' FNL and 715' FEL |
| Ruby XL 2-26 Fed Com #307H | 977' FSL and 685' FEL | 100' FNL and 330' FEL |
| Ruby XL 2-26 Fed Com #406H | 818' FSL and 625' FEL | 100' FNL and 715' FEL |
| Ruby XL 2-26 Fed Com #508H | 944' FSL and 685' FEL | 100' FNL and 330' FEL |
| Ruby XL 2-26 Fed Com #596H | 884' FSL and 625' FEL | 100' FNL and 330' FEL |
| Ruby XL 2-26 Fed Com #PH8 | 1,240' FSL and 685' FEL | - |

| Well Name | Surface Hole Legal Location* | Bottom Hole Legal Location* |
|----------------------------|------------------------------|-----------------------------|
| Ruby XL 2-26 Fed Com #PH9 | 1,103' FSL and 745' FEL | - |
| Ruby XL 2-26 Fed Com #PH10 | 1,136' FSL and 745' FEL | - |
| Ruby XL 2-26 Fed Com #PH11 | 1,169' FSL and 745' FEL | - |
| Ruby XL 2-26 Fed Com #PH12 | 1,202' FSL and 744' FEL | - |
| Ruby XL 2-26 Fed Com #PH13 | 1,262' FSL and 684' FEL | - |
| Ruby XL 2-26 Fed Com #PH14 | 1,262' FSL and 651' FEL | - |
| Ruby XL 2-26 Fed Com #PH15 | 1,262' FSL and 618' FEL | - |
| Ruby XL 2-26 Fed Com #PH16 | 1,262' FSL and 585' FEL | - |

*FNL = from north line; FSL = from south line; FWL = from west line; FEL = from east line

WILDLIFE

Lesser Prairie Chicken

Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:

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

Timing Limitation Exceptions:

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

Ground-level Abandoned Well Marker to avoid raptor perching:

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at BLM_NM_CFO_Construction_Reclamation@blm.gov.

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

| | |
|------------------|-----------------------------|
| OPERATOR'S NAME: | EOG Resources Incorporated |
| WELL NAME & NO.: | RUBY XL 2 26 FED COM 591H |
| LOCATION: | Section 2, T.26 S., R.34 E. |
| COUNTY: | Lea County, New Mexico |

COA

| | | | |
|-------------------------------|---|---|--|
| H2S | <input checked="" type="radio"/> Yes | <input type="radio"/> No | |
| Potash | <input checked="" type="radio"/> None | <input type="radio"/> Secretary | <input type="radio"/> R-111-P |
| Cave/Karst Potential | <input checked="" type="radio"/> Low | <input type="radio"/> Medium | <input type="radio"/> High |
| Cave/Karst Potential | <input type="radio"/> Critical | | |
| Variance | <input type="radio"/> None | <input checked="" type="radio"/> Flex Hose | <input type="radio"/> Other |
| Wellhead | <input type="radio"/> Conventional | <input checked="" type="radio"/> Multibowl | <input type="radio"/> Both |
| Wellhead Variance | <input type="radio"/> Diverter | | |
| Other | <input type="checkbox"/> 4 String | <input type="checkbox"/> Capitan Reef | <input type="checkbox"/> WIPP |
| Other | <input type="checkbox"/> Fluid Filled | <input type="checkbox"/> Pilot Hole | <input type="checkbox"/> Open Annulus |
| Cementing | <input type="checkbox"/> Contingency Cement Squeeze | <input checked="" type="checkbox"/> EchoMeter | <input checked="" type="checkbox"/> Primary Cement Squeeze |
| Special Requirements | <input type="checkbox"/> Water Disposal | <input checked="" type="checkbox"/> COM | <input type="checkbox"/> Unit |
| Special Requirements | <input type="checkbox"/> Batch Sundry | | |
| Special Requirements Variance | <input checked="" type="checkbox"/> Break Testing | <input checked="" type="checkbox"/> Offline Cementing | <input checked="" type="checkbox"/> Casing Clearance |

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

The above well is approved for the primary design and 5 Designs listed in the "EOG BLM Variance 5a - Alternate Shallow Casing Designs" document. The casing set points and directional plans for the wells in the batch are within the boundary conditions reviewed in the blanket design. The COA is written for the deepest well on the pad. Operator is responsible to review the cement volumes based on the set points, design executed and to achieve the TOC requirements listed in the COA.

Primary:

1. The **10-3/4** inch surface casing shall be set at approximately **1012** feet **TVD** (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **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 **8-5/8** inch intermediate casing shall be set at approximately **5340 per BLM Geologist** feet **TVD**.
 - a. **Mud weight could brine up to 10.2ppg. Reviewed and OK**
 - b. **Keep casing half full during run for collapse SF**

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

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. Operator has also proposed **ONLY** running **6** inch casing or **ONLY** running **5.5** inch for the production string. Reviewed and is OK. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Operator has proposed to pump down 8-5/8" X 6" or 5-1/2" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 5-1/2" or 6" casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.

If cement does not reach surface, the next casing string must come to surface.

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

Shallow Design A:

1. The **13-3/8** inch surface casing shall be set at approximately **1012** feet TVD (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **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 **9-5/8** inch intermediate casing shall be set at approximately **5340** per **BLM Geologist** feet TVD.
 - a. **Mud weight could brine up to 10.2ppg. Reviewed and OK**
 - b. **Keep casing half full during run for collapse SF**

The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

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

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

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Operator has proposed to pump down 9-5/8" X 5-1/2" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 5-1/2" casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.

If cement does not reach surface, the next casing string must come to surface.

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

Shallow Design B:

1. The **10-3/4** inch surface casing shall be set at approximately **1012** feet TVD (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

- e. 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.
- f. 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)
- g. 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.

If cement falls back, remedial cementing will be done prior to drilling out that string.

2. The **8-5/8** inch intermediate casing shall be set at approximately **5340** per **BLM Geologist** feet TVD.

- a. **Mud weight could brine up to 10.2ppg. Reviewed and OK**
- b. **Keep casing half full during run for collapse SF**

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

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

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

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Operator has proposed to pump down 8-5/8" X 5-1/2" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top

in the annulus Or operator shall run a CBL from TD of the 5-1/2” casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.

If cement does not reach surface, the next casing string must come to surface.

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

Shallow Design C:

1. The **13-3/8** inch surface casing shall be set at approximately **1012** feet TVD (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - h. 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.
 - i. 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)
 - j. 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.
 - k. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The **9-5/8** inch intermediate casing shall be set at approximately **5340 per BLM Geologist** feet TVD.
 - a. **Mud weight could brine up to 10.2ppg. Reviewed and OK**
 - b. **Keep casing half full during run for collapse SF**

The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:

- Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The minimum required fill of cement behind the **6** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Operator has proposed to pump down 9-5/8" X 6" annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 6" casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.

If cement does not reach surface, the next casing string must come to surface.

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

Shallow Design D:

1. The 13-3/8 inch surface casing shall be set at approximately 1012 feet TVD (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - l. 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.
 - m. 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)
 - n. 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.
 - o. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The 9-5/8 inch intermediate casing shall be set at approximately **5340 per BLM Geologist** feet TVD.
 - a. **Mud weight could brine up to 10.2ppg. Reviewed and OK**
 - b. **Keep casing half full during run for collapse SF**

The minimum required fill of cement behind the 9-5/8 inch intermediate casing is:

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

3. The minimum required fill of cement behind the 6 inch x 5.5 inch tapered production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Operator has proposed to pump down 8-5/8" X 6" x 5.5 " annulus after primary cementing stage. Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus Or operator shall run a CBL from TD of the 6x 5.5" casing to surface after the second stage BH to verify TOC.

Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry between second stage BH and top out. Operator must run one CBL per Well Pad.

If cement does not reach surface, the next casing string must come to surface.

Operator must use a limited flush fluid volume of 1 bbl following backside cementing procedures.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the 10-3/4 inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 (70% Working Pressure) psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S) **Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

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

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer (575-706-2779) prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-689-5981 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 Onshore Oil and Gas Order No. 2.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Casing Clearance:

- Variance in place for production interval as long as the 500' overlap into the previous casing meets the requirement
- Variance in place for salt interval clearance based on caliper data study

Offline Cementing

Offline cementing OK for all three intervals if attached qualifiers are met and conducted in adherence to approved procedures. Notify 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)

Eddy County

EMAIL or call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,

BLM_NM_CFO_DrillingNotifications@BLM.GOV

(575) 361-2822

Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,

(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the 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 10120 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.

JS 12/9/2025



Operator Certification Data Report

01/07/2026

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

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: SHEA BAILEY

Signed on: 11/04/2025

Title: Regulatory Contractor

Street Address: 5509 CHAMPIONS BLVD

City: MIDLAND

State: TX

Zip: 79707

Phone: (432)214-9797

Email address: SHEA_BAILEY@EOGRESOURCES.COM

Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:



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

Application Data

01/07/2026

APD ID: 10400108171

Submission Date: 11/06/2025

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

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400108171

Tie to previous NOS?

Submission Date: 11/06/2025

BLM Office: Carlsbad

User: SHEA BAILEY

Title: Regulatory Contractor

Federal/Indian APD: FED

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

Lease number: NMNM113898

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: RUBY XL 2-26 FED COM

Well Number: 591H

Field/Pool or Exploratory? Field and Pool

Field Name: HARDIN TANK

Pool Name: BONESPRING

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

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: RUBY XL 2-26 FED COM

Number: 101H, 301H, 501H, 591H

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: 33 FT

Distance to lease line: 100 FT

Reservoir well spacing assigned acres Measurement: 1920 Acres

Well plat: RUBY_XL_2_26_FED_COM_591H_C_102_S_20251104150813.pdf

Well work start Date: 11/06/2026

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 | 1368 | FSL | 802 | FWL | 26S | 34E | 2 | Tract L | 32.0689622 | -103.4466756 | LEA | NEW MEXICO | NEW MEXICO | S | STATE | 3310 | | | N |
| KOP Leg #1 | 50 | FSL | 330 | FWL | 26S | 34E | 2 | Tract M | 32.0653423 | -103.4481991 | LEA | NEW MEXICO | NEW MEXICO | S | STATE | -7757 | 11217 | 11067 | N |
| PPP Leg #1-1 | 100 | FSL | 330 | FWL | 26S | 34E | 2 | Tract M | 32.0654797 | -103.448199 | LEA | NEW MEXICO | NEW MEXICO | S | STATE | -7969 | 11438 | 11279 | N |

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

| Wellbore | NS-Foot | NS Indicator | EW-Foot | EW Indicator | Twsp | Range | Section | Aliquot/Lot/Tract | Latitude | Longitude | County | State | Meridian | Lease Type | Lease Number | Elevation | MD | TVD | Will this well produce from this |
|--------------|---------|--------------|---------|--------------|------|-------|---------|-------------------|------------|--------------|--------|------------|------------|------------|--------------|-----------|-------|-------|----------------------------------|
| PPP Leg #1-2 | 0 | FSL | 330 | FW L | 25S | 34E | 35 | Tract M | 32.0797149 | -103.448202 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 113898 | -8234 | 16718 | 11544 | Y |
| PPP Leg #1-3 | 132 | FSL | 330 | FW L | 25S | 34E | 35 | Tract L | 32.0833468 | -103.4482026 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 92200 | -8234 | 19361 | 11544 | Y |
| PPP Leg #1-4 | 263 | FNL | 330 | FW L | 25S | 34E | 35 | Tract E | 32.0869787 | -103.4482031 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 136224 | -8234 | 20679 | 11544 | Y |
| EXIT Leg #1 | 100 | FNL | 330 | FW L | 25S | 34E | 26 | Tract D | 32.108468 | -103.4482197 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 94114 | -8234 | 27179 | 11544 | Y |
| BHL Leg #1 | 100 | FNL | 330 | FW L | 25S | 34E | 26 | Tract D | 32.108468 | -103.4482197 | LEA | NEW MEXICO | NEW MEXICO | F | NMNM 94114 | -8234 | 27179 | 11544 | Y |

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

WELL LOCATION AND ACREAGE DEDICATION PLAT

| | | |
|--|--|---|
| API Number 30-025- 56051 | Pool Code 96661 | Pool Name HARDIN TANK, BONESPRING |
| Property Code 338980 | Property Name RUBY XL 2-26 FED COM | Well Number 591H |
| OGRID No. 7377 | Operator Name EOG RESOURCES, INC. | Ground Level Elevation 3310' |
| Surface Owner: <input checked="" type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal | | Mineral Owner: <input checked="" type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal |

Surface Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the N/S | Feet from the E/W | Latitude | Longitude | County |
|---------------|---------|----------|-------|---------|-------------------|-------------------|--------------|---------------|--------|
| L | 2 | 26-S | 34-E | - | 1368' S | 802' W | N 32.0689622 | W 103.4466756 | LEA |

Bottom Hole Location

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the N/S | Feet from the E/W | Latitude | Longitude | County |
|---------------|---------|----------|-------|---------|-------------------|-------------------|--------------|---------------|--------|
| D | 26 | 25-S | 34-E | - | 100' N | 330' W | N 32.1084680 | W 103.4482197 | LEA |

| | | | | |
|---|--|---|--|-------------------------------|
| Dedicated Acres 1920.00 | Infill or Defining Well INFILL | Defining Well API PENDING API | Overlapping Spacing Unit (Y/N) Y | Consolidated Code C |
| Order Numbers NSP AND COM # PENDING | | | Well Setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No | |

Kick Off Point (KOP)

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the N/S | Feet from the E/W | Latitude | Longitude | County |
|---------------|---------|----------|-------|---------|-------------------|-------------------|--------------|---------------|--------|
| M | 2 | 26-S | 34-E | - | 50' S | 330' W | N 32.0653423 | W 103.4481991 | LEA |


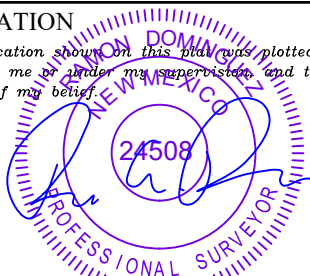
First Take Point (FTP)

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the N/S | Feet from the E/W | Latitude | Longitude | County |
|---------------|---------|----------|-------|---------|-------------------|-------------------|--------------|---------------|--------|
| M | 2 | 26-S | 34-E | - | 100' S | 330' W | N 32.0654797 | W 103.4481990 | LEA |

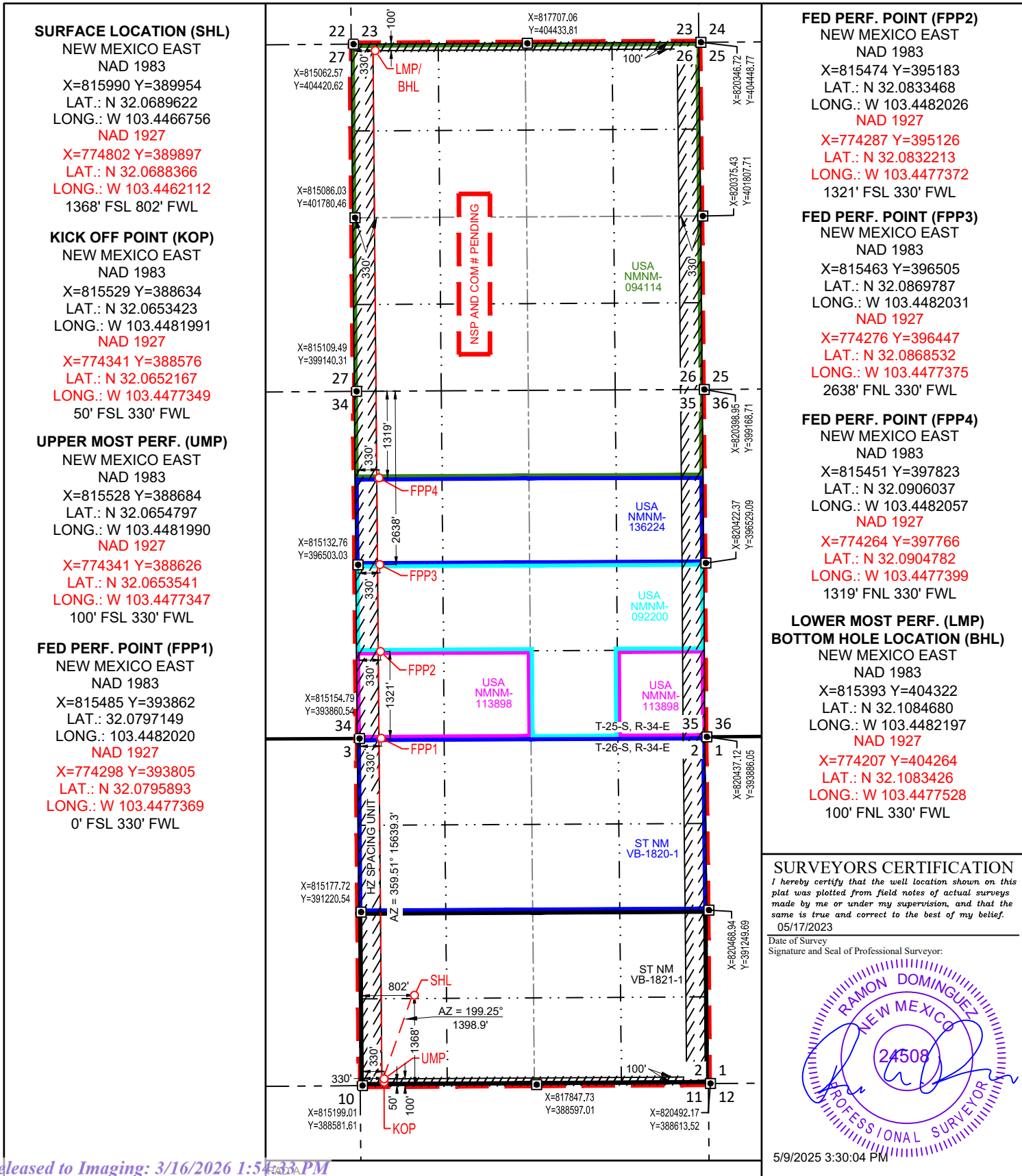
Last Take Point (LTP)

| UL or lot no. | Section | Township | Range | Lot Idn | Feet from the N/S | Feet from the E/W | Latitude | Longitude | County |
|---------------|---------|----------|-------|---------|-------------------|-------------------|--------------|---------------|--------|
| D | 26 | 25-S | 34-E | - | 100' N | 330' W | N 32.1084680 | W 103.4482197 | LEA |

| | | |
|--|--|--|
| Unitized Area or Area of Uniform Intrest UNITIZED AREA | Spacing Unity Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical | Ground Floor Elevation 3335' |
|--|--|--|

| | | | |
|---|--|--|--|
| OPERATOR CERTIFICATION <i>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.</i> <i>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.</i> | | SURVEYORS CERTIFICATION <i>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.</i> | |
| Signature  Shea Bailey | | Signature and Seal of Professional Surveyor  | |
| Date 11/4/25 | | Date 5/9/2025 3:30:02 PM | |
| Print Name shea_bailey@eogresources.com | | Certificate Number 05/17/2023 | |
| E-mail Address | | Date of Survey | |

| | | |
|--|--|--|
| C-102 Submit Electronically Via OCD Permitting | State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION | Revised July 9, 2024 |
| Property Name and Well Number <p style="text-align: center; font-weight: bold;">RUBY XL 2-26 FED COM 591H</p> | | Submittal Type: <input checked="" type="checkbox"/> Initial Submittal <input type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled |



S:\SURVEY\OIL\INDUSTRIAL\2_FED_COM\PLAT\PRODUCTS\OIL\RYL_XL_2-26_FED_COM_591H_815393.dwg EDWARDS\SPRINGS 05/25/23 3:30 PM



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

Drilling Plan Data Report

01/07/2026

APD ID: 10400108171

Submission Date: 11/06/2025

Highlighted data reflects the most recent changes

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

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 |
|--------------|------------------|-----------|---------------|----------------|-------------|-------------------|--------------------|
| 16990497 | PERMIAN | 3310 | 0 | 0 | ALLUVIUM | NONE | N |
| 16990498 | RUSTLER | 2403 | 907 | 907 | ANHYDRITE | NONE | N |
| 16990499 | TOP OF SALT | 1996 | 1314 | 1314 | SALT | NONE | N |
| 16990500 | BASE OF SALT | -1834 | 5144 | 5144 | SALT | NONE | N |
| 16990501 | LAMAR | -2114 | 5424 | 5424 | LIMESTONE | NONE | N |
| 16990502 | BELL CANYON | -2144 | 5454 | 5454 | SANDSTONE | NATURAL GAS, OIL | N |
| 16990503 | CHERRY CANYON | -3071 | 6381 | 6381 | SANDSTONE | NATURAL GAS, OIL | N |
| 16990504 | BRUSHY CANYON | -4621 | 7931 | 7931 | SANDSTONE | NATURAL GAS, OIL | N |
| 16990505 | BONE SPRING LIME | -6155 | 9465 | 9465 | LIMESTONE | NONE | Y |
| 16990506 | BONE SPRING 1ST | -7196 | 10506 | 10506 | SANDSTONE | NATURAL GAS, OIL | N |
| 16990507 | BONE SPRING 2ND | -7785 | 11095 | 11095 | SANDSTONE | NATURAL GAS, OIL | Y |

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 11544

Equipment: SEE ATTACHED PERMIT INFO

Requesting Variance? YES

Variance request: SEE ATTACHED VARIANCE INFO

Testing Procedure: SEE ATTACHED DRILLING INFO

Choke Diagram Attachment:

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

10_M_Choke_Manifold_20251104075958.pdf

BOP Diagram Attachment:

10_M_BOP_Diagram_13.625_in_20251104080004.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 | 13 | 10.75 | NEW | API | N | 0 | 1012 | 0 | 1012 | 3310 | 2298 | 1012 | J-55 | 40.5 | ST&C | 1.125 | 1.25 | BUOY | 1.6 | BUOY | 1.6 |
| 2 | INTERMEDIATE | 9.875 | 8.625 | NEW | API | N | 0 | 5634 | 0 | 5474 | 3307 | -2164 | 5634 | J-55 | 32 | OTHER - BTC-SC | 1.125 | 1.25 | BUOY | 1.6 | BUOY | 1.6 |
| 3 | PRODUCTION | 7.875 | 6.0 | NEW | API | N | 0 | 11117 | 0 | 10967 | 3307 | -7657 | 11117 | P-110 | 24.5 | OTHER - VAM SPRINT-TC | 1.125 | 1.25 | BUOY | 1.6 | BUOY | 1.6 |
| 4 | PRODUCTION | 6.75 | 5.5 | NEW | API | N | 11117 | 27179 | 10967 | 11544 | -7657 | -8234 | 16062 | P-110 | 20 | OTHER - VAM SPRINT SF | 1.125 | 1.25 | BUOY | 1.6 | BUOY | 1.6 |

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

See_previously_attached_Drill_Plan_20251104080154.pdf

10.750in_40.5ppf_J55_STC_20251104080154.pdf

Ruby_XL_2_26_Fed_Com_591H_Permit_Info_20251104151911.pdf

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

Casing Attachments

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

8.625in_32ppf_J55_BTC_SC_20251104080300.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

6.000in_24.50ppf_CDS_P110EC_VAM_SPRINT_TC_20251104080359.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

5.500in_20.00ppf_P110EC_SPRINT_SF_20251104080513.pdf

Section 4 - Cement

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

| String Type | Lead/Tail | Stage Tool Depth | Top MD | Bottom MD | Quantity(sx) | Yield | Density | Cu Ft | Excess% | Cement type | Additives |
|--------------|-----------|------------------|--------|-----------|--------------|-------|---------|--------|---------|-------------|---|
| SURFACE | Lead | | 0 | 820 | 240 | 1.73 | 13.5 | 415.2 | 25 | CLASS C/H | Lead: Class C/H + additives (TOC @ Surface) |
| SURFACE | Tail | | 820 | 1020 | 120 | 1.34 | 14.8 | 160.8 | 25 | CLASS C/H | Tail: Class C/H + additives (TOC @ 820') |
| INTERMEDIATE | Lead | | 0 | 4507 | 340 | 2.22 | 12.7 | 754.8 | 25 | CLASS C/H | Lead: Class C/H + additives + expansive additives (TOC @ Surface) |
| INTERMEDIATE | Tail | | 4507 | 5634 | 150 | 1.32 | 14.8 | 198 | 25 | CLASS C/H | Tail: Class C/H + additives + expansive additives (TOC @ 5634') |
| PRODUCTION | Lead | | 0 | 7940 | 1000 | 1.32 | 14.8 | 1320 | 25 | CLASS C/H | Bradenhead squeeze: Class C/H + additives + expansive additives (TOC @ surface) |
| PRODUCTION | Tail | | 7940 | 27179 | 2270 | 1.52 | 13.2 | 3450.4 | 25 | CLASS C/H | Tail: Class C/H + additives (TOC @ 7940') |

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

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

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

Describe what will be on location to control well or mitigate other conditions: (A) A kelly cock will be kept in the drill string at all times.(B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.(C) H2S monitoring and detection equipment will be utilized from surface casing point to TD.

Describe the mud monitoring system utilized: An electronic pit volume totalizer (PVT) will be utilized on the circulating system, to monitor pit volume, flow rate, pump pressure and stroke rate. Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept at the wellsite at all times.

Circulating Medium Table

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

| 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 | 1012 | WATER-BASED MUD | 8.6 | 8.8 | | | | | | | |
| 1012 | 5474 | SALT SATURATED | 9.8 | 10.8 | | | | | | | |
| 5474 | 1154 4 | OIL-BASED MUD | 8.8 | 9.5 | | | | | | | |

Section 6 - Test, Logging, Coring

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

Open-hole logs are not planned for this well.

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

DIRECTIONAL SURVEY,

Coring operation description for the well:

NONE

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5403

Anticipated Surface Pressure: 2863

Anticipated Bottom Hole Temperature(F): 185

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

Ruby_XL_2_26_Fed_Com_591H_H2S_Plan_Summary_20251104153854.pdf

Operator Name: EOG RESOURCES INCORPORATED**Well Name:** RUBY XL 2-26 FED COM**Well Number:** 591H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Ruby_XL_2_26_Fed_Com_591H_Wall_Plot_20251104153907.pdf

Ruby_XL_2_26_Fed_Com_591H_Planning_Report_20251104153907.pdf

Other proposed operations facets description:

EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and Cement on the subject well. After WOC 8 hours or 500 psi compressive strength (whichever is greater), the Surface Rig will move off so the wellhead can be installed. A welder will cut the casing to the proper height and weld on the wellhead (both A and B sections). The weld will be tested to 1,500 psi. All valves will be closed and a wellhead cap will be installed (diagram attached). If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.

EOG requests variance from minimum standards to pump a two stage cement job on the 6" and 5-1/2" production casing strings with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (7,318') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of Class C/H cement + additives (1.32 yld, 14.8 ppg) will be executed as a contingency. Top will be verified by Echo-meter.

Bradenhead will be the primary option for production cementing. EOG also requests to have the conventional option in place to accommodate for logistical or wellbore conditions. The tie back requirements will be met if the cement is pumped conventionally, and cement volumes will be adjusted accordingly. TOC will be verified by CBL.

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

Other proposed operations facets attachment:

EOG_Cameron_3_String_13in_10M_MNDS_20251104081613.PDF

Wellhead_3_string_10.750x8.625x5.500_SDT_3141_20251104081613.pdf

Wellhead_3_string_10.750x8.625x6.000_SDT_3141_20251104081613.pdf

Ruby_XL_2_26_Fed_Com_591H_Permit_Info_20251104153919.pdf

Ruby_XL_2_26_Fed_Com_591H_Rig_Layout_20251104153919.pdf

Other Variance request(s)?: Y**Other Variance attachment:**

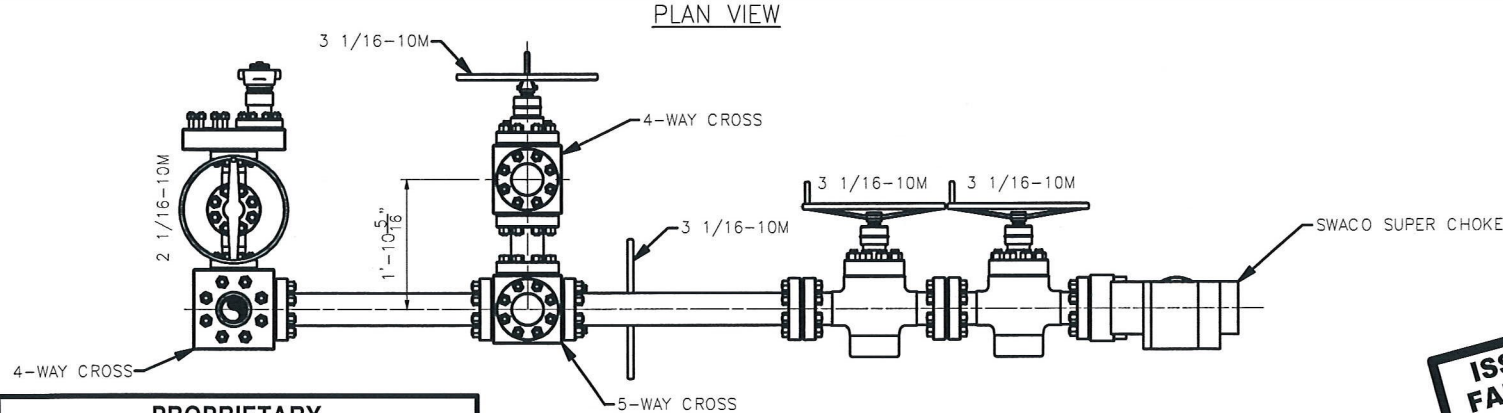
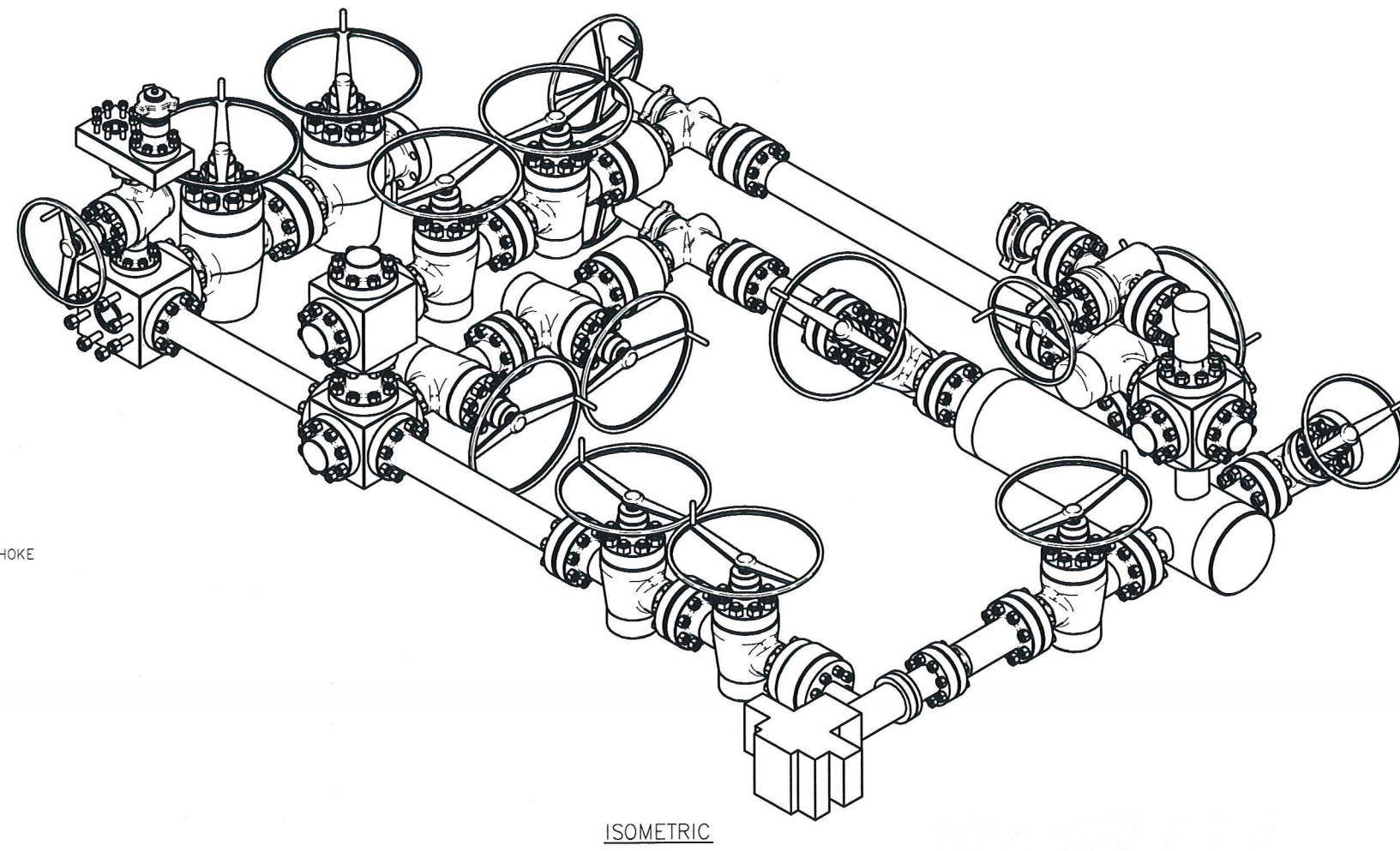
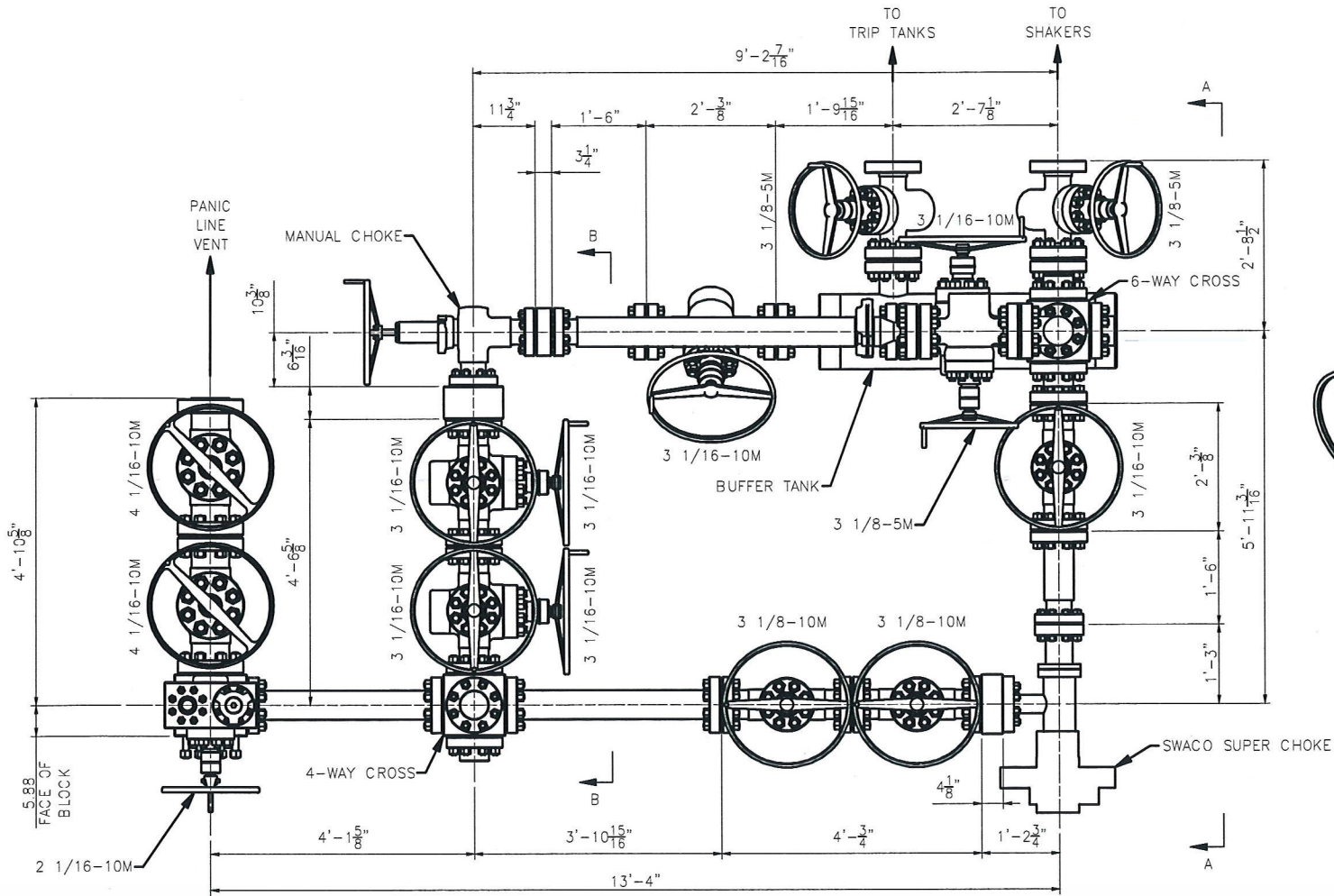
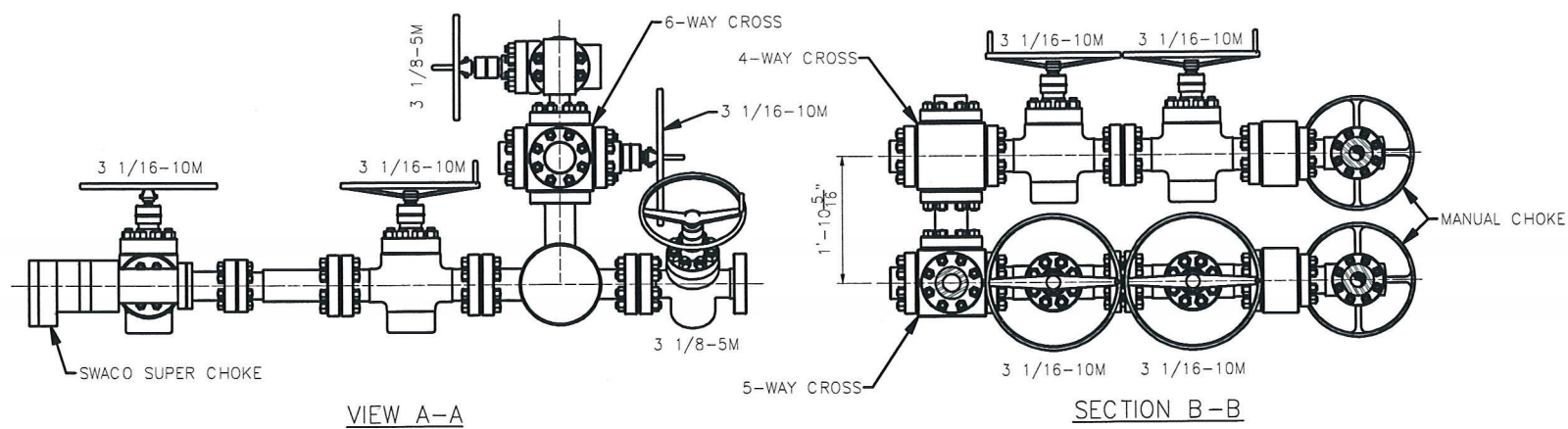
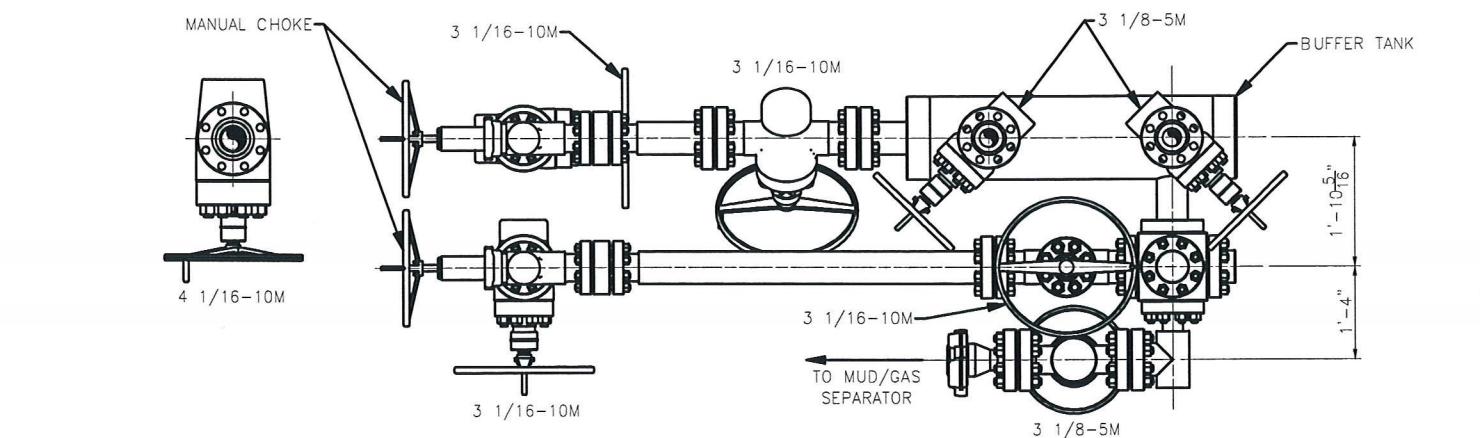
Blanket_Casing_Design___Ruby_XL_2_26_Fed_Com_SHALLOW_Permits_9.26.2025_20251104081658.pdf

EOG_BLM_Master_Variance_Document_04.24.25_V2_20251104081658.pdf

EOG_BLM_Variance_1c___10M_Annular_Variance___3_String_Large_surface_hole_20251104081658.pdf

EOG_BLM_Variance_5a___Alternate_Shallow_Casing_Designs_V6_2024.11.20_20251104081659.pdf

Gates_Co_Flex_Hose_Test_Chart_and_Certifications_20251104081658.pdf



PROPRIETARY
 THIS DRAWING AND THE IDEAS AND INFORMATION INCLUDED IN THIS DRAWING ARE PROPRIETARY AND ARE NOT TO BE REPRODUCED, DISTRIBUTED OR DISCLOSED IN ANY MANNER, WITHOUT THE PRIOR, WRITTEN CONSENT OF A DULY AUTHORIZED OFFICER OF HELMERICH & PAYNE INTL DRILLING CO.

ISSUED FOR FABRICATION
 February-10-2014
 DRAFTSMAN *MWL*
 ENGINEER *[Signature]*

| STANDARD TOLERANCES (UNLESS NOTED) | | | |
|------------------------------------|--|---------|--|
| 1. FABRICATION DIMENSIONS: | A-0" TO 24" | ± 1/16" | |
| | B-24" TO 120" | ± 1/8" | |
| | C-OVER 120" | ± 1/4" | |
| 2. MACHINED DIMENSIONS: | A-ANGULAR | ± .30" | |
| | B-LINEAR (EXPRESSED AS FRACTION) | ± .015 | |
| | C-LINEAR (EXPRESSED TO ONE DECIMAL) | ± .1 | |
| | D-LINEAR (EXPRESSED TO TWO DECIMALS) | ± .015 | |
| | E-LINEAR (EXPRESSED TO THREE DECIMALS) | ± .005 | |

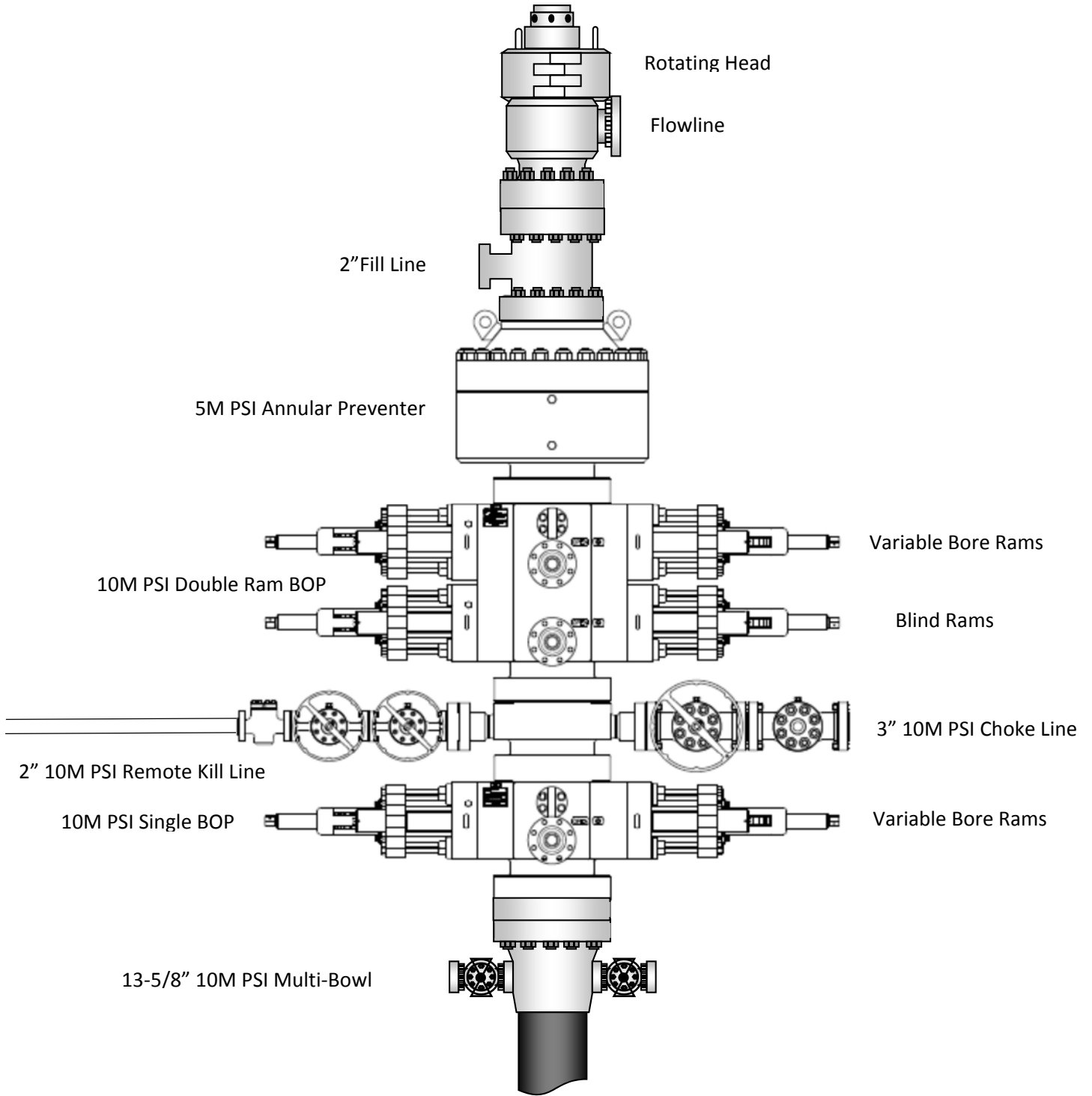
| REV | DATE | DESCRIPTION | BY |
|-----|------|-------------|----|
| | | | |
| | | | |
| | | | |

| | | | |
|--|---|-----------|------|
| HELMERICH & PAYNE INTERNATIONAL DRILLING CO. | TITLE: 3 CHOKE, 3 LEVEL, 10M CHOKE MANIFOLD G.A. | | |
| | CUSTOMER: H&P | | |
| PROJECT: | | | |
| DRAWN: MWL | DATE: 2/10/2014 | DWG. NO.: | REV: |
| SCALE: 3/4"=1'-0" | SHEET: 1 OF 1 | HP-D1254 | - |

Exhibit 1

EOG Resources

13-5/8" 10M PSI BOP Stack



See previously attached Drill Plan

10.750 40.50/0.350 J55

PDF

[New Search »](#)

[« Back to Previous List](#)

USC Metric

6/8/2015 10:14:05 AM

| Mechanical Properties | Pipe | BTC | LTC | STC | |
|----------------------------------|--------|--------|-----|--------|----------|
| Minimum Yield Strength | 55,000 | -- | -- | -- | psi |
| Maximum Yield Strength | 80,000 | -- | -- | -- | psi |
| Minimum Tensile Strength | 75,000 | -- | -- | -- | psi |
| Dimenstons | Pipe | BTC | LTC | STC | |
| Outside Diameter | 10.750 | 11.750 | -- | 11.750 | in. |
| Wall Thickness | 0.350 | -- | -- | -- | in. |
| Inside Diameter | 10.050 | 10.050 | -- | 10.050 | in. |
| Standard Drift | 9.894 | 9.894 | -- | 9.894 | in. |
| Alternate Drift | -- | -- | -- | -- | in. |
| Nominal Linear Weight, T&C | 40.50 | -- | -- | -- | lbs/ft |
| Plain End Weight | 38.91 | -- | -- | -- | lbs/ft |
| Performance | Pipe | BTC | LTC | STC | |
| Minimum Collapse Pressure | 1,580 | 1,580 | -- | 1,580 | psi |
| Minimum Internal Yield Pressure | 3,130 | 3,130 | -- | 3,130 | psi |
| Minimum Pipe Body Yield Strength | 629.00 | -- | -- | -- | 1000 lbs |
| Joint Strength | -- | 700 | -- | 420 | 1000 lbs |
| Reference Length | -- | 11,522 | -- | 6,915 | ft |
| Make-Up Data | Pipe | BTC | LTC | STC | |
| Make-Up Loss | -- | 4.81 | -- | 3.50 | in. |
| Minimum Make-Up Torque | -- | -- | -- | 3,150 | ft-lbs |
| Maximum Make-Up Torque | -- | -- | -- | 5,250 | ft-lbs |



Ruby XL 2-26 Fed Com #591H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

| | |
|------------------------|---------|
| Rustler | 907' |
| Tamarisk Anhydrite | 987' |
| Top of Salt | 1,314' |
| Base of Salt | 5,144' |
| Lamar | 5,424' |
| Bell Canyon | 5,454' |
| Cherry Canyon | 6,381' |
| Brushy Canyon | 7,931' |
| Bone Spring Lime | 9,465' |
| Leonard (Avalon) Shale | 9,500' |
| 1st Bone Spring Sand | 10,506' |
| 2nd Bone Spring Shale | 10,768' |
| 2nd Bone Spring Sand | 11,095' |
| 3rd Bone Spring Carb | 11,494' |
| 3rd Bone Spring Sand | 12,152' |
| Wolfcamp | 12,596' |
| TD | 11,544' |

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

| | | |
|------------------------|---------|-------------|
| Upper Permian Sands | 0- 400' | Fresh Water |
| Lamar | 5,424' | Oil |
| Cherry Canyon | 6,381' | Oil |
| Brushy Canyon | 7,931' | Oil |
| Bone Spring Lime | 9,465' | Oil |
| Leonard (Avalon) Shale | 9,500' | Oil |
| 1st Bone Spring Sand | 10,506' | Oil |
| 2nd Bone Spring Shale | 10,768' | Oil |
| 2nd Bone Spring Sand | 11,095' | Oil |

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 10-3/4" casing at 1,012' and circulating cement back to surface.



Ruby XL 2-26 Fed Com #591H

4. PRIMARY APD DESIGN A

| Hole Size | Interval MD | | Interval TVD | | Csg OD | Weight | Grade | Conn |
|-----------|-------------|---------|--------------|---------|---------|--------|---------|---------------|
| | From (ft) | To (ft) | From (ft) | To (ft) | | | | |
| 13" | 0 | 1,012 | 0 | 1,012 | 10-3/4" | 40.5# | J-55 | STC |
| 9-7/8" | 0 | 5,634 | 0 | 5,474 | 8-5/8" | 32# | J-55 | BTC-SC |
| 7-7/8" | 0 | 11,117 | 0 | 10,967 | 6" | 24.5# | P110-EC | VAM Sprint-TC |
| 6-3/4" | 11,117 | 27,179 | 10,967 | 11,544 | 5-1/2" | 20# | P110-EC | VAM Sprint SF |

**For highlighted rows above, variance is requested to run entire string of either 6" or 5-1/2" casing string above due to availability.

Hole will be full during casing run for well control and tensile SF factor. Casing will be kept at least half full during run for this design to meet BLM collapse SF requirement. External pressure will be reviewed prior to conducting casing pressure tests to ensure that 70% of the yield is not exceeded.

Variance is requested to waive the centralizer requirements for the 8-5/8" casing in the 9-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 9-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 6" and 5-1/2" casings in the 7-7/8" and 6-3/4" hole sizes. An expansion additive will be utilized in the cement slurry for the entire length of the 7-7/8" and 6-3/4" hole intervals to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Title 43 CFR Part 3170 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

5. CEMENTING PROGRAM:

| Depth | No. Sacks | Wt. ppg | Yld Ft3/sk | Slurry Description |
|-------------------|-----------|---------|------------|---|
| 1,020' 10-3/4" | 240 | 13.5 | 1.73 | Lead: Class C/H + additives (TOC @ Surface) |
| | 120 | 14.8 | 1.34 | Tail: Class C/H + additives (TOC @ 820') |
| 5,634' 8-5/8" | 340 | 12.7 | 2.22 | Lead: Class C/H + additives + expansive additives (TOC @ Surface) |
| | 150 | 14.8 | 1.32 | Tail: Class C/H + additives + expansive additives (TOC @ 4507') |
| 27,179' 6" | 1000 | 14.8 | 1.32 | Bradenhead squeeze: Class C/H + additives + expansive additives (TOC @ surface) |
| | 2270 | 13.2 | 1.52 | Tail: Class C/H + additives (TOC @ 7940') |



Ruby XL 2-26 Fed Com #591H

| Additive | Purpose |
|---------------------|---|
| Bentonite Gel | Lightweight/Lost circulation prevention |
| Calcium Chloride | Accelerator |
| Cello-flake | Lost circulation prevention |
| Sodium Metasilicate | Accelerator |
| MagOx | Expansive agent |
| Pre-Mag-M | Expansive agent |
| Sodium Chloride | Accelerator |
| FL-62 | Fluid loss control |
| Halad-344 | Fluid loss control |
| Halad-9 | Fluid loss control |
| HR-601 | Retarder |
| Microbond | Expansive Agent |

Cement integrity tests will be performed immediately following plug bump.

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

EOG requests variance from minimum standards to pump a two stage cement job on the 6" and 5-1/2" production casing strings with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (7,931') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of Class C/H cement + additives (1.32 yld, 14.8 ppg) will be executed as a contingency. Top will be verified by Echo-meter.

Bradenhead will be the primary option for production cementing. EOG also requests to have the conventional option in place to accommodate for logistical or wellbore conditions. The tie back requirements will be met if the cement is pumped conventionally, and cement volumes will be adjusted accordingly. TOC will be verified by CBL.



Ruby XL 2-26 Fed Com #591H

6. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5,000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

EOG will utilize wing unions on BOPE connections that can be isolated from wellbore pressure through means of a choke. All wing unions will be rated to a pressure that meets or exceeds the pressure rating of the BOPE system.

Variance is requested to use a 5,000 psi annular BOP with the 10,000 psi BOP stack.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 10,000/ 250 psig and the annular preventer to 5,000/ 250 psig.

Pipe rams and blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

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

7. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

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

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

| Depth | Type | Weight (ppg) | Viscosity | Water Loss |
|-----------------------------|-------------|--------------|-----------|------------|
| 0 – 1,012' | Fresh - Gel | 8.6-8.8 | 28-34 | N/c |
| 1,012' – 5,474' | Brine | 9.8-10.8 | 28-34 | N/c |
| 5,474' – 27,179' Lateral | Oil Base | 8.8-9.5 | 58-68 | N/c - 6 |

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

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



Ruby XL 2-26 Fed Com #591H

8. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H2S monitoring and detection equipment will be utilized from surface casing point to TD.

9. LOGGING, TESTING AND CORING PROGRAM:

- (A) Open-hole logs are not planned for this well.
- (B) GR-CCL will be run in cased hole during completions phase of operations.

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

The estimated bottom-hole temperature (BHT) at TD is 185 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 5,403 psig and a maximum anticipated surface pressure of 2,863 psig (based on 9.0 ppg MW). No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from 7,931' to intermediate casing point.

11. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

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

EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and Cement on the subject well. After WOC 8 hours or 500 psi compressive strength (whichever is greater), the Surface Rig will move off so the wellhead can be installed. A welder will cut the casing to the proper height and weld on the wellhead (both "A" and "B" sections). The weld will be tested to 1,500 psi. All valves will be closed and a wellhead cap will be installed (diagram attached). If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.



Ruby XL 2-26 Fed Com #591H

12. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the surface casing, a BOP/BOPE system with a minimum working pressure of 10,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10,000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Title 43 CFR Part 3170.

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 10,000 psi.

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

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

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. EOG Resources reserves the option to conduct BOPE testing during wait on cement periods provided a test plug is utilized.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Casing strings will be tested as per Title 43 CFR Part 3170 to at least 0.22 psi/ft or 1,500 psi, whichever is greater.

13. VARIANCE REQUESTS:

EOG requests the additional variance(s) in the attached document(s):

- EOG BLM Variance 3e - BOP Break-test and Offline Surface and Intermediate Cement
- EOG BLM Variance 3d - Production Offline Cement
- EOG BLM Variance 4a - Salt Section Annular Clearance
- EOG BLM Variance 5a - Alternate Shallow Casing Designs



Ruby XL 2-26 Fed Com #591H

14. TUBING REQUIREMENTS:

EOG respectfully requests an exception to the following NMOCD rule:

19.15.16.10 Casing AND TUBING REQUIREMENTS:

- J (3): “The operator shall set tubing as near the bottom as practical and tubing perforations shall not be more than 250 feet above top of pay zone.”

With horizontal flowing and gas lifted wells an end of tubing depth placed at or slightly above KOP is a conservative way to ensure the tubing stays clean from debris, plugging, and allows for fewer well interventions post offset completion. The deeper the tubulars are run into the curve, the higher the probability is that the tubing will become stuck in sand and or well debris as the well produces over time. An additional consideration for EOT placement during artificial lift installations is avoiding the high dog leg severity and inclinations found in the curve section of the wellbore to help improve reliability and performance. Dog leg severity and inclinations tend not to hamper gas lifted or flowing wells, but they do effect other forms of artificial lift like rod pump or ESP (electric submersible pump). Keeping the EOT above KOP is an industry best practice for those respective forms of artificial lift.



Ruby XL 2-26 Fed Com #591H

1368' FSL

802' FWL

Section 2

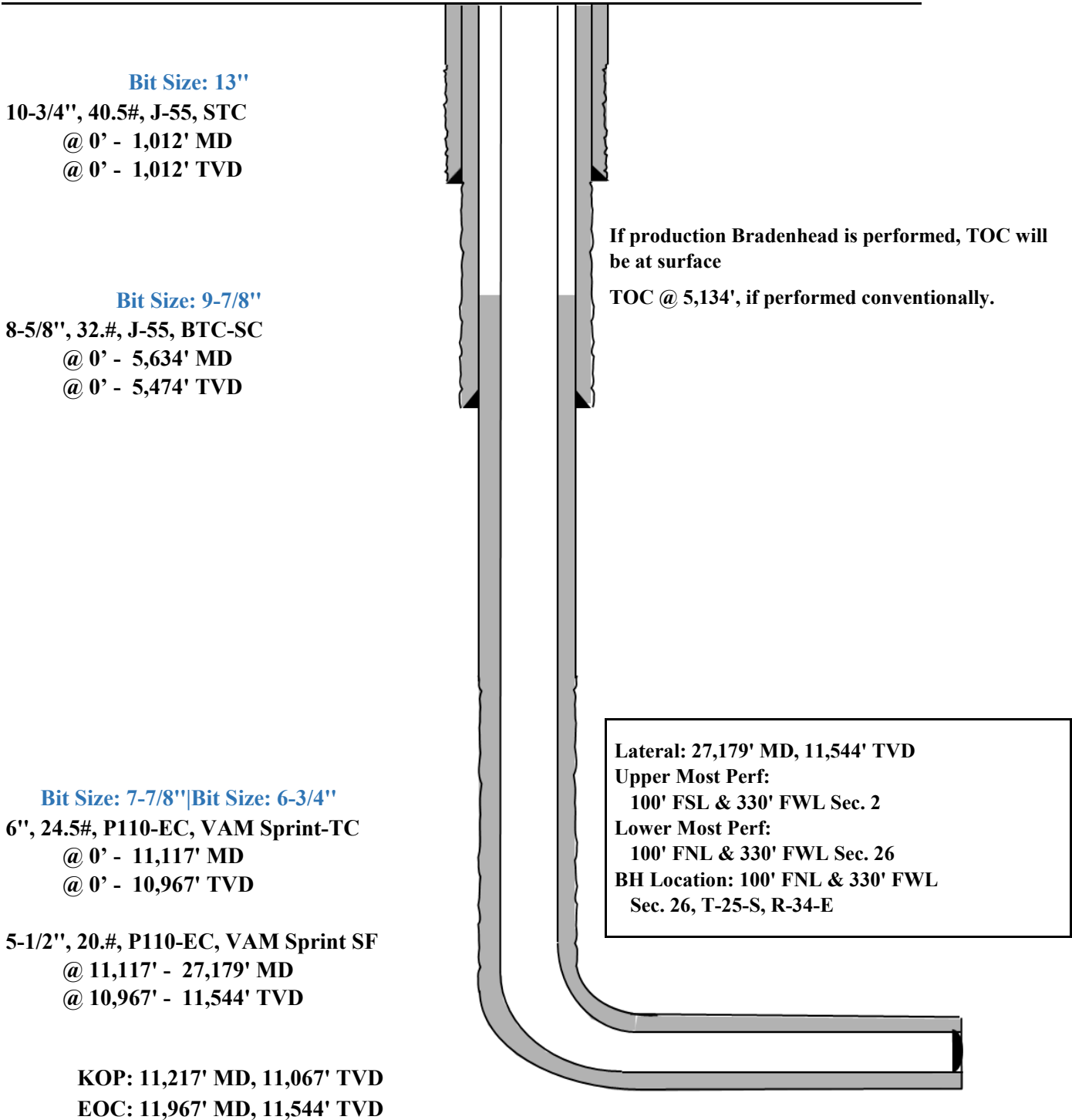
T-26-S, R-34-E

Proposed Wellbore

KB: 3335'

GL: 3310'

API: 30-025-*****





API 5CT, 10th Ed. Connection Data Sheet

| O.D. (in) | WEIGHT (lb/ft) | WALL (in) | GRADE | *API DRIFT (in) | RBW % |
|-----------|------------------------------------|-----------|-------|-----------------|-------|
| 8.625 | Nominal: 32.00 Plain End: 31.13 | 0.352 | J55 | 7.796 | 87.5 |

Material Properties (PE)

| Pipe | |
|---------------------------|--------|
| Minimum Yield Strength: | 55 ksi |
| Maximum Yield Strength: | 80 ksi |
| Minimum Tensile Strength: | 75 ksi |
| Coupling | |
| Minimum Yield Strength: | 55 ksi |
| Maximum Yield Strength: | 80 ksi |
| Minimum Tensile Strength: | 75 ksi |

Pipe Body Data (PE)

| Geometry | |
|--|-----------------------|
| Nominal ID: | 7.92 inch |
| Nominal Area: | 9.149 in ² |
| *Special/Alt. Drift: | 7.875 inch |
| Performance | |
| Pipe Body Yield Strength: | 503 kips |
| Collapse Resistance: | 2,530 psi |
| Internal Yield Pressure: (API Historical) | 3,930 psi |

API Connection Data

Coupling OD: 9.625"

| STC Performance | |
|---------------------------------------|-----------|
| STC Internal Pressure: | 3,930 psi |
| STC Joint Strength: | 372 kips |
| LTC Performance | |
| LTC Internal Pressure: | 3,930 psi |
| LTC Joint Strength: | 417 kips |
| SC-BTC Performance - Cplg OD = 9.125" | |
| BTC Internal Pressure: | 3,930 psi |
| BTC Joint Strength: | 503 kips |

API Connection Torque

| STC Torque (ft-lbs) | | | | | |
|---|-------|-------|-------|------|-------|
| Min: | 2,793 | Opti: | 3,724 | Max: | 4,655 |
| LTC Torque (ft-lbs) | | | | | |
| Min: | 3,130 | Opti: | 4,174 | Max: | 5,217 |
| BTC Torque (ft-lbs) | | | | | |
| <i>follow API guidelines regarding positional make up</i> | | | | | |

*Alt. Drift will be used unless API Drift is specified on order.

**If above API connections do not suit your needs, VAM® premium connections are available up to 100% of pipe body ratings.

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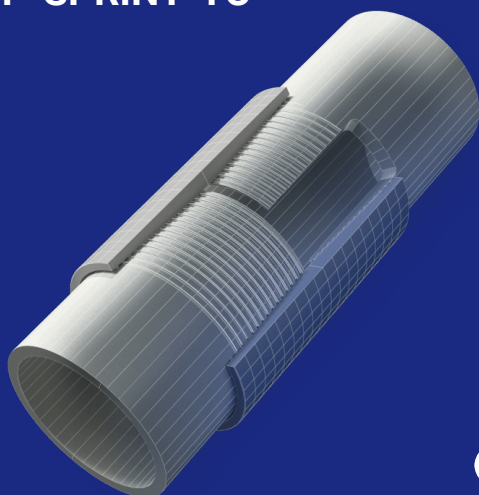
VALLOUREC STAR 8.625 32# J55 S S2L2 DA 7.875 W/O# SLN# PO# MADE IN USA FT LB



CONNECTION DATA SHEET

OD: 6.000 in. Grade: P110 EC
 Weight: 24.50 lb/ft Drift: 5.075 in. (API)
 Wall Th.: 0.400 in.

VAM® SPRINT-TC



T&C

Field Torque Values

Make-up Torque (ft-lb)

- 25,000 MIN
- 26,000 OPTI
- 27,000 MAX

Torque with Sealability (ft-lb)

- 52,600 MTS

Locked Flank Torque (ft-lb)

- 1,300 MIN
- 18,200 MAX

(2) MTS: Maximum Torque with Sealability.
 Note: Thread compound must be applied as a thin even layer

PIPE BODY PROPERTIES

| | | |
|-----------------------------------|------------|-------|
| Nominal OD | 6.000 | in. |
| Nominal ID | 5.200 | in. |
| Nominal Wall Thickness | 0.400 | in. |
| Minimum Wall Thickness | 87.5 | % |
| Nominal Weight (API) | 24.50 | lb/ft |
| Plain End Weight | 23.95 | lb/ft |
| Drift | 5.075 | in. |
| Grade Type | High Yield | |
| Minimum Yield Strength | 125 | ksi |
| Maximum Yield Strength | 140 | ksi |
| Minimum Ultimate Tensile Strength | 135 | ksi |
| Pipe Body Yield Strength | 880 | klb |
| Internal Yield Pressure | 14,580 | psi |
| Collapse Pressure | 12,500 | psi |

CONNECTION PROPERTIES

| | | |
|------------------------------|---------------------------------|-------------|
| Connection Type | Semi-Premium Threaded & Coupled | |
| Nominal Connection OD | 6.525 | in. |
| Nominal Connection ID | 5.267 | in. |
| Make-up Loss | 4.283 | in. |
| Coupling Length | 8.831 | in. |
| Tension Efficiency | 100 | % Pipe Body |
| Compression Efficiency | 100 | % Pipe Body |
| Internal Pressure Efficiency | 100 | % Pipe Body |
| External Pressure Efficiency | 100 | % Pipe Body |

JOINT PERFORMANCES

| | | |
|--------------------------------------|--------|----------|
| Tension Strength | 880 | klb |
| Compression Strength | 880 | klb |
| Internal Pressure Resistance | 14,580 | psi |
| External Pressure Resistance | 12,500 | psi |
| Maximum Bending, Structural | 95 | °/100 ft |
| Maximum Bending, with Sealability(1) | 30 | °/100 ft |
| Maximum Load on Coupling Face | 373 | klb |

(1) Sealability rating demonstrated as per API RP 5C5 / ISO 13679



**BOOST YOUR EFFICIENCY, REDUCE COSTS
 AND ENSURE 100% WELL INTEGRITY WITH
 VAM® FIELD SERVICE**

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to contact us



Issued on: 08 Jul. 2020 by Wesley Ott

VAM® SPRINT-SF

Connection Data Sheet

| | | | | | |
|------------------------|------------------------------|------------------------------|------------------------|--------------------------------|-------------------------------------|
| OD 5 1/2 in. | Weight 20.00 lb/ft | Wall Th. 0.361 in. | Grade P110EC | API Drift: 4.653 in. | Connection VAM® SPRINT-SF |
|------------------------|------------------------------|------------------------------|------------------------|--------------------------------|-------------------------------------|

| PIPE PROPERTIES | |
|--------------------------------|-------------|
| Nominal OD | 5.500 in. |
| Nominal ID | 4.778 in. |
| Nominal Cross Section Area | 5.828 sqin. |
| Grade Type | High Yield |
| Min. Yield Strength | 125 ksi |
| Max. Yield Strength | 140 ksi |
| Min. Ultimate Tensile Strength | 135 ksi |

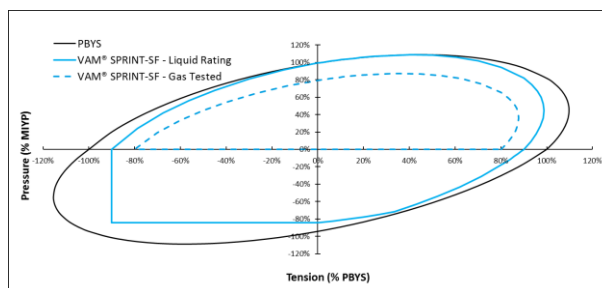
| CONNECTION PROPERTIES | |
|------------------------------|----------------------------------|
| Connection Type | Semi-Premium Integral Semi-Flush |
| Connection OD (nom): | 5.783 in. |
| Connection ID (nom): | 4.717 in. |
| Make-Up Loss | 5.965 in. |
| Critical Cross Section | 5.244 sqin. |
| Tension Efficiency | 90.0 % of pipe |
| Compression Efficiency | 90.0 % of pipe |
| Internal Pressure Efficiency | 100 % of pipe |
| External Pressure Efficiency | 100 % of pipe |

| CONNECTION PERFORMANCES | |
|---------------------------------------|------------|
| Tensile Yield Strength | 656 klb |
| Compression Resistance | 656 klb |
| Internal Yield Pressure | 14,360 psi |
| Collapse Resistance | 12,080 psi |
| Max. Structural Bending | 89 °/100ft |
| Max. Bending with ISO/API Sealability | 30 °/100ft |

| TORQUE VALUES | |
|------------------------------------|--------------|
| Min. Make-up torque | 20,000 ft.lb |
| Opt. Make-up torque | 22,500 ft.lb |
| Max. Make-up torque | 25,000 ft.lb |
| Max. Torque with Sealability (MTS) | 40,000 ft.lb |

* 87.5% RBW

VAM® SPRINT-SF is a semi-flush connection innovatively designed for extreme shale applications. Its high tension rating and ultra high torque capacity make it ideal to run a fill string length as production casing in shale wells with extended horizontal sections and tight clearance requirements.



Do you need help on this product? - Remember no one knows VAM® like VAM®

| | | |
|---|--|---|
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|---|--|---|

Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance





Ruby XL 2-26 Fed Com #591H

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:**
 - a. Breathing Apparatus:
 - i. Rescue Packs (SCBA) — 1 unit shall be placed at each breathing area, 2 shall be stored in the safety trailer.
 - ii. Work/Escapes packs — 4 packs shall be stored on the rig floor with sufficient air hose not to restrict work activity.
 - iii. Emergency Escape Packs — 4 packs shall be stored in the doghouse for emergency evacuation.
 - b. Auxiliary Rescue Equipment:
 - i. Stretcher
 - ii. Two OSHA full body harness
 - iii. 100 ft 5/8 inch OSHA approved rope
 - iv. 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 System:**
 - 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.



Ruby XL 2-26 Fed Com #591H

■ **Mud Program:**

The mud program has been designed to minimize the volume of H₂S circulated to surface. The operator will have the necessary mud products to minimize hazards while drilling in H₂S 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 H₂S service.

■ **Communication:**

Communication will be via cell phones and land lines where available.



Ruby XL 2-26 Fed Com #591H

Emergency Assistance Telephone List

| PUBLIC SAFETY: | 911 or |
|---|----------------|
| Lea County Sheriff's Department | (575) 396-3611 |
| Corey Helton | |
| 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 |
| U.S. Department of Labor | (575) 887-1174 |
| Bureau of Land Management - Hobbs (Lea Co) | (575) 393-3612 |
| PET On Call - Hobbs | (575) 706-2779 |
| Bureau of Land Management - Carlsbad (Eddy Co) | (575) 234-5972 |
| PET On Call - Carlsbad | (575) 706-2779 |
| New Mexico Oil Conservation Division - Artesia | (575) 748-1283 |
| Inspection Group South - Gilbert Gordero | (575) 626-0830 |
| EOG Resources, Inc. | |
| EOG Midland | (432) 686-3600 |
| Company Drilling Consultants: | |
| Jett Dueitt | (432) 230-4840 |
| Blake Burney | |
| Drilling Engineers | |
| Stephen Davis | (432) 235-9789 |
| Matt Day | (210) 296-4456 |
| Drilling Managers | |
| Branden Keener | (210) 294-3729 |
| Drilling Superintendents | |
| Lance Hardy | (432) 215-8152 |
| Ryan Reynolds | (432) 215-5978 |
| Steve Kelly | (210) 416-7894 |
| H&P Drilling | |
| H&P Drilling | (432) 563-5757 |
| Nabors Drilling | |
| Nabors Drilling | (432) 363-8180 |
| Patterson UTI | |
| Patterson UTI | (432) 561-9382 |
| EOG Safety | |
| Brian Chandler (HSE Manager) | (817) 239-0251 |

Lea County, NM (NAD 83 NME)

Ruby XL 2-26 Fed Com #591H

Plan #0.1 RT



Azimuths to Grid North
True North: -0.47°
Magnetic North: 5.70°

Magnetic Field
Strength: 46927.3nT
Dip Angle: 59.63°
Date: 8/12/2025
Model: IGRF2025

To convert a Magnetic Direction to a Grid Direction, Add 5.70°
To convert a Magnetic Direction to a True Direction, Add 6.17° East
To convert a True Direction to a Grid Direction, Subtract 0.47°

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: #591H

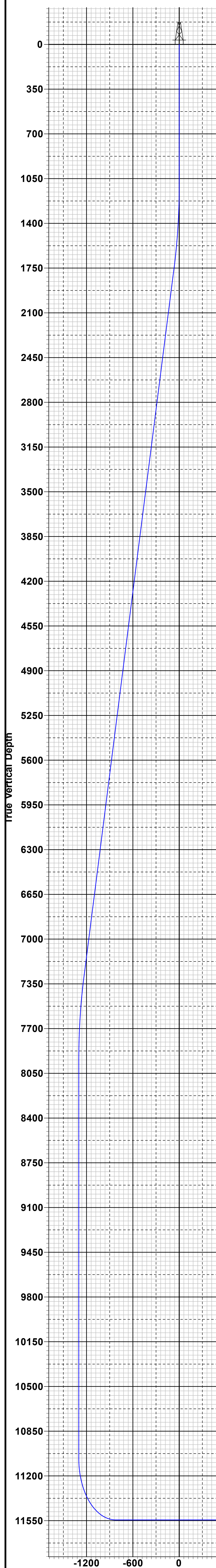
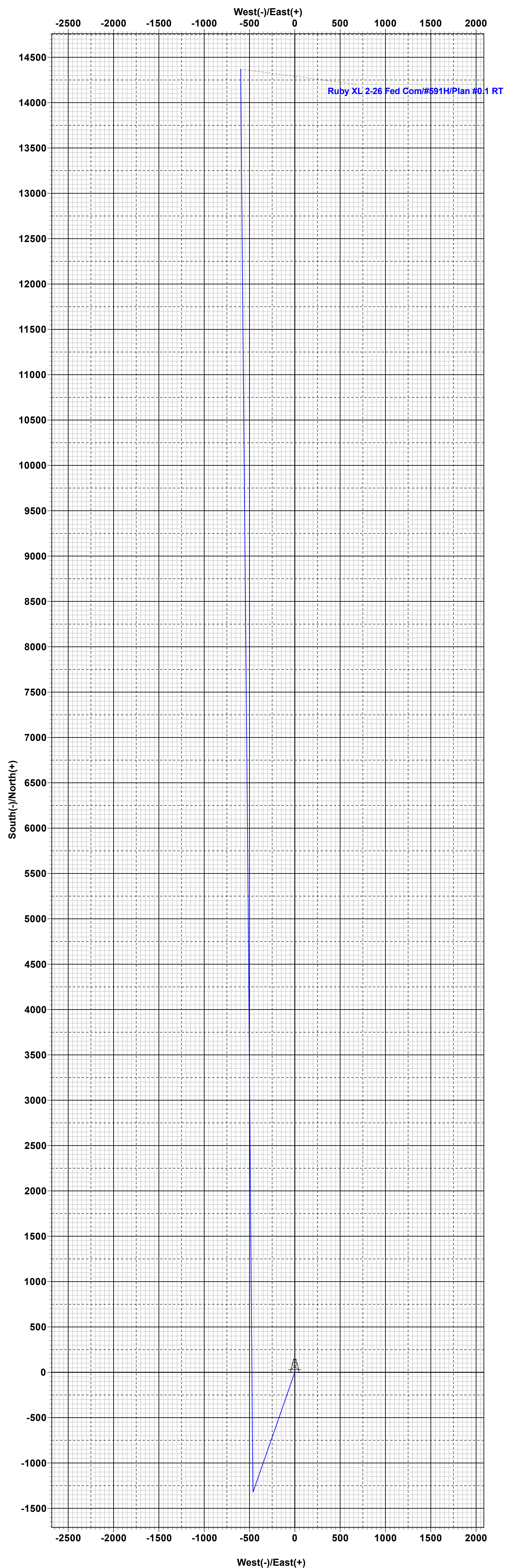
3335.0
kb = 26' @ 3361.0usft
Northing 389954.00 Easting 815990.00 Latitude 32° 4' 8.261 N Longitude 103° 26' 48.029 W

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 | 1112.0 | 0.00 | 0.00 | 1112.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.0 | |
| 3 | 1749.5 | 12.75 | 199.25 | 1744.3 | -66.7 | -23.3 | 2.00 | 199.25 | -65.7 | |
| 4 | 7444.4 | 12.75 | 199.25 | 7298.7 | -1253.3 | -437.7 | 2.00 | 0.00 | -1234.1 | |
| 5 | 8081.9 | 0.00 | 0.00 | 7931.0 | -1320.0 | -461.0 | 2.00 | 180.00 | -1299.7 | |
| 6 | 11217.4 | 0.00 | 0.00 | 11066.5 | -1320.0 | -461.0 | 0.00 | 0.00 | -1299.7 | KOP(Ruby XL 2-26 Fed Com #591H) |
| 7 | 11437.9 | 26.46 | 358.85 | 11279.2 | -1270.0 | -462.0 | 12.00 | 358.85 | -1249.7 | FTP(Ruby XL 2-26 Fed Com #591H) |
| 8 | 11967.4 | 90.00 | 359.54 | 11543.9 | -842.6 | -467.0 | 12.00 | 0.77 | -822.5 | |
| 9 | 16718.1 | 90.00 | 359.54 | 11544.0 | 3908.0 | -505.0 | 0.00 | 0.00 | 3925.6 | Fed Perf 1(Ruby XL 2-26 Fed Com #591H) |
| 10 | 19361.2 | 90.00 | 359.50 | 11544.0 | 6551.0 | -527.0 | 0.00 | -86.82 | 6567.2 | Fed Perf 2(Ruby XL 2-26 Fed Com #591H) |
| 11 | 20679.3 | 90.00 | 359.45 | 11544.0 | 7869.0 | -539.0 | 0.00 | -92.27 | 7884.6 | Fed Perf 3(Ruby XL 2-26 Fed Com #591H) |
| 12 | 27178.5 | 90.00 | 359.53 | 11544.0 | 14368.0 | -597.0 | 0.00 | 88.37 | 14380.4 | PBHL(Ruby XL 2-26 Fed Com #591H) |

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

| Name | TVD | +N/-S | +E/-W | Northing | Easting |
|--|---------|---------|--------|-----------|-----------|
| KOP(Ruby XL 2-26 Fed Com #591H) | 11066.5 | -1320.0 | -461.0 | 388634.00 | 815529.00 |
| FTP(Ruby XL 2-26 Fed Com #591H) | 11279.2 | -1270.0 | -462.0 | 388684.00 | 815528.00 |
| Fed Perf 1(Ruby XL 2-26 Fed Com #591H) | 11544.0 | 3908.0 | -505.0 | 393862.00 | 815485.00 |
| Fed Perf 2(Ruby XL 2-26 Fed Com #591H) | 11544.0 | 6551.0 | -527.0 | 396505.00 | 815463.00 |
| Fed Perf 3(Ruby XL 2-26 Fed Com #591H) | 11544.0 | 7869.0 | -539.0 | 397823.00 | 815451.00 |
| PBHL(Ruby XL 2-26 Fed Com #591H) | 11544.0 | 14368.0 | -597.0 | 404322.00 | 815393.00 |



Vertical Section at 357.62°



Midland

**Lea County, NM (NAD 83 NME)
Ruby XL 2-26 Fed Com
#591H**

OH

Plan: Plan #0.1 RT

Standard Planning Report

13 August, 2025



Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|-----------------------|
| Database: | PEDMB | Local Co-ordinate Reference: | Well #591H |
| Company: | Midland | TVD Reference: | kb = 26' @ 3361.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | kb = 26' @ 3361.0usft |
| Site: | Ruby XL 2-26 Fed Com | North Reference: | Grid |
| Well: | #591H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #0.1 RT | | |

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

| | | | | | |
|------------------------------|----------------------|---------------------|-----------------|-------------------|-------------------|
| Site | Ruby XL 2-26 Fed Com | | | | |
| Site Position: | | Northing: | 390,053.00 usft | Latitude: | 32° 4' 9.241 N |
| From: | Map | Easting: | 815,989.00 usft | Longitude: | 103° 26' 48.031 W |
| Position Uncertainty: | 0.0 usft | Slot Radius: | 13-3/16 " | | |

| | | | | | | |
|-----------------------------|--------------|----------|----------------------------|-----------------|----------------------|-------------------|
| Well | #591H | | | | | |
| Well Position | +N/-S | 0.0 usft | Northing: | 389,954.00 usft | Latitude: | 32° 4' 8.261 N |
| | +E/-W | 0.0 usft | Easting: | 815,990.00 usft | Longitude: | 103° 26' 48.029 W |
| Position Uncertainty | 0.0 usft | | Wellhead Elevation: | usft | Ground Level: | 3,335.0 usft |
| Grid Convergence: | 0.47 ° | | | | | |

| | | | | | |
|------------------|-------------------|--------------------|------------------------|----------------------|----------------------------|
| Wellbore | OH | | | | |
| Magnetics | Model Name | Sample Date | Declination (°) | Dip Angle (°) | Field Strength (nT) |
| | IGRF2025 | 8/12/2025 | 6.17 | 59.63 | 46,927.31944214 |

| | | | | |
|--------------------------|--------------------------------|---------------------|----------------------|----------------------|
| Design | Plan #0.1 RT | | | |
| Audit Notes: | | | | |
| Version: | Phase: | PLAN | Tie On Depth: | 0.0 |
| Vertical Section: | Depth From (TVD) (usft) | +N/-S (usft) | +E/-W (usft) | Direction (°) |
| | 0.0 | 0.0 | 0.0 | 357.62 |

| | | | | |
|---------------------------------|------------------------|----------------------------|----------------------------|----------------|
| Plan Survey Tool Program | Date | 8/12/2025 | | |
| Depth From (usft) | Depth To (usft) | Survey (Wellbore) | Tool Name | Remarks |
| 1 | 0.0 | 27,178.5 Plan #0.1 RT (OH) | EOG MWD+IFR1 MWD + IFR1 | |



Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|-----------------------|
| Database: | PEDMB | Local Co-ordinate Reference: | Well #591H |
| Company: | Midland | TVD Reference: | kb = 26' @ 3361.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | kb = 26' @ 3361.0usft |
| Site: | Ruby XL 2-26 Fed Com | North Reference: | Grid |
| Well: | #591H | 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 | |
| 1,112.0 | 0.00 | 0.00 | 1,112.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 1,749.5 | 12.75 | 199.25 | 1,744.3 | -66.7 | -23.3 | 2.00 | 2.00 | 0.00 | 199.25 | |
| 7,444.4 | 12.75 | 199.25 | 7,298.7 | -1,253.3 | -437.7 | 0.00 | 0.00 | 0.00 | 0.00 | |
| 8,081.9 | 0.00 | 0.00 | 7,931.0 | -1,320.0 | -461.0 | 2.00 | -2.00 | 0.00 | 180.00 | |
| 11,217.4 | 0.00 | 0.00 | 11,066.5 | -1,320.0 | -461.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 KOP(Ruby XL 2-26 F |
| 11,437.9 | 26.46 | 358.85 | 11,279.2 | -1,270.0 | -462.0 | 12.00 | 12.00 | -0.52 | 358.85 | FTP(Ruby XL 2-26 Fe |
| 11,967.4 | 90.00 | 359.54 | 11,543.9 | -842.6 | -467.0 | 12.00 | 12.00 | 0.13 | 0.77 | |
| 16,718.1 | 90.00 | 359.54 | 11,544.0 | 3,908.0 | -505.0 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 Fed Perf 1(Ruby XL 2 |
| 19,361.2 | 90.00 | 359.50 | 11,544.0 | 6,551.0 | -527.0 | 0.00 | 0.00 | 0.00 | -86.82 | Fed Perf 2(Ruby XL 2 |
| 20,679.3 | 90.00 | 359.45 | 11,544.0 | 7,869.0 | -539.0 | 0.00 | 0.00 | 0.00 | -92.27 | Fed Perf 3(Ruby XL 2 |
| 27,178.5 | 90.00 | 359.53 | 11,544.0 | 14,368.0 | -597.0 | 0.00 | 0.00 | 0.00 | 88.37 | PBHL(Ruby XL 2-26 F |



Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|-----------------------|
| Database: | PEDMB | Local Co-ordinate Reference: | Well #591H |
| Company: | Midland | TVD Reference: | kb = 26' @ 3361.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | kb = 26' @ 3361.0usft |
| Site: | Ruby XL 2-26 Fed Com | North Reference: | Grid |
| Well: | #591H | 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 | |
| 1,112.0 | 0.00 | 0.00 | 1,112.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 | |
| 1,200.0 | 1.76 | 199.25 | 1,200.0 | -1.3 | -0.4 | -1.3 | 2.00 | 2.00 | 0.00 | |
| 1,300.0 | 3.76 | 199.25 | 1,299.9 | -5.8 | -2.0 | -5.7 | 2.00 | 2.00 | 0.00 | |
| 1,400.0 | 5.76 | 199.25 | 1,399.5 | -13.7 | -4.8 | -13.4 | 2.00 | 2.00 | 0.00 | |
| 1,500.0 | 7.76 | 199.25 | 1,498.8 | -24.8 | -8.6 | -24.4 | 2.00 | 2.00 | 0.00 | |
| 1,600.0 | 9.76 | 199.25 | 1,597.6 | -39.1 | -13.7 | -38.5 | 2.00 | 2.00 | 0.00 | |
| 1,700.0 | 11.76 | 199.25 | 1,695.9 | -56.8 | -19.8 | -55.9 | 2.00 | 2.00 | 0.00 | |
| 1,749.5 | 12.75 | 199.25 | 1,744.3 | -66.7 | -23.3 | -65.7 | 2.00 | 2.00 | 0.00 | |
| 1,800.0 | 12.75 | 199.25 | 1,793.5 | -77.2 | -27.0 | -76.0 | 0.00 | 0.00 | 0.00 | |
| 1,900.0 | 12.75 | 199.25 | 1,891.0 | -98.0 | -34.2 | -96.5 | 0.00 | 0.00 | 0.00 | |
| 2,000.0 | 12.75 | 199.25 | 1,988.6 | -118.9 | -41.5 | -117.1 | 0.00 | 0.00 | 0.00 | |
| 2,100.0 | 12.75 | 199.25 | 2,086.1 | -139.7 | -48.8 | -137.6 | 0.00 | 0.00 | 0.00 | |
| 2,200.0 | 12.75 | 199.25 | 2,183.6 | -160.6 | -56.1 | -158.1 | 0.00 | 0.00 | 0.00 | |
| 2,300.0 | 12.75 | 199.25 | 2,281.2 | -181.4 | -63.4 | -178.6 | 0.00 | 0.00 | 0.00 | |
| 2,400.0 | 12.75 | 199.25 | 2,378.7 | -202.2 | -70.6 | -199.1 | 0.00 | 0.00 | 0.00 | |
| 2,500.0 | 12.75 | 199.25 | 2,476.2 | -223.1 | -77.9 | -219.6 | 0.00 | 0.00 | 0.00 | |
| 2,600.0 | 12.75 | 199.25 | 2,573.8 | -243.9 | -85.2 | -240.2 | 0.00 | 0.00 | 0.00 | |
| 2,700.0 | 12.75 | 199.25 | 2,671.3 | -264.7 | -92.5 | -260.7 | 0.00 | 0.00 | 0.00 | |
| 2,800.0 | 12.75 | 199.25 | 2,768.8 | -285.6 | -99.7 | -281.2 | 0.00 | 0.00 | 0.00 | |
| 2,900.0 | 12.75 | 199.25 | 2,866.4 | -306.4 | -107.0 | -301.7 | 0.00 | 0.00 | 0.00 | |
| 3,000.0 | 12.75 | 199.25 | 2,963.9 | -327.2 | -114.3 | -322.2 | 0.00 | 0.00 | 0.00 | |
| 3,100.0 | 12.75 | 199.25 | 3,061.4 | -348.1 | -121.6 | -342.7 | 0.00 | 0.00 | 0.00 | |
| 3,200.0 | 12.75 | 199.25 | 3,159.0 | -368.9 | -128.8 | -363.3 | 0.00 | 0.00 | 0.00 | |
| 3,300.0 | 12.75 | 199.25 | 3,256.5 | -389.8 | -136.1 | -383.8 | 0.00 | 0.00 | 0.00 | |
| 3,400.0 | 12.75 | 199.25 | 3,354.1 | -410.6 | -143.4 | -404.3 | 0.00 | 0.00 | 0.00 | |
| 3,500.0 | 12.75 | 199.25 | 3,451.6 | -431.4 | -150.7 | -424.8 | 0.00 | 0.00 | 0.00 | |
| 3,600.0 | 12.75 | 199.25 | 3,549.1 | -452.3 | -158.0 | -445.3 | 0.00 | 0.00 | 0.00 | |
| 3,700.0 | 12.75 | 199.25 | 3,646.7 | -473.1 | -165.2 | -465.8 | 0.00 | 0.00 | 0.00 | |
| 3,800.0 | 12.75 | 199.25 | 3,744.2 | -493.9 | -172.5 | -486.4 | 0.00 | 0.00 | 0.00 | |
| 3,900.0 | 12.75 | 199.25 | 3,841.7 | -514.8 | -179.8 | -506.9 | 0.00 | 0.00 | 0.00 | |
| 4,000.0 | 12.75 | 199.25 | 3,939.3 | -535.6 | -187.1 | -527.4 | 0.00 | 0.00 | 0.00 | |
| 4,100.0 | 12.75 | 199.25 | 4,036.8 | -556.4 | -194.3 | -547.9 | 0.00 | 0.00 | 0.00 | |
| 4,200.0 | 12.75 | 199.25 | 4,134.3 | -577.3 | -201.6 | -568.4 | 0.00 | 0.00 | 0.00 | |
| 4,300.0 | 12.75 | 199.25 | 4,231.9 | -598.1 | -208.9 | -588.9 | 0.00 | 0.00 | 0.00 | |
| 4,400.0 | 12.75 | 199.25 | 4,329.4 | -619.0 | -216.2 | -609.5 | 0.00 | 0.00 | 0.00 | |
| 4,500.0 | 12.75 | 199.25 | 4,426.9 | -639.8 | -223.4 | -630.0 | 0.00 | 0.00 | 0.00 | |
| 4,600.0 | 12.75 | 199.25 | 4,524.5 | -660.6 | -230.7 | -650.5 | 0.00 | 0.00 | 0.00 | |
| 4,700.0 | 12.75 | 199.25 | 4,622.0 | -681.5 | -238.0 | -671.0 | 0.00 | 0.00 | 0.00 | |
| 4,800.0 | 12.75 | 199.25 | 4,719.5 | -702.3 | -245.3 | -691.5 | 0.00 | 0.00 | 0.00 | |
| 4,900.0 | 12.75 | 199.25 | 4,817.1 | -723.1 | -252.6 | -712.0 | 0.00 | 0.00 | 0.00 | |
| 5,000.0 | 12.75 | 199.25 | 4,914.6 | -744.0 | -259.8 | -732.5 | 0.00 | 0.00 | 0.00 | |
| 5,100.0 | 12.75 | 199.25 | 5,012.1 | -764.8 | -267.1 | -753.1 | 0.00 | 0.00 | 0.00 | |



Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|-----------------------|
| Database: | PEDMB | Local Co-ordinate Reference: | Well #591H |
| Company: | Midland | TVD Reference: | kb = 26' @ 3361.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | kb = 26' @ 3361.0usft |
| Site: | Ruby XL 2-26 Fed Com | North Reference: | Grid |
| Well: | #591H | 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) |
| 5,200.0 | 12.75 | 199.25 | 5,109.7 | -785.7 | -274.4 | -773.6 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 12.75 | 199.25 | 5,207.2 | -806.5 | -281.7 | -794.1 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 12.75 | 199.25 | 5,304.7 | -827.3 | -288.9 | -814.6 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 12.75 | 199.25 | 5,402.3 | -848.2 | -296.2 | -835.1 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 12.75 | 199.25 | 5,499.8 | -869.0 | -303.5 | -855.6 | 0.00 | 0.00 | 0.00 |
| 5,700.0 | 12.75 | 199.25 | 5,597.3 | -889.8 | -310.8 | -876.2 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 12.75 | 199.25 | 5,694.9 | -910.7 | -318.0 | -896.7 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 12.75 | 199.25 | 5,792.4 | -931.5 | -325.3 | -917.2 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 12.75 | 199.25 | 5,889.9 | -952.3 | -332.6 | -937.7 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 12.75 | 199.25 | 5,987.5 | -973.2 | -339.9 | -958.2 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 12.75 | 199.25 | 6,085.0 | -994.0 | -347.2 | -978.7 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 12.75 | 199.25 | 6,182.5 | -1,014.9 | -354.4 | -999.3 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 12.75 | 199.25 | 6,280.1 | -1,035.7 | -361.7 | -1,019.8 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 12.75 | 199.25 | 6,377.6 | -1,056.5 | -369.0 | -1,040.3 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 12.75 | 199.25 | 6,475.1 | -1,077.4 | -376.3 | -1,060.8 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 12.75 | 199.25 | 6,572.7 | -1,098.2 | -383.5 | -1,081.3 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 12.75 | 199.25 | 6,670.2 | -1,119.0 | -390.8 | -1,101.8 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 12.75 | 199.25 | 6,767.7 | -1,139.9 | -398.1 | -1,122.4 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 12.75 | 199.25 | 6,865.3 | -1,160.7 | -405.4 | -1,142.9 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 12.75 | 199.25 | 6,962.8 | -1,181.5 | -412.6 | -1,163.4 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 12.75 | 199.25 | 7,060.3 | -1,202.4 | -419.9 | -1,183.9 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 12.75 | 199.25 | 7,157.9 | -1,223.2 | -427.2 | -1,204.4 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 12.75 | 199.25 | 7,255.4 | -1,244.1 | -434.5 | -1,224.9 | 0.00 | 0.00 | 0.00 |
| 7,444.4 | 12.75 | 199.25 | 7,298.7 | -1,253.3 | -437.7 | -1,234.1 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 11.64 | 199.25 | 7,353.1 | -1,264.4 | -441.6 | -1,245.0 | 2.00 | -2.00 | 0.00 |
| 7,600.0 | 9.64 | 199.25 | 7,451.3 | -1,281.8 | -447.7 | -1,262.1 | 2.00 | -2.00 | 0.00 |
| 7,700.0 | 7.64 | 199.25 | 7,550.2 | -1,296.0 | -452.6 | -1,276.1 | 2.00 | -2.00 | 0.00 |
| 7,800.0 | 5.64 | 199.25 | 7,649.5 | -1,306.9 | -456.4 | -1,286.8 | 2.00 | -2.00 | 0.00 |
| 7,900.0 | 3.64 | 199.25 | 7,749.2 | -1,314.5 | -459.1 | -1,294.4 | 2.00 | -2.00 | 0.00 |
| 8,000.0 | 1.64 | 199.25 | 7,849.1 | -1,318.9 | -460.6 | -1,298.6 | 2.00 | -2.00 | 0.00 |
| 8,081.9 | 0.00 | 0.00 | 7,931.0 | -1,320.0 | -461.0 | -1,299.7 | 2.00 | -2.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 7,949.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,049.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,149.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,249.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,349.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 8,600.0 | 0.00 | 0.00 | 8,449.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 8,700.0 | 0.00 | 0.00 | 8,549.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 8,800.0 | 0.00 | 0.00 | 8,649.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 8,900.0 | 0.00 | 0.00 | 8,749.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,000.0 | 0.00 | 0.00 | 8,849.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,100.0 | 0.00 | 0.00 | 8,949.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,200.0 | 0.00 | 0.00 | 9,049.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,300.0 | 0.00 | 0.00 | 9,149.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,400.0 | 0.00 | 0.00 | 9,249.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,500.0 | 0.00 | 0.00 | 9,349.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,600.0 | 0.00 | 0.00 | 9,449.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 0.00 | 0.00 | 9,549.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 0.00 | 0.00 | 9,649.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 0.00 | 0.00 | 9,749.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 0.00 | 0.00 | 9,849.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 0.00 | 0.00 | 9,949.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 0.00 | 0.00 | 10,049.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 0.00 | 0.00 | 10,149.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 |



Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|-----------------------|
| Database: | PEDMB | Local Co-ordinate Reference: | Well #591H |
| Company: | Midland | TVD Reference: | kb = 26' @ 3361.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | kb = 26' @ 3361.0usft |
| Site: | Ruby XL 2-26 Fed Com | North Reference: | Grid |
| Well: | #591H | 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) | |
| 10,400.0 | 0.00 | 0.00 | 10,249.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 10,500.0 | 0.00 | 0.00 | 10,349.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 10,600.0 | 0.00 | 0.00 | 10,449.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 10,700.0 | 0.00 | 0.00 | 10,549.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 10,800.0 | 0.00 | 0.00 | 10,649.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 10,900.0 | 0.00 | 0.00 | 10,749.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 11,000.0 | 0.00 | 0.00 | 10,849.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 11,100.0 | 0.00 | 0.00 | 10,949.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 11,200.0 | 0.00 | 0.00 | 11,049.1 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 11,217.4 | 0.00 | 0.00 | 11,066.5 | -1,320.0 | -461.0 | -1,299.7 | 0.00 | 0.00 | 0.00 | |
| 11,225.0 | 0.91 | 358.85 | 11,074.1 | -1,319.9 | -461.0 | -1,299.7 | 12.00 | 12.00 | 0.00 | |
| 11,250.0 | 3.91 | 358.85 | 11,099.0 | -1,318.9 | -461.0 | -1,298.6 | 12.00 | 12.00 | 0.00 | |
| 11,275.0 | 6.91 | 358.85 | 11,123.9 | -1,316.5 | -461.1 | -1,296.3 | 12.00 | 12.00 | 0.00 | |
| 11,300.0 | 9.91 | 358.85 | 11,148.7 | -1,312.9 | -461.1 | -1,292.6 | 12.00 | 12.00 | 0.00 | |
| 11,325.0 | 12.91 | 358.85 | 11,173.2 | -1,307.9 | -461.2 | -1,287.7 | 12.00 | 12.00 | 0.00 | |
| 11,350.0 | 15.91 | 358.85 | 11,197.4 | -1,301.7 | -461.4 | -1,281.4 | 12.00 | 12.00 | 0.00 | |
| 11,375.0 | 18.91 | 358.85 | 11,221.2 | -1,294.2 | -461.5 | -1,274.0 | 12.00 | 12.00 | 0.00 | |
| 11,400.0 | 21.91 | 358.85 | 11,244.6 | -1,285.5 | -461.7 | -1,265.2 | 12.00 | 12.00 | 0.00 | |
| 11,425.0 | 24.92 | 358.85 | 11,267.6 | -1,275.6 | -461.9 | -1,255.3 | 12.00 | 12.00 | 0.00 | |
| 11,437.9 | 26.46 | 358.85 | 11,279.2 | -1,270.0 | -462.0 | -1,249.7 | 12.00 | 12.00 | 0.00 | |
| 11,450.0 | 27.92 | 358.90 | 11,290.0 | -1,264.5 | -462.1 | -1,244.2 | 12.00 | 12.00 | 0.34 | |
| 11,475.0 | 30.92 | 358.97 | 11,311.7 | -1,252.2 | -462.3 | -1,231.9 | 12.00 | 12.00 | 0.30 | |
| 11,500.0 | 33.92 | 359.03 | 11,332.9 | -1,238.8 | -462.6 | -1,218.5 | 12.00 | 12.00 | 0.25 | |
| 11,525.0 | 36.92 | 359.09 | 11,353.2 | -1,224.3 | -462.8 | -1,204.0 | 12.00 | 12.00 | 0.21 | |
| 11,550.0 | 39.91 | 359.13 | 11,372.8 | -1,208.8 | -463.0 | -1,188.5 | 12.00 | 12.00 | 0.19 | |
| 11,575.0 | 42.91 | 359.17 | 11,391.6 | -1,192.2 | -463.3 | -1,172.0 | 12.00 | 12.00 | 0.16 | |
| 11,600.0 | 45.91 | 359.21 | 11,409.4 | -1,174.8 | -463.5 | -1,154.5 | 12.00 | 12.00 | 0.15 | |
| 11,625.0 | 48.91 | 359.24 | 11,426.3 | -1,156.3 | -463.8 | -1,136.1 | 12.00 | 12.00 | 0.13 | |
| 11,650.0 | 51.91 | 359.27 | 11,442.3 | -1,137.1 | -464.0 | -1,116.8 | 12.00 | 12.00 | 0.12 | |
| 11,675.0 | 54.91 | 359.30 | 11,457.2 | -1,117.0 | -464.3 | -1,096.8 | 12.00 | 12.00 | 0.11 | |
| 11,700.0 | 57.91 | 359.33 | 11,471.0 | -1,096.2 | -464.5 | -1,076.0 | 12.00 | 12.00 | 0.10 | |
| 11,725.0 | 60.91 | 359.35 | 11,483.7 | -1,074.7 | -464.8 | -1,054.5 | 12.00 | 12.00 | 0.10 | |
| 11,750.0 | 63.91 | 359.37 | 11,495.3 | -1,052.5 | -465.0 | -1,032.3 | 12.00 | 12.00 | 0.09 | |
| 11,775.0 | 66.91 | 359.40 | 11,505.7 | -1,029.8 | -465.3 | -1,009.6 | 12.00 | 12.00 | 0.09 | |
| 11,800.0 | 69.91 | 359.42 | 11,514.9 | -1,006.5 | -465.5 | -986.4 | 12.00 | 12.00 | 0.08 | |
| 11,825.0 | 72.91 | 359.44 | 11,522.8 | -982.9 | -465.8 | -962.7 | 12.00 | 12.00 | 0.08 | |
| 11,850.0 | 75.91 | 359.46 | 11,529.6 | -958.8 | -466.0 | -938.6 | 12.00 | 12.00 | 0.08 | |
| 11,875.0 | 78.91 | 359.47 | 11,535.0 | -934.4 | -466.2 | -914.2 | 12.00 | 12.00 | 0.08 | |
| 11,900.0 | 81.91 | 359.49 | 11,539.2 | -909.7 | -466.4 | -889.6 | 12.00 | 12.00 | 0.07 | |
| 11,925.0 | 84.91 | 359.51 | 11,542.0 | -884.9 | -466.7 | -864.8 | 12.00 | 12.00 | 0.07 | |
| 11,950.0 | 87.91 | 359.53 | 11,543.6 | -860.0 | -466.9 | -839.8 | 12.00 | 12.00 | 0.07 | |
| 11,967.4 | 90.00 | 359.54 | 11,543.9 | -842.6 | -467.0 | -822.5 | 12.00 | 12.00 | 0.07 | |
| 12,000.0 | 90.00 | 359.54 | 11,543.9 | -810.0 | -467.3 | -789.9 | 0.00 | 0.00 | 0.00 | |
| 12,100.0 | 90.00 | 359.54 | 11,543.9 | -710.0 | -468.1 | -689.9 | 0.00 | 0.00 | 0.00 | |
| 12,200.0 | 90.00 | 359.54 | 11,543.9 | -610.0 | -468.9 | -590.0 | 0.00 | 0.00 | 0.00 | |
| 12,300.0 | 90.00 | 359.54 | 11,543.9 | -510.0 | -469.7 | -490.0 | 0.00 | 0.00 | 0.00 | |
| 12,400.0 | 90.00 | 359.54 | 11,543.9 | -410.0 | -470.5 | -390.1 | 0.00 | 0.00 | 0.00 | |
| 12,500.0 | 90.00 | 359.54 | 11,543.9 | -310.0 | -471.3 | -290.1 | 0.00 | 0.00 | 0.00 | |
| 12,600.0 | 90.00 | 359.54 | 11,543.9 | -210.0 | -472.1 | -190.2 | 0.00 | 0.00 | 0.00 | |
| 12,700.0 | 90.00 | 359.54 | 11,543.9 | -110.0 | -472.9 | -90.3 | 0.00 | 0.00 | 0.00 | |
| 12,800.0 | 90.00 | 359.54 | 11,543.9 | -10.0 | -473.7 | 9.7 | 0.00 | 0.00 | 0.00 | |
| 12,900.0 | 90.00 | 359.54 | 11,543.9 | 90.0 | -474.5 | 109.6 | 0.00 | 0.00 | 0.00 | |
| 13,000.0 | 90.00 | 359.54 | 11,543.9 | 190.0 | -475.3 | 209.6 | 0.00 | 0.00 | 0.00 | |
| 13,100.0 | 90.00 | 359.54 | 11,543.9 | 290.0 | -476.1 | 309.5 | 0.00 | 0.00 | 0.00 | |



Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|-----------------------|
| Database: | PEDMB | Local Co-ordinate Reference: | Well #591H |
| Company: | Midland | TVD Reference: | kb = 26' @ 3361.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | kb = 26' @ 3361.0usft |
| Site: | Ruby XL 2-26 Fed Com | North Reference: | Grid |
| Well: | #591H | 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) |
| 13,200.0 | 90.00 | 359.54 | 11,543.9 | 390.0 | -476.9 | 409.5 | 0.00 | 0.00 | 0.00 |
| 13,300.0 | 90.00 | 359.54 | 11,543.9 | 490.0 | -477.7 | 509.4 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 90.00 | 359.54 | 11,543.9 | 590.0 | -478.5 | 609.3 | 0.00 | 0.00 | 0.00 |
| 13,500.0 | 90.00 | 359.54 | 11,543.9 | 690.0 | -479.3 | 709.3 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 90.00 | 359.54 | 11,543.9 | 790.0 | -480.1 | 809.2 | 0.00 | 0.00 | 0.00 |
| 13,700.0 | 90.00 | 359.54 | 11,543.9 | 890.0 | -480.9 | 909.2 | 0.00 | 0.00 | 0.00 |
| 13,800.0 | 90.00 | 359.54 | 11,543.9 | 990.0 | -481.7 | 1,009.1 | 0.00 | 0.00 | 0.00 |
| 13,900.0 | 90.00 | 359.54 | 11,543.9 | 1,090.0 | -482.5 | 1,109.1 | 0.00 | 0.00 | 0.00 |
| 14,000.0 | 90.00 | 359.54 | 11,544.0 | 1,190.0 | -483.3 | 1,209.0 | 0.00 | 0.00 | 0.00 |
| 14,100.0 | 90.00 | 359.54 | 11,544.0 | 1,290.0 | -484.1 | 1,309.0 | 0.00 | 0.00 | 0.00 |
| 14,200.0 | 90.00 | 359.54 | 11,544.0 | 1,390.0 | -484.9 | 1,408.9 | 0.00 | 0.00 | 0.00 |
| 14,300.0 | 90.00 | 359.54 | 11,544.0 | 1,490.0 | -485.7 | 1,508.8 | 0.00 | 0.00 | 0.00 |
| 14,400.0 | 90.00 | 359.54 | 11,544.0 | 1,590.0 | -486.5 | 1,608.8 | 0.00 | 0.00 | 0.00 |
| 14,500.0 | 90.00 | 359.54 | 11,544.0 | 1,690.0 | -487.3 | 1,708.7 | 0.00 | 0.00 | 0.00 |
| 14,600.0 | 90.00 | 359.54 | 11,544.0 | 1,790.0 | -488.1 | 1,808.7 | 0.00 | 0.00 | 0.00 |
| 14,700.0 | 90.00 | 359.54 | 11,544.0 | 1,889.9 | -488.9 | 1,908.6 | 0.00 | 0.00 | 0.00 |
| 14,800.0 | 90.00 | 359.54 | 11,544.0 | 1,989.9 | -489.7 | 2,008.6 | 0.00 | 0.00 | 0.00 |
| 14,900.0 | 90.00 | 359.54 | 11,544.0 | 2,089.9 | -490.5 | 2,108.5 | 0.00 | 0.00 | 0.00 |
| 15,000.0 | 90.00 | 359.54 | 11,544.0 | 2,189.9 | -491.3 | 2,208.4 | 0.00 | 0.00 | 0.00 |
| 15,100.0 | 90.00 | 359.54 | 11,544.0 | 2,289.9 | -492.1 | 2,308.4 | 0.00 | 0.00 | 0.00 |
| 15,200.0 | 90.00 | 359.54 | 11,544.0 | 2,389.9 | -492.9 | 2,408.3 | 0.00 | 0.00 | 0.00 |
| 15,300.0 | 90.00 | 359.54 | 11,544.0 | 2,489.9 | -493.7 | 2,508.3 | 0.00 | 0.00 | 0.00 |
| 15,400.0 | 90.00 | 359.54 | 11,544.0 | 2,589.9 | -494.5 | 2,608.2 | 0.00 | 0.00 | 0.00 |
| 15,500.0 | 90.00 | 359.54 | 11,544.0 | 2,689.9 | -495.3 | 2,708.2 | 0.00 | 0.00 | 0.00 |
| 15,600.0 | 90.00 | 359.54 | 11,544.0 | 2,789.9 | -496.1 | 2,808.1 | 0.00 | 0.00 | 0.00 |
| 15,700.0 | 90.00 | 359.54 | 11,544.0 | 2,889.9 | -496.9 | 2,908.1 | 0.00 | 0.00 | 0.00 |
| 15,800.0 | 90.00 | 359.54 | 11,544.0 | 2,989.9 | -497.7 | 3,008.0 | 0.00 | 0.00 | 0.00 |
| 15,900.0 | 90.00 | 359.54 | 11,544.0 | 3,089.9 | -498.5 | 3,107.9 | 0.00 | 0.00 | 0.00 |
| 16,000.0 | 90.00 | 359.54 | 11,544.0 | 3,189.9 | -499.3 | 3,207.9 | 0.00 | 0.00 | 0.00 |
| 16,100.0 | 90.00 | 359.54 | 11,544.0 | 3,289.9 | -500.1 | 3,307.8 | 0.00 | 0.00 | 0.00 |
| 16,200.0 | 90.00 | 359.54 | 11,544.0 | 3,389.9 | -500.9 | 3,407.8 | 0.00 | 0.00 | 0.00 |
| 16,300.0 | 90.00 | 359.54 | 11,544.0 | 3,489.9 | -501.7 | 3,507.7 | 0.00 | 0.00 | 0.00 |
| 16,400.0 | 90.00 | 359.54 | 11,544.0 | 3,589.9 | -502.5 | 3,607.7 | 0.00 | 0.00 | 0.00 |
| 16,500.0 | 90.00 | 359.54 | 11,544.0 | 3,689.9 | -503.3 | 3,707.6 | 0.00 | 0.00 | 0.00 |
| 16,600.0 | 90.00 | 359.54 | 11,544.0 | 3,789.9 | -504.1 | 3,807.5 | 0.00 | 0.00 | 0.00 |
| 16,700.0 | 90.00 | 359.54 | 11,544.0 | 3,889.9 | -504.9 | 3,907.5 | 0.00 | 0.00 | 0.00 |
| 16,718.1 | 90.00 | 359.54 | 11,544.0 | 3,908.0 | -505.0 | 3,925.6 | 0.00 | 0.00 | 0.00 |
| 16,800.0 | 90.00 | 359.54 | 11,544.0 | 3,989.9 | -505.7 | 4,007.4 | 0.00 | 0.00 | 0.00 |
| 16,900.0 | 90.00 | 359.54 | 11,544.0 | 4,089.9 | -506.5 | 4,107.4 | 0.00 | 0.00 | 0.00 |
| 17,000.0 | 90.00 | 359.54 | 11,544.0 | 4,189.9 | -507.3 | 4,207.3 | 0.00 | 0.00 | 0.00 |
| 17,100.0 | 90.00 | 359.54 | 11,544.0 | 4,289.9 | -508.1 | 4,307.3 | 0.00 | 0.00 | 0.00 |
| 17,200.0 | 90.00 | 359.53 | 11,544.0 | 4,389.9 | -508.9 | 4,407.2 | 0.00 | 0.00 | 0.00 |
| 17,300.0 | 90.00 | 359.53 | 11,544.0 | 4,489.9 | -509.7 | 4,507.2 | 0.00 | 0.00 | 0.00 |
| 17,400.0 | 90.00 | 359.53 | 11,544.0 | 4,589.9 | -510.5 | 4,607.1 | 0.00 | 0.00 | 0.00 |
| 17,500.0 | 90.00 | 359.53 | 11,544.0 | 4,689.9 | -511.3 | 4,707.0 | 0.00 | 0.00 | 0.00 |
| 17,600.0 | 90.00 | 359.53 | 11,544.0 | 4,789.9 | -512.1 | 4,807.0 | 0.00 | 0.00 | 0.00 |
| 17,700.0 | 90.00 | 359.53 | 11,544.0 | 4,889.9 | -513.0 | 4,906.9 | 0.00 | 0.00 | 0.00 |
| 17,800.0 | 90.00 | 359.53 | 11,544.0 | 4,989.8 | -513.8 | 5,006.9 | 0.00 | 0.00 | 0.00 |
| 17,900.0 | 90.00 | 359.53 | 11,544.0 | 5,089.8 | -514.6 | 5,106.8 | 0.00 | 0.00 | 0.00 |
| 18,000.0 | 90.00 | 359.52 | 11,544.0 | 5,189.8 | -515.5 | 5,206.8 | 0.00 | 0.00 | 0.00 |
| 18,100.0 | 90.00 | 359.52 | 11,544.0 | 5,289.8 | -516.3 | 5,306.7 | 0.00 | 0.00 | 0.00 |
| 18,200.0 | 90.00 | 359.52 | 11,544.0 | 5,389.8 | -517.1 | 5,406.7 | 0.00 | 0.00 | 0.00 |
| 18,300.0 | 90.00 | 359.52 | 11,544.0 | 5,489.8 | -518.0 | 5,506.6 | 0.00 | 0.00 | 0.00 |
| 18,400.0 | 90.00 | 359.52 | 11,544.0 | 5,589.8 | -518.8 | 5,606.5 | 0.00 | 0.00 | 0.00 |



Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|-----------------------|
| Database: | PEDMB | Local Co-ordinate Reference: | Well #591H |
| Company: | Midland | TVD Reference: | kb = 26' @ 3361.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | kb = 26' @ 3361.0usft |
| Site: | Ruby XL 2-26 Fed Com | North Reference: | Grid |
| Well: | #591H | 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) | |
| 18,500.0 | 90.00 | 359.52 | 11,544.0 | 5,689.8 | -519.6 | 5,706.5 | 0.00 | 0.00 | 0.00 | |
| 18,600.0 | 90.00 | 359.52 | 11,544.0 | 5,789.8 | -520.5 | 5,806.4 | 0.00 | 0.00 | 0.00 | |
| 18,700.0 | 90.00 | 359.51 | 11,544.0 | 5,889.8 | -521.3 | 5,906.4 | 0.00 | 0.00 | 0.00 | |
| 18,800.0 | 90.00 | 359.51 | 11,544.0 | 5,989.8 | -522.2 | 6,006.3 | 0.00 | 0.00 | 0.00 | |
| 18,900.0 | 90.00 | 359.51 | 11,544.0 | 6,089.8 | -523.0 | 6,106.3 | 0.00 | 0.00 | 0.00 | |
| 19,000.0 | 90.00 | 359.51 | 11,544.0 | 6,189.8 | -523.9 | 6,206.2 | 0.00 | 0.00 | 0.00 | |
| 19,100.0 | 90.00 | 359.51 | 11,544.0 | 6,289.8 | -524.7 | 6,306.2 | 0.00 | 0.00 | 0.00 | |
| 19,200.0 | 90.00 | 359.51 | 11,544.0 | 6,389.8 | -525.6 | 6,406.1 | 0.00 | 0.00 | 0.00 | |
| 19,300.0 | 90.00 | 359.51 | 11,544.0 | 6,489.8 | -526.5 | 6,506.1 | 0.00 | 0.00 | 0.00 | |
| 19,361.2 | 90.00 | 359.50 | 11,544.0 | 6,551.0 | -527.0 | 6,567.2 | 0.00 | 0.00 | 0.00 | |
| 19,400.0 | 90.00 | 359.50 | 11,544.0 | 6,589.8 | -527.3 | 6,606.0 | 0.00 | 0.00 | 0.00 | |
| 19,500.0 | 90.00 | 359.50 | 11,544.0 | 6,689.8 | -528.2 | 6,705.9 | 0.00 | 0.00 | 0.00 | |
| 19,600.0 | 90.00 | 359.50 | 11,544.0 | 6,789.8 | -529.1 | 6,805.9 | 0.00 | 0.00 | 0.00 | |
| 19,700.0 | 90.00 | 359.49 | 11,544.0 | 6,889.8 | -530.0 | 6,905.8 | 0.00 | 0.00 | 0.00 | |
| 19,800.0 | 90.00 | 359.49 | 11,544.0 | 6,989.8 | -530.9 | 7,005.8 | 0.00 | 0.00 | 0.00 | |
| 19,900.0 | 90.00 | 359.48 | 11,544.0 | 7,089.8 | -531.8 | 7,105.7 | 0.00 | 0.00 | 0.00 | |
| 20,000.0 | 90.00 | 359.48 | 11,544.0 | 7,189.8 | -532.7 | 7,205.7 | 0.00 | 0.00 | 0.00 | |
| 20,100.0 | 90.00 | 359.48 | 11,544.0 | 7,289.8 | -533.6 | 7,305.6 | 0.00 | 0.00 | 0.00 | |
| 20,200.0 | 90.00 | 359.47 | 11,544.0 | 7,389.8 | -534.5 | 7,405.6 | 0.00 | 0.00 | 0.00 | |
| 20,300.0 | 90.00 | 359.47 | 11,544.0 | 7,489.8 | -535.4 | 7,505.5 | 0.00 | 0.00 | 0.00 | |
| 20,400.0 | 90.00 | 359.46 | 11,544.0 | 7,589.8 | -536.4 | 7,605.5 | 0.00 | 0.00 | 0.00 | |
| 20,500.0 | 90.00 | 359.46 | 11,544.0 | 7,689.7 | -537.3 | 7,705.4 | 0.00 | 0.00 | 0.00 | |
| 20,600.0 | 90.00 | 359.46 | 11,544.0 | 7,789.7 | -538.2 | 7,805.4 | 0.00 | 0.00 | 0.00 | |
| 20,679.3 | 90.00 | 359.45 | 11,544.0 | 7,869.0 | -539.0 | 7,884.6 | 0.00 | 0.00 | 0.00 | |
| 20,700.0 | 90.00 | 359.45 | 11,544.0 | 7,889.7 | -539.2 | 7,905.3 | 0.00 | 0.00 | 0.00 | |
| 20,800.0 | 90.00 | 359.45 | 11,544.0 | 7,989.7 | -540.2 | 8,005.3 | 0.00 | 0.00 | 0.00 | |
| 20,900.0 | 90.00 | 359.45 | 11,544.0 | 8,089.7 | -541.1 | 8,105.2 | 0.00 | 0.00 | 0.00 | |
| 21,000.0 | 90.00 | 359.46 | 11,544.0 | 8,189.7 | -542.1 | 8,205.2 | 0.00 | 0.00 | 0.00 | |
| 21,100.0 | 90.00 | 359.46 | 11,544.0 | 8,289.7 | -543.0 | 8,305.1 | 0.00 | 0.00 | 0.00 | |
| 21,200.0 | 90.00 | 359.46 | 11,544.0 | 8,389.7 | -544.0 | 8,405.1 | 0.00 | 0.00 | 0.00 | |
| 21,300.0 | 90.00 | 359.46 | 11,544.0 | 8,489.7 | -544.9 | 8,505.0 | 0.00 | 0.00 | 0.00 | |
| 21,400.0 | 90.00 | 359.46 | 11,544.0 | 8,589.7 | -545.8 | 8,605.0 | 0.00 | 0.00 | 0.00 | |
| 21,500.0 | 90.00 | 359.46 | 11,544.0 | 8,689.7 | -546.8 | 8,704.9 | 0.00 | 0.00 | 0.00 | |
| 21,600.0 | 90.00 | 359.46 | 11,544.0 | 8,789.7 | -547.7 | 8,804.9 | 0.00 | 0.00 | 0.00 | |
| 21,700.0 | 90.00 | 359.46 | 11,544.0 | 8,889.7 | -548.7 | 8,904.8 | 0.00 | 0.00 | 0.00 | |
| 21,800.0 | 90.00 | 359.46 | 11,544.0 | 8,989.7 | -549.6 | 9,004.8 | 0.00 | 0.00 | 0.00 | |
| 21,900.0 | 90.00 | 359.47 | 11,544.0 | 9,089.7 | -550.5 | 9,104.7 | 0.00 | 0.00 | 0.00 | |
| 22,000.0 | 90.00 | 359.47 | 11,544.0 | 9,189.7 | -551.5 | 9,204.7 | 0.00 | 0.00 | 0.00 | |
| 22,100.0 | 90.00 | 359.47 | 11,544.0 | 9,289.7 | -552.4 | 9,304.6 | 0.00 | 0.00 | 0.00 | |
| 22,200.0 | 90.00 | 359.47 | 11,544.0 | 9,389.7 | -553.3 | 9,404.5 | 0.00 | 0.00 | 0.00 | |
| 22,300.0 | 90.00 | 359.47 | 11,544.0 | 9,489.7 | -554.2 | 9,504.5 | 0.00 | 0.00 | 0.00 | |
| 22,400.0 | 90.00 | 359.47 | 11,544.0 | 9,589.7 | -555.2 | 9,604.4 | 0.00 | 0.00 | 0.00 | |
| 22,500.0 | 90.00 | 359.47 | 11,544.0 | 9,689.7 | -556.1 | 9,704.4 | 0.00 | 0.00 | 0.00 | |
| 22,600.0 | 90.00 | 359.47 | 11,544.0 | 9,789.7 | -557.0 | 9,804.3 | 0.00 | 0.00 | 0.00 | |
| 22,700.0 | 90.00 | 359.47 | 11,544.0 | 9,889.6 | -557.9 | 9,904.3 | 0.00 | 0.00 | 0.00 | |
| 22,800.0 | 90.00 | 359.48 | 11,544.0 | 9,989.6 | -558.8 | 10,004.2 | 0.00 | 0.00 | 0.00 | |
| 22,900.0 | 90.00 | 359.48 | 11,544.0 | 10,089.6 | -559.7 | 10,104.2 | 0.00 | 0.00 | 0.00 | |
| 23,000.0 | 90.00 | 359.48 | 11,544.0 | 10,189.6 | -560.7 | 10,204.1 | 0.00 | 0.00 | 0.00 | |
| 23,100.0 | 90.00 | 359.48 | 11,544.0 | 10,289.6 | -561.6 | 10,304.1 | 0.00 | 0.00 | 0.00 | |
| 23,200.0 | 90.00 | 359.48 | 11,544.0 | 10,389.6 | -562.5 | 10,404.0 | 0.00 | 0.00 | 0.00 | |
| 23,300.0 | 90.00 | 359.48 | 11,544.0 | 10,489.6 | -563.4 | 10,504.0 | 0.00 | 0.00 | 0.00 | |
| 23,400.0 | 90.00 | 359.48 | 11,544.0 | 10,589.6 | -564.3 | 10,603.9 | 0.00 | 0.00 | 0.00 | |
| 23,500.0 | 90.00 | 359.48 | 11,544.0 | 10,689.6 | -565.2 | 10,703.9 | 0.00 | 0.00 | 0.00 | |
| 23,600.0 | 90.00 | 359.48 | 11,544.0 | 10,789.6 | -566.1 | 10,803.8 | 0.00 | 0.00 | 0.00 | |



Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|-----------------------|
| Database: | PEDMB | Local Co-ordinate Reference: | Well #591H |
| Company: | Midland | TVD Reference: | kb = 26' @ 3361.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | kb = 26' @ 3361.0usft |
| Site: | Ruby XL 2-26 Fed Com | North Reference: | Grid |
| Well: | #591H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #0.1 RT | | |

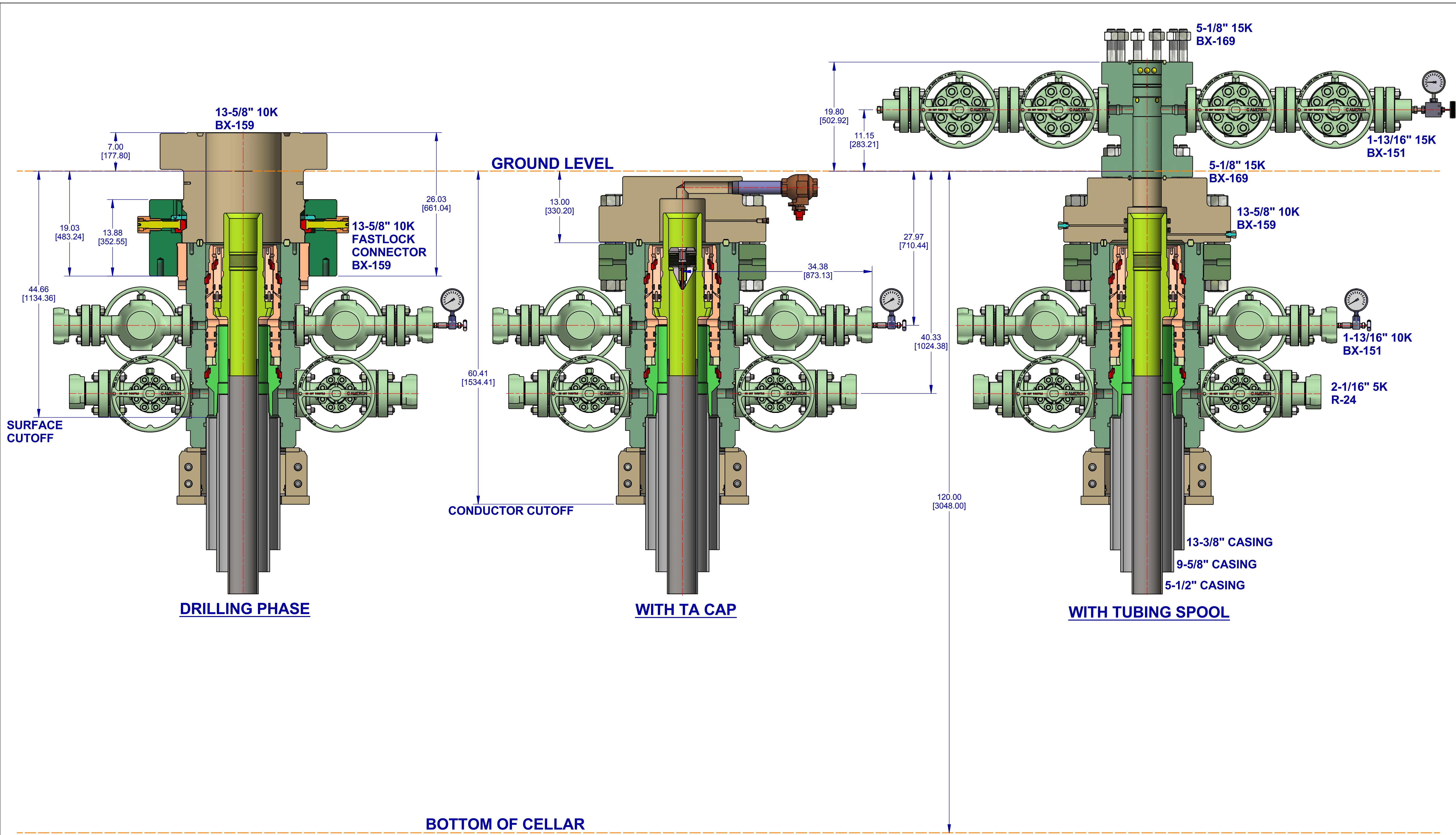
| Planned Survey | | | | | | | | | |
|-----------------------|-----------------|-------------|-----------------------|--------------|--------------|-------------------------|-------------------------|------------------------|-----------------------|
| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
| 23,700.0 | 90.00 | 359.49 | 11,544.0 | 10,889.6 | -567.0 | 10,903.8 | 0.00 | 0.00 | 0.00 |
| 23,800.0 | 90.00 | 359.49 | 11,544.0 | 10,989.6 | -567.9 | 11,003.7 | 0.00 | 0.00 | 0.00 |
| 23,900.0 | 90.00 | 359.49 | 11,544.0 | 11,089.6 | -568.8 | 11,103.7 | 0.00 | 0.00 | 0.00 |
| 24,000.0 | 90.00 | 359.49 | 11,544.0 | 11,189.6 | -569.7 | 11,203.6 | 0.00 | 0.00 | 0.00 |
| 24,100.0 | 90.00 | 359.49 | 11,544.0 | 11,289.6 | -570.6 | 11,303.5 | 0.00 | 0.00 | 0.00 |
| 24,200.0 | 90.00 | 359.49 | 11,544.0 | 11,389.6 | -571.4 | 11,403.5 | 0.00 | 0.00 | 0.00 |
| 24,300.0 | 90.00 | 359.49 | 11,544.0 | 11,489.6 | -572.3 | 11,503.4 | 0.00 | 0.00 | 0.00 |
| 24,400.0 | 90.00 | 359.49 | 11,544.0 | 11,589.6 | -573.2 | 11,603.4 | 0.00 | 0.00 | 0.00 |
| 24,500.0 | 90.00 | 359.50 | 11,544.0 | 11,689.6 | -574.1 | 11,703.3 | 0.00 | 0.00 | 0.00 |
| 24,600.0 | 90.00 | 359.50 | 11,544.0 | 11,789.6 | -575.0 | 11,803.3 | 0.00 | 0.00 | 0.00 |
| 24,700.0 | 90.00 | 359.50 | 11,544.0 | 11,889.6 | -575.9 | 11,903.2 | 0.00 | 0.00 | 0.00 |
| 24,800.0 | 90.00 | 359.50 | 11,544.0 | 11,989.6 | -576.7 | 12,003.2 | 0.00 | 0.00 | 0.00 |
| 24,900.0 | 90.00 | 359.50 | 11,544.0 | 12,089.6 | -577.6 | 12,103.1 | 0.00 | 0.00 | 0.00 |
| 25,000.0 | 90.00 | 359.50 | 11,544.0 | 12,189.6 | -578.5 | 12,203.1 | 0.00 | 0.00 | 0.00 |
| 25,100.0 | 90.00 | 359.50 | 11,544.0 | 12,289.6 | -579.4 | 12,303.0 | 0.00 | 0.00 | 0.00 |
| 25,200.0 | 90.00 | 359.50 | 11,544.0 | 12,389.5 | -580.2 | 12,403.0 | 0.00 | 0.00 | 0.00 |
| 25,300.0 | 90.00 | 359.50 | 11,544.0 | 12,489.5 | -581.1 | 12,502.9 | 0.00 | 0.00 | 0.00 |
| 25,400.0 | 90.00 | 359.51 | 11,544.0 | 12,589.5 | -582.0 | 12,602.8 | 0.00 | 0.00 | 0.00 |
| 25,500.0 | 90.00 | 359.51 | 11,544.0 | 12,689.5 | -582.8 | 12,702.8 | 0.00 | 0.00 | 0.00 |
| 25,600.0 | 90.00 | 359.51 | 11,544.0 | 12,789.5 | -583.7 | 12,802.7 | 0.00 | 0.00 | 0.00 |
| 25,700.0 | 90.00 | 359.51 | 11,544.0 | 12,889.5 | -584.5 | 12,902.7 | 0.00 | 0.00 | 0.00 |
| 25,800.0 | 90.00 | 359.51 | 11,544.0 | 12,989.5 | -585.4 | 13,002.6 | 0.00 | 0.00 | 0.00 |
| 25,900.0 | 90.00 | 359.51 | 11,544.0 | 13,089.5 | -586.2 | 13,102.6 | 0.00 | 0.00 | 0.00 |
| 26,000.0 | 90.00 | 359.51 | 11,544.0 | 13,189.5 | -587.1 | 13,202.5 | 0.00 | 0.00 | 0.00 |
| 26,100.0 | 90.00 | 359.51 | 11,544.0 | 13,289.5 | -587.9 | 13,302.5 | 0.00 | 0.00 | 0.00 |
| 26,200.0 | 90.00 | 359.51 | 11,544.0 | 13,389.5 | -588.8 | 13,402.4 | 0.00 | 0.00 | 0.00 |
| 26,300.0 | 90.00 | 359.52 | 11,544.0 | 13,489.5 | -589.6 | 13,502.4 | 0.00 | 0.00 | 0.00 |
| 26,400.0 | 90.00 | 359.52 | 11,544.0 | 13,589.5 | -590.5 | 13,602.3 | 0.00 | 0.00 | 0.00 |
| 26,500.0 | 90.00 | 359.52 | 11,544.0 | 13,689.5 | -591.3 | 13,702.2 | 0.00 | 0.00 | 0.00 |
| 26,600.0 | 90.00 | 359.52 | 11,544.0 | 13,789.5 | -592.2 | 13,802.2 | 0.00 | 0.00 | 0.00 |
| 26,700.0 | 90.00 | 359.52 | 11,544.0 | 13,889.5 | -593.0 | 13,902.1 | 0.00 | 0.00 | 0.00 |
| 26,800.0 | 90.00 | 359.52 | 11,544.0 | 13,989.5 | -593.8 | 14,002.1 | 0.00 | 0.00 | 0.00 |
| 26,900.0 | 90.00 | 359.52 | 11,544.0 | 14,089.5 | -594.7 | 14,102.0 | 0.00 | 0.00 | 0.00 |
| 27,000.0 | 90.00 | 359.52 | 11,544.0 | 14,189.5 | -595.5 | 14,202.0 | 0.00 | 0.00 | 0.00 |
| 27,100.0 | 90.00 | 359.52 | 11,544.0 | 14,289.5 | -596.3 | 14,301.9 | 0.00 | 0.00 | 0.00 |
| 27,178.5 | 90.00 | 359.53 | 11,544.0 | 14,368.0 | -597.0 | 14,380.4 | 0.00 | 0.00 | 0.00 |



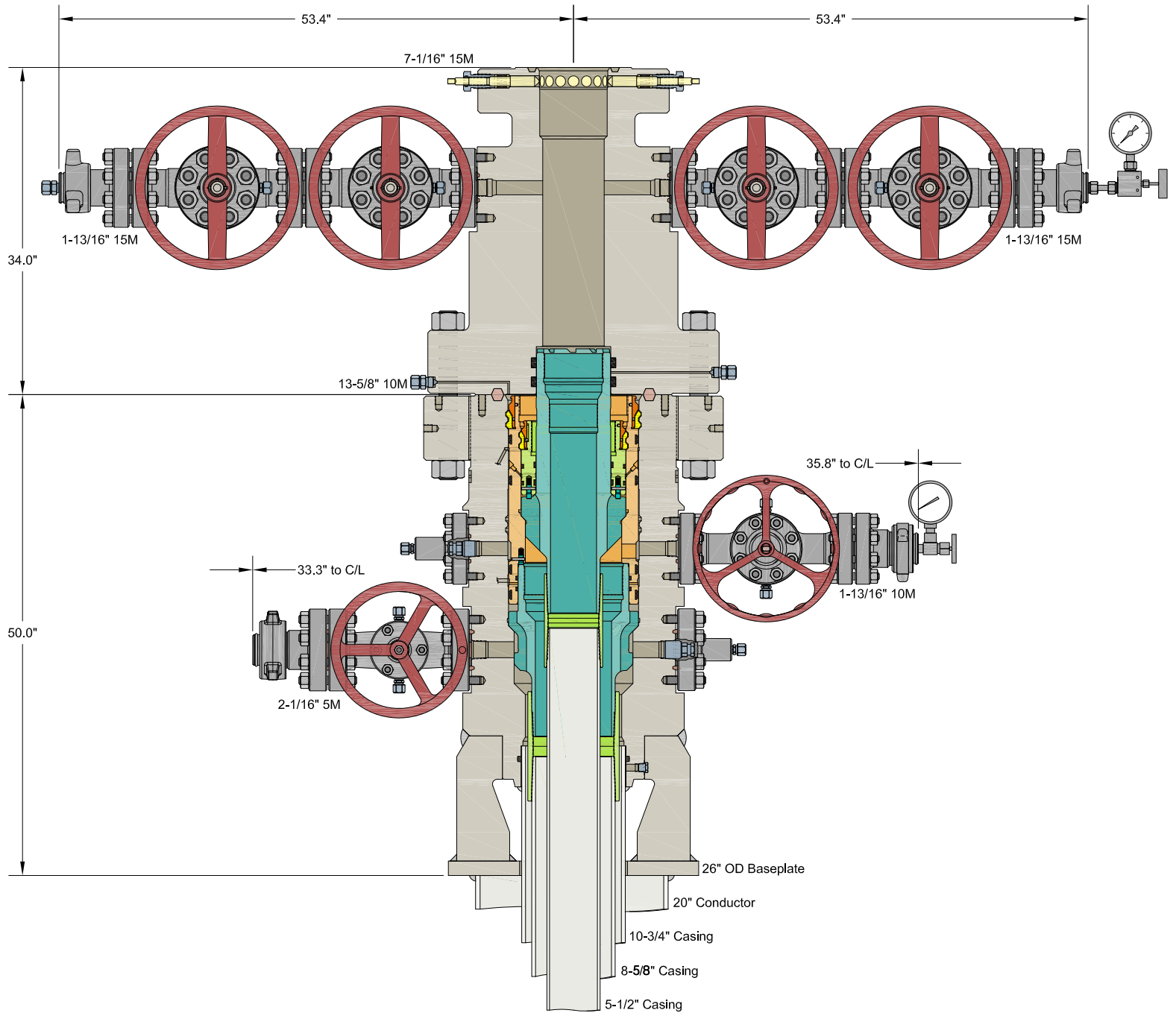
Planning Report

| | | | |
|------------------|-----------------------------|-------------------------------------|-----------------------|
| Database: | PEDMB | Local Co-ordinate Reference: | Well #591H |
| Company: | Midland | TVD Reference: | kb = 26' @ 3361.0usft |
| Project: | Lea County, NM (NAD 83 NME) | MD Reference: | kb = 26' @ 3361.0usft |
| Site: | Ruby XL 2-26 Fed Com | North Reference: | Grid |
| Well: | #591H | Survey Calculation Method: | Minimum Curvature |
| Wellbore: | OH | | |
| Design: | Plan #0.1 RT | | |

| Design Targets | | | | | | | | | |
|---|------------------|-----------------|---------------|-----------------|-----------------|--------------------|-------------------|-----------------|-------------------|
| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
| KOP(Ruby XL 2-26 Fed - plan hits target center - Point | 0.00 | 0.00 | 11,066.5 | -1,320.0 | -461.0 | 388,634.00 | 815,529.00 | 32° 3' 55.237 N | 103° 26' 53.512 W |
| FTP(Ruby XL 2-26 Fed - plan hits target center - Point | 0.00 | 0.00 | 11,279.2 | -1,270.0 | -462.0 | 388,684.00 | 815,528.00 | 32° 3' 55.732 N | 103° 26' 53.519 W |
| Fed Perf 3(Ruby XL 2-26 - plan hits target center - Point | 0.00 | 0.00 | 11,544.0 | 7,869.0 | -539.0 | 397,823.00 | 815,451.00 | 32° 5' 26.169 N | 103° 26' 53.542 W |
| Fed Perf 2(Ruby XL 2-26 - plan hits target center - Point | 0.00 | 0.00 | 11,544.0 | 6,551.0 | -527.0 | 396,505.00 | 815,463.00 | 32° 5' 13.127 N | 103° 26' 53.528 W |
| PBHL(Ruby XL 2-26 Fed - plan hits target center - Point | 0.00 | 0.00 | 11,544.0 | 14,368.0 | -597.0 | 404,322.00 | 815,393.00 | 32° 6' 30.482 N | 103° 26' 53.596 W |
| Fed Perf 1(Ruby XL 2-26 - plan hits target center - Point | 0.00 | 0.00 | 11,544.0 | 3,908.0 | -505.0 | 393,862.00 | 815,485.00 | 32° 4' 46.972 N | 103° 26' 53.525 W |



| | | | | | | | |
|--------------------|--|--|---|--------------------------|---|--|---|
| <p>THIRD ANGLE</p> | | <p>DESIGNED IN INCHES</p> <p>DIMENSIONAL UNITS</p> <p>INCHES [MILLIMETERS]</p> | <p>MACHINING TOLERANCES UNLESS OTHERWISE SPECIFIED</p> <p>X [0] ± = []</p> <p>XX [0.X] ± = []</p> <p>XXX [0.XX] ± = []</p> | <p>ANGLES</p> <p>± °</p> | <p>SURFACE TREATMENT</p> <p>DO NOT SCALE</p> <p>DRAWN BY: KEN REED DATE: 6 Nov 18</p> <p>CHECKED BY: PA DATE: 6 Nov 18</p> <p>APPROVED BY: APPROVER NAME DATE: 6 Nov 18</p> | <p>CONFIDENTIAL</p> <p> SURFACE SYSTEMS</p> <p>EOG RESOURCES, INC</p> <p>13-5/8" 10K MN-DS WELLHEAD</p> <p>13-3/8" X 9-5/8" X 5-1/2"</p> | <p>ESTIMATED WEIGHT: 8147.2 LBS [3695.5 KG] INITIAL USE BM: EWR:650353762</p> <p>SHEET 1 of 1</p> <p>REV: 01</p> <p>INVENTOR: D</p> |
|--------------------|--|--|---|--------------------------|---|--|---|



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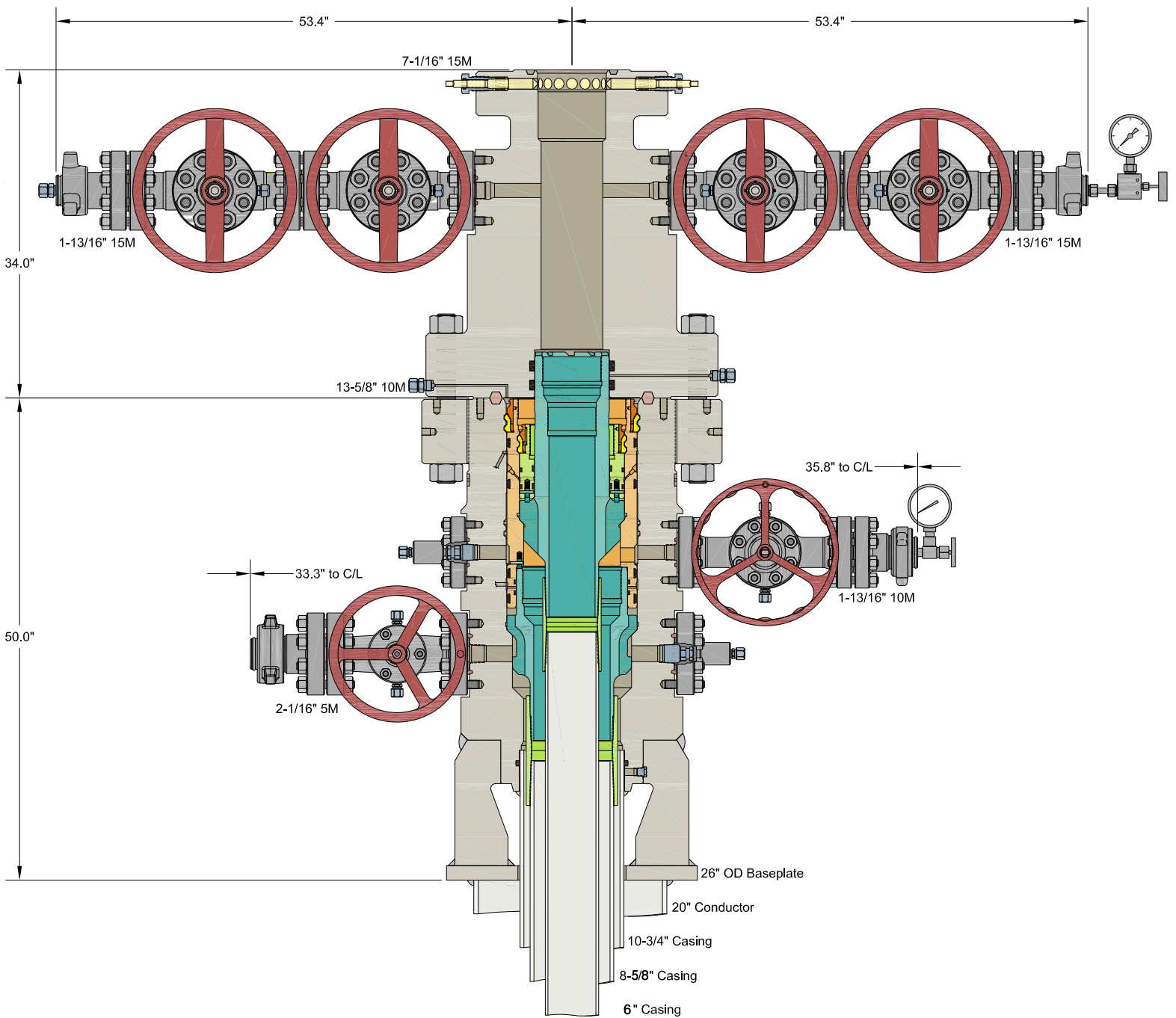
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

EOG RESOURCES

10-3/4" x 8-5/8" x 5-1/2" MBU-3T-SF-SOW Wellhead System
 With 8-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers
 And 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS Tubing Head

| | | |
|-------------|----------|---------|
| DRAWN | DLE | 14APR21 |
| APPRV | | |
| DRAWING NO. | SDT-3141 | |



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ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

EOG RESOURCES

10-3/4" x 8-5/8" x 5-1/2" MBU-3T-SF-SOW Wellhead System
 With 8-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers
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| | | |
|-------------|----------|---------|
| DRAWN | DLE | 14APR21 |
| APPRV | | |
| DRAWING NO. | SDT-3141 | |



Ruby XL 2-26 Fed Com #591H

1. GEOLOGIC NAME OF SURFACE FORMATION:

Permian

2. ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

| | |
|------------------------|---------|
| Rustler | 907' |
| Tamarisk Anhydrite | 987' |
| Top of Salt | 1,314' |
| Base of Salt | 5,144' |
| Lamar | 5,424' |
| Bell Canyon | 5,454' |
| Cherry Canyon | 6,381' |
| Brushy Canyon | 7,931' |
| Bone Spring Lime | 9,465' |
| Leonard (Avalon) Shale | 9,500' |
| 1st Bone Spring Sand | 10,506' |
| 2nd Bone Spring Shale | 10,768' |
| 2nd Bone Spring Sand | 11,095' |
| 3rd Bone Spring Carb | 11,494' |
| 3rd Bone Spring Sand | 12,152' |
| Wolfcamp | 12,596' |
| TD | 11,544' |

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

| | | |
|------------------------|---------|-------------|
| Upper Permian Sands | 0- 400' | Fresh Water |
| Lamar | 5,424' | Oil |
| Cherry Canyon | 6,381' | Oil |
| Brushy Canyon | 7,931' | Oil |
| Bone Spring Lime | 9,465' | Oil |
| Leonard (Avalon) Shale | 9,500' | Oil |
| 1st Bone Spring Sand | 10,506' | Oil |
| 2nd Bone Spring Shale | 10,768' | Oil |
| 2nd Bone Spring Sand | 11,095' | Oil |

No other Formations are expected to give up oil, gas or fresh water in measurable quantities. Surface fresh water sands will be protected by setting 10-3/4" casing at 1,012' and circulating cement back to surface.



Ruby XL 2-26 Fed Com #591H

4. PRIMARY APD DESIGN A

| Hole Size | Interval MD | | Interval TVD | | Csg OD | Weight | Grade | Conn |
|-----------|-------------|---------|--------------|---------|---------|--------|---------|---------------|
| | From (ft) | To (ft) | From (ft) | To (ft) | | | | |
| 13" | 0 | 1,012 | 0 | 1,012 | 10-3/4" | 40.5# | J-55 | STC |
| 9-7/8" | 0 | 5,634 | 0 | 5,474 | 8-5/8" | 32# | J-55 | BTC-SC |
| 7-7/8" | 0 | 11,117 | 0 | 10,967 | 6" | 24.5# | P110-EC | VAM Sprint-TC |
| 6-3/4" | 11,117 | 27,179 | 10,967 | 11,544 | 5-1/2" | 20# | P110-EC | VAM Sprint SF |

**For highlighted rows above, variance is requested to run entire string of either 6" or 5-1/2" casing string above due to availability.

Hole will be full during casing run for well control and tensile SF factor. Casing will be kept at least half full during run for this design to meet BLM collapse SF requirement. External pressure will be reviewed prior to conducting casing pressure tests to ensure that 70% of the yield is not exceeded.

Variance is requested to waive the centralizer requirements for the 8-5/8" casing in the 9-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 9-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 6" and 5-1/2" casings in the 7-7/8" and 6-3/4" hole sizes. An expansion additive will be utilized in the cement slurry for the entire length of the 7-7/8" and 6-3/4" hole intervals to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Title 43 CFR Part 3170 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

5. CEMENTING PROGRAM:

| Depth | No. Sacks | Wt. ppg | Yld Ft3/sk | Slurry Description |
|-------------------|-----------|---------|------------|---|
| 1,020' 10-3/4" | 240 | 13.5 | 1.73 | Lead: Class C/H + additives (TOC @ Surface) |
| | 120 | 14.8 | 1.34 | Tail: Class C/H + additives (TOC @ 820') |
| 5,634' 8-5/8" | 340 | 12.7 | 2.22 | Lead: Class C/H + additives + expansive additives (TOC @ Surface) |
| | 150 | 14.8 | 1.32 | Tail: Class C/H + additives + expansive additives (TOC @ 4507') |
| 27,179' 6" | 1000 | 14.8 | 1.32 | Bradenhead squeeze: Class C/H + additives + expansive additives (TOC @ surface) |
| | 2270 | 13.2 | 1.52 | Tail: Class C/H + additives (TOC @ 7940') |



Ruby XL 2-26 Fed Com #591H

| Additive | Purpose |
|---------------------|---|
| Bentonite Gel | Lightweight/Lost circulation prevention |
| Calcium Chloride | Accelerator |
| Cello-flake | Lost circulation prevention |
| Sodium Metasilicate | Accelerator |
| MagOx | Expansive agent |
| Pre-Mag-M | Expansive agent |
| Sodium Chloride | Accelerator |
| FL-62 | Fluid loss control |
| Halad-344 | Fluid loss control |
| Halad-9 | Fluid loss control |
| HR-601 | Retarder |
| Microbond | Expansive Agent |

Cement integrity tests will be performed immediately following plug bump.

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

EOG requests variance from minimum standards to pump a two stage cement job on the 6" and 5-1/2" production casing strings with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon (7,931') and the second stage performed as a bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of Class C/H cement + additives (1.32 yld, 14.8 ppg) will be executed as a contingency. Top will be verified by Echo-meter.

Bradenhead will be the primary option for production cementing. EOG also requests to have the conventional option in place to accommodate for logistical or wellbore conditions. The tie back requirements will be met if the cement is pumped conventionally, and cement volumes will be adjusted accordingly. TOC will be verified by CBL.



Ruby XL 2-26 Fed Com #591H

6. MINIMUM SPECIFICATIONS FOR PRESSURE CONTROL:

Variance is requested to use a co-flex line between the BOP and choke manifold (instead of using a 4" OD steel line).

The minimum blowout preventer equipment (BOPE) shown in Exhibit #1 will consist of a single ram, mud cross and double ram-type (10,000 psi WP) preventer and an annular preventer (5,000-psi WP). Both units will be hydraulically operated and the ram-type will be equipped with blind rams on bottom and drill pipe rams on top. All BOPE will be tested in accordance with Onshore Oil & Gas order No. 2.

EOG will utilize wing unions on BOPE connections that can be isolated from wellbore pressure through means of a choke. All wing unions will be rated to a pressure that meets or exceeds the pressure rating of the BOPE system.

Variance is requested to use a 5,000 psi annular BOP with the 10,000 psi BOP stack.

Before drilling out of the surface casing, the ram-type BOP and accessory equipment will be tested to 10,000/ 250 psig and the annular preventer to 5,000/ 250 psig.

Pipe rams and blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets.

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

7. TYPES AND CHARACTERISTICS OF THE PROPOSED MUD SYSTEM:

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

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

| Depth | Type | Weight (ppg) | Viscosity | Water Loss |
|-----------------------------|-------------|--------------|-----------|------------|
| 0 – 1,012' | Fresh - Gel | 8.6-8.8 | 28-34 | N/c |
| 1,012' – 5,474' | Brine | 9.8-10.8 | 28-34 | N/c |
| 5,474' – 27,179' Lateral | Oil Base | 8.8-9.5 | 58-68 | N/c - 6 |

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

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



Ruby XL 2-26 Fed Com #591H

8. AUXILIARY WELL CONTROL AND MONITORING EQUIPMENT:

- (A) A kelly cock will be kept in the drill string at all times.
- (B) A full opening drill pipe-stabbing valve (inside BOP) with proper drill pipe connections will be on the rig floor at all times.
- (C) H2S monitoring and detection equipment will be utilized from surface casing point to TD.

9. LOGGING, TESTING AND CORING PROGRAM:

- (A) Open-hole logs are not planned for this well.
- (B) GR-CCL will be run in cased hole during completions phase of operations.

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

The estimated bottom-hole temperature (BHT) at TD is 185 degrees F with an estimated maximum bottom-hole pressure (BHP) at TD of 5,403 psig and a maximum anticipated surface pressure of 2,863 psig (based on 9.0 ppg MW). No hydrogen sulfide or other hazardous gases or fluids have been encountered, reported or are known to exist at this depth in this area. Severe loss circulation is expected from 7,931' to intermediate casing point.

11. ANTICIPATED STARTING DATE AND DURATION OF OPERATIONS:

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

EOG Resources requests the option to contract a Surface Rig to drill, set surface casing, and Cement on the subject well. After WOC 8 hours or 500 psi compressive strength (whichever is greater), the Surface Rig will move off so the wellhead can be installed. A welder will cut the casing to the proper height and weld on the wellhead (both "A" and "B" sections). The weld will be tested to 1,500 psi. All valves will be closed and a wellhead cap will be installed (diagram attached). If the timing between rigs is such that EOG Resources would not be able to preset the surface, the Primary Rig will MIRU and drill the well in its entirety per the APD.



Ruby XL 2-26 Fed Com #591H

12. WELLHEAD:

A multi-bowl wellhead system will be utilized.

After running the surface casing, a BOP/BOPE system with a minimum working pressure of 10,000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10,000 psi pressure test. This pressure test will be repeated at least every 30 days, as per Title 43 CFR Part 3170.

The minimum working pressure of the BOP and related BOPE required for drilling below the surface casing shoe shall be 10,000 psi.

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

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

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. EOG Resources reserves the option to conduct BOPE testing during wait on cement periods provided a test plug is utilized.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

Casing strings will be tested as per Title 43 CFR Part 3170 to at least 0.22 psi/ft or 1,500 psi, whichever is greater.

13. VARIANCE REQUESTS:

EOG requests the additional variance(s) in the attached document(s):

- EOG BLM Variance 3e - BOP Break-test and Offline Surface and Intermediate Cement
- EOG BLM Variance 3d - Production Offline Cement
- EOG BLM Variance 4a - Salt Section Annular Clearance
- EOG BLM Variance 5a - Alternate Shallow Casing Designs



Ruby XL 2-26 Fed Com #591H

14. TUBING REQUIREMENTS:

EOG respectfully requests an exception to the following NMOCD rule:

19.15.16.10 Casing AND TUBING REQUIREMENTS:

- J (3): “The operator shall set tubing as near the bottom as practical and tubing perforations shall not be more than 250 feet above top of pay zone.”

With horizontal flowing and gas lifted wells an end of tubing depth placed at or slightly above KOP is a conservative way to ensure the tubing stays clean from debris, plugging, and allows for fewer well interventions post offset completion. The deeper the tubulars are run into the curve, the higher the probability is that the tubing will become stuck in sand and or well debris as the well produces over time. An additional consideration for EOT placement during artificial lift installations is avoiding the high dog leg severity and inclinations found in the curve section of the wellbore to help improve reliability and performance. Dog leg severity and inclinations tend not to hamper gas lifted or flowing wells, but they do effect other forms of artificial lift like rod pump or ESP (electric submersible pump). Keeping the EOT above KOP is an industry best practice for those respective forms of artificial lift.



Ruby XL 2-26 Fed Com #591H

1368' FSL

802' FWL

Section 2

T-26-S, R-34-E

Proposed Wellbore

KB: 3335'

GL: 3310'

API: 30-025-*****

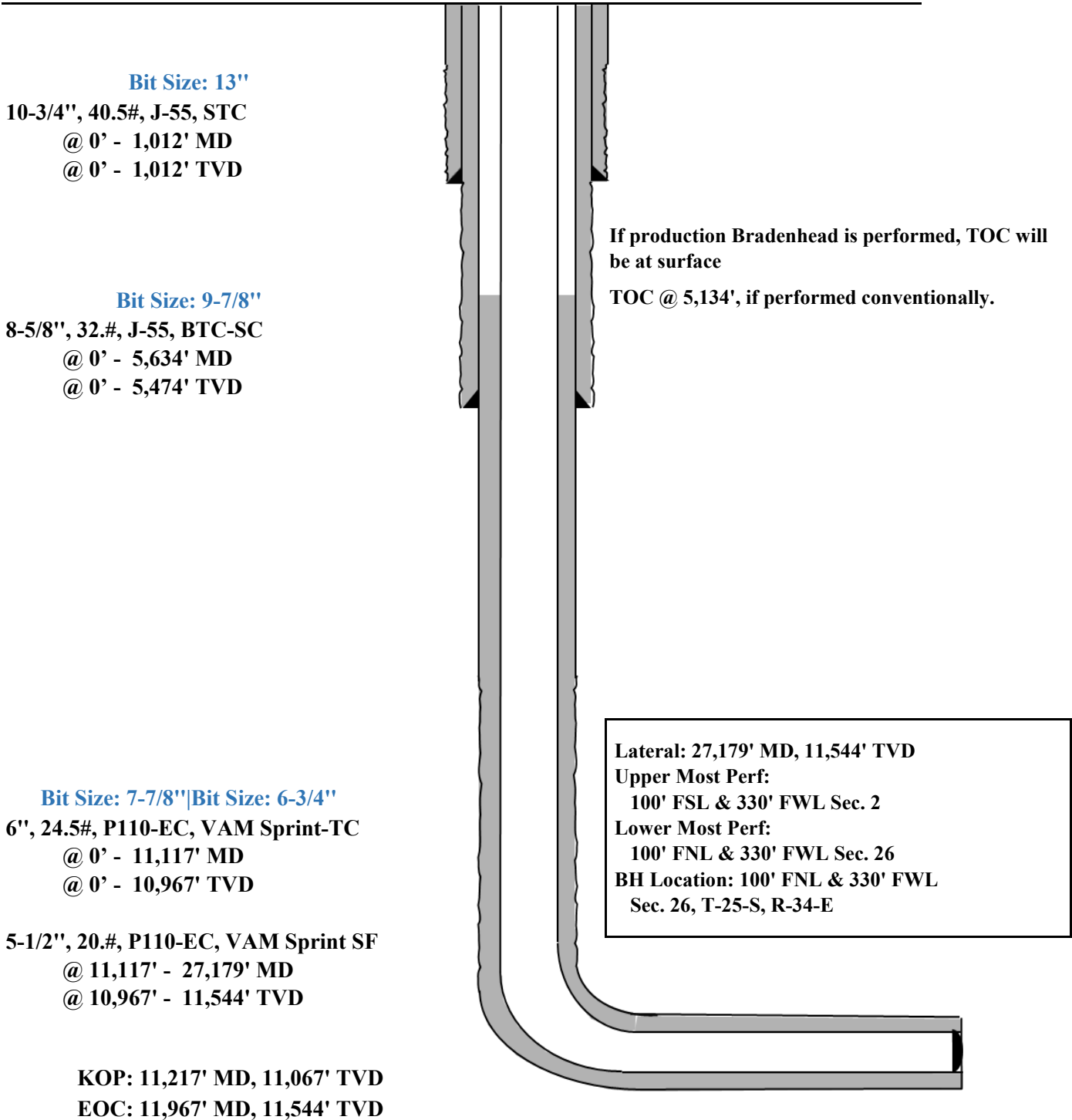
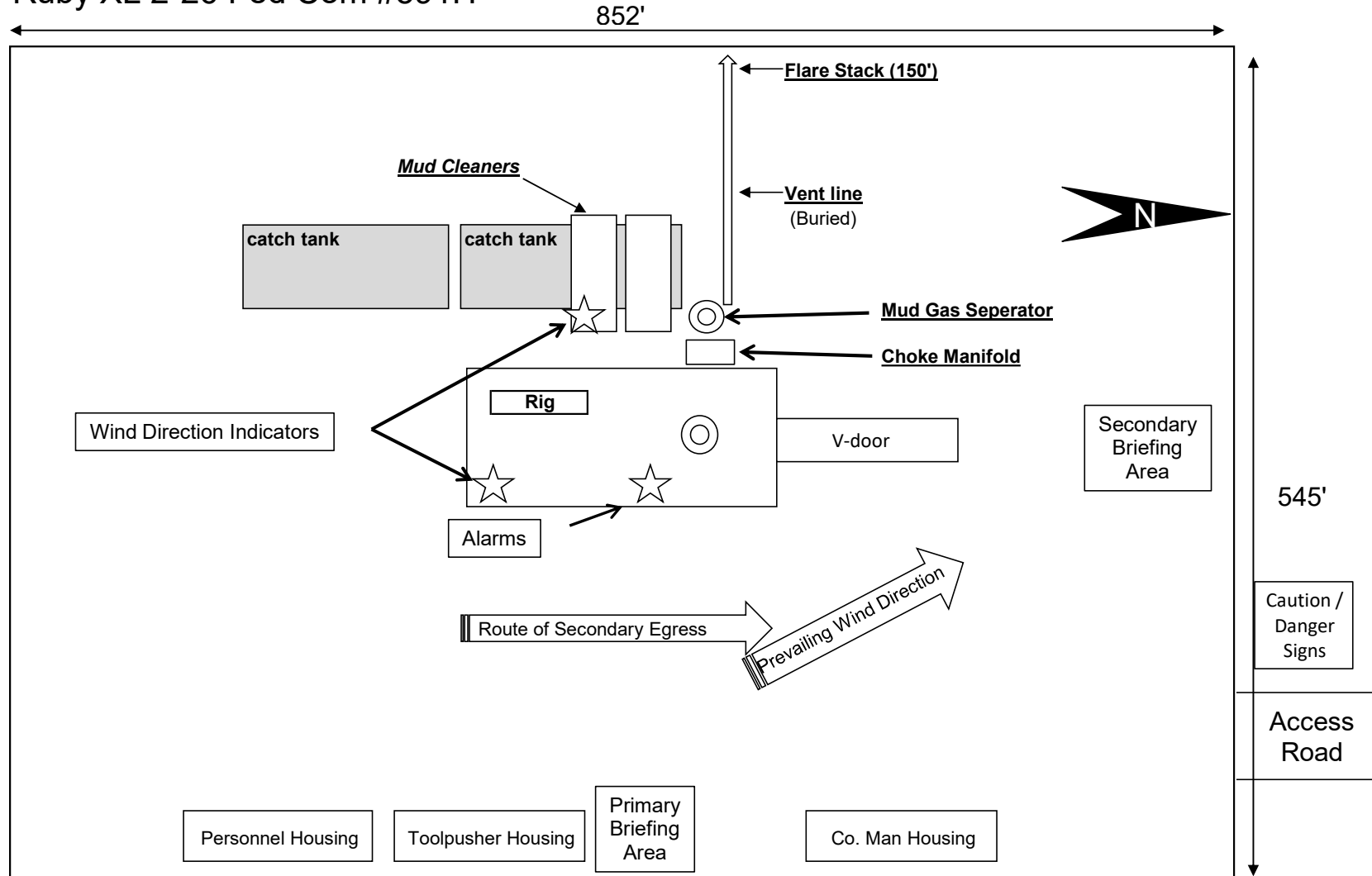


Exhibit 4

Well Site Diagram

EOG Resources

Ruby XL 2-26 Fed Com #591H





EOG Batch Casing

Pad Name: Ruby XL 2-26 Fed Com SHALLOW Permits
SHL: Section 2, Township 26-S, Range 34-E, LEA County, NM

EOG requests for the below wells to be approved for all designs listed in the Blanket Casing Design ('EOG BLM Variance 5a - Alternate Shallow Casing Designs.pdf' OR 'EOG BLM Variance 5b - Alternate Deep Casing Designs.pdf') document. The MDs and TVDs for all intervals are within the boundary conditions. The max inclination and DLS are also within the boundary conditions. The directional plans for the wells are attached separately.

| Well Name | API # | Surface | | Intermediate | | Production | |
|----------------------------|--------------|---------|-------|--------------|-------|------------|--------|
| | | MD | TVD | MD | TVD | MD | TVD |
| Ruby XL 2-26 Fed Com #101H | 30-025-***** | 1,012 | 1,012 | 5,658 | 5,474 | 25,313 | 9,550 |
| Ruby XL 2-26 Fed Com #102H | 30-025-***** | 1,012 | 1,012 | 5,687 | 5,474 | 25,340 | 9,550 |
| Ruby XL 2-26 Fed Com #103H | 30-025-***** | 1,012 | 1,012 | 5,829 | 5,474 | 25,460 | 9,550 |
| Ruby XL 2-26 Fed Com #104H | 30-025-***** | 1,012 | 1,012 | 5,567 | 5,474 | 25,230 | 9,550 |
| Ruby XL 2-26 Fed Com #105H | 30-025-***** | 1,012 | 1,012 | 5,601 | 5,474 | 25,261 | 9,550 |
| Ruby XL 2-26 Fed Com #106H | 30-025-***** | 1,012 | 1,012 | 5,548 | 5,474 | 25,211 | 9,550 |
| Ruby XL 2-26 Fed Com #107H | 30-025-***** | 1,012 | 1,012 | 5,526 | 5,474 | 25,190 | 9,550 |
| Ruby XL 2-26 Fed Com #108H | 30-025-***** | 1,012 | 1,012 | 5,557 | 5,474 | 25,219 | 9,550 |
| Ruby XL 2-26 Fed Com #201H | 30-025-***** | 1,012 | 1,012 | 5,663 | 5,474 | 25,493 | 9,833 |
| Ruby XL 2-26 Fed Com #202H | 30-025-***** | 1,012 | 1,012 | 5,791 | 5,474 | 25,604 | 9,833 |
| Ruby XL 2-26 Fed Com #203H | 30-025-***** | 1,012 | 1,012 | 5,553 | 5,474 | 25,392 | 9,833 |
| Ruby XL 2-26 Fed Com #204H | 30-025-***** | 1,012 | 1,012 | 5,606 | 5,474 | 25,441 | 9,833 |
| Ruby XL 2-26 Fed Com #205H | 30-025-***** | 1,012 | 1,012 | 5,562 | 5,474 | 25,400 | 9,833 |
| Ruby XL 2-26 Fed Com #206H | 30-025-***** | 1,012 | 1,012 | 5,524 | 5,474 | 25,364 | 9,833 |
| Ruby XL 2-26 Fed Com #301H | 30-025-***** | 1,012 | 1,012 | 5,650 | 5,474 | 26,205 | 10,556 |
| Ruby XL 2-26 Fed Com #302H | 30-025-***** | 1,012 | 1,012 | 5,715 | 5,474 | 26,262 | 10,556 |
| Ruby XL 2-26 Fed Com #303H | 30-025-***** | 1,012 | 1,012 | 5,859 | 5,474 | 26,383 | 10,556 |
| Ruby XL 2-26 Fed Com #304H | 30-025-***** | 1,012 | 1,012 | 5,568 | 5,474 | 26,129 | 10,556 |
| Ruby XL 2-26 Fed Com #305H | 30-025-***** | 1,012 | 1,012 | 5,547 | 5,474 | 26,109 | 10,556 |
| Ruby XL 2-26 Fed Com #306H | 30-025-***** | 1,012 | 1,012 | 5,591 | 5,474 | 26,150 | 10,556 |
| Ruby XL 2-26 Fed Com #307H | 30-025-***** | 1,012 | 1,012 | 5,552 | 5,474 | 26,113 | 10,556 |
| Ruby XL 2-26 Fed Com #401H | 30-025-***** | 1,012 | 1,012 | 5,654 | 5,474 | 26,471 | 10,818 |
| Ruby XL 2-26 Fed Com #402H | 30-025-***** | 1,012 | 1,012 | 5,780 | 5,474 | 26,580 | 10,818 |
| Ruby XL 2-26 Fed Com #403H | 30-025-***** | 1,012 | 1,012 | 5,558 | 5,474 | 26,382 | 10,818 |
| Ruby XL 2-26 Fed Com #404H | 30-025-***** | 1,012 | 1,012 | 5,599 | 5,474 | 26,419 | 10,818 |
| Ruby XL 2-26 Fed Com #405H | 30-025-***** | 1,012 | 1,012 | 5,552 | 5,474 | 26,375 | 10,818 |
| Ruby XL 2-26 Fed Com #406H | 30-025-***** | 1,012 | 1,012 | 5,520 | 5,474 | 26,345 | 10,818 |
| Ruby XL 2-26 Fed Com #501H | 30-025-***** | 1,012 | 1,012 | 5,642 | 5,474 | 26,787 | 11,145 |
| Ruby XL 2-26 Fed Com #502H | 30-025-***** | 1,012 | 1,012 | 5,678 | 5,474 | 26,819 | 11,145 |
| Ruby XL 2-26 Fed Com #503H | 30-025-***** | 1,012 | 1,012 | 5,823 | 5,474 | 26,942 | 11,145 |
| Ruby XL 2-26 Fed Com #504H | 30-025-***** | 1,012 | 1,012 | 5,560 | 5,474 | 26,711 | 11,145 |
| Ruby XL 2-26 Fed Com #505H | 30-025-***** | 1,012 | 1,012 | 5,588 | 5,474 | 26,736 | 11,145 |
| Ruby XL 2-26 Fed Com #506H | 30-025-***** | 1,012 | 1,012 | 5,543 | 5,474 | 26,694 | 11,145 |
| Ruby XL 2-26 Fed Com #507H | 30-025-***** | 1,012 | 1,012 | 5,607 | 5,474 | 26,753 | 11,145 |
| Ruby XL 2-26 Fed Com #508H | 30-025-***** | 1,012 | 1,012 | 5,547 | 5,474 | 26,697 | 11,145 |
| Ruby XL 2-26 Fed Com #591H | 30-025-***** | 1,012 | 1,012 | 5,634 | 5,474 | 27,179 | 11,544 |
| Ruby XL 2-26 Fed Com #592H | 30-025-***** | 1,012 | 1,012 | 5,739 | 5,474 | 27,271 | 11,544 |
| Ruby XL 2-26 Fed Com #593H | 30-025-***** | 1,012 | 1,012 | 5,553 | 5,474 | 27,103 | 11,544 |
| Ruby XL 2-26 Fed Com #594H | 30-025-***** | 1,012 | 1,012 | 5,607 | 5,474 | 27,152 | 11,544 |
| Ruby XL 2-26 Fed Com #595H | 30-025-***** | 1,012 | 1,012 | 5,575 | 5,474 | 27,123 | 11,544 |
| Ruby XL 2-26 Fed Com #596H | 30-025-***** | 1,012 | 1,012 | 5,535 | 5,474 | 27,085 | 11,544 |



EOG Batch Casing

GEOLOGIC NAME OF SURFACE FORMATION:

Permian

ESTIMATED TOPS OF IMPORTANT GEOLOGICAL MARKERS:

| | |
|------------------------|---------|
| Rustler | 907' |
| Tamarisk Anhydrite | 987' |
| Top of Salt | 1,314' |
| Base of Salt | 5,144' |
| Lamar | 5,424' |
| Bell Canyon | 5,454' |
| Cherry Canyon | 6,381' |
| Brushy Canyon | 7,931' |
| Bone Spring Lime | 9,465' |
| Leonard (Avalon) Shale | 9,500' |
| 1st Bone Spring Sand | 10,506' |
| 2nd Bone Spring Shale | 10,768' |
| 2nd Bone Spring Sand | 11,095' |
| 3rd Bone Spring Carb | 11,494' |
| 3rd Bone Spring Sand | 12,152' |
| Wolfcamp | 12,596' |

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

| | |
|------------------------|---------------------|
| Upper Permian Sands | 0- 400' Fresh Water |
| Lamar | 5,424' Oil |
| Cherry Canyon | 6,381' Oil |
| Brushy Canyon | 7,931' Oil |
| Bone Spring Lime | 9,465' Oil |
| Leonard (Avalon) Shale | 9,500' Oil |
| 1st Bone Spring Sand | 10,506' Oil |
| 2nd Bone Spring Shale | 10,768' Oil |
| 2nd Bone Spring Sand | 11,095' Oil |



EOG Batch Casing

Variations

EOG requests the additional variance(s) in the attached document(s):

- EOG BLM Variance 2a - Intermediate Bradenhead Cement
- EOG BLM Variance 3d - Production Offline Cement
- EOG BLM Variance 3e - BOP Break-test and Offline Surface and Intermediate Cement
- EOG BLM Variance 4a - Salt Section Annular Clearance
- EOG BLM Variance 5a - Alternate Shallow Casing Designs



Master Variance Document

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Table of Contents

- [BOPE Break Test](#) (3/25/2025)
- [Offline Surface/Intermediate Cement](#) (8/15/2023)
- [Intermediate Bradenhead Cement \(Deep Targets\)](#) (8/15/2023)
- [Wolfcamp Intermediate Casing Setpoint](#) (6/26/2024)
- [Offline Production Cement](#) (11/12/2024)
- [Production Bradenhead Cement](#) (8/9/2024)
- [Salt Section Annular Clearance](#) (11/8/2022)



BOPE Break Test Variance

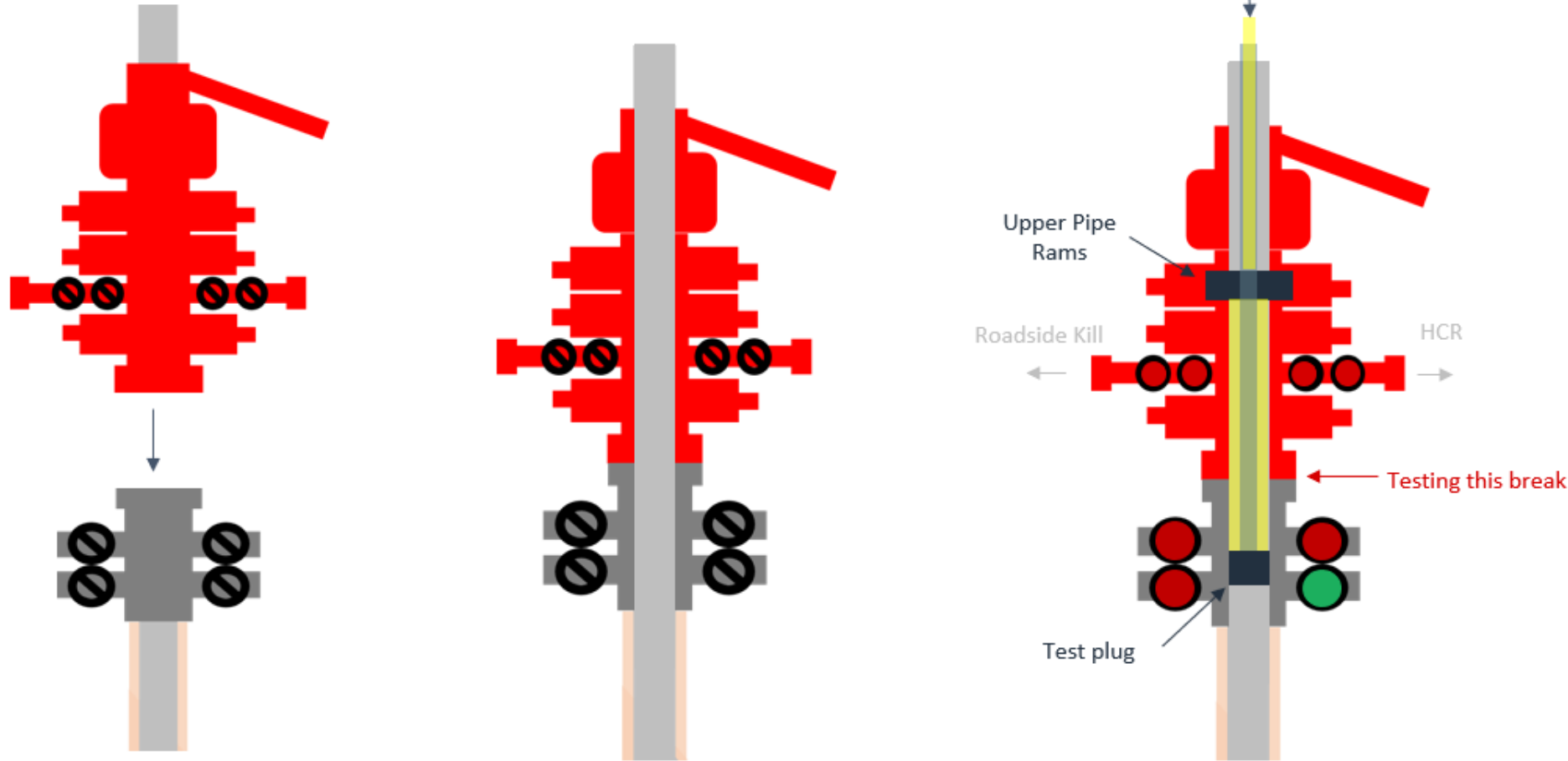
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EOG BOPE Break Test Variance (Intervals 5M MASP or less)

EOG Resources Inc. (EOG) respectfully requests a variance from the minimum standards for well control equipment testing of ECFR Title 43 Part 3172.6(b)(9)(iv) to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with Batch Drilling & Offline cement operations to include the following:

- Full BOPE test at first installation on the pad.
- Full BOPE test every 21 days.
- Break-test only available for the Base of the Wolfcamp or shallower
 - If anything out of the ordinary is observed during drilling, tripping or casing running operations in the production hole section, break testing will not be performed in the subsequent well's production hole section.
 - Furthermore, break testing in the production hole section will not be performed if offset frac operations are observed within 1 mile and within the same producing horizon.
- Each rig requesting the break-test variance is capable of picking up the BOP without damaging components using winches, following API Standard 53, Well Control Equipment Systems for Drilling Wells (Fifth edition, December 2018, Annex C. Table C.4) which recognizes break testing as an acceptable practice.
- Function tests will be performed on the following BOP elements:
 - Annular → during each full BOPE test and at least weekly
 - Pipe Rams → Every trip and on trip ins where FIT required
 - Blind Rams → Every trip
- Break testing BOP and BOPE coupled with batch drilling operations and option to offline cement and/or remediate (if needed) any surface, intermediate or production sections, according to attached offline cementing support documentation.
- After the well section is secured, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad.
- TA cap will also be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.

Break Test Diagram (Test Joint)



Steps

1. Set plug in with test joint wellhead (lower barrier)
2. Close Upper Pipe Rams (upper barrier)
3. Close roadside kill
4. Close HCR
5. Open wellhead valves below test plug to ensure if leak past test plug, pressure won't be applied to wellbore
6. Tie BOP testers high pressure line to top of test joint
7. Pressure up to test break
8. Bleed test pressure from BOP testing unit



Offline Surface + Intermediate Variance

—

Offline Surface + Intermediate Cement

Cement Program

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

Summarized Operational Procedure for Intermediate Casing

1. Run casing as per normal operations. While running casing, conduct negative pressure test and confirm integrity of the float equipment back pressure valves.
 - a. Float equipment is equipped with two back pressure valves rated to a minimum of 5,000 psi.
2. Land production casing on mandrel hanger through BOP.
 - a. If casing is unable to be landed with a mandrel hanger, then the **casing will be cemented online.**
3. Break circulation and confirm no restrictions.
 - a. Ensure no blockage of float equipment and appropriate annular returns.
 - b. Perform flow check to confirm well is static.
4. Set pack-off
 - a. If utilizing a fluted/ported mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid, remove landing joint, and set annular packoff through BOP. Pressure test to 5,000 psi for 10 min.
 - b. If utilizing a solid mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid. Pressure test seals to 5,000 psi for 10 min. Remove landing joint through BOP.
5. After confirmation of both annular barriers and the two casing barriers, install TA plug and pressure test to 5,000 psi for 10 min. Notify the BLM with intent to proceed with nipple down and offline cementing.
 - a. Minimum 4 hrs notice.
6. With the well secured and BLM notified, nipple down BOP and secure on hydraulic carrier or cradle.
 - a. **Note, if any of the barriers fail to test, the BOP stack will not be nipped down until after the cement job has concluded and both lead and tail slurry have reached 500 psi.**
7. Skid/Walk rig off current well.
8. Confirm well is static before removing TA Plug.
 - a. Cementing operations will not proceed until well is under control. (If well is not static, notify BLM and proceed to kill)
 - b. Casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing.
 - c. Well control plan can be seen in Section B, Well Control Procedures.
 - d. If need be, rig can be moved back over well and BOP nipped back up for any further remediation.

Offline Surface + Intermediate Cement

- e. Diagram for rig positioning relative to offline cementing can be seen in Figure 4.
9. Rig up return lines to take returns from wellhead to pits and rig choke.
 - a. Test all connections and lines from wellhead to choke manifold to 5,000 psi high for 10 min.
 - b. If either test fails, perform corrections and retest before proceeding.
 - c. Return line schematics can be seen in Figure 3.
10. Remove TA Plug from the casing.
11. Install offline cement tool.
 - a. Current offline cement tool schematics can be seen in Figure 1 (Cameron) and Figure 2 (Cactus).
12. Rig up cement head and cementing lines.
 - a. Pressure test cement lines against cement head to 80% of casing burst for 10 min.
13. Break circulation on well to confirm no restrictions.
 - a. If gas is present on circulation, well will be shut in and returns rerouted through gas buster.
 - b. Max anticipated time before circulating with cement truck is 6 hrs.
14. Pump cement job as per plan.
 - a. At plug bump, test casing to 0.22 psi/ft or 1500 psi, whichever is greater.
 - b. If plug does not bump on calculated, shut down and wait 8 hrs or 500 psi compressive strength, whichever is greater before testing casing.
15. Confirm well is static and floats are holding after cement job.
 - a. With floats holding and backside static:
 - i. Remove cement head.
 - b. If floats are leaking:
 - i. Shut-in well and WOC (Wait on Cement) until tail slurry reaches 500 psi compressive strength and the casing is static prior to removing cement head.
 - c. If there is flow on the backside:
 - i. Shut in well and WOC until tail slurry reaches 500 psi compressive strength. Ensure that the casing is static prior to removing cement head.
16. Remove offline cement tool.
17. Install night cap with pressure gauge for monitoring.
18. Test night cap to 5,000 psi for 10 min.

Offline Surface + Intermediate Cement

Example Well Control Plan Content

A. Well Control Component Table

The table below, which covers the cementing of the **5M MASP (Maximum Allowable Surface Pressure) portion of the well**, outlines the well control component rating in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the BOP nipped up to the wellhead.

Intermediate hole section, 5M requirement

| Component | RWP |
|--------------------------|-----|
| Pack-off | 10M |
| Casing Wellhead Valves | 10M |
| Annular Wellhead Valves | 5M |
| TA Plug | 10M |
| Float Valves | 5M |
| 2" 1502 Lo-Torque Valves | 15M |

B. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while circulating and cementing through the Offline Cement Adapter.

General Procedure While Circulating

1. Sound alarm (alert crew).
2. Shut down pumps.
3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
4. Confirm shut-in.
5. Notify tool pusher/company representative.

Offline Surface + Intermediate Cement

Example Well Control Plan Content

A. Well Control Component Table

The table below, which covers the cementing of the **5M MASP (Maximum Allowable Surface Pressure) portion of the well**, outlines the well control component rating in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the BOP nipped up to the wellhead.

Intermediate hole section, 5M requirement

| Component | RWP |
|--------------------------|-----|
| Pack-off | 10M |
| Casing Wellhead Valves | 10M |
| Annular Wellhead Valves | 5M |
| TA Plug | 10M |
| Float Valves | 5M |
| 2" 1502 Lo-Torque Valves | 15M |

B. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while circulating and cementing through the Offline Cement Adapter.

General Procedure While Circulating

1. Sound alarm (alert crew).
2. Shut down pumps.
3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
4. Confirm shut-in.
5. Notify tool pusher/company representative.

Offline Surface + Intermediate Cement

6. Read and record the following:
 - a. SICP (Shut in Casing Pressure) and AP (Annular Pressure)
 - b. Pit gain
 - c. Time
 - d. Regroup and identify forward plan to continue circulating out kick via rig choke and mud/gas separator. Circulate and adjust mud density as needed to control well.

General Procedure While Cementing

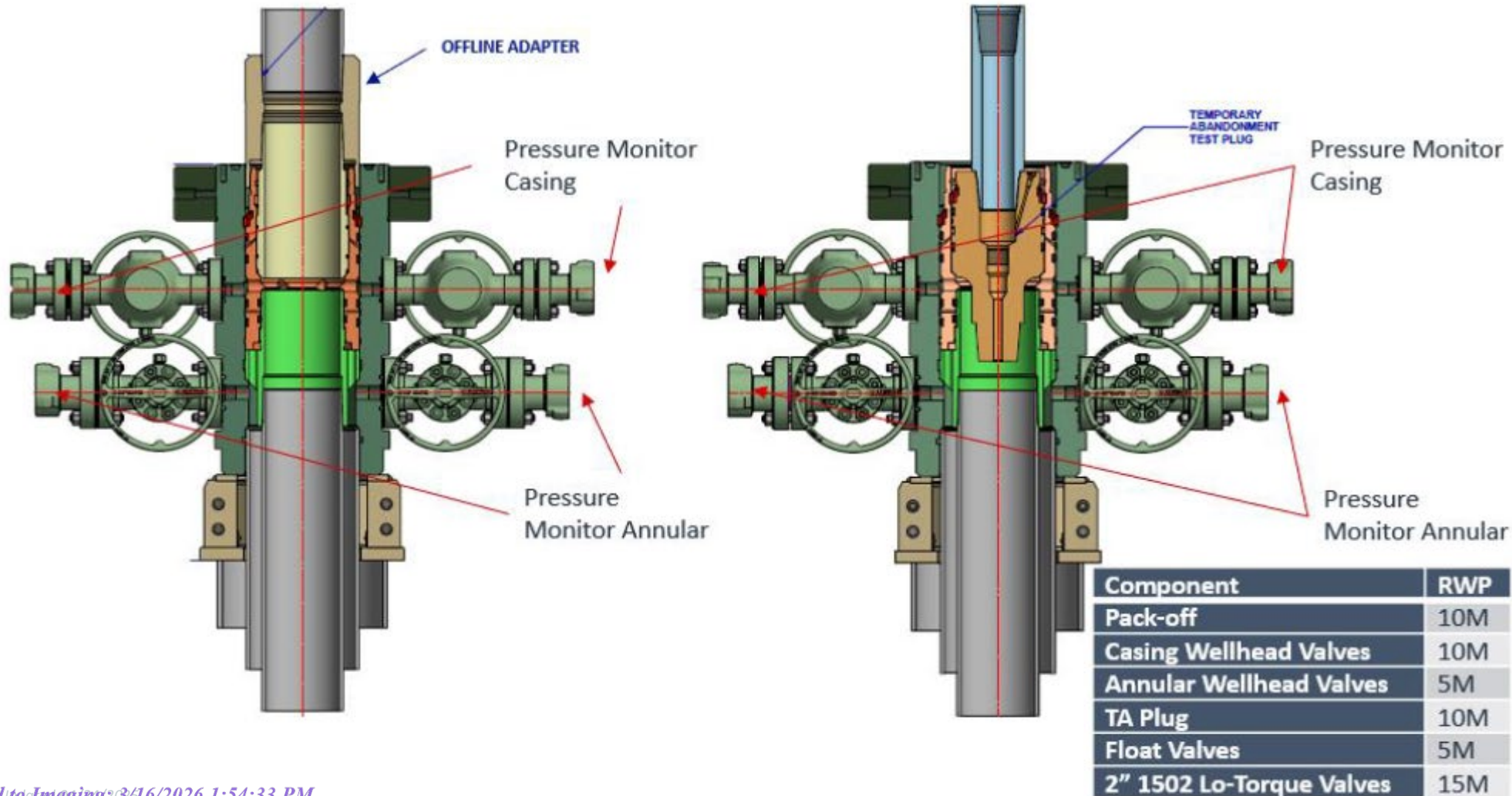
1. Sound alarm (alert crew).
2. Shut down pumps.
3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
4. Confirm shut-in.
5. Notify tool pusher/company representative.
6. Open rig choke and begin pumping again taking returns through choke manifold and mud/gas separator.
7. Continue to place cement until plug bumps.
8. At plug bump close rig choke and cement head.
9. Read and record the following
 - a. SICP and AP
 - b. Pit gain
 - c. Time
 - d. Shut-in annulus valves on wellhead

General Procedure After Cementing

1. Sound alarm (alert crew).
2. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
3. Confirm shut-in.
4. Notify tool pusher/company representative.
5. Read and record the following:
 - a. SICP and AP
 - b. Pit gain
 - c. Time
 - d. Shut-in annulus valves on wellhead

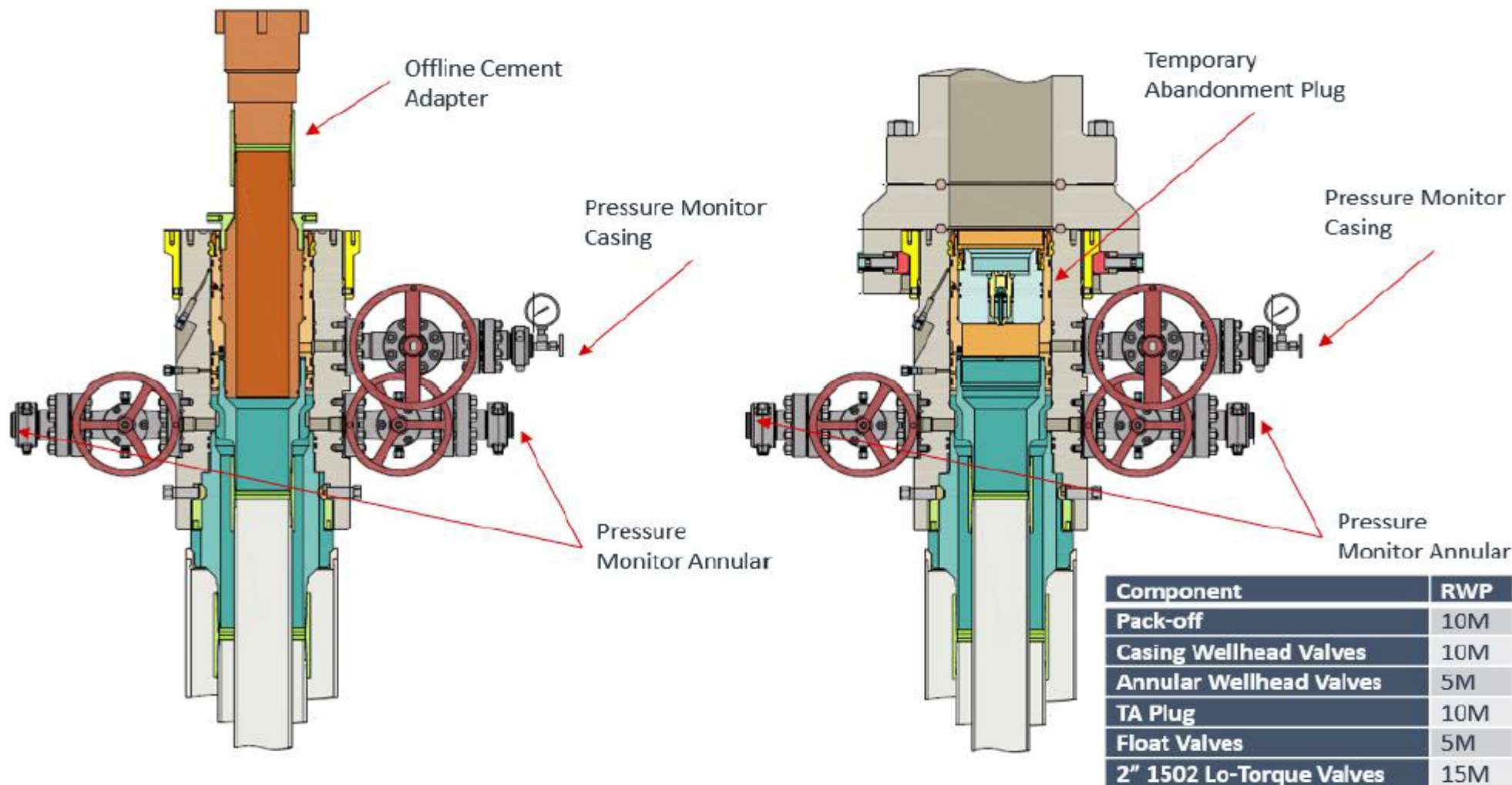
Offline Surface + Intermediate Cement

Figure 1: Cameron TA Plug and Offline Adapter Schematic



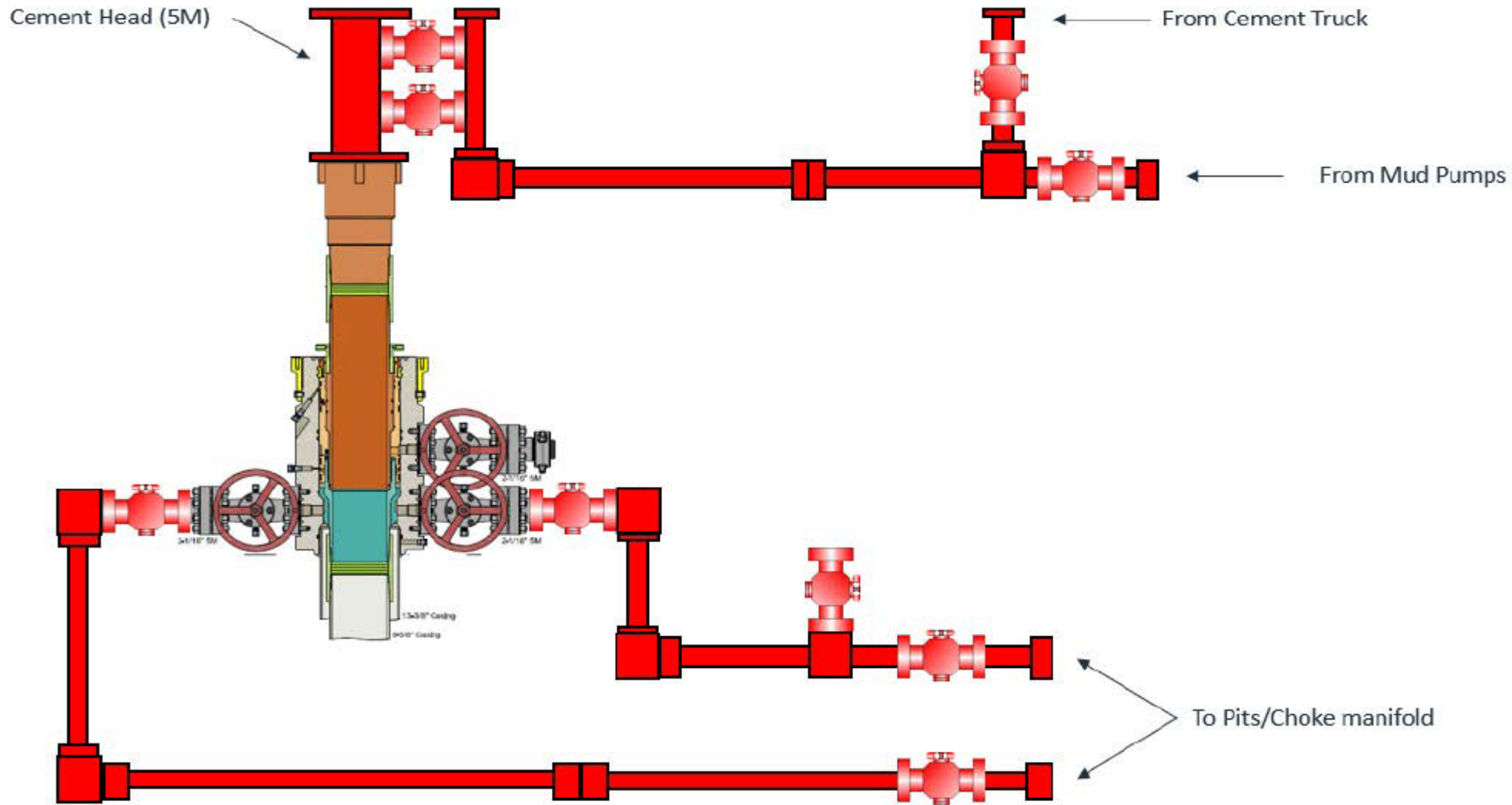
Offline Surface + Intermediate Cement

Figure 2: Cactus TA Plug and Offline Adapter Schematic



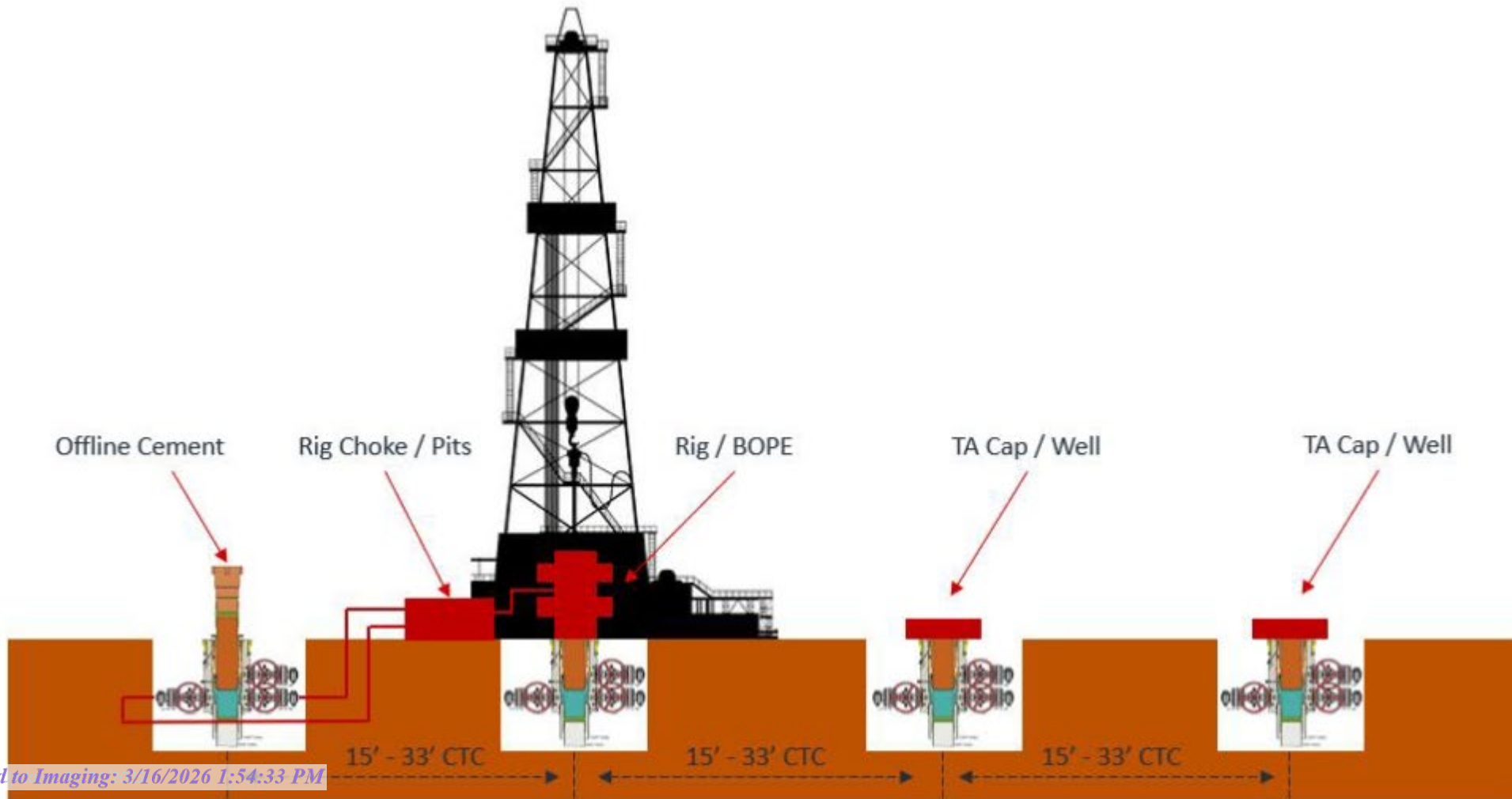
Offline Surface + Intermediate Cement

Figure 3: Back Yard Rig Up



Offline Surface + Intermediate Cement

Figure 4: Rig Placement Diagram





Intermediate Bradenhead Cement Variance

Intermediate Bradenhead Cement

Deep Target Intermediate Bradenhead:

EOG requests variance from minimum standards to pump a two stage cement job on the intermediate casing string **when set below the Delaware Mountain Group** with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon and the second stage bradenhead squeezed to be performed at a minimum of **50% of OH excess (typically increased to ~1,000 sacks)** with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of Class C/H cement + additives (2.30 yld, 12.91 ppg) will be executed as a contingency. Top of cement will be verified by Echo-meter.

EOG will include the Echo-meter verified fluid top and the volume of displacement fluid above the cement slurry in the annulus in all post-drill sundries on wells utilizing this cement program.

EOG will report to the BLM the volume of fluid (limited to 5 bbls) used to flush intermediate casing valves following backside cementing procedures.



Wolfcamp Intermediate Casing Setpoint

Intermediate Bradenhead Cement

EOG Resources Inc. (EOG) requests a variance to set the intermediate casing shoe in the Bone Spring formation OR the Wolfcamp formation, depending on depletion in the area and well conditions. EOG will monitor the well and ensure the well is static before casing operations begin.



Offline Production Cement Variance

EOG Offline Production Checklist

Offline Checklist

All items below must be met. If not, the production cement will be done online.

1. Offline production cement jobs **are applicable for the Base of the Wolfcamp or shallower.**
2. Nothing out of the ordinary observed during drilling, tripping, or casing running operations in the Production Hole Section.
3. Casing must be landed with Hanger.
4. EOG Company Man and Superintendent with Well Control certification must be present to monitor returns.
5. EOG Cement Advisor must be present to oversee the Cement Job.
6. Rig Manager is responsible for walking the rig to the next well.
7. The BOP will NOT be nipped down if:
 - a) ANY barrier fails to test.
 - b) ANY offset frac operations are observed within 1 mile and within the same producing horizon.
8. After all barriers test and the BLM has been notified, the BOP may be nipped down to proceed with offline operations.
9. EOG will not Drill out of the next well until Cement Operations have concluded on the offline well.

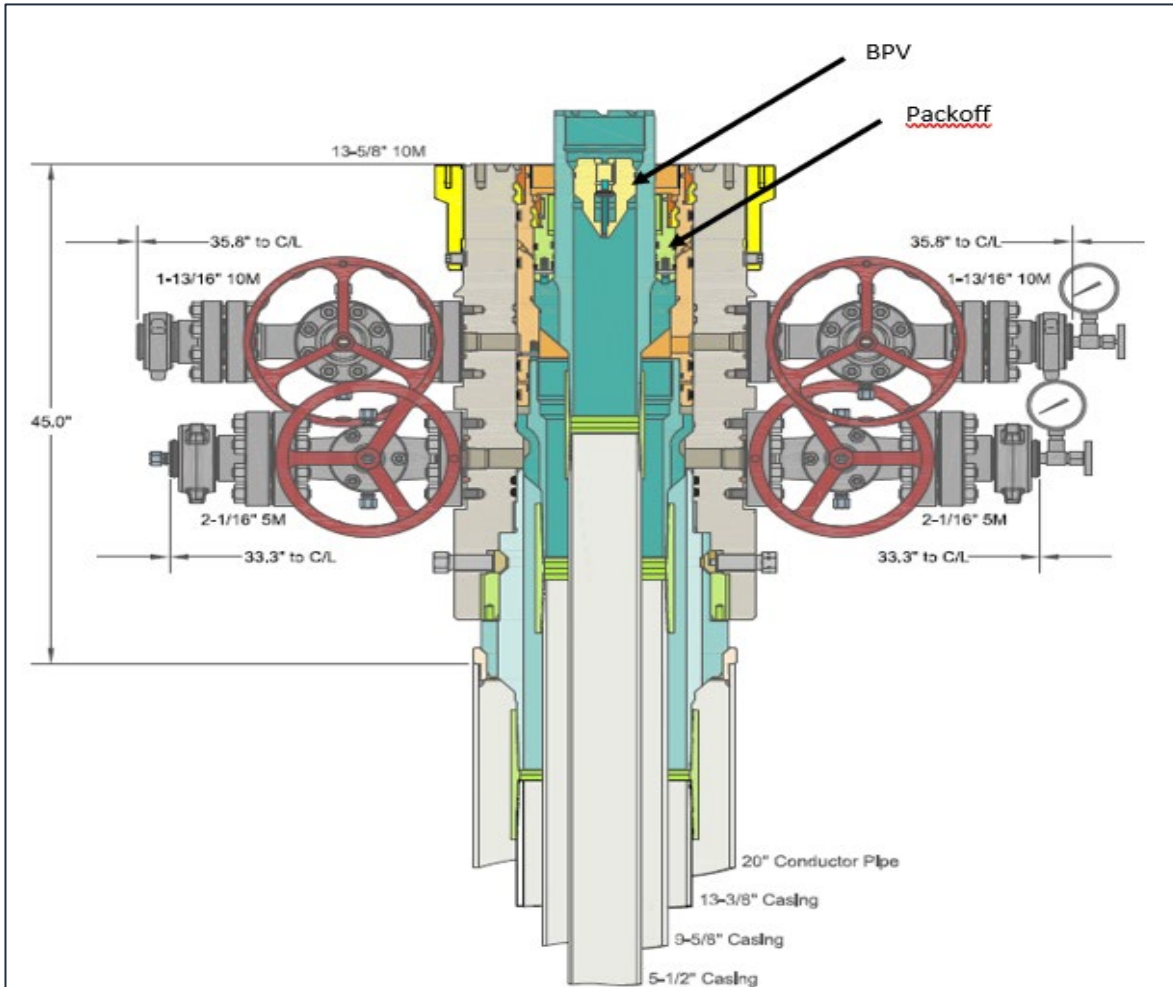
Offline Procedure

1. Run casing as per normal operations. Review EOG Offline Requirements Checklist, if the well is a candidate for Offline Cement on the Production continue following this procedure. Conduct negative pressure test while running casing and confirm integrity of the float equipment back pressure valves.
 - a. Float equipment is equipped with two back pressure valves rated to 15,000 psi.
2. Land production casing on mandrel hanger.
 - a. **If casing is unable to be landed with a mandrel hanger, then the casing will be cemented online.**
 - b. If utilizing a fluted/ported mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid, remove landing joint, and set annular packoff rated to 10,000 psi. Pressure test same to 10,000 psi.
 - c. If utilizing a solid mandrel hanger, ensure well is static on the annulus and inside the casing by filling the pipe with kill weight fluid. Pressure test seals to 10,000 psi. Remove landing joint.
3. Install back pressure valve in the casing for a 3rd casing barrier.
 - a. Back pressure valve rated to a minimum of 10,000 psi.
4. With the well Secured and BLM notified; Nipple down BOP and secure on hydraulic carrier or cradle and Skid/Walk rig to next well on pad.
 - a. **Note, if any of the barriers fail to test, the BOP stack will not be nipped down until after the cement job has concluded.**
 - b. **Note, EOG Company Man and Cement Advisor will oversee Cementing Operations while Rig Manager walks the rig and nipples up the BOP.**
 - c. **Note, EOG will not drill out of the subsequent well until after plug bump.**
5. Install 10M Gate Valve, with Wellhead Adapter.
 - a. This creates an additional barrier on the annulus and inside the casing.
 - b. Gate valve rated to a minimum of 10,000 psi.
6. Test connection between Wellhead Adapter seals against hanger neck and ring gasket to 10,000 psi.
7. Remove backpressure valve from the casing.
8. Rig up cement head and cementing lines.
9. After rig up of cement head and cement lines, and confirmation of the annular barriers and casing barriers, notify the BLM with intent to proceed offline cementing.
10. Perform cement job.
11. *Note* – Procedure continued on the next page.

Offline Procedure

12. If an influx is noted during the Cement Job:
 - a. It is the Company Man and Superintendent's responsibility to maintain well control.
 - b. The aux manifold will be redirected to the rig's chokes.
 - c. Backpressure will be held on the well with the chokes to ensure well control is maintained through the remainder of the cement job while circulating out the influx.
 - d. If annular surface pressure approaches 90% tested pressure of the manifold or if circulating the influx out with the cementing pumps is not feasible, the well can be secured by closing the casing valves (10M).
 - e. Once cement is in place, we will close the casing valves and confirm the well is static and floats are holding.
 - f. If the floats fail, the gate valve (10M) or cement head (10M) can be closed to secure the well.
13. Confirm well is static and floats are holding after cement job.
14. Remove cement head.
15. Install back pressure valve.
16. Remove 10M Gate Valve and Wellhead Adapter.
17. Install night cap with pressure gauge for monitoring.
18. Test night cap to 5,000 psi.

Offline Barrier Overview



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| | | | |
|--|--|------------------------------|------------|
| CACTUS WELLHEAD LLC | | EOG RESOURCES PERMIAN | |
| 13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL-DBLO-SF Wellhead System | | DRAWN | DLE |
| And 13-3/8", 9-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers | | APPRV | 28AUG19 |
| | | DRAWING NO. | SDT-2297-2 |

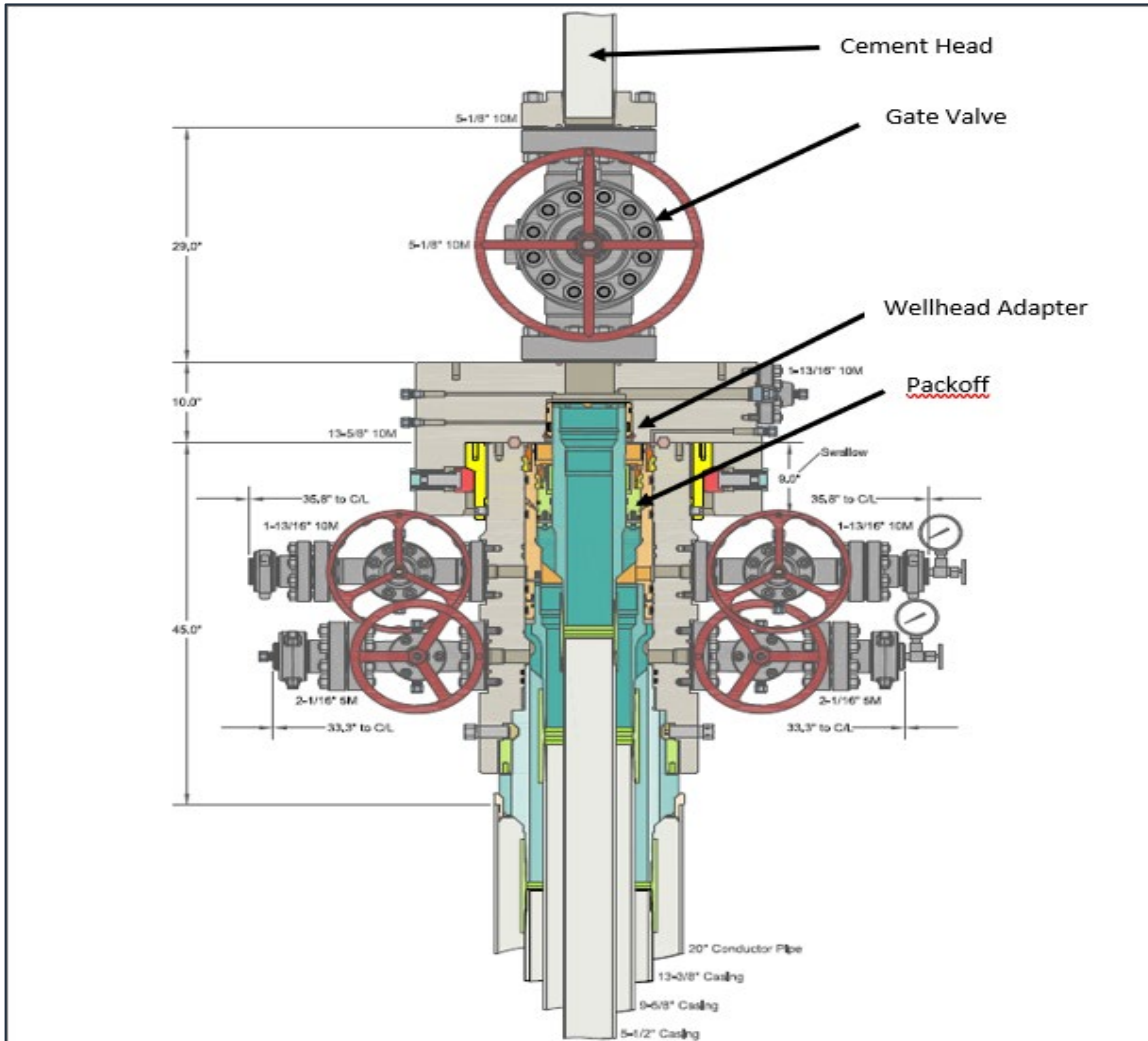
Barriers in Place during removal of BOP

| Operation | Casing | Annulus |
|------------------|---|---|
| Nipling Down BOP | 1. BPV 2. Hydrostatic Barrier 3. Float Valves | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff |

Barriers in Place during Offline Cementing of Production Casing

| Operation | Casing | Annulus |
|-----------------------|--|--|
| Pull BPV | 1. Hydrostatic Barrier 2. Float Valves 3. 10M Gate Valve | 1. Hydrostatic Barrier 2. Mechanical Packoff 3. 10M Wellhead Adapter |
| Install Cement Head | 1. Hydrostatic Barrier 2. Float Valves 3. 10M Gate Valve | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff 3. 10M Wellhead Adapter |
| Cement Job | 1. Hydrostatic Barrier 2. Float Valves 3. 10M Gate Valve 4. Cement Head | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff 3. 10M Wellhead Adapter |
| Remove Cement Head | 1. Float Valves 2. 10M Gate Valve | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff 3. 10M Wellhead Adapter |
| Install BPV | 1. Float Valves 2. 10M Gate Valve | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff 3. 10M Wellhead Adapter |
| Remove 10M Gate Valve | 1. Float Valves 2. BPV | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff |
| Nipple Up TA Cap | 1. Float Valves 2. BPV | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff |

Offline Barrier Overview



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| | | | |
|--|--|------------------------------|-------------|
| CACTUS WELLHEAD LLC | | EOG RESOURCES PERMIAN | |
| 13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL-DBLO-SF Wellhead System | | DRAWN | DLE 28AUG19 |
| Offline Cement Package | | APPRV | |
| And 13-3/8", 9-5/8" & 5-1/2" Pin Bottom Mandrel Casing Hangers | | DRAWING NO. | SDT-2297-3 |

Barriers in Place during removal of BOP

| Operation | Casing | Annulus |
|------------------|---|---|
| Nipling Down BOP | 1. BPV 2. Hydrostatic Barrier 3. Float Valves | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff |

Barriers in Place during Offline Cementing of Production Casing

| Operation | Casing | Annulus |
|-----------------------|--|--|
| Pull BPV | 1. Hydrostatic Barrier 2. Float Valves 3. 10M Gate Valve | 1. Hydrostatic Barrier 2. Mechanical Packoff 3. 10M Wellhead Adapter |
| Install Cement Head | 1. Hydrostatic Barrier 2. Float Valves 3. 10M Gate Valve | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff 3. 10M Wellhead Adapter |
| Cement Job | 1. Hydrostatic Barrier 2. Float Valves 3. 10M Gate Valve 4. Cement Head | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff 3. 10M Wellhead Adapter |
| Remove Cement Head | 1. Float Valves 2. 10M Gate Valve | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff 3. 10M Wellhead Adapter |
| Install BPV | 1. Float Valves 2. 10M Gate Valve | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff 3. 10M Wellhead Adapter |
| Remove 10M Gate Valve | 1. Float Valves 2. BPV | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff |
| Nipple Up TA Cap | 1. Float Valves 2. BPV | 1. Hydrostatic Barrier 2. Mechanical 10M Packoff |

More Control: Meeting/Exceeding Barrier Requirements

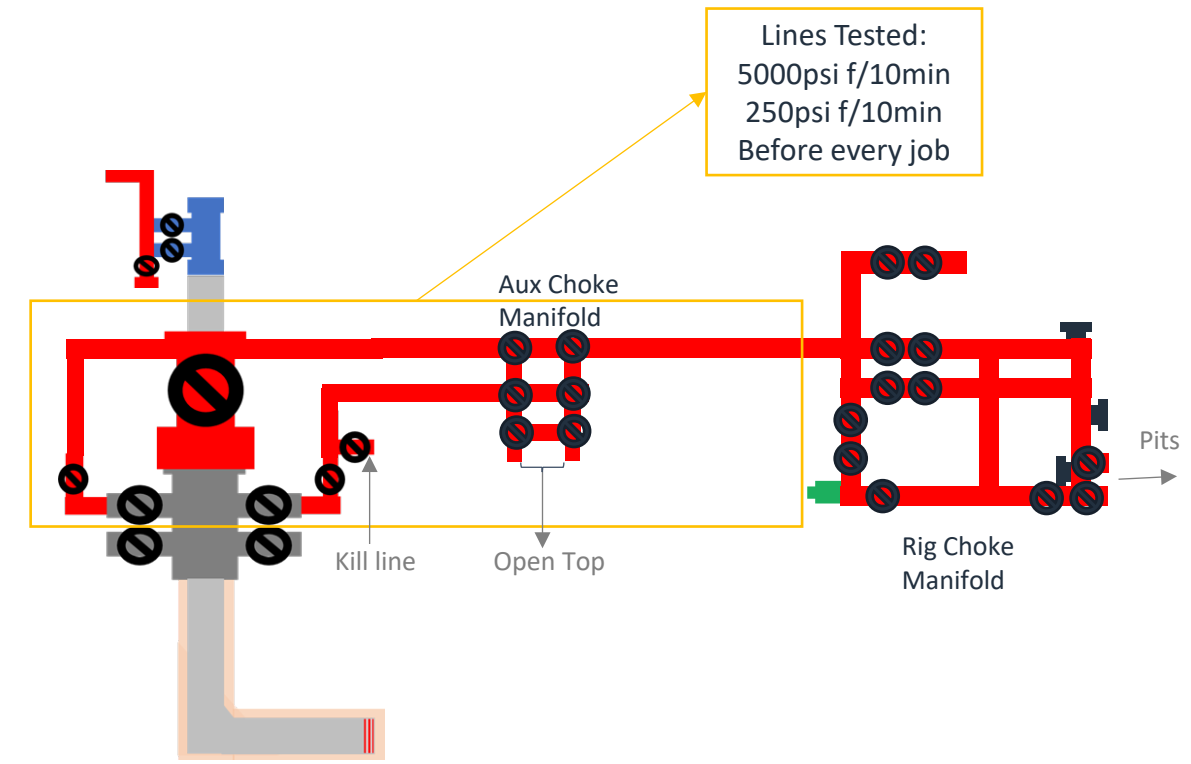
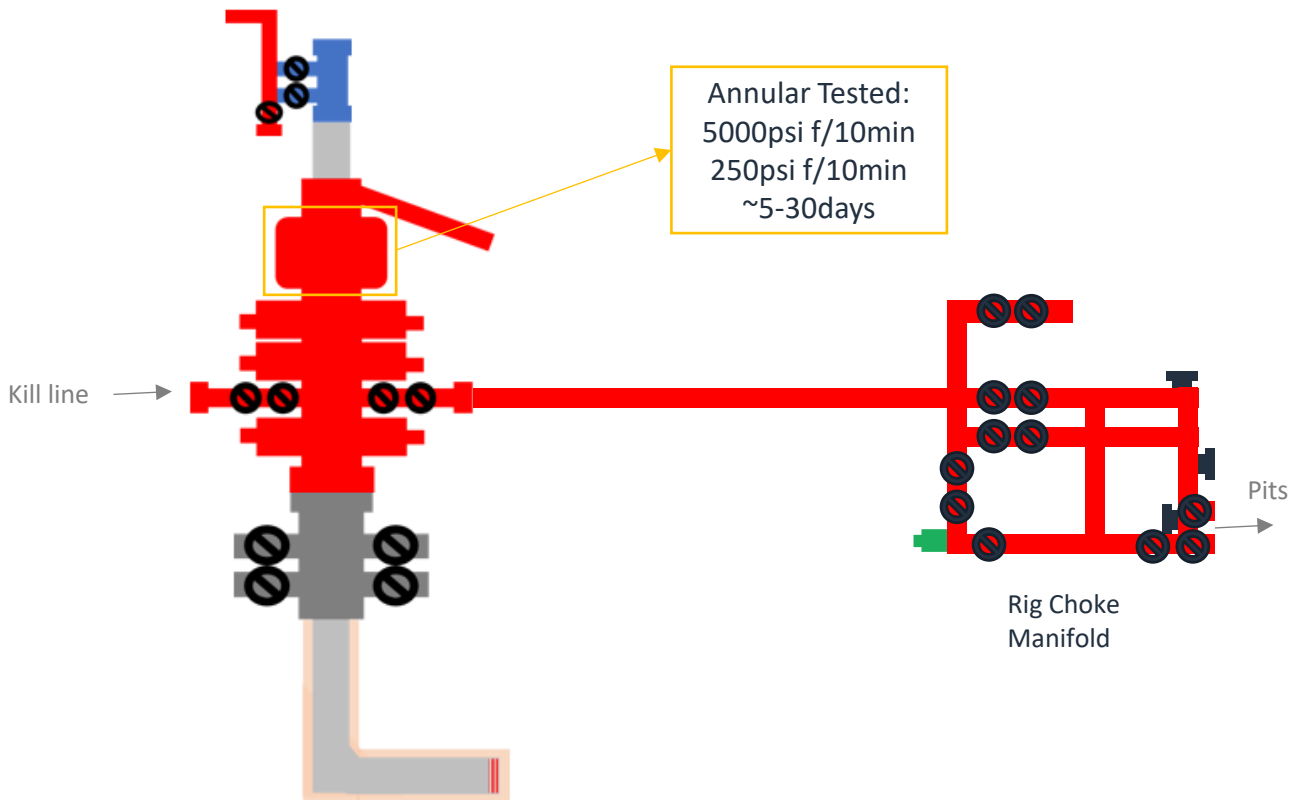
| Casing Barriers – Online vs Offline | | |
|---|---|--|
| Operation | Online | Offline |
| Install Cement Head | 1. Hydrostatic Barrier 2. Float Valves | 1. Hydrostatic Barrier 2. Float Valves 3. 10M Gate Valve |
| Cement Job | 1. Hydrostatic Barrier 2. Float Valves 3. Cement Head | 1. Hydrostatic Barrier 2. Float Valves 3. 10M Gate Valve 4. Cement Head |
| Remove Cement Head | 1. Float Valves | 1. Float Valves 2. 10M Gate Valve |
| Install BPV & Nipple Down BOP / Offline Adapter | 1. Float Valves | 1. Float Valves 2. BPV |
| Nipple Up TA Cap | 1. Float Valves | 1. Float Valves 2. BPV |

| Annulus Barriers – Online vs Offline | | |
|---|--|---|
| Operation | Online | Offline |
| Install Cement Head | 1. Hydrostatic Barrier 2. Annular 3. VBR | 1. Hydrostatic Barrier 2. Mechanical Pack-off 3. 10M Wellhead Adapter |
| Cement Job | 1. Hydrostatic Barrier 2. Annular 3. VBR | 1. Hydrostatic Barrier 2. Mechanical Pack-off 3. 10M Wellhead Adapter |
| Remove Cement Head | 1. Hydrostatic Barrier 2. Annular 3. VBR | 1. Hydrostatic Barrier 2. Mechanical Pack-off 3. 10M Wellhead Adapter |
| Install BPV & Nipple Down BOP / Offline Adapter | 1. Hydrostatic barrier 2. Mechanical Pack-off | 1. Hydrostatic Barrier 2. Mechanical Pack-off |
| Nipple Up TA Cap | 1. Hydrostatic barrier 2. Mechanical Pack-off | 1. Hydrostatic Barrier 2. Mechanical Pack-off |

Return Rig Up Diagram

Online

Offline



Note:

- 1) Have the Rig's same Well Control Capabilities as Online
- 2) Have more flexibility with Gate Valve than with a Landing Joint through BOP
- 3) Never had to circulate out a kick during Offline



Production Bradenhead Cement Variance

Production Bradenhead Cement

Shallow Target Production Offline Bradenhead:

EOG Resources Inc. (EOG) respectfully requests a variance from the minimum standards to allow for offline bradenhead cementing of the production string after primary cementing operations have been completed. The primary cement job will be pumped conventionally (online) to top of the Brushy Canyon and will cover the target production intervals, and after production pack-off is set and tested, bradenhead will be pumped through casing valves between the production and intermediate casings (offline). For the bradenhead stage of production cementing, the barriers remain the same for offline cementing compared to performing it online.

The bradenhead will be the primary option for production cementing. EOG also requests to have the conventional option in place to accommodate for logistical or wellbore conditions. The tie back requirements will be met if the cement is pumped conventionally, and cement volumes will be adjusted accordingly. TOC will be verified by CBL.



Salt Section Annular Clearance

Current Design (Salt Strings)

0.422" Annular clearance requirement

- Casing collars shall have a minimum clearance of 0.422 inches on all sides in the hole/casing annulus, with recognition that variances can be granted for justified exceptions.

- 12.25" Hole x 9.625" 40# J55/HCK55 LTC Casing
 - 1.3125" Clearance to casing OD
 - 0.8125" Clearance to coupling OD
- 9.875" Hole x 8.75" 38.5# P110 Sprint-SF Casing
 - 0.5625" Clearance to casing OD
 - 0.433" Clearance to coupling OD

Annular Clearance Variance Request

EOG request permission to allow deviation from the 0.422” annulus clearance requirement for the intermediate (salt) section from Onshore Order #2 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues

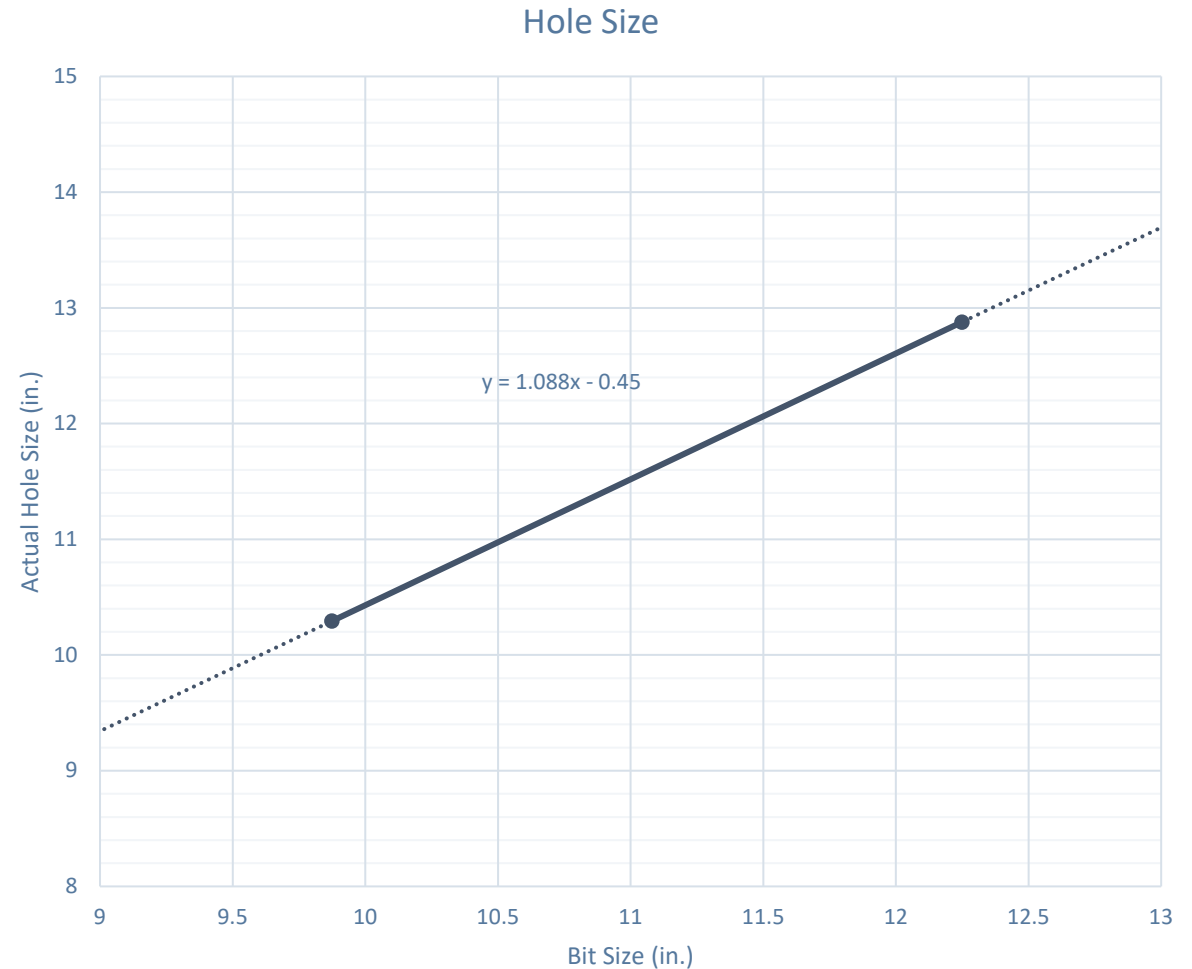
Volumetric Hole Size Calculation

Hole Size Calculations Off Cement Volumes

- Known volume of cement pumped
- Known volume of cement returned to surface
- Must not have had any losses
- Must have bumped plug

Average Hole Size

- 12.25" Hole
 - 12.88" Hole
 - 5.13% diameter increase
 - 10.52% area increase
 - 0.63" Average enlargement
 - 0.58" Median enlargement
 - 179 Well Count
- 9.875" Hole
 - 10.30" Hole
 - 4.24% diameter increase
 - 9.64% area increase
 - 0.42" Average enlargement
 - 0.46" Median enlargement
 - 11 Well Count

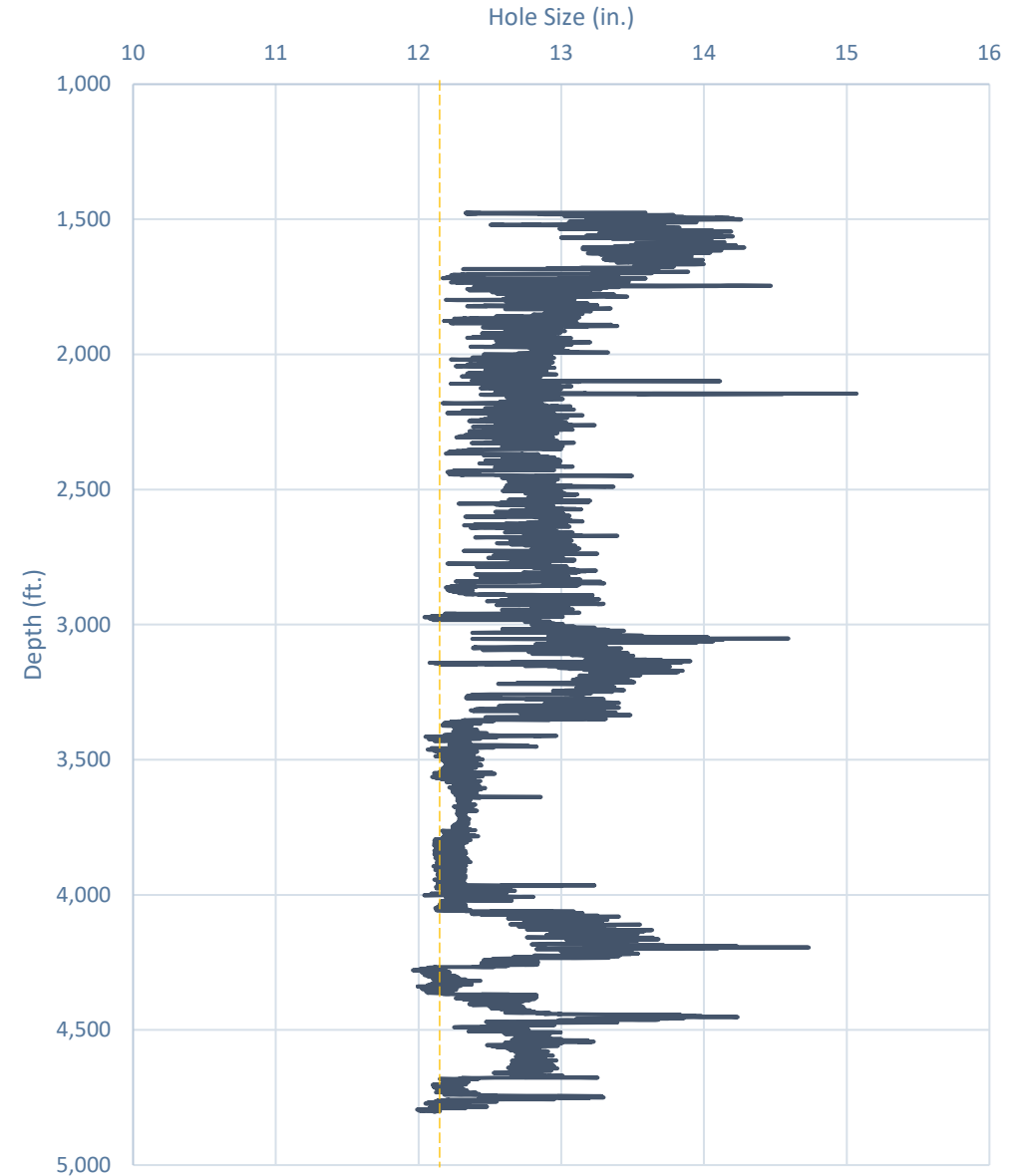


Caliper Hole Size (12.25")

Average Hole Size

- 12.25" Bit
 - 12.76" Hole
 - 4.14% diameter increase
 - 8.44% area increase
 - 0.51" Average enlargement
 - 0.52" Median enlargement
 - Brine

Modelo 10 Fed Com #501H

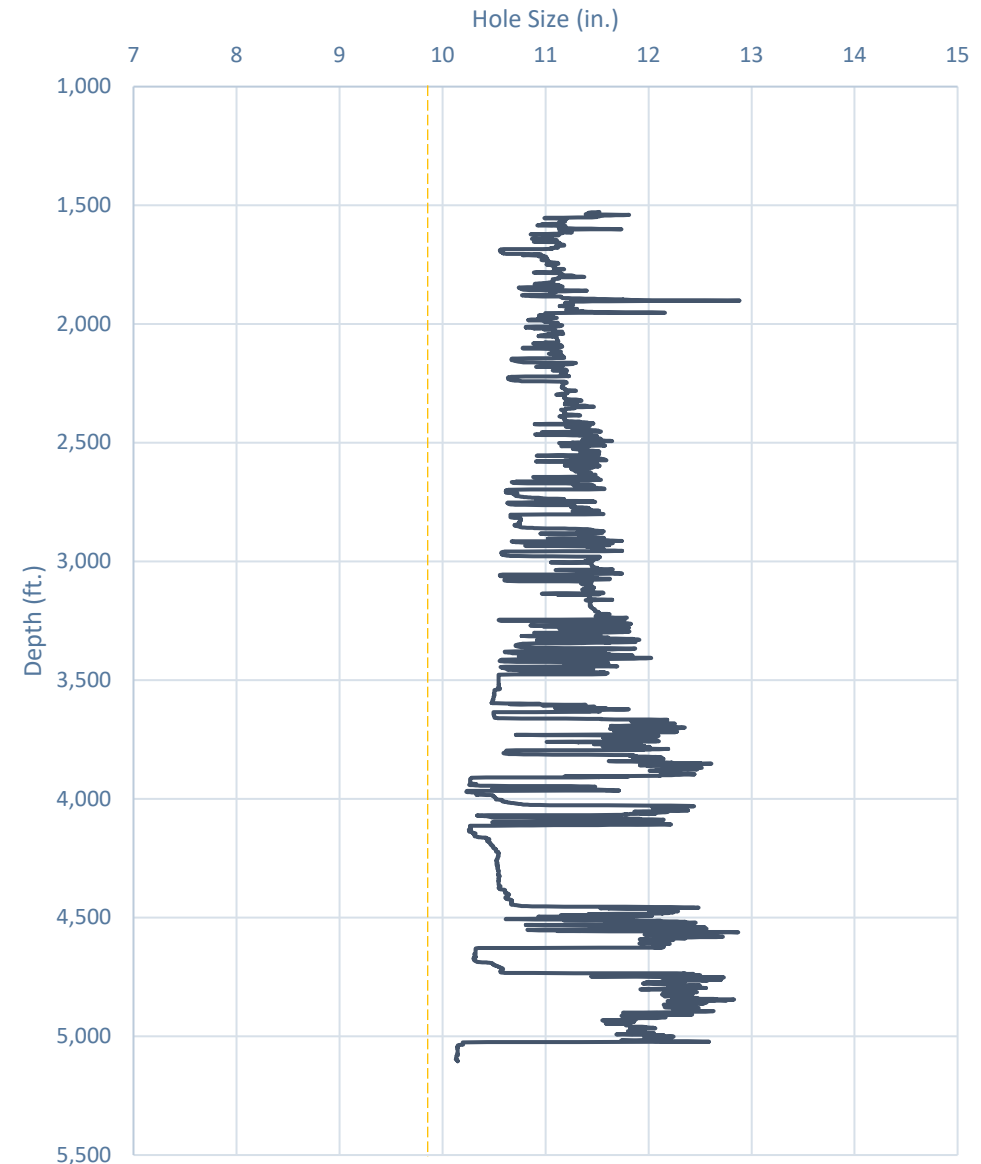


Caliper Hole Size (9.875")

Average Hole Size

- 9.875" Hole
 - 11.21" Hole
 - 13.54% diameter increase
 - 28.92% area increase
 - 1.33" Average enlargement
 - 1.30" Median enlargement
 - EnerLite

Whirling Wind 11 Fed Com #744H



Design A

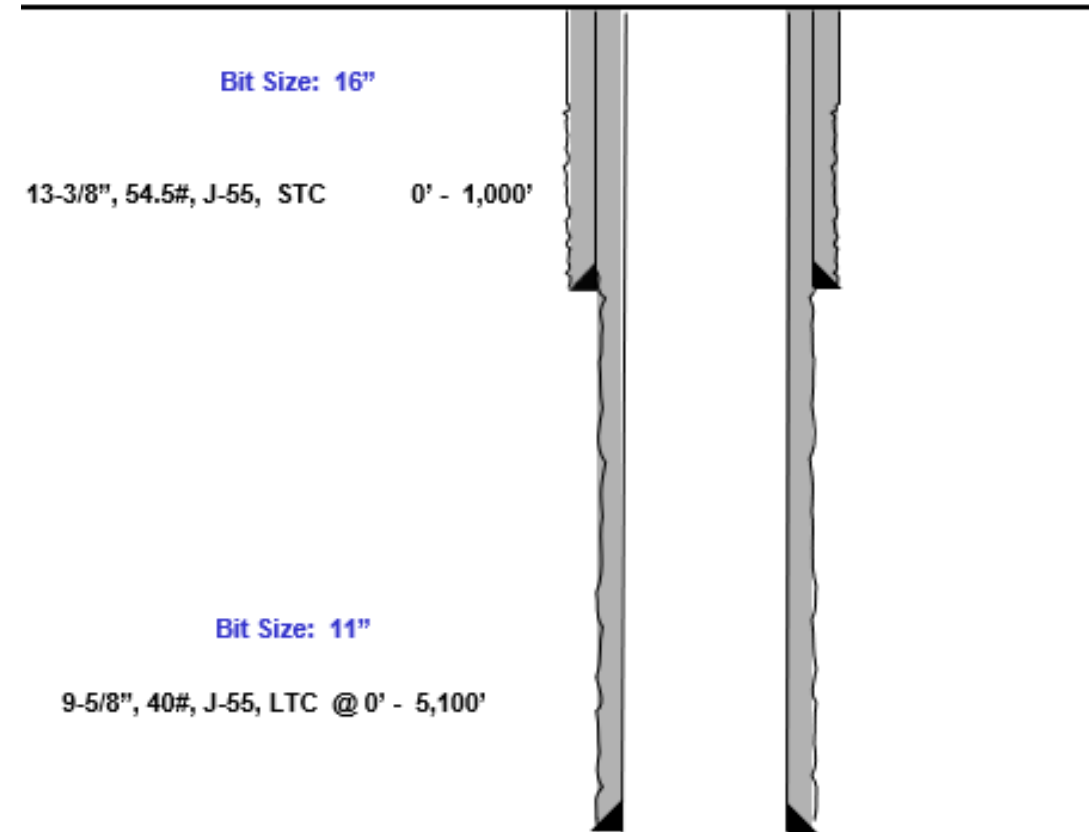
Proposed 11" Hole with 9.625" 40# J55/HCK55 LTC Casing

- 11" Bit + 0.52" Average hole enlargement = 11.52" Hole Size
 - 0.9475" Clearance to casing OD

$$= \frac{11.52 - 9.625}{2}$$
 - 0.4475" Clearance to coupling OD

$$= \frac{11.52 - 10.625}{2}$$
- Previous Shoe – 13.375" 54.5# J55 STC
 - 0.995" Clearance to coupling OD (~1,200' overlap)

$$= \frac{12.615 - 10.625}{2}$$



Design B

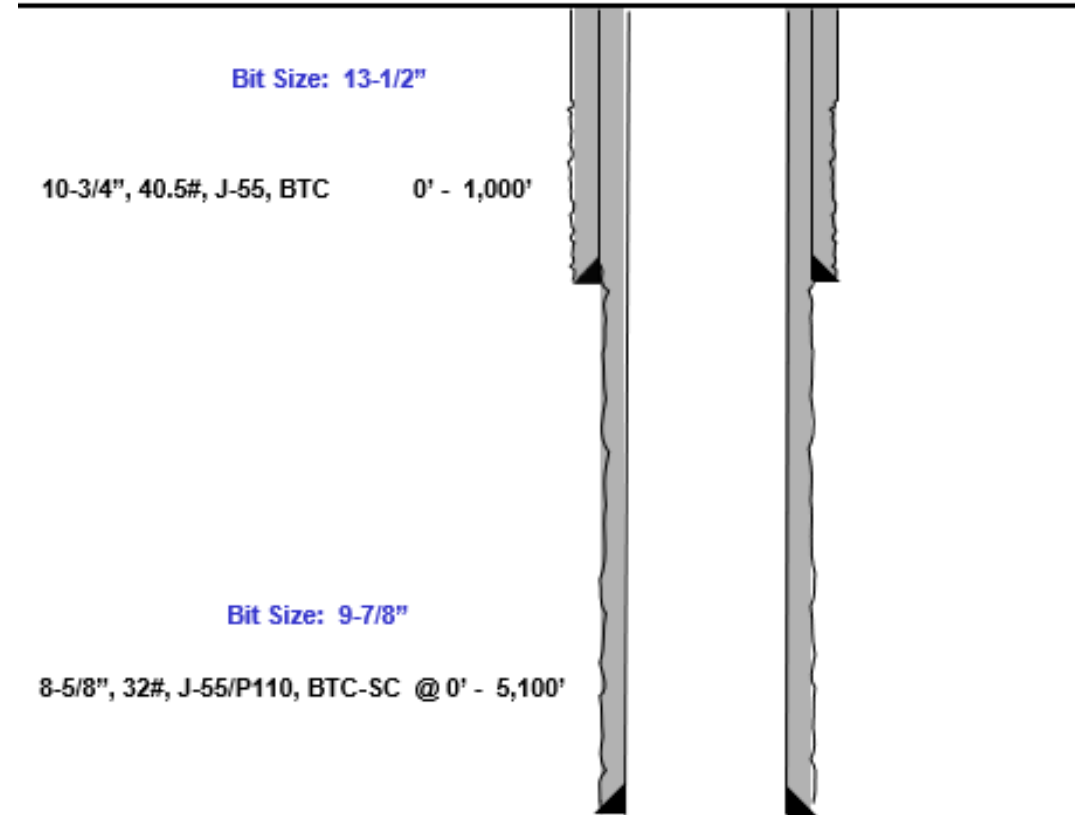
Proposed 9.875" Hole with 8.625" 32# J55/P110 BTC-SC Casing

- 9.875" Bit + 0.42" Average hole enlargement = 10.295" Hole Size
 - 0.835" Clearance to casing OD

$$= \frac{10.295 - 8.625}{2}$$
 - 0.585" Clearance to coupling OD

$$= \frac{10.295 - 9.125}{2}$$
- Previous Shoe – 10.75" 40.5# J55 STC
 - 0.4625" Clearance to coupling OD (~1,200' overlap)

$$= \frac{10.05 - 9.125}{2}$$





Index



Casing Spec Sheets

Pipe Body and API Connections Performance Data

10.750 40.50/0.350 J55

PDF

New Search »

« Back to Previous List

USC Metric

6/8/2015 10:14:05 AM

| Mechanical Properties | Pipe | BTC | LTC | STC | |
|----------------------------------|--------|--------|-----|--------|----------|
| Minimum Yield Strength | 55,000 | -- | -- | -- | psi |
| Maximum Yield Strength | 80,000 | -- | -- | -- | psi |
| Minimum Tensile Strength | 75,000 | -- | -- | -- | psi |
| Dimensions | Pipe | BTC | LTC | STC | |
| Outside Diameter | 10.750 | 11.750 | -- | 11.750 | in. |
| Wall Thickness | 0.350 | -- | -- | -- | in. |
| Inside Diameter | 10.050 | 10.050 | -- | 10.050 | in. |
| Standard Drift | 9.894 | 9.894 | -- | 9.894 | in. |
| Alternate Drift | -- | -- | -- | -- | in. |
| Nominal Linear Weight, T&C | 40.50 | -- | -- | -- | lbs/ft |
| Plain End Weight | 38.91 | -- | -- | -- | lbs/ft |
| Performance | Pipe | BTC | LTC | STC | |
| Minimum Collapse Pressure | 1,580 | 1,580 | -- | 1,580 | psi |
| Minimum Internal Yield Pressure | 3,130 | 3,130 | -- | 3,130 | psi |
| Minimum Pipe Body Yield Strength | 629.00 | -- | -- | -- | 1000 lbs |
| Joint Strength | -- | 700 | -- | 420 | 1000 lbs |
| Reference Length | -- | 11,522 | -- | 6,915 | ft |
| Make-Up Data | Pipe | BTC | LTC | STC | |
| Make-Up Loss | -- | 4.81 | -- | 3.50 | in. |
| Minimum Make-Up Torque | -- | -- | -- | 3,150 | ft-lbs |
| Maximum Make-Up Torque | -- | -- | -- | 5,250 | ft-lbs |



API 5CT, 10th Ed. Connection Data Sheet

| O.D. (in) | WEIGHT (lb/ft) | WALL (in) | GRADE | *API DRIFT (in) | RBW % |
|-----------|------------------------------------|-----------|-------|-----------------|-------|
| 8.625 | Nominal: 32.00 Plain End: 31.13 | 0.352 | J55 | 7.796 | 87.5 |

Material Properties (PE)

| Pipe | |
|---------------------------|--------|
| Minimum Yield Strength: | 55 ksi |
| Maximum Yield Strength: | 80 ksi |
| Minimum Tensile Strength: | 75 ksi |
| Coupling | |
| Minimum Yield Strength: | 55 ksi |
| Maximum Yield Strength: | 80 ksi |
| Minimum Tensile Strength: | 75 ksi |

Pipe Body Data (PE)

| Geometry | |
|--|-----------------------|
| Nominal ID: | 7.92 inch |
| Nominal Area: | 9.149 in ² |
| *Special/Alt. Drift: | 7.875 inch |
| Performance | |
| Pipe Body Yield Strength: | 503 kips |
| Collapse Resistance: | 2,530 psi |
| Internal Yield Pressure: (API Historical) | 3,930 psi |

API Connection Data

Coupling OD: 9.625"

STC Performance

| | |
|------------------------|-----------|
| STC Internal Pressure: | 3,930 psi |
| STC Joint Strength: | 372 kips |

LTC Performance

| | |
|------------------------|-----------|
| LTC Internal Pressure: | 3,930 psi |
| LTC Joint Strength: | 417 kips |

SC-BTC Performance - Cplg OD = 9.125"

| | |
|------------------------|-----------|
| BTC Internal Pressure: | 3,930 psi |
| BTC Joint Strength: | 503 kips |

API Connection Torque

STC Torque (ft-lbs)

| | | | | | |
|------|-------|-------|-------|------|-------|
| Min: | 2,793 | Opti: | 3,724 | Max: | 4,655 |
|------|-------|-------|-------|------|-------|

LTC Torque (ft-lbs)

| | | | | | |
|------|-------|-------|-------|------|-------|
| Min: | 3,130 | Opti: | 4,174 | Max: | 5,217 |
|------|-------|-------|-------|------|-------|

BTC Torque (ft-lbs)

follow API guidelines regarding positional make up

*Alt. Drift will be used unless API Drift is specified on order.

**If above API connections do not suit your needs, VAM® premium connections are available up to 100% of pipe body ratings.

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Rev 3, 7/30/2021

10/21/2022 15:24



10,000 PSI BOP Annular Variance Request (EOG Variance 1c)

EOG Resources request a variance to use a 5000 psi annular BOP with a 10,000 psi BOP stack. The component and compatibility tables along with the general well control plans demonstrate how the 5000 psi annular BOP will be protected from pressures that exceed its rated working pressure (RWP). The pressure at which the control of the wellbore is transferred from the annular preventer to another available preventer will not exceed 3500 psi (70% of the RWP of the 5000 psi annular BOP).

1. Component and Preventer Compatibility Tables

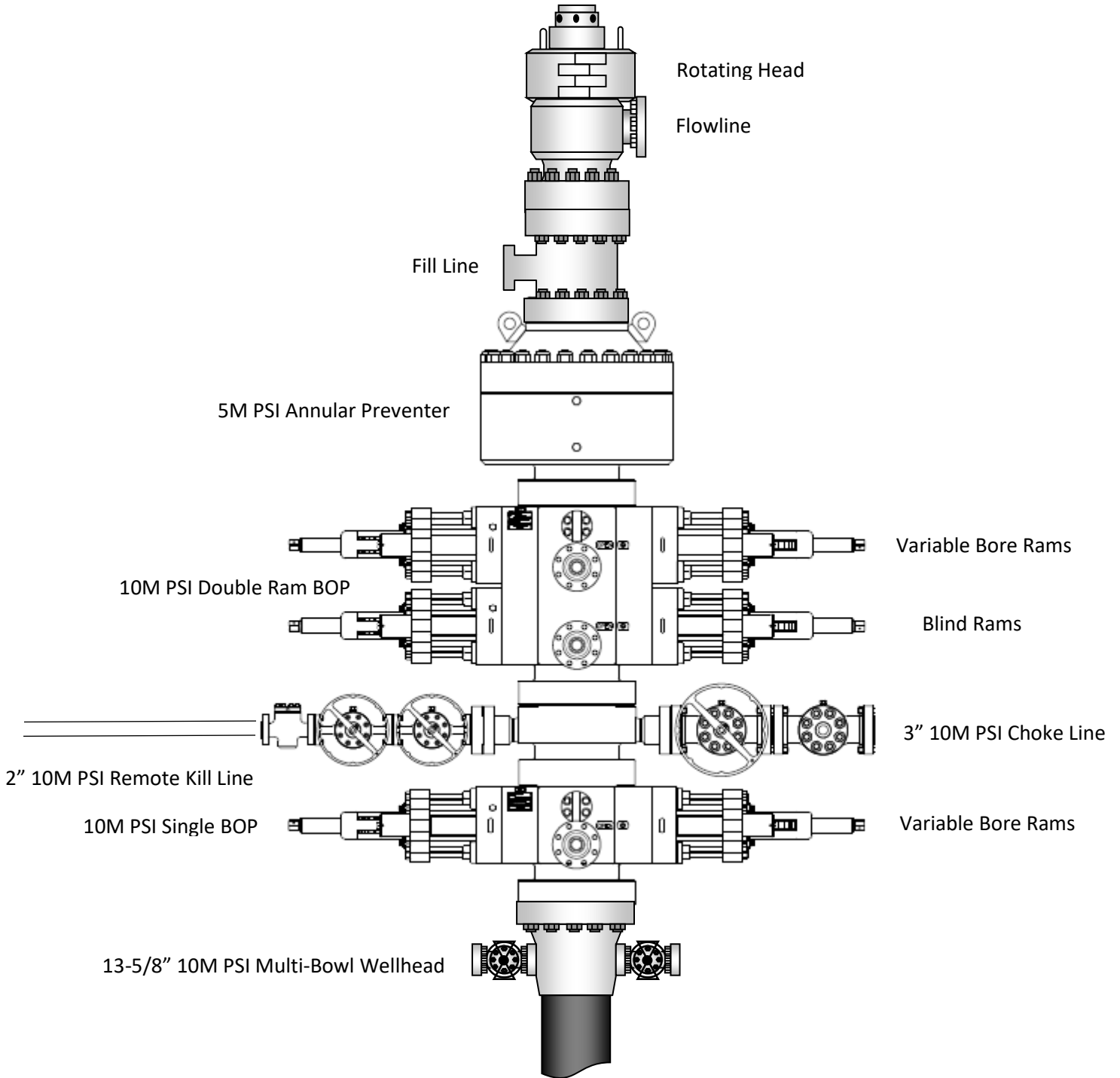
The tables below outlines the tubulars and the compatible preventers in use. This table, combined with the drilling fluid, documents that two barriers to flow will be maintained at all times.

| 12-1/4" Intermediate Hole Section | | | | | |
|--|---------------------|-------------------|-----|--|------------|
| 10M psi requirement | | | | | |
| Component | OD | Primary Preventer | RWP | Alternate Preventer(s) | RWP |
| Drillpipe | 5.000" or 4.500" | Annular | 5M | Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR | 10M 10M |
| HWDP | 5.000" or 4.500" | Annular | 5M | Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR | 10M 10M |
| Jars | 6.500" | Annular | 5M | Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR | 10M 10M |
| DCs and MWD tools | 6.500" – 8.000" | Annular | 5M | - | - |
| Mud Motor | 8.000" – 9.625" | Annular | 5M | - | - |
| 1 st Intermediate casing | 9.625" | Annular | 5M | - | - |
| Open-hole | - | Blind Rams | 10M | - | - |

| 8-3/4" Production Hole Section | | | | | |
|---------------------------------------|---------------------|-------------------|-----|--|------------|
| 10M psi requirement | | | | | |
| Component | OD | Primary Preventer | RWP | Alternate Preventer(s) | RWP |
| Drillpipe | 5.000" or 4.500" | Annular | 5M | Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR | 10M 10M |
| HWDP | 5.000" or 4.500" | Annular | 5M | Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR | 10M 10M |
| Jars | 6.500" | Annular | 5M | Upper 3.5 - 5.5" VBR Lower 3.5 - 5.5" VBR | 10M 10M |
| DCs and MWD tools | 6.500" – 8.000" | Annular | 5M | - | - |
| Mud Motor | 6.750" – 8.000" | Annular | 5M | - | - |
| 2 nd Intermediate casing | 7.625" | Annular | 5M | - | - |
| Open-hole | - | Blind Rams | 10M | - | - |

VBR = Variable Bore Ram

EOG Resources 13-5/8" 10M PSI BOP Stack



2. Well Control Procedures

Below are the minimal high-level tasks prescribed to assure a proper shut-in while drilling, tripping, running casing, pipe out of the hole (open hole), and moving the BHA through the BOPs. At least one well control drill will be performed weekly per crew to demonstrate compliance with the procedure and well control plan. The well control drill will be recorded in the daily drilling log. The type of drill will be determined by the ongoing operations, but reasonable attempts will be made to vary the type of drill conducted (pit, trip, open hole, choke, etc.). This well control plan will be available for review by rig personnel in the EOG Resources drilling supervisor's office on location, and on the rig floor. All BOP equipment will be tested as per Onshore O&G Order No. 2 with the exception of the 5000 psi annular which will be tested to 100% of its RWP.

General Procedure While Drilling

1. Sound alarm (alert crew)
2. Space out drill string
3. Shut down pumps (stop pumps and rotary)
4. Shut-in Well (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP and SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Tripping

1. Sound alarm (alert crew)
2. Stab full opening safety valve and close
3. Space out drill string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP and SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure While Running Production Casing

1. Sound alarm (alert crew)
2. Stab crossover and full opening safety valve and close
3. Space out string
4. Shut-in (uppermost applicable BOP, typically annular preventer first. HCR and choke will already be in the closed position.)
5. Confirm shut-in
6. Notify toolpusher/company representative
7. Read and record the following:
 - a. SIDPP and SICP
 - b. Pit gain
 - c. Time
8. Regroup and identify forward plan
9. If pressure has built or is anticipated during the kill to reach 70% or greater of the RWP of the annular preventer, confirm spacing and close the upper variable bore rams.

General Procedure With No Pipe In Hole (Open Hole)

1. Sound alarm (alert crew)
2. Shut-in with blind rams. (HCR and choke will already be in the closed position.)
3. Confirm shut-in
4. Notify toolpusher/company representative
5. Read and record the following:
 - a. SICP
 - b. Pit gain
 - c. Time
6. Regroup and identify forward plan

General Procedures While Pulling BHA thru Stack

1. PRIOR to pulling last joint of drillpipe thru the stack.
 - a. Perform flowcheck, if flowing:
 - b. Sound alarm (alert crew)
 - c. Stab full opening safety valve and close
 - d. Space out drill string with tool joint just beneath the upper variable bore rams.
 - e. Shut-in using upper variable bore rams. (HCR and choke will already be in the closed position.)
 - f. Confirm shut-in
 - g. Notify toolpusher/company representative
 - h. Read and record the following:
 - i. SIDPP and SICP
 - ii. Pit gain
 - iii. Time
 - i. Regroup and identify forward plan

2. With BHA in the stack and compatible ram preventer and pipe combo immediately available.
 - a. Sound alarm (alert crew)
 - b. Stab crossover and full opening safety valve and close
 - c. Space out drill string with upset just beneath the upper variable bore rams.
 - d. Shut-in using upper variable bore rams. (HCR and choke will already be in the closed position.)
 - e. Confirm shut-in
 - f. Notify toolpusher/company representative
 - g. Read and record the following:
 - i. SIDPP and SICP
 - ii. Pit gain
 - iii. Time
 - h. Regroup and identify forward plan

3. With BHA in the stack and NO compatible ram preventer and pipe combo immediately available.
 - a. Sound alarm (alert crew)
 - b. If possible to pick up high enough, pull string clear of the stack and follow "Open Hole" scenario.
 - c. If impossible to pick up high enough to pull the string clear of the stack:
 - d. Stab crossover, make up one joint/stand of drillpipe, and full opening safety valve and close
 - e. Space out drill string with tooljoint just beneath the upper variable bore ram.
 - f. Shut-in using upper variable bore ram. (HCR and choke will already be in the closed position.)
 - g. Confirm shut-in
 - h. Notify toolpusher/company representative
 - i. Read and record the following:
 - i. SIDPP and SICP
 - ii. Pit gain
 - iii. Time
 - j. Regroup and identify forward plan



EOG BLANKET CASING DESIGN VARIANCE

EOG respectfully requests the drill plans in the attached document 'EOG BLM Variance 5a - Alternate Shallow Casing Designs' be added to the COA's for this well. These designs have been approved by the BLM down to the TVDs listed below and will allow EOG to run alternate casing designs for this well if necessary.

The designs and associated details listed are the "worst case scenario" boundaries for design safety factors. Location and lithology have NOT been accounted for in these designs. The specific well details will be based on the APD/Sundry package and the information listed in the COA.

The mud program will not change from the original design for this well. Summary of the mud programs for both shallow and deep targets are listed at the end of this document. If the target is changing, a sundry will be filed to update the casing design and mud/cement programs.

Cement volumes listed in this document are for reference only. The cement volumes for the specific well will be adjusted to ensure cement tops meet BLM requirements as listed in the COA and to allow bradenhead cementing when applicable.

This blanket document only applies to wells with three string designs outside of Potash and Capitan Reef boundaries.

| Shallow Design Boundary Conditions | | | | |
|---|-----------------|------------------|---------------|---------------------|
| | Deepest MD (ft) | Deepest TVD (ft) | Max Inc (deg) | Max DLS (°/100usft) |
| Surface | 2030 | 2030 | 0 | 0 |
| Intermediate | 7793 | 5650 | 40 | 8 |
| Production | 28578 | 12000 | 90 | 25 |



Shallow Design A

4. CASING PROGRAM

| Hole Size | Interval MD | | Interval TVD | | Csg OD | Weight | Grade | Conn |
|-----------|-------------|---------|--------------|---------|---------|--------|---------|-------------|
| | From (ft) | To (ft) | From (ft) | To (ft) | | | | |
| 16" | 0 | 2,161 | 0 | 2,030 | 13-3/8" | 54.5# | J-55 | STC |
| 11" | 0 | 7,951 | 0 | 5,650 | 9-5/8" | 40# | J-55 | LTC |
| 6-3/4" | 0 | 29,353 | 0 | 12,000 | 5-1/2" | 20# | P110-EC | DWC/C IS MS |

Hole will be full during casing run for well control and tensile SF factor. Casing will be kept at least half full during run for this design to meet BLM collapse SF requirement. External pressure will be reviewed prior to conducting casing pressure tests to ensure that 70% of the yield is not exceeded.

Variance is requested to waive the centralizer requirements for the 9-5/8" casing in the 11" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 11" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 5-1/2" casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Title 43 CFR Part 3170 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

5. CEMENTING PROGRAM:

| Depth | No. Sacks | Wt. ppg | Yld Ft3/sk | Slurry Description |
|-------------------|-----------|---------|------------|---|
| 2,030' 13-3/8" | 570 | 13.5 | 1.73 | Lead: Class C/H + 4.0% Bentonite Gel + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface) |
| | 160 | 14.8 | 1.34 | Tail: Class C/H + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 1830') |
| 8,050' 9-5/8" | 760 | 12.7 | 2.22 | Lead: Class C/H + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface) |
| | 250 | 14.8 | 1.32 | Tail: Class C/H + 10% NaCl + 3% MagOx (TOC @ 6360') |
| 29,353' 5-1/2" | 1000 | 14.8 | 1.32 | Bradenhead squeeze: Class C/H + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (TOC @ surface) |
| | 1480 | 13.2 | 1.52 | Tail: Class C/H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ Top of Brushy) |

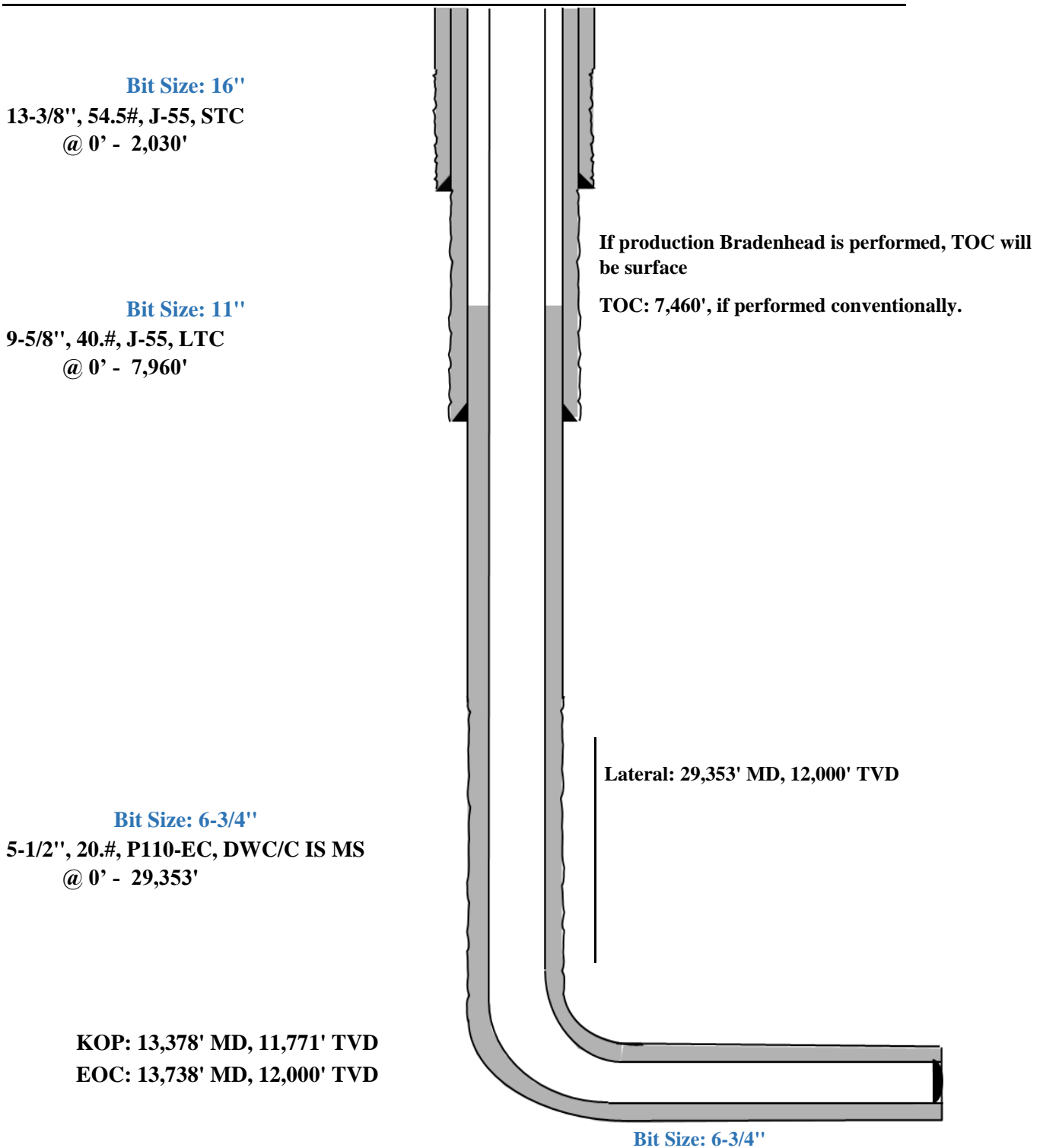


Shallow Design A

Proposed Wellbore

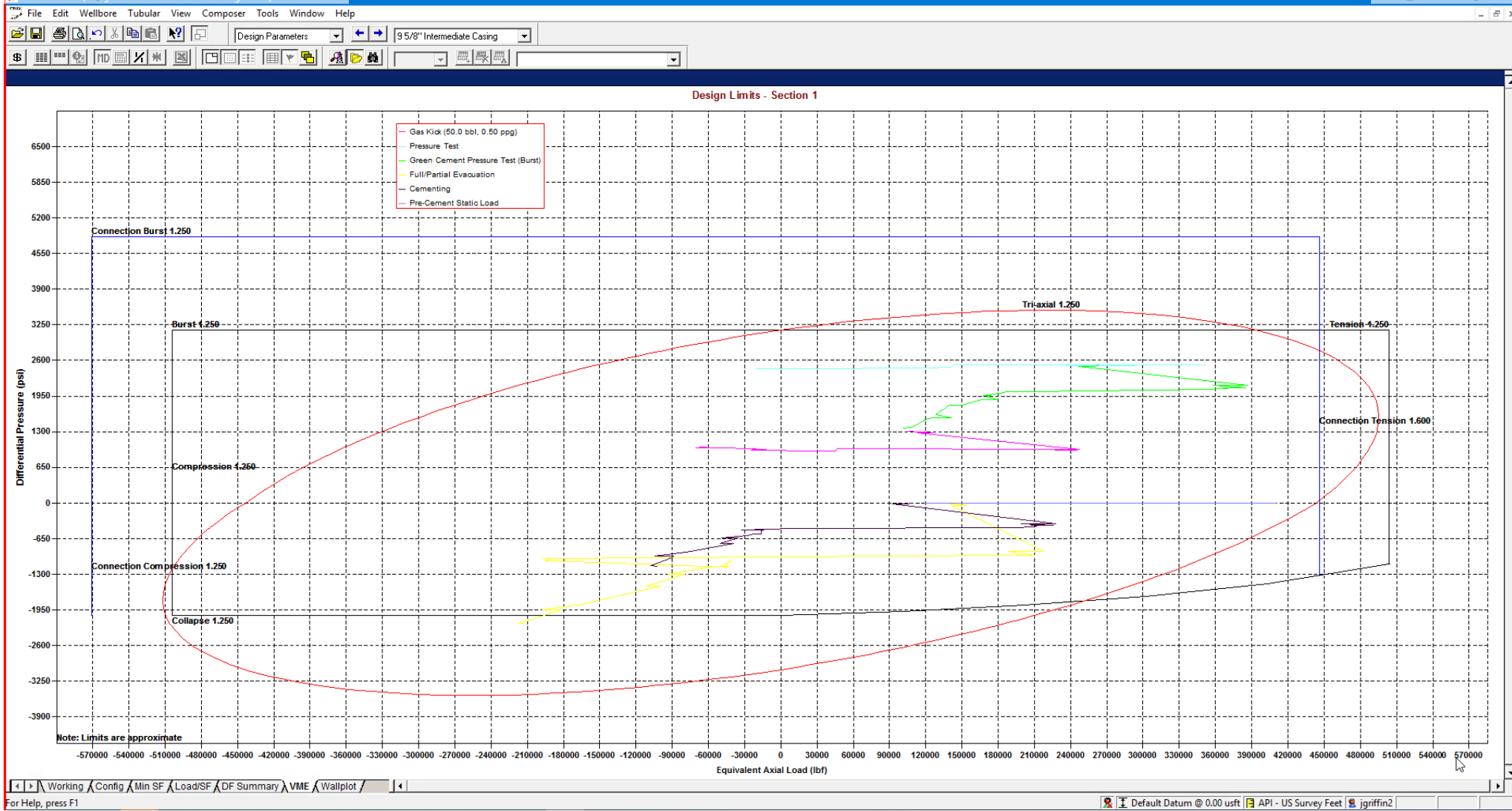
KB: 3558'

GL: 3533'



| Triaxial Results | Depth (MD) (usft) | Axial Force (lbf) | | Equivalent Axial Load (lbf) | Bending Stress at OD (psi) | Absolute Safety Factor | | | | Temperature (°F) | Pressure (psi) | | Add'l Pickup To Prevent Buck. (lbf) | Buckled Length (usft) |
|------------------|----------------------|-------------------------|-------------------------------|--------------------------------|-------------------------------|------------------------|-------|--------------|---------|---------------------|----------------|----------|--|--------------------------|
| | | Apparent (w/Bending) | Actual (w/o Bending) | | | Triaxial | Burst | Collapse (V) | Axial | | Internal | External | | |
| 1 | 0 | 252987 | 228954 | 253140 | 2098.2 | 1.69 | 1.58 | N/A | 2.82 F | 70.00 | 2500.00 | 0.00 | N/A | N/A |
| 2 | 100 | 247735 | 223702 | 248466 | 2098.2 | 1.69 | 1.58 | N/A | 2.88 F | 71.10 | 2543.63 | 43.63 | | |
| 3 | 100 | 234996 | 223701 | 235716 | 986.2 | 1.71 | 1.58 | N/A | 3.04 F | 71.10 | 2543.64 | 43.64 | | |
| 4 | 1700 | 341565 | 139667 | 352253 | 17627.2 | 1.53 | 1.57 | N/A | 2.09 F | 88.70 | 3241.64 | 741.64 | | |
| 5 | 1700 | 312979 | 139666 | 323488 | 15131.5 | 1.58 | 1.57 | N/A | 2.28 F | 88.70 | 3241.65 | 741.65 | | |
| 6 | 1850 | 336881 | 132027 | 348440 | 17885.2 | 1.51 | 1.57 | N/A | 2.12 F | 90.29 | 3305.05 | 805.05 | | |
| 7 | 1850 | 318549 | 132027 | 329984 | 16284.8 | 1.54 | 1.57 | N/A | 2.24 F | 90.29 | 3305.06 | 805.06 | | |
| 8 | 1950 | 320468 | 127243 | 332475 | 16869.9 | 1.52 | 1.57 | N/A | 2.23 F | 91.30 | 3344.87 | 844.87 | | |
| 9 | 1950 | 312802 | 127243 | 324756 | 16200.7 | 1.53 | 1.57 | N/A | 2.28 F | 91.30 | 3344.87 | 844.87 | | |
| 10 | 2050 | 307858 | 122773 | 320295 | 16159.3 | 1.52 | 1.57 | N/A | 2.32 F | 92.23 | 3381.89 | 881.89 | | |
| 11 | 2050 | 303560 | 122772 | 315965 | 15784.1 | 1.53 | 1.57 | N/A | 2.35 F | 92.23 | 3381.89 | 881.89 | | |
| 12 | 2300 | 151294 | 112633 | 163658 | 3375.4 | 1.71 | 1.57 | N/A | 4.72 F | 94.35 | 3466.13 | 966.13 | | |
| 13 | 2300 | 132741 | 112633 | 144956 | 1755.6 | 1.72 | 1.57 | N/A | 5.38 F | 94.35 | 3466.14 | 966.14 | | |
| 14 | 2370 | 129966 | 109858 | 142452 | 1755.6 | 1.72 | 1.57 | N/A | 5.49 F | 94.94 | 3489.28 | 989.28 | | |
| 15 | 2370 | 127909 | 107800 | 140922 | 1755.6 | 1.75 | 1.60 | N/A | 5.58 F | 94.94 | 3489.29 | 1036.40 | | |
| 16 | 2700 | 105515 | 94232 | 119785 | 985.1 | 1.75 | 1.60 | N/A | 6.77 F | 97.73 | 3599.97 | 1152.35 | | |
| 17 | 2700 | 111680 | 94231 | 126006 | 1523.4 | 1.75 | 1.60 | N/A | 6.39 F | 97.73 | 3599.97 | 1152.35 | | |
| 18 | 3100 | 110766 | 77783 | 126839 | 2879.6 | 1.71 | 1.60 | N/A | 6.44 F | 101.11 | 3734.23 | 1293.00 | | |
| 19 | 3100 | 97392 | 77783 | 113331 | 1712.1 | 1.73 | 1.60 | N/A | 7.33 F | 101.11 | 3734.23 | 1293.01 | | |
| 20 | 3700 | 71565 | 53303 | 89806 | 1594.4 | 1.70 | 1.61 | N/A | 9.97 F | 106.15 | 3934.24 | 1502.54 | | |
| 21 | 3700 | 60887 | 53302 | 79004 | 662.3 | 1.71 | 1.61 | N/A | 11.72 F | 106.16 | 3934.25 | 1502.55 | | |
| 22 | 4650 | 34671 | 14219 | 56495 | 1785.6 | 1.64 | 1.61 | N/A | 20.59 F | 114.20 | 4253.37 | 1836.86 | | |
| 23 | 4900 | 44595 | 4828 | 67626 | 3472.0 | 1.59 | 1.61 | N/A | 16.01 F | 116.32 | 4337.37 | 1924.87 | | |
| 24 | 4900 | 28975 | 4828 | 51775 | 2108.2 | 1.62 | 1.61 | N/A | 24.64 F | 116.32 | 4337.38 | 1924.87 | | |
| 25 | 5029 | 22103 | 34 | 45340 | 1926.8 | 1.61 | 1.61 | N/A | 32.30 F | 117.40 | 4380.40 | 1969.94 | | |
| 26 | 5029 | 22102 | 33 | 45339 | 1926.8 | 1.61 | 1.61 | N/A | 32.30 F | 117.40 | 4380.41 | 1969.95 | | |
| 27 | 5600 | -45329 | -21341 | -20805 | 2094.3 | 1.57 | 1.62 | N/A | (13.67) | 122.23 | 4572.11 | 2170.78 | | |
| 28 | 5650 | -40465 | -23210 | -15657 | 1506.5 | 1.58 | 1.62 | N/A | (15.31) | 122.66 | 4588.87 | 2188.34 | | |
| 29 | | | | | | | | | | | | | | |
| 30 | | F | Conn Fracture | | | | | | | | | | | |
| 31 | | () | Compression | | | | | | | | | | | |
| 32 | | (V) | Vector Collapse Safety Factor | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | |

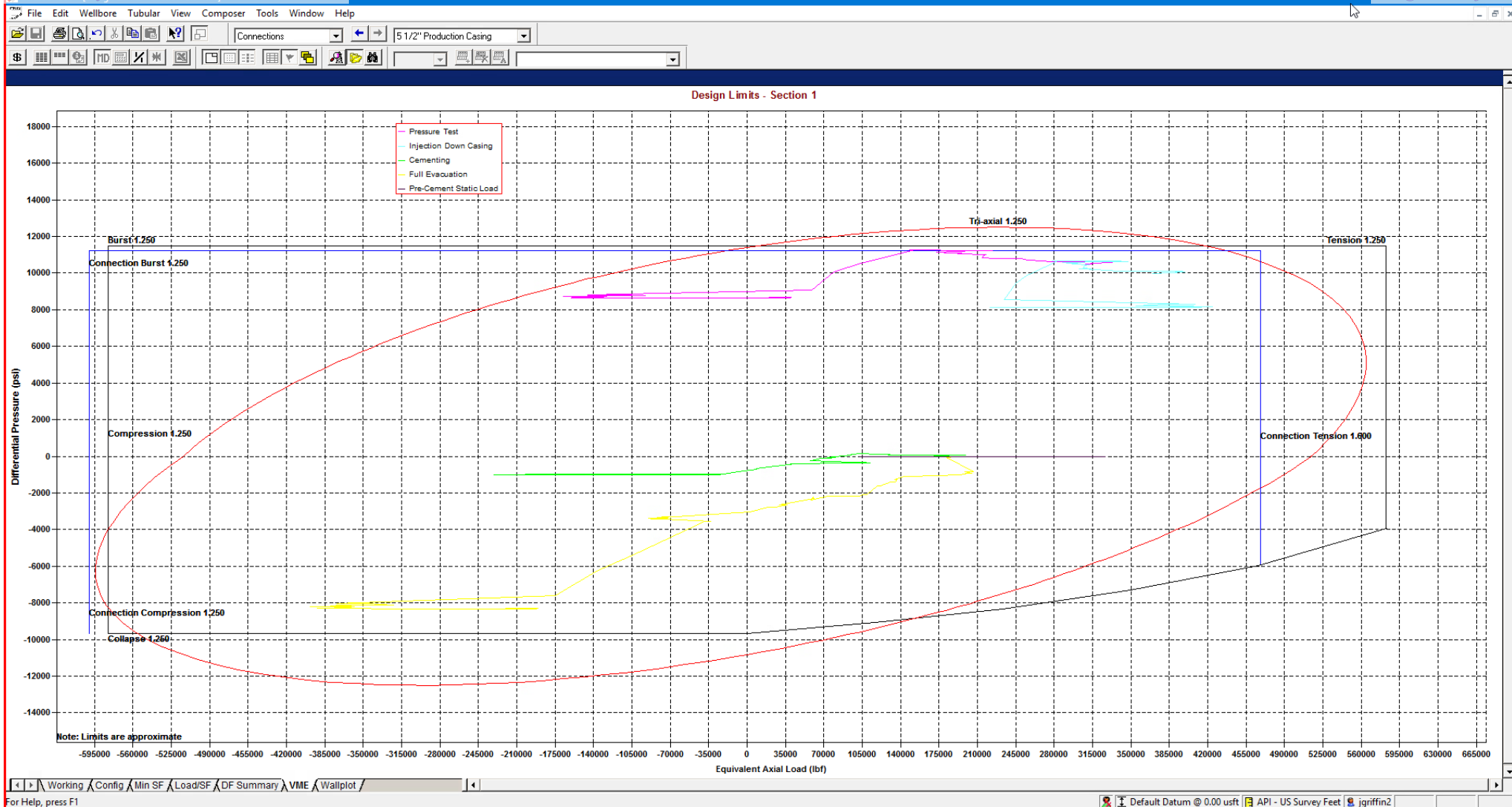
9-5/8" Intermediate Casing Pressure Test:
 Internal Profile based off Surface Pressure + Hydrostatic: 4589 psi
 External Profile based off Pore Pressure: 2188 psi



StressCheck - [String Summary - Shallow 3.0 Mile - Big Hole *]

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) |
|-------------------------------------|--------------------------|------------|--------------------|----------------|-----------------------------|--------------|--------|----------|------------------|
| | | | | | Burst | Collapse (V) | Axial | Triaxial | |
| 1 Intermediate Casing | 9 5/8", 40.000 ppf, J-55 | BTC, J-55 | 0.0-5650.0 | 8.750 A | 1.57 | 1.59 | 1.80 F | 1.35 | 98,141 |
| 2 | | | | | | | | | Total = 98,141 |
| 3 | | | | | | | | | |
| 4 F Conn Fracture | | | | | | | | | |
| 5 A Alternate Drift | | | | | | | | | |
| 6 (V) Vector Collapse Safety Factor | | | | | | | | | |
| 7 | | | | | | | | | |

*Modelling done with 9-5/8" 40# Intermediate Casing. Passes all Burst, Collapse and Tensile design criteria.



StressCheck - [String Summary - Shallow 3.0 Mile]

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) | |
|-----------------|-----------------------------------|------------------------------|--------------------|----------------|-----------------------------|--------------|-------|----------|------------------|---------|
| | | | | | Burst | Collapse (V) | Axial | Triaxial | | |
| 1 | Production Casing | 5 1/2", 20.000 ppf, P110 ICY | BTC, P110 ICY | 0.0-28578.0 | 4.653 | 1.27 | 1.47 | 1.90 F | 1.35 | 446,902 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | F Conn Fracture | | | | | | | | | |
| 5 | () Compression | | | | | | | | | |
| 6 | (V) Vector Collapse Safety Factor | | | | | | | | | |
| 7 | | | | | | | | | | |
| Total = 446,902 | | | | | | | | | | |

*Modelling done with 5-1/2" 20# Production Casing with a 125ksi Control Yield. Passes all Burst, Collapse and Tensile design criteria.



Shallow Design B

4. CASING PROGRAM

| Hole Size | Interval MD | | Interval TVD | | Csg OD | Weight | Grade | Conn |
|-----------|-------------|---------|--------------|---------|---------|--------|---------|-------------|
| | From (ft) | To (ft) | From (ft) | To (ft) | | | | |
| 13-1/2" | 0 | 2,161 | 0 | 2,030 | 10-3/4" | 40.5# | J-55 | STC |
| 9-7/8" | 0 | 7,951 | 0 | 5,650 | 8-5/8" | 32# | J-55 | BTC-SC |
| 6-3/4" | 0 | 29,353 | 0 | 12,000 | 5-1/2" | 20# | P110-EC | DWC/C IS MS |

Hole will be full during casing run for well control and tensile SF factor. Casing will be kept at least half full during run for this design to meet BLM collapse SF requirement. External pressure will be reviewed prior to conducting casing pressure tests to ensure that 70% of the yield is not exceeded.

Variance is requested to waive the centralizer requirements for the 8-5/8" casing in the 9-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 9-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 5-1/2" casing in the 6-3/4" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 6-3/4" hole interval to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Title 43 CFR Part 3170 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

5. CEMENTING PROGRAM:

| Depth | No. Sacks | Wt. ppg | Yld Ft3/sk | Slurry Description |
|-------------------|-----------|---------|------------|---|
| 2,030' 10-3/4" | 530 | 13.5 | 1.73 | Lead: Class C/H + 4.0% Bentonite Gel + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface) |
| | 140 | 14.8 | 1.34 | Tail: Class C/H + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 1830') |
| 8,050' 8-5/8" | 470 | 12.7 | 2.22 | Lead: Class C/H + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface) |
| | 210 | 14.8 | 1.32 | Tail: Class C/H + 10% NaCl + 3% MagOx (TOC @ 6360') |
| 29,353' 5-1/2" | 1000 | 14.8 | 1.32 | Bradenhead squeeze: Class C/H + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (TOC @ surface) |
| | 1480 | 13.2 | 1.52 | Tail: Class C/H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ Top of Brushy) |

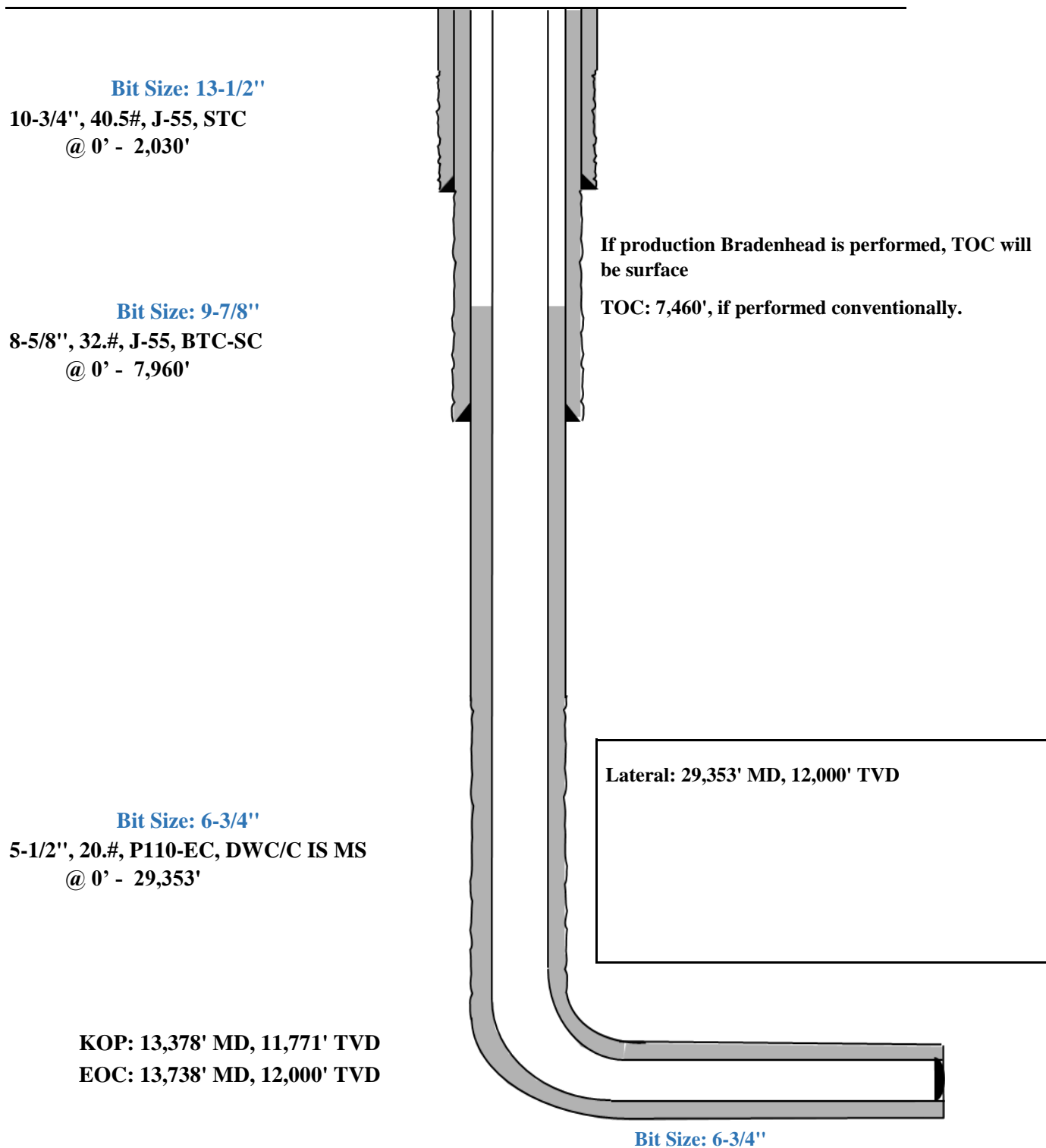


Shallow Casing Design B

Proposed Wellbore

KB: 3558'

GL: 3533'



If production Bradenhead is performed, TOC will be surface
TOC: 7,460', if performed conventionally.

Lateral: 29,353' MD, 12,000' TVD

Bit Size: 13-1/2"
10-3/4", 40.5#, J-55, STC
@ 0' - 2,030'

Bit Size: 9-7/8"
8-5/8", 32.#, J-55, BTC-SC
@ 0' - 7,960'

Bit Size: 6-3/4"
5-1/2", 20.#, P110-EC, DWC/C IS MS
@ 0' - 29,353'

KOP: 13,378' MD, 11,771' TVD
EOC: 13,738' MD, 12,000' TVD

Bit Size: 6-3/4"

StressCheck - [Triaxial Results - Shallow 3.0 Mile *]

Burst Design: 8 5/8" Intermediate Casing

Pressure Test

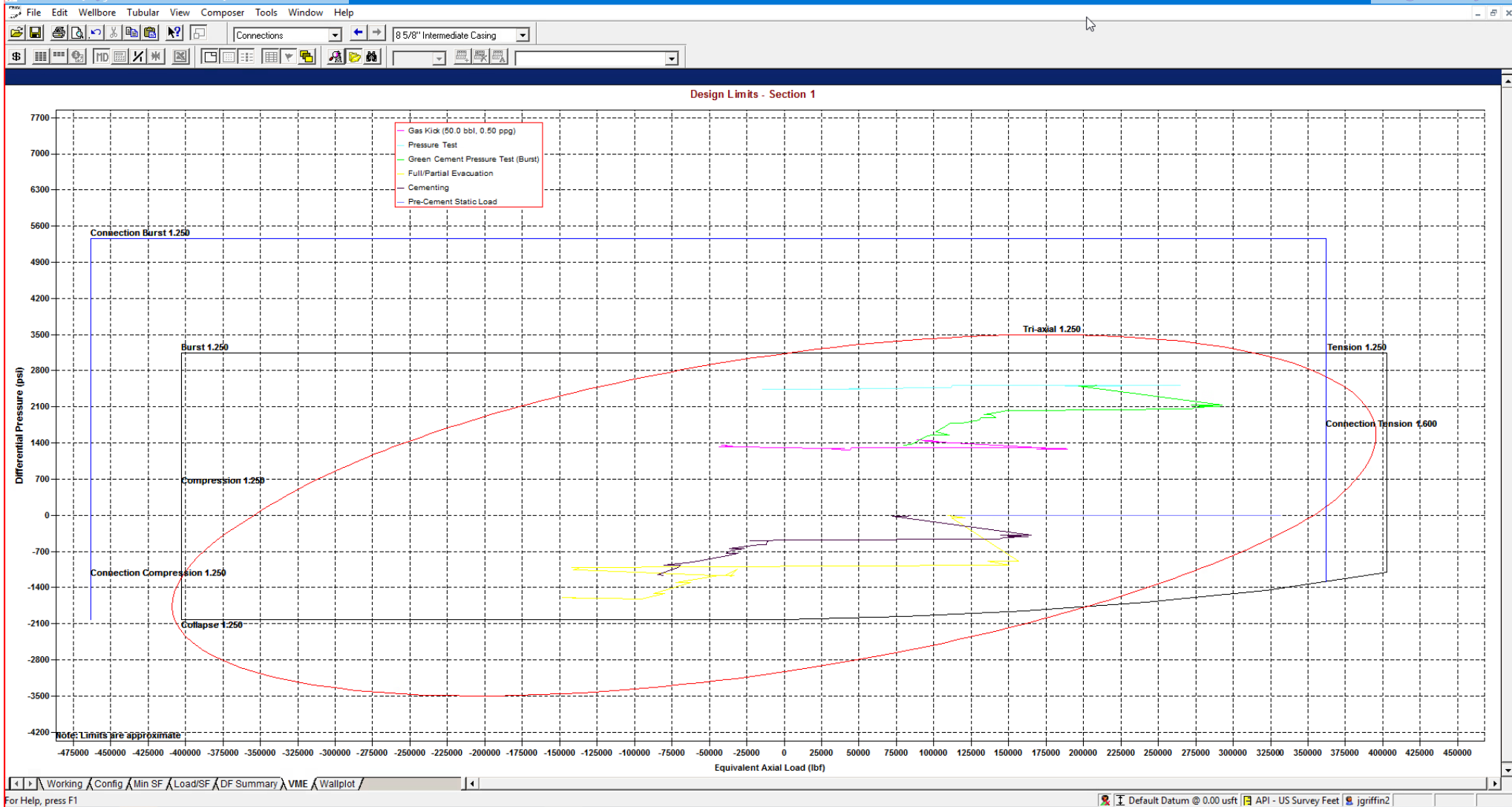
| Triaxial Results | Depth (MD) (usft) | Axial Force (lbf) | | Equivalent Axial Load (lbf) | Bending Stress at OD (psi) | Absolute Safety Factor | | | | Temperature (°F) | Pressure (psi) | | Addtl Pickup To Prevent Buck. (lbf) | Buckled Length (usft) |
|------------------|----------------------|-------------------------|-------------------------------|--------------------------------|-------------------------------|------------------------|-------|--------------|---------|---------------------|----------------|----------|--|--------------------------|
| | | Apparent (w/Bending) | Actual (w/o Bending) | | | Triaxial | Burst | Collapse (V) | Axial | | Internal | External | | |
| 1 | 0 | 200426 | 183224 | 200546 | 1880.2 | 1.68 | 1.57 | N/A | 2.89 F | 70.00 | 2500.00 | 0.00 | N/A | N/A |
| 2 | 100 | 196229 | 179028 | 196812 | 1880.2 | 1.69 | 1.57 | N/A | 2.95 F | 71.10 | 2543.63 | 43.63 | | |
| 3 | 100 | 187111 | 179027 | 187686 | 883.7 | 1.70 | 1.57 | N/A | 3.10 F | 71.10 | 2543.64 | 43.64 | | |
| 4 | 1700 | 256401 | 111891 | 264835 | 15795.8 | 1.56 | 1.56 | N/A | 2.26 F | 88.70 | 3241.64 | 741.64 | | |
| 5 | 1700 | 235940 | 111891 | 244247 | 13559.4 | 1.60 | 1.56 | N/A | 2.45 F | 88.70 | 3241.65 | 741.65 | | |
| 6 | 1850 | 252413 | 105788 | 261533 | 16027.0 | 1.54 | 1.56 | N/A | 2.29 F | 90.29 | 3305.05 | 805.05 | | |
| 7 | 1850 | 239292 | 105787 | 248323 | 14592.9 | 1.56 | 1.56 | N/A | 2.42 F | 90.29 | 3305.06 | 805.06 | | |
| 8 | 1950 | 240267 | 101966 | 249748 | 15117.2 | 1.54 | 1.56 | N/A | 2.41 F | 91.30 | 3344.87 | 844.87 | | |
| 9 | 1950 | 234781 | 101965 | 244223 | 14517.5 | 1.56 | 1.56 | N/A | 2.47 F | 91.30 | 3344.87 | 844.87 | | |
| 10 | 2050 | 230871 | 98395 | 240694 | 14480.4 | 1.55 | 1.56 | N/A | 2.51 F | 92.23 | 3381.89 | 881.89 | | |
| 11 | 2050 | 227794 | 98394 | 237594 | 14144.2 | 1.55 | 1.56 | N/A | 2.54 F | 92.23 | 3381.89 | 881.89 | | |
| 12 | 2300 | 117966 | 90294 | 127818 | 3024.7 | 1.70 | 1.56 | N/A | 4.91 F | 94.35 | 3466.13 | 966.13 | | |
| 13 | 2300 | 104686 | 90293 | 114432 | 1573.2 | 1.71 | 1.56 | N/A | 5.53 F | 94.35 | 3466.14 | 966.14 | | |
| 14 | 2370 | 102469 | 88077 | 112431 | 1573.2 | 1.71 | 1.56 | N/A | 5.65 F | 94.94 | 3489.28 | 989.28 | | |
| 15 | 2370 | 100817 | 86424 | 111200 | 1573.2 | 1.75 | 1.59 | N/A | 5.75 F | 94.94 | 3489.29 | 1036.40 | | |
| 16 | 2700 | 83660 | 75583 | 95052 | 882.8 | 1.74 | 1.59 | N/A | 6.92 F | 97.73 | 3599.97 | 1152.35 | | |
| 17 | 2700 | 88072 | 75583 | 99504 | 1365.1 | 1.74 | 1.59 | N/A | 6.58 F | 97.73 | 3599.97 | 1152.35 | | |
| 18 | 3100 | 86049 | 62442 | 98863 | 2580.4 | 1.71 | 1.59 | N/A | 6.73 F | 101.11 | 3734.23 | 1293.00 | | |
| 19 | 3100 | 76477 | 62441 | 89195 | 1534.2 | 1.72 | 1.59 | N/A | 7.57 F | 101.11 | 3734.23 | 1293.01 | | |
| 20 | 3700 | 55953 | 42882 | 70509 | 1428.8 | 1.69 | 1.60 | N/A | 10.35 F | 106.15 | 3934.24 | 1502.54 | | |
| 21 | 3700 | 48311 | 42881 | 62778 | 593.5 | 1.71 | 1.60 | N/A | 11.99 F | 106.16 | 3934.25 | 1502.55 | | |
| 22 | 4000 | 41458 | 33043 | 56865 | 919.9 | 1.69 | 1.60 | N/A | 13.97 F | 108.69 | 4034.82 | 1607.91 | | |
| 23 | 4650 | 26293 | 11655 | 43706 | 1600.1 | 1.63 | 1.60 | N/A | 22.03 F | 114.20 | 4253.37 | 1836.86 | | |
| 24 | 4900 | 32619 | 4156 | 50970 | 3111.2 | 1.59 | 1.60 | N/A | 17.76 F | 116.32 | 4337.37 | 1924.87 | | |
| 25 | 4900 | 21439 | 4155 | 39625 | 1889.2 | 1.61 | 1.60 | N/A | 27.02 F | 116.32 | 4337.38 | 1924.87 | | |
| 26 | 5039 | 15822 | 26 | 34389 | 1726.6 | 1.61 | 1.61 | N/A | 36.61 F | 117.49 | 4383.77 | 1973.48 | | |
| 27 | 5039 | 15822 | 26 | 34388 | 1726.6 | 1.61 | 1.61 | N/A | 36.61 F | 117.49 | 4383.78 | 1973.49 | | |
| 28 | 5600 | -33912 | -16743 | -14286 | 1876.7 | 1.57 | 1.61 | N/A | (14.60) | 122.23 | 4572.11 | 2170.78 | | |
| 29 | 5650 | -30585 | -18235 | -10742 | 1350.0 | 1.58 | 1.61 | N/A | (16.18) | 122.66 | 4588.87 | 2188.34 | | |
| 30 | | | | | | | | | | | | | | |
| 31 | | F | Conn Fracture | | | | | | | | | | | |
| 32 | | (| Compression | | | | | | | | | | | |
| 33 | | (V) | Vector Collapse Safety Factor | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | |

Working / Config / Min SF / Load/SF / DF Summary / VME / Wallplot

For Help, press F1

Default Datum @ 0.00 usft | API - US Survey Feet | jgriffin2

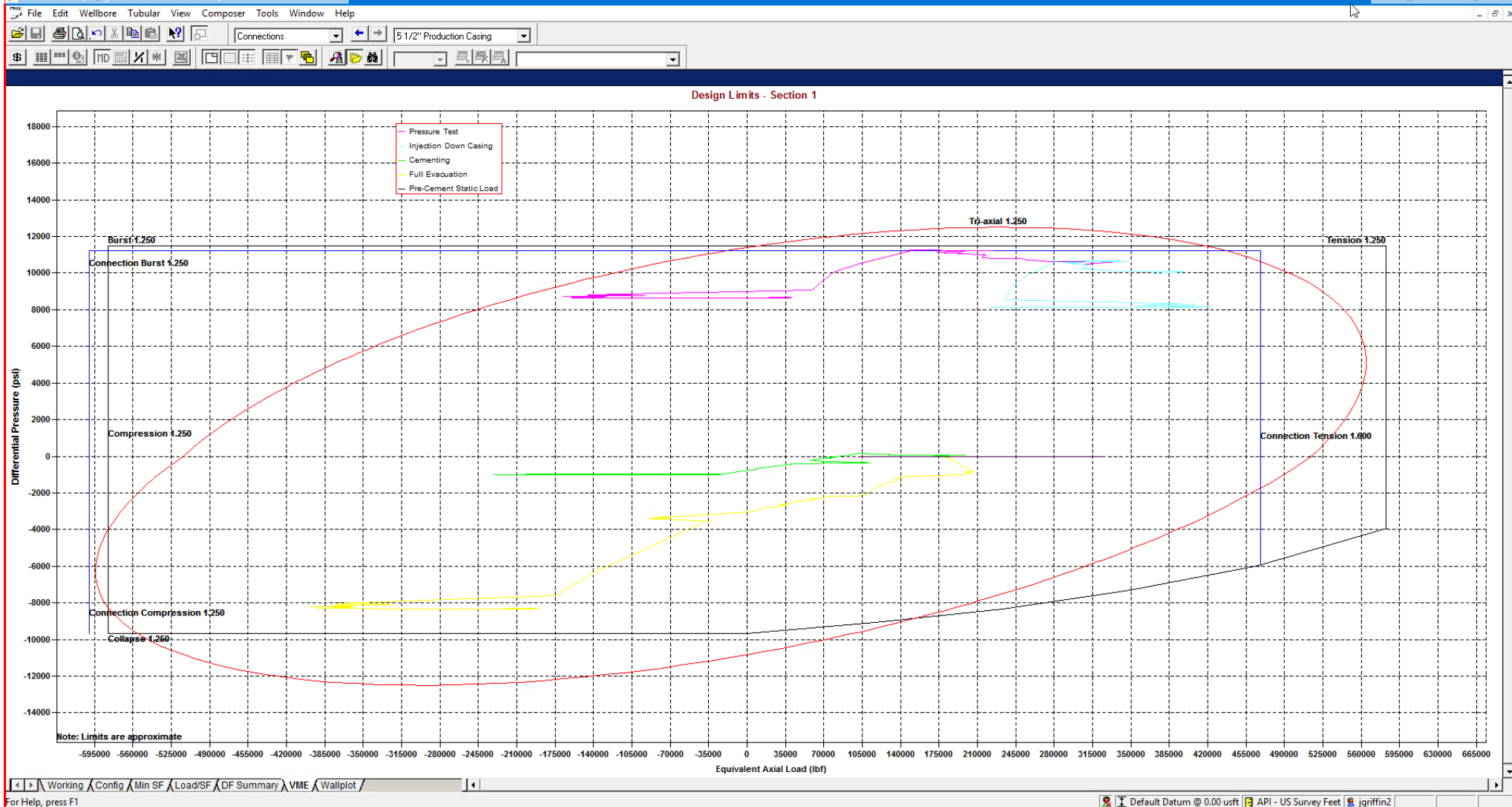
8-5/8" Intermediate Casing Pressure Test:
 Internal Profile based off Surface Pressure + Hydrostatic: 4589 psi
 External Profile based off Pore Pressure: 2188 psi



StressCheck - [String Summary - Shallow 3.0 Mile *]

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) |
|-------------------------------------|--------------------------|------------|--------------------|----------------|-----------------------------|--------------|--------|----------|------------------|
| | | | | | Burst | Collapse (V) | Axial | Triaxial | |
| 1 Intermediate Casing | 8 5/8", 32,000 ppf, J-55 | BTC, J-55 | 0.0-5650.0 | 7.875 A | 1.56 | 1.57 | 1.81 F | 1.34 | 80,117 |
| 2 | | | | | | | | | Total = 80,117 |
| 3 | | | | | | | | | |
| 4 F Conn Fracture | | | | | | | | | |
| 5 A Alternate Drift | | | | | | | | | |
| 6 (V) Vector Collapse Safety Factor | | | | | | | | | |
| 7 | | | | | | | | | |

*Modelling done with 8-5/8" 32# Intermediate Casing. Passes all Burst, Collapse and Tensile design criteria.



| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) | |
|-----------------|-----------------------------------|------------------------------|--------------------|----------------|-----------------------------|--------------|-------|----------|------------------|---------|
| | | | | | Burst | Collapse (V) | Axial | Triaxial | | |
| 1 | Production Casing | 5 1/2", 20.000 ppf, P110 ICY | BTC, P110 ICY | 0.0-28578.0 | 4.653 | 1.27 | 1.47 | 1.90 F | 1.35 | 446,902 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | F Conn Fracture | | | | | | | | | |
| 5 | () Compression | | | | | | | | | |
| 6 | (V) Vector Collapse Safety Factor | | | | | | | | | |
| 7 | | | | | | | | | | |
| Total = 446,902 | | | | | | | | | | |

*Modelling done with 5-1/2" 20# Production Casing with a 125ksi Control Yield. Passes all Burst, Collapse and Tensile design criteria.



Shallow Design C

4. CASING PROGRAM

| Hole Size | Interval MD | | Interval TVD | | Csg OD | Weight | Grade | Conn |
|-----------|-------------|---------|--------------|---------|---------|--------|---------|---------------|
| | From (ft) | To (ft) | From (ft) | To (ft) | | | | |
| 16" | 0 | 2,161 | 0 | 2,030 | 13-3/8" | 54.5# | J-55 | STC |
| 11" | 0 | 7,951 | 0 | 5,650 | 9-5/8" | 40# | J-55 | LTC |
| 7-7/8" | 0 | 29,353 | 0 | 12,000 | 6" | 24.5# | P110-EC | VAM Sprint-SF |

Hole will be full during casing run for well control and tensile SF factor. Casing will be kept at least half full during run for this design to meet BLM collapse SF requirement. External pressure will be reviewed prior to conducting casing pressure tests to ensure that 70% of the yield is not exceeded.

Variance is requested to waive the centralizer requirements for the 9-5/8" casing in the 11" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 11" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 6" casing in the 7-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 7-7/8" hole interval to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Title 43 CFR Part 3170 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

5. CEMENTING PROGRAM:

| Depth | No. Sacks | Wt. ppg | Yld Ft3/sk | Slurry Description |
|-------------------|-----------|---------|------------|---|
| 2,030' 13-3/8" | 570 | 13.5 | 1.73 | Lead: Class C/H + 4.0% Bentonite Gel + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface) |
| | 160 | 14.8 | 1.34 | Tail: Class C/H + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 1830') |
| 8,050' 9-5/8" | 760 | 12.7 | 2.22 | Lead: Class C/H + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface) |
| | 250 | 14.8 | 1.32 | Tail: Class C/H + 10% NaCl + 3% MagOx (TOC @ 6360') |
| 29,353' 6" | 1000 | 14.8 | 1.32 | Bradenhead squeeze: Class C/H + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (TOC @ surface) |
| | 2500 | 13.2 | 1.52 | Tail: Class C/H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ Top of Brushy) |

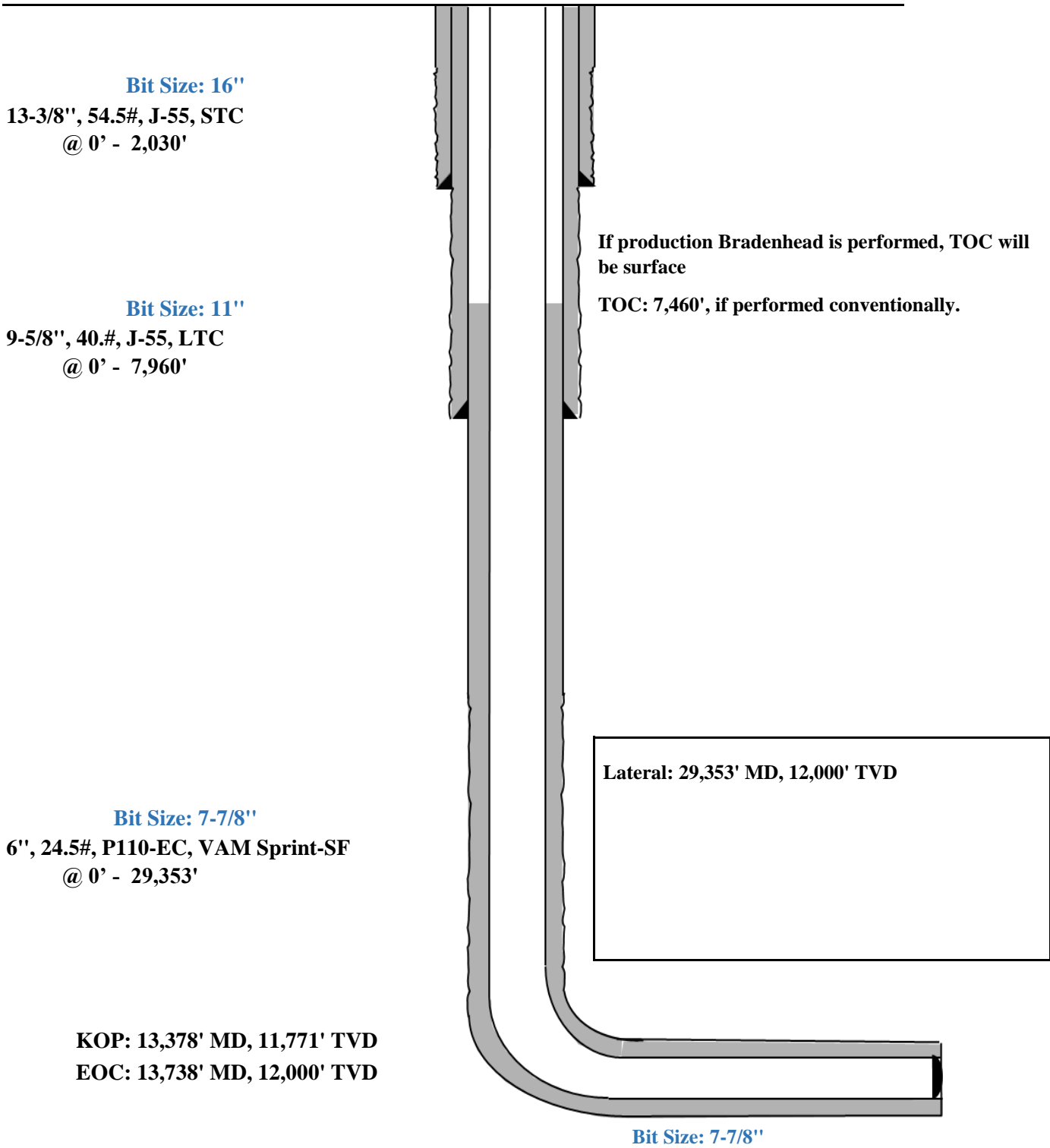


Shallow Design C

Proposed Wellbore

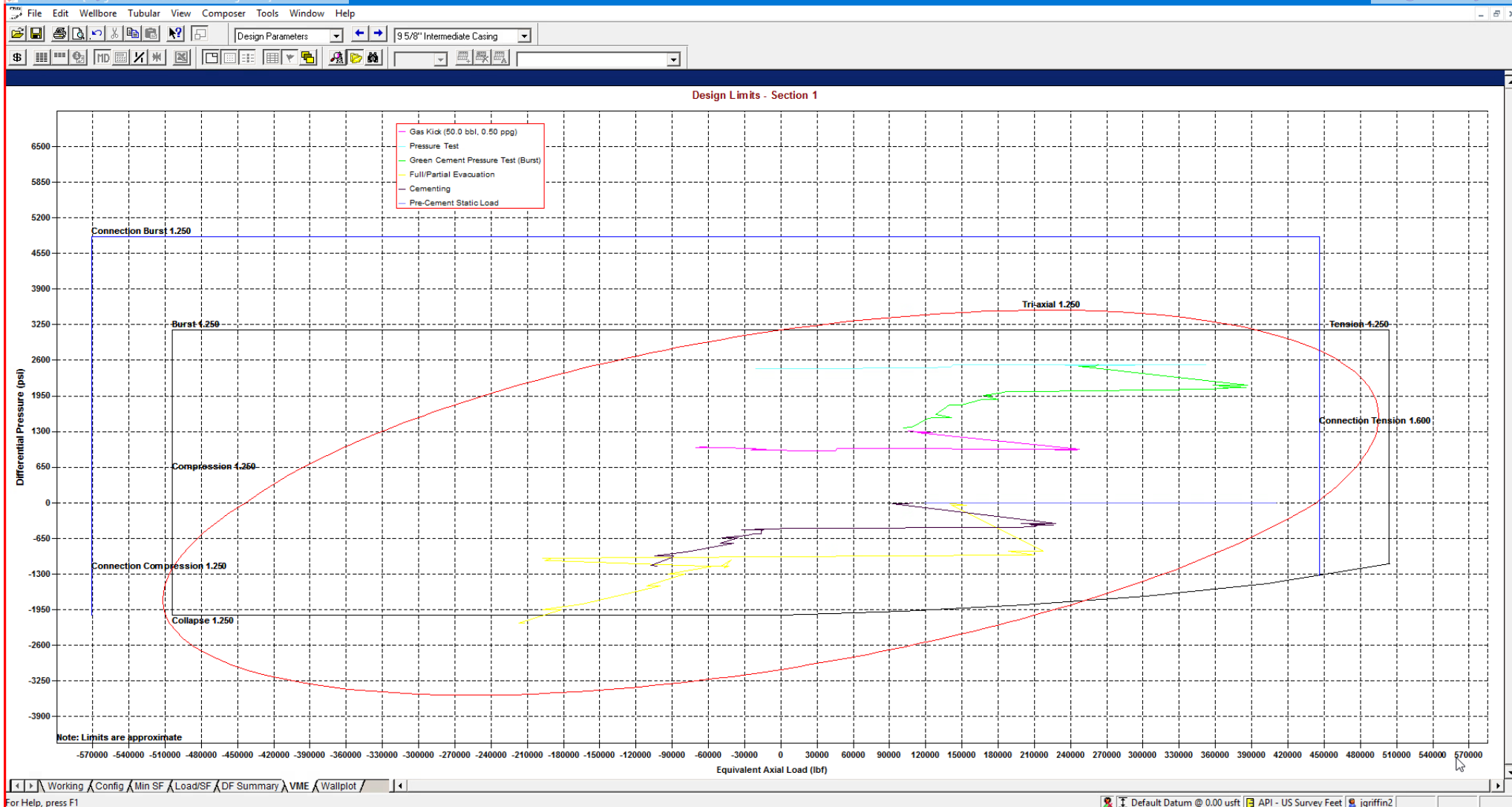
KB: 3558'

GL: 3533'



| Triaxial Results | Depth (MD) (usft) | Axial Force (lbf) | | Equivalent Axial Load (lbf) | Bending Stress at OD (psi) | Absolute Safety Factor | | | | Temperature (°F) | Pressure (psi) | | Addtl Pickup To Prevent Buck. (lbf) | Buckled Length (usft) |
|------------------|----------------------|-------------------------|-------------------------------|--------------------------------|-------------------------------|------------------------|-------|--------------|---------|---------------------|----------------|----------|--|--------------------------|
| | | Apparent (w/Bending) | Actual (w/o Bending) | | | Triaxial | Burst | Collapse (V) | Axial | | Internal | External | | |
| | | | | | | | | | | | | | | |
| 1 | 0 | 252987 | 228954 | 253140 | 2098.2 | 1.69 | 1.58 | N/A | 2.82 F | 70.00 | 2500.00 | 0.00 | N/A | N/A |
| 2 | 100 | 247735 | 223702 | 248466 | 2098.2 | 1.69 | 1.58 | N/A | 2.88 F | 71.10 | 2543.63 | 43.63 | | |
| 3 | 100 | 234996 | 223701 | 235716 | 986.2 | 1.71 | 1.58 | N/A | 3.04 F | 71.10 | 2543.64 | 43.64 | | |
| 4 | 1700 | 341565 | 139667 | 352253 | 17627.2 | 1.53 | 1.57 | N/A | 2.09 F | 88.70 | 3241.64 | 741.64 | | |
| 5 | 1700 | 312979 | 139666 | 323488 | 15131.5 | 1.58 | 1.57 | N/A | 2.28 F | 88.70 | 3241.65 | 741.65 | | |
| 6 | 1850 | 336881 | 132027 | 348440 | 17885.2 | 1.51 | 1.57 | N/A | 2.12 F | 90.29 | 3305.05 | 805.05 | | |
| 7 | 1850 | 318549 | 132027 | 329984 | 16284.8 | 1.54 | 1.57 | N/A | 2.24 F | 90.29 | 3305.06 | 805.06 | | |
| 8 | 1950 | 320468 | 127243 | 332475 | 16869.9 | 1.52 | 1.57 | N/A | 2.23 F | 91.30 | 3344.87 | 844.87 | | |
| 9 | 1950 | 312802 | 127243 | 324756 | 16200.7 | 1.53 | 1.57 | N/A | 2.28 F | 91.30 | 3344.87 | 844.87 | | |
| 10 | 2050 | 307858 | 122773 | 320295 | 16159.3 | 1.52 | 1.57 | N/A | 2.32 F | 92.23 | 3381.89 | 881.89 | | |
| 11 | 2050 | 303560 | 122772 | 315965 | 15784.1 | 1.53 | 1.57 | N/A | 2.35 F | 92.23 | 3381.89 | 881.89 | | |
| 12 | 2300 | 151294 | 112633 | 163658 | 3375.4 | 1.71 | 1.57 | N/A | 4.72 F | 94.35 | 3466.13 | 966.13 | | |
| 13 | 2300 | 132741 | 112633 | 144956 | 1755.6 | 1.72 | 1.57 | N/A | 5.38 F | 94.35 | 3466.14 | 966.14 | | |
| 14 | 2370 | 129966 | 109858 | 142452 | 1755.6 | 1.72 | 1.57 | N/A | 5.49 F | 94.94 | 3489.28 | 989.28 | | |
| 15 | 2370 | 127909 | 107800 | 140922 | 1755.6 | 1.75 | 1.60 | N/A | 5.58 F | 94.94 | 3489.29 | 1036.40 | | |
| 16 | 2700 | 105515 | 94232 | 119785 | 985.1 | 1.75 | 1.60 | N/A | 6.77 F | 97.73 | 3599.97 | 1152.35 | | |
| 17 | 2700 | 111680 | 94231 | 126006 | 1523.4 | 1.75 | 1.60 | N/A | 6.39 F | 97.73 | 3599.97 | 1152.35 | | |
| 18 | 3100 | 110766 | 77783 | 126839 | 2879.6 | 1.71 | 1.60 | N/A | 6.44 F | 101.11 | 3734.23 | 1293.00 | | |
| 19 | 3100 | 97392 | 77783 | 113331 | 1712.1 | 1.73 | 1.60 | N/A | 7.33 F | 101.11 | 3734.23 | 1293.01 | | |
| 20 | 3700 | 71565 | 53303 | 89806 | 1594.4 | 1.70 | 1.61 | N/A | 9.97 F | 106.15 | 3934.24 | 1502.54 | | |
| 21 | 3700 | 60887 | 53302 | 79004 | 662.3 | 1.71 | 1.61 | N/A | 11.72 F | 106.16 | 3934.25 | 1502.55 | | |
| 22 | 4650 | 34671 | 14219 | 56495 | 1785.6 | 1.64 | 1.61 | N/A | 20.59 F | 114.20 | 4253.37 | 1836.86 | | |
| 23 | 4900 | 44595 | 4828 | 67626 | 3472.0 | 1.59 | 1.61 | N/A | 16.01 F | 116.32 | 4337.37 | 1924.87 | | |
| 24 | 4900 | 28975 | 4828 | 51775 | 2108.2 | 1.62 | 1.61 | N/A | 24.64 F | 116.32 | 4337.38 | 1924.87 | | |
| 25 | 5029 | 22103 | 34 | 45340 | 1926.8 | 1.61 | 1.61 | N/A | 32.30 F | 117.40 | 4380.40 | 1969.94 | | |
| 26 | 5029 | 22102 | 33 | 45339 | 1926.8 | 1.61 | 1.61 | N/A | 32.30 F | 117.40 | 4380.41 | 1969.95 | | |
| 27 | 5600 | -45329 | -21341 | -20805 | 2094.3 | 1.57 | 1.62 | N/A | (13.67) | 122.23 | 4572.11 | 2170.78 | | |
| 28 | 5650 | -40465 | -23210 | -15657 | 1506.5 | 1.58 | 1.62 | N/A | (15.31) | 122.66 | 4588.87 | 2188.34 | | |
| 29 | | | | | | | | | | | | | | |
| 30 | | F | Conn Fracture | | | | | | | | | | | |
| 31 | | () | Compression | | | | | | | | | | | |
| 32 | | (V) | Vector Collapse Safety Factor | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | |

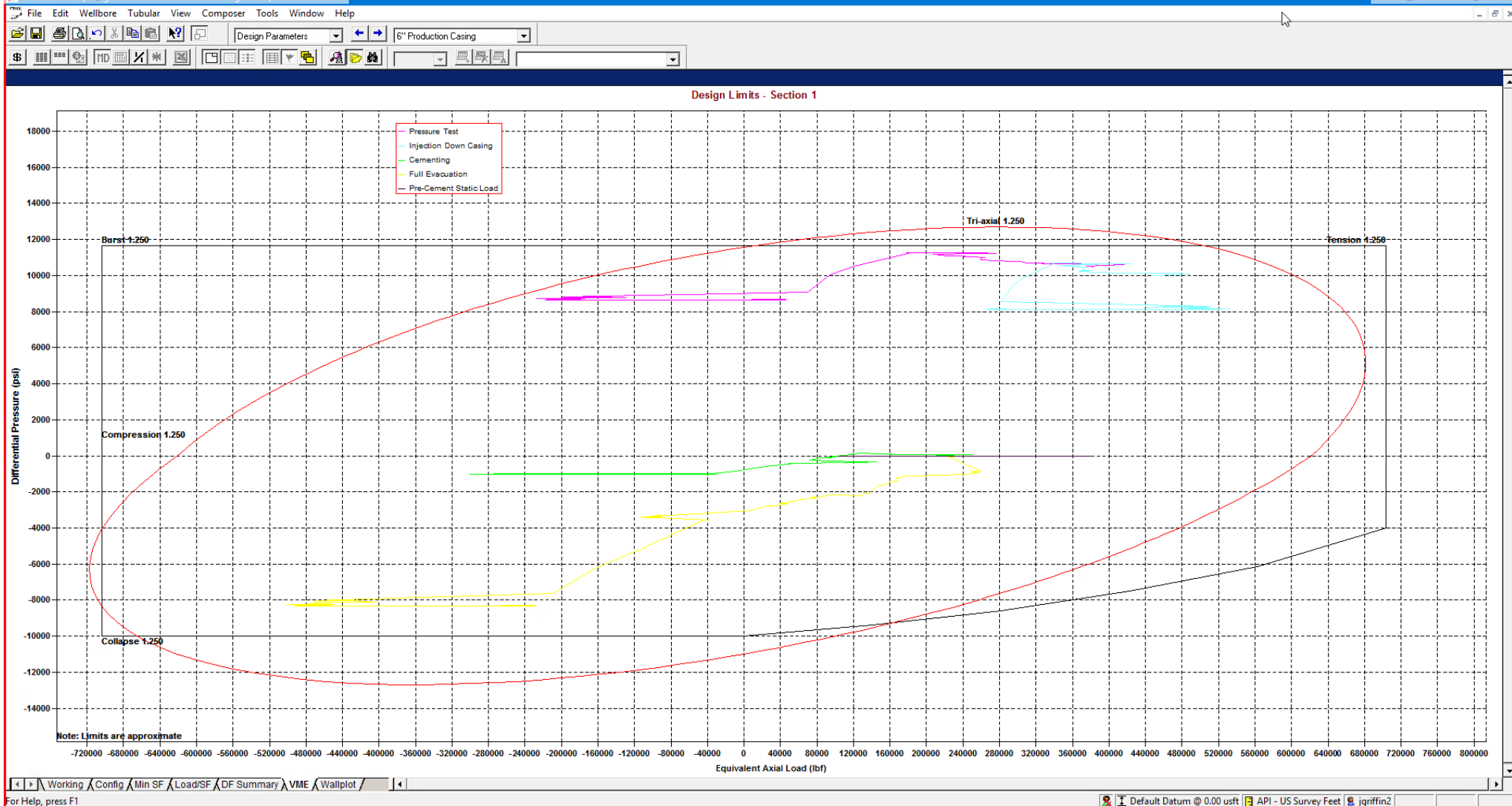
9-5/8" Intermediate Casing Pressure Test:
 Internal Profile based off Surface Pressure + Hydrostatic: 4589 psi
 External Profile based off Pore Pressure: 2188 psi



StressCheck - [String Summary - Shallow 3.0 Mile - Big Hole *]

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) |
|-------------------------------------|--------------------------|------------|--------------------|----------------|-----------------------------|--------------|--------|----------|------------------|
| | | | | | Burst | Collapse (V) | Axial | Triaxial | |
| 1 Intermediate Casing | 9 5/8", 40.000 ppf, J-55 | BTC, J-55 | 0.0-5650.0 | 8.750 A | 1.57 | 1.59 | 1.80 F | 1.35 | 98,141 |
| 2 | | | | | | | | | Total = 98,141 |
| 3 | | | | | | | | | |
| 4 F Conn Fracture | | | | | | | | | |
| 5 A Alternate Drift | | | | | | | | | |
| 6 (V) Vector Collapse Safety Factor | | | | | | | | | |
| 7 | | | | | | | | | |

*Modelling done with 9-5/8" 40# Intermediate Casing. Passes all Burst, Collapse and Tensile design criteria.



String Summary

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) | |
|-----------------|-----------------------------------|--------------------------|--------------------|----------------|-----------------------------|--------------|--------------|----------|------------------|---------|
| | | | | | Burst | Collapse (V) | Axial (1.75) | Triaxial | | |
| 1 | Production Casing | 6", 24.500 ppf, P110 ICY | BTC, P110 ICY | 0.0-28578.0 | 5.075 | 1.29 | 1.52 | (1.75) | 1.37 | 541,493 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | () Compression | | | | | | | | | |
| 5 | (V) Vector Collapse Safety Factor | | | | | | | | | |
| 6 | | | | | | | | | | |
| Total = 541,493 | | | | | | | | | | |

*Modelling done with 6" Production Casing with a 125ksi Control Yield. Passes all Burst, Collapse and Tensile design criteria.



Shallow Design D

4. CASING PROGRAM

| Hole Size | Interval MD | | Interval TVD | | Csg OD | Weight | Grade | Conn |
|-----------|-------------|---------|--------------|---------|---------|--------|---------|-------------|
| | From (ft) | To (ft) | From (ft) | To (ft) | | | | |
| 16" | 0 | 2,161 | 0 | 2,030 | 13-3/8" | 54.5# | J-55 | STC |
| 11" | 0 | 7,951 | 0 | 5,650 | 9-5/8" | 40# | J-55 | LTC |
| 7-7/8" | 0 | 13,278 | 0 | 11,671 | 6" | 22.3# | P110-EC | DWC/C IS |
| 6-3/4" | 13,278 | 29,353 | 11,671 | 12,000 | 5-1/2" | 20# | P110-EC | DWC/C IS MS |

Hole will be full during casing run for well control and tensile SF factor. Casing will be kept at least half full during run for this design to meet BLM collapse SF requirement. External pressure will be reviewed prior to conducting casing pressure tests to ensure that 70% of the yield is not exceeded.

Variance is requested to waive the centralizer requirements for the 9-5/8" casing in the 11" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 11" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 6" and 5-1/2" casings in the 7-7/8" and 6-3/4" hole sizes. An expansion additive will be utilized in the cement slurry for the entire length of the 7-7/8" and 6-3/4" hole intervals to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Title 43 CFR Part 3170 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

5. CEMENTING PROGRAM:

| Depth | No. Sacks | Wt. ppg | Yld Ft3/sk | Slurry Description |
|-------------------|-----------|---------|------------|---|
| 2,030' 13-3/8" | 570 | 13.5 | 1.73 | Lead: Class C/H + 4.0% Bentonite Gel + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface) |
| | 160 | 14.8 | 1.34 | Tail: Class C/H + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 1830') |
| 8,050' 9-5/8" | 760 | 12.7 | 2.22 | Lead: Class C/H + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface) |
| | 250 | 14.8 | 1.32 | Tail: Class C/H + 10% NaCl + 3% MagOx (TOC @ 6360') |
| 29,353' 6" | 1000 | 14.8 | 1.32 | Bradenhead squeeze: Class C/H + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (TOC @ surface) |
| | 2500 | 13.2 | 1.52 | Tail: Class C/H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ Top of Brushy) |

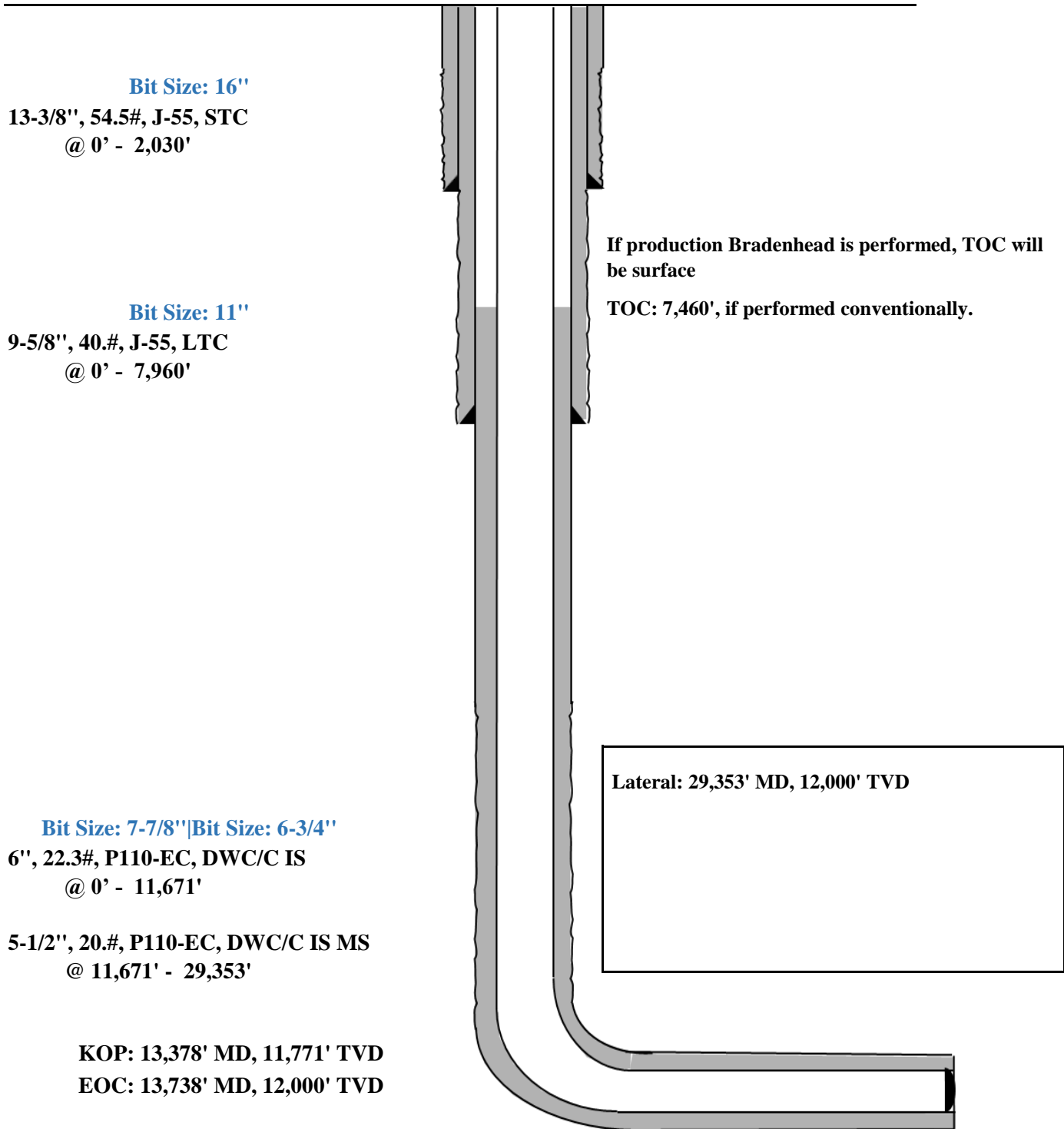


Shallow Design D

Proposed Wellbore

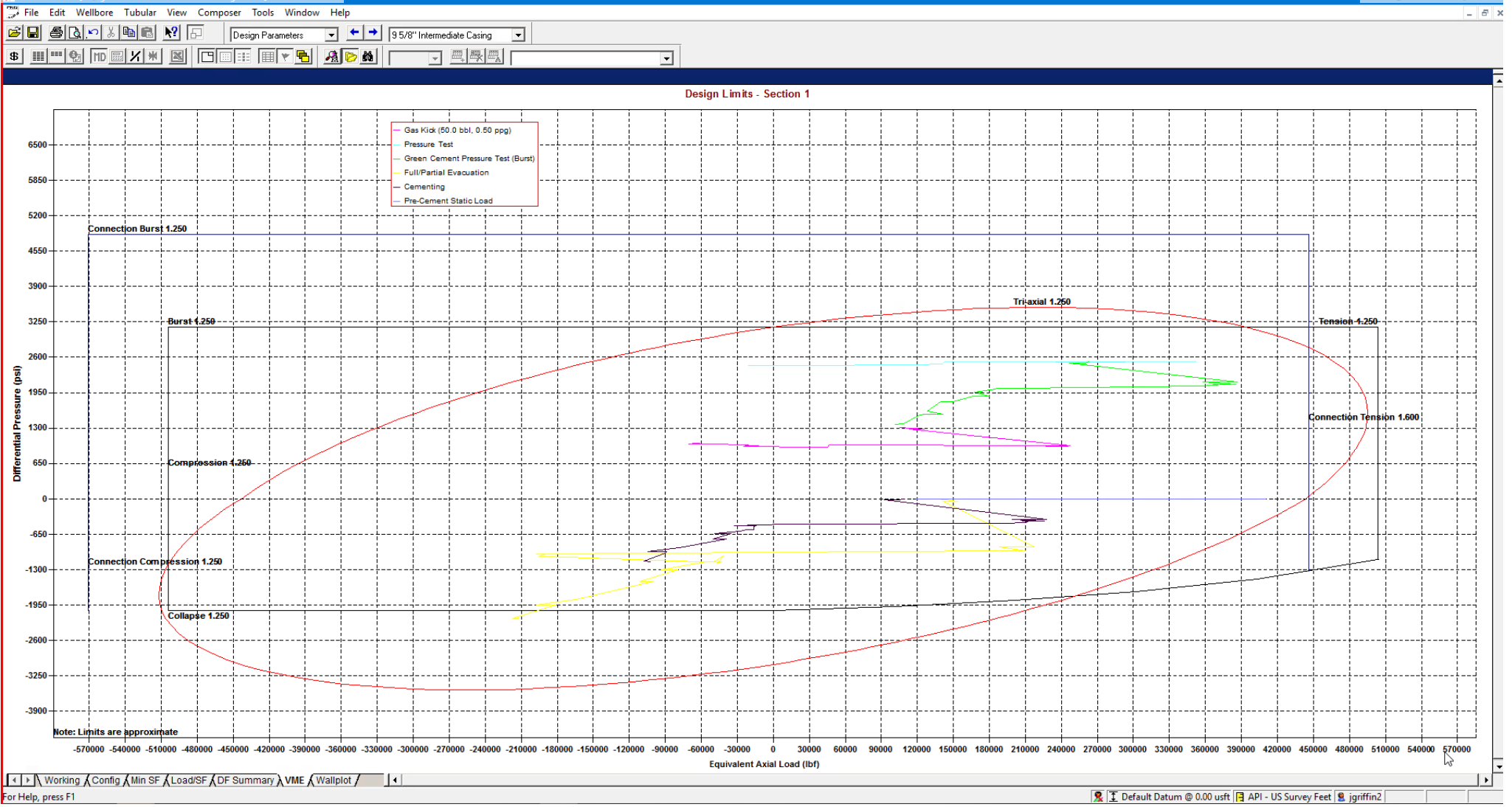
KB: 3558'

GL: 3533'



| Triaxial Results | Depth (MD) (usft) | Axial Force (lbf) | | Equivalent Axial Load (lbf) | Bending Stress at OD (psi) | Absolute Safety Factor | | | | Temperature (°F) | Pressure (psi) | | Add'l Pickup To Prevent Buck. (lbf) | Buckled Length (usft) |
|------------------|----------------------|-------------------------|-------------------------------|--------------------------------|-------------------------------|------------------------|-------|--------------|---------|---------------------|----------------|----------|--|--------------------------|
| | | Apparent (w/Bending) | Actual (w/o Bending) | | | Triaxial | Burst | Collapse (V) | Axial | | Internal | External | | |
| 1 | 0 | 252987 | 228954 | 253140 | 2098.2 | 1.69 | 1.58 | N/A | 2.82 F | 70.00 | 2500.00 | 0.00 | N/A | N/A |
| 2 | 100 | 247735 | 223702 | 248466 | 2098.2 | 1.69 | 1.58 | N/A | 2.88 F | 71.10 | 2543.63 | 43.63 | | |
| 3 | 100 | 234996 | 223701 | 235716 | 986.2 | 1.71 | 1.58 | N/A | 3.04 F | 71.10 | 2543.64 | 43.64 | | |
| 4 | 1700 | 341565 | 139667 | 352253 | 17627.2 | 1.53 | 1.57 | N/A | 2.09 F | 88.70 | 3241.64 | 741.64 | | |
| 5 | 1700 | 312979 | 139666 | 323488 | 15131.5 | 1.58 | 1.57 | N/A | 2.28 F | 88.70 | 3241.65 | 741.65 | | |
| 6 | 1850 | 336881 | 132027 | 348440 | 17885.2 | 1.51 | 1.57 | N/A | 2.12 F | 90.29 | 3305.05 | 805.05 | | |
| 7 | 1850 | 318549 | 132027 | 329984 | 16284.8 | 1.54 | 1.57 | N/A | 2.24 F | 90.29 | 3305.06 | 805.06 | | |
| 8 | 1950 | 320468 | 127243 | 332475 | 16869.9 | 1.52 | 1.57 | N/A | 2.23 F | 91.30 | 3344.87 | 844.87 | | |
| 9 | 1950 | 312802 | 127243 | 324756 | 16200.7 | 1.53 | 1.57 | N/A | 2.28 F | 91.30 | 3344.87 | 844.87 | | |
| 10 | 2050 | 307858 | 122773 | 320295 | 16159.3 | 1.52 | 1.57 | N/A | 2.32 F | 92.23 | 3381.89 | 881.89 | | |
| 11 | 2050 | 303560 | 122772 | 315965 | 15784.1 | 1.53 | 1.57 | N/A | 2.35 F | 92.23 | 3381.89 | 881.89 | | |
| 12 | 2300 | 151294 | 112633 | 163658 | 3375.4 | 1.71 | 1.57 | N/A | 4.72 F | 94.35 | 3466.13 | 966.13 | | |
| 13 | 2300 | 132741 | 112633 | 144956 | 1755.6 | 1.72 | 1.57 | N/A | 5.38 F | 94.35 | 3466.14 | 966.14 | | |
| 14 | 2370 | 129966 | 109858 | 142452 | 1755.6 | 1.72 | 1.57 | N/A | 5.49 F | 94.94 | 3489.28 | 989.28 | | |
| 15 | 2370 | 127909 | 107800 | 140922 | 1755.6 | 1.75 | 1.60 | N/A | 5.58 F | 94.94 | 3489.29 | 1036.40 | | |
| 16 | 2700 | 105515 | 94232 | 119785 | 985.1 | 1.75 | 1.60 | N/A | 6.77 F | 97.73 | 3599.97 | 1152.35 | | |
| 17 | 2700 | 111680 | 94231 | 126006 | 1523.4 | 1.75 | 1.60 | N/A | 6.39 F | 97.73 | 3599.97 | 1152.35 | | |
| 18 | 3100 | 110766 | 77783 | 126839 | 2879.6 | 1.71 | 1.60 | N/A | 6.44 F | 101.11 | 3734.23 | 1293.00 | | |
| 19 | 3100 | 97392 | 77783 | 113331 | 1712.1 | 1.73 | 1.60 | N/A | 7.33 F | 101.11 | 3734.23 | 1293.01 | | |
| 20 | 3700 | 71565 | 53303 | 89806 | 1594.4 | 1.70 | 1.61 | N/A | 9.97 F | 106.15 | 3934.24 | 1502.54 | | |
| 21 | 3700 | 60887 | 53302 | 79004 | 662.3 | 1.71 | 1.61 | N/A | 11.72 F | 106.16 | 3934.25 | 1502.55 | | |
| 22 | 4650 | 34671 | 14219 | 56495 | 1785.6 | 1.64 | 1.61 | N/A | 20.59 F | 114.20 | 4253.37 | 1836.86 | | |
| 23 | 4900 | 44595 | 4828 | 67626 | 3472.0 | 1.59 | 1.61 | N/A | 16.01 F | 116.32 | 4337.37 | 1924.87 | | |
| 24 | 4900 | 28975 | 4828 | 51775 | 2108.2 | 1.62 | 1.61 | N/A | 24.64 F | 116.32 | 4337.38 | 1924.87 | | |
| 25 | 5029 | 22103 | 34 | 45340 | 1926.8 | 1.61 | 1.61 | N/A | 32.30 F | 117.40 | 4380.40 | 1969.94 | | |
| 26 | 5029 | 22102 | 33 | 45339 | 1926.8 | 1.61 | 1.61 | N/A | 32.30 F | 117.40 | 4380.41 | 1969.95 | | |
| 27 | 5600 | -45329 | -21341 | -20805 | 2094.3 | 1.57 | 1.62 | N/A | (13.67) | 122.23 | 4572.11 | 2170.78 | | |
| 28 | 5650 | -40465 | -23210 | -15657 | 1506.5 | 1.58 | 1.62 | N/A | (15.31) | 122.66 | 4588.87 | 2188.34 | | |
| 29 | | | | | | | | | | | | | | |
| 30 | | F | Conn Fracture | | | | | | | | | | | |
| 31 | | () | Compression | | | | | | | | | | | |
| 32 | | (V) | Vector Collapse Safety Factor | | | | | | | | | | | |
| 33 | | | | | | | | | | | | | | |

9-5/8" Intermediate Casing Pressure Test:
 Internal Profile based off Surface Pressure + Hydrostatic: 4589 psi
 External Profile based off Pore Pressure: 2188 psi

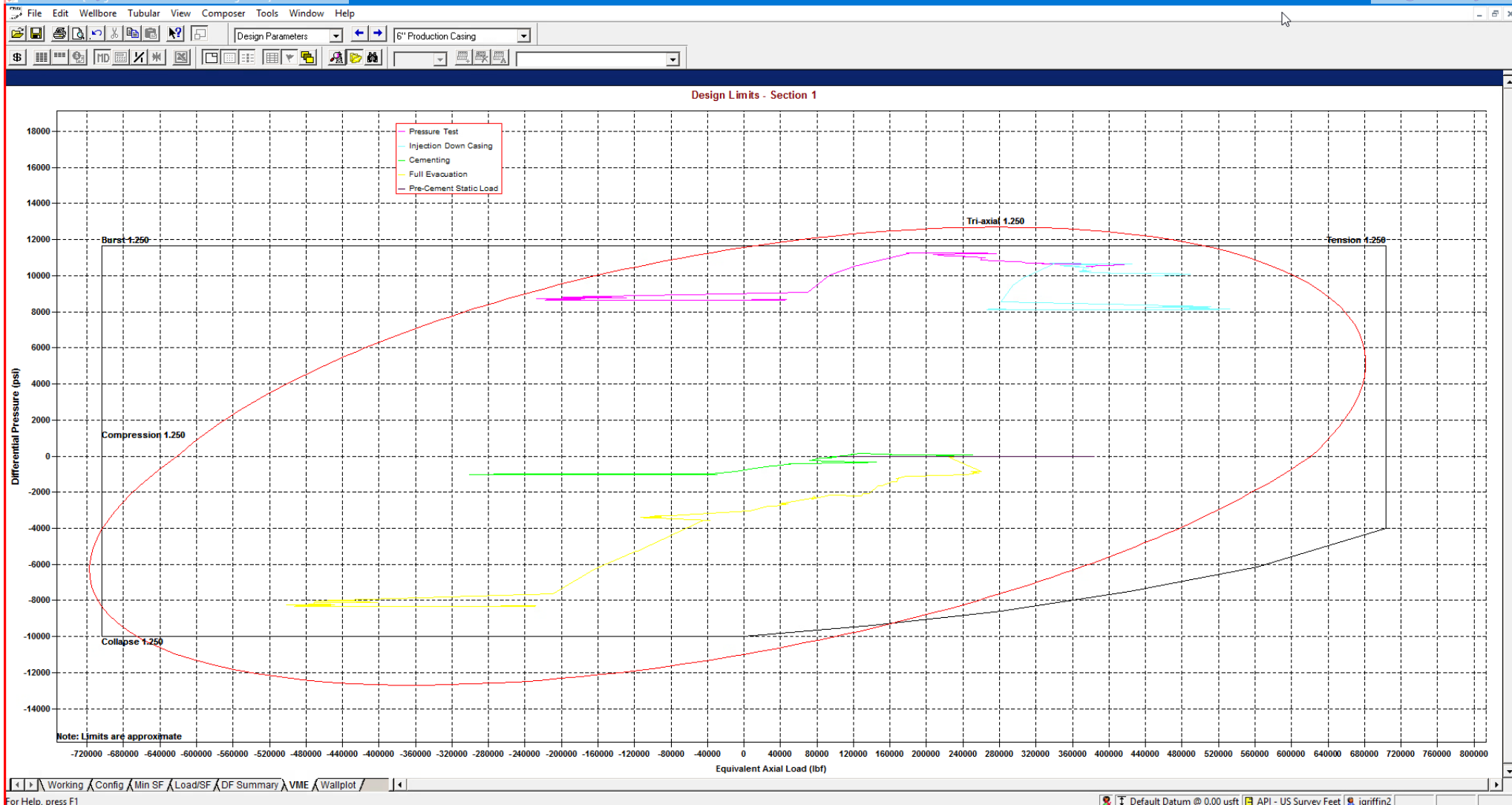


StressCheck - [String Summary - Shallow 3.0 Mile - Big Hole *]

String Summary

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) |
|-------------------------------------|--------------------------|------------|--------------------|----------------|-----------------------------|--------------|--------|----------|------------------|
| | | | | | Burst | Collapse (V) | Axial | Triaxial | |
| 1 Intermediate Casing | 9 5/8", 40.000 ppg, J-55 | BTC, J-55 | 0.0-5650.0 | 8.750 A | 1.57 | 1.59 | 1.80 F | 1.35 | 98,141 |
| 2 | | | | | | | | | Total = 98,141 |
| 3 | | | | | | | | | |
| 4 F Conn Fracture | | | | | | | | | |
| 5 A Alternate Drift | | | | | | | | | |
| 6 (V) Vector Collapse Safety Factor | | | | | | | | | |
| 7 | | | | | | | | | |

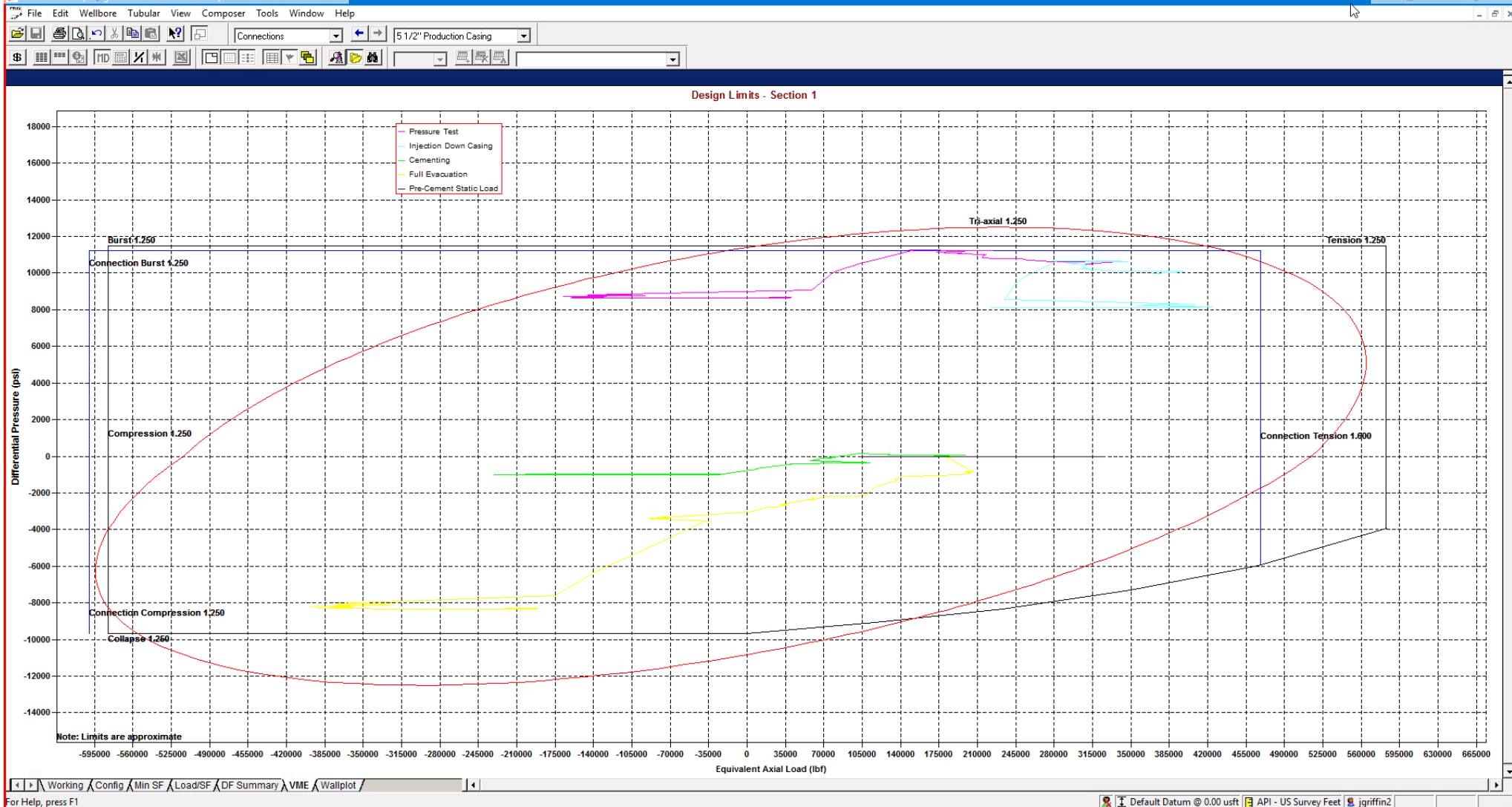
*Modelling done with 9-5/8" 40# Intermediate Casing. Passes all Burst, Collapse and Tensile design criteria.



String Summary

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) | |
|-----------------|-----------------------------------|--------------------------|--------------------|----------------|-----------------------------|--------------|--------------|----------|------------------|---------|
| | | | | | Burst | Collapse (V) | Axial (1.75) | Triaxial | | |
| 1 | Production Casing | 6", 24.500 ppf, P110 ICY | BTC, P110 ICY | 0.0-28578.0 | 5.075 | 1.29 | 1.52 | (1.75) | 1.37 | 541,493 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | () Compression | | | | | | | | | |
| 5 | (V) Vector Collapse Safety Factor | | | | | | | | | |
| 6 | | | | | | | | | | |
| Total = 541,493 | | | | | | | | | | |

*Modelling done with 6" Production Casing with a 125ksi Control Yield. Passes all Burst, Collapse and Tensile design criteria.



StressCheck - [String Summary - Shallow 3.0 Mile]

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) | |
|-----------------|-----------------------------------|------------------------------|--------------------|----------------|-----------------------------|--------------|-------|----------|------------------|---------|
| | | | | | Burst | Collapse (V) | Axial | Triaxial | | |
| 1 | Production Casing | 5 1/2", 20.000 ppf, P110 ICY | BTC, P110 ICY | 0.0-28578.0 | 4.653 | 1.27 | 1.47 | 1.90 F | 1.35 | 446,902 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | F Conn Fracture | | | | | | | | | |
| 5 | () Compression | | | | | | | | | |
| 6 | (V) Vector Collapse Safety Factor | | | | | | | | | |
| 7 | | | | | | | | | | |
| Total = 446,902 | | | | | | | | | | |

*Modelling done with 5-1/2" 20# Production Casing with a 125ksi Control Yield. Passes all Burst, Collapse and Tensile design criteria.



Shallow Casing Design E

1. CASING PROGRAM

| Hole Size | Interval MD | | Interval TVD | | Csg OD | Weight | Grade | Conn |
|-----------|-------------|---------|--------------|---------|---------|--------|---------|---------------|
| | From (ft) | To (ft) | From (ft) | To (ft) | | | | |
| 13" | 0 | 2,025 | 0 | 2,025 | 10-3/4" | 40.5# | J-55 | STC |
| 9-7/8" | 0 | 7,793 | 0 | 5,645 | 8-5/8" | 32# | J-55 | BTC-SC |
| 7-7/8" | 0 | 12,626 | 0 | 10,896 | 6" | 24.5# | P110-EC | VAM Sprint-TC |
| 6-3/4" | 12,626 | 28,578 | 10,896 | 11,225 | 5-1/2" | 20# | P110-EC | VAM Sprint SF |

**For highlighted rows above, variance is requested to run entire string of either 6" or 5-1/2" casing string above due to availability.

Hole will be full during casing run for well control and tensile SF factor. Casing will be kept at least half full during run for this design to meet BLM collapse SF requirement. External pressure will be reviewed prior to conducting casing pressure tests to ensure that 70% of the yield is not exceeded.

Variance is requested to waive the centralizer requirements for the 8-5/8" casing in the 9-7/8" hole size. An expansion additive will be utilized, in the cement slurry, for the entire length of the 9-7/8" hole interval to maximize cement bond and zonal isolation.

Variance is also requested to waive any centralizer requirements for the 6" and 5-1/2" casings in the 7-7/8" and 6-3/4" hole sizes. An expansion additive will be utilized in the cement slurry for the entire length of the 7-7/8" and 6-3/4" hole intervals to maximize cement bond and zonal isolation.

EOG requests permission to allow deviation from the 0.422" annulus clearance requirement for the intermediate (salt) section from Title 43 CFR Part 3170 under the following conditions:

- The variance is not applicable within the Potash Boundaries or Capitan Reef areas.
- Operator takes responsibility to get casing to set point in the event that the clearance causes stuck pipe issues.

2. CEMENTING PROGRAM:

| Depth | No. Sacks | Wt. ppg | Yld Ft3/sk | Slurry Description |
|-------------------|-----------|---------|------------|---|
| 2,030' 10-3/4" | 450 | 13.5 | 1.73 | Lead: Class C/H + 4.0% Bentonite Gel + 0.5% CaCl ₂ + 0.25 lb/sk Cello-Flake (TOC @ Surface) |
| | 120 | 14.8 | 1.34 | Tail: Class C/H + 0.6% FL-62 + 0.25 lb/sk Cello-Flake + 0.2% Sodium Metasilicate (TOC @ 1830') |
| 7,890' 8-5/8" | 460 | 12.7 | 2.22 | Lead: Class C/H + 10% NaCl + 6% Bentonite Gel + 3% MagOx (TOC @ Surface) |
| | 210 | 14.8 | 1.32 | Tail: Class C/H + 10% NaCl + 3% MagOx (TOC @ 6234') |
| 28,578' 6" | 1000 | 14.8 | 1.32 | Bradenhead squeeze: Class C/H + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (TOC @ surface) |
| | 2410 | 13.2 | 1.52 | Tail: Class C/H + 5% NEX-020 + 0.2% NAC-102 + 0.15% NAS-725 + 0.5% NFL-549 + 0.2% NFP-703 + 1% NBE-737 + 0.3% NRT-241 (TOC @ 8140') |



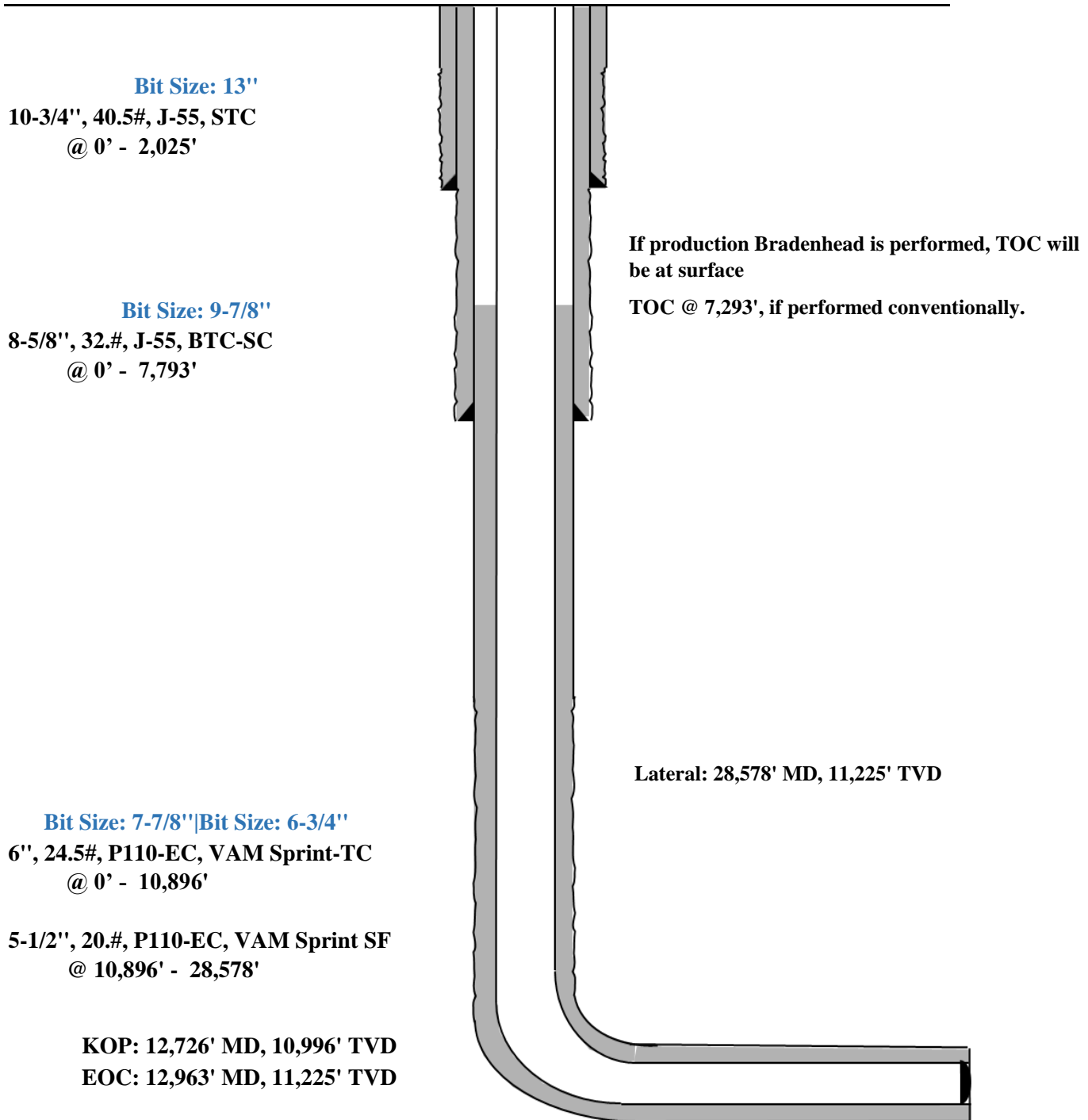
Shallow Casing Design E

Proposed Wellbore

KB: 3558'

GL: 3533'

API: 30-025-*****



StressCheck - [Triaxial Results - Shallow 3.0 Mile *]

File Edit Wellbore Tubular View Composer Tools Window Help

Burst Design 8 5/8" Intermediate Casing Pressure Test

Triaxial Results

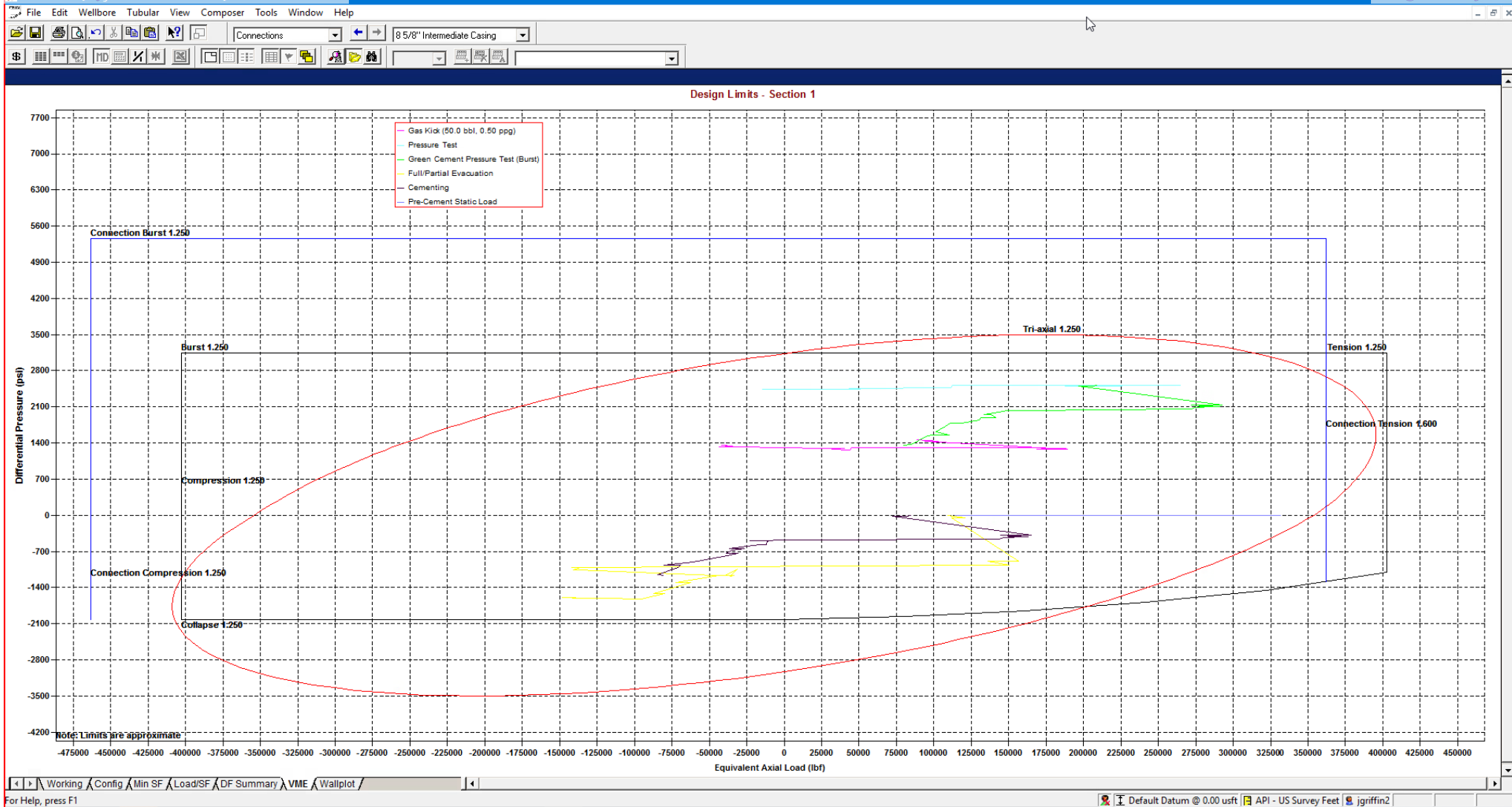
| Depth (MD) (usft) | Axial Force (lbf) | | Equivalent Axial Load (lbf) | Bending Stress at OD (psi) | Absolute Safety Factor | | | | Temperature (°F) | Pressure (psi) | | Addtl Pickup To Prevent Buck. (lbf) | Buckled Length (usft) | |
|----------------------|-------------------------|-------------------------|--------------------------------|-------------------------------|------------------------|-------|--------------|-------|---------------------|----------------|----------|--|--------------------------|-----|
| | Apparent (w/Bending) | Actual (w/o Bending) | | | Triaxial | Burst | Collapse (V) | Axial | | Internal | External | | | |
| 1 | 0 | 200426 | 183224 | 200546 | 1880.2 | 1.68 | 1.57 | N/A | 2.89 F | 70.00 | 2500.00 | 0.00 | N/A | N/A |
| 2 | 100 | 196229 | 179028 | 196812 | 1880.2 | 1.69 | 1.57 | N/A | 2.95 F | 71.10 | 2543.63 | 43.63 | | |
| 3 | 100 | 187111 | 179027 | 187686 | 883.7 | 1.70 | 1.57 | N/A | 3.10 F | 71.10 | 2543.64 | 43.64 | | |
| 4 | 1700 | 256401 | 111891 | 264835 | 15795.8 | 1.56 | 1.56 | N/A | 2.26 F | 88.70 | 3241.64 | 741.64 | | |
| 5 | 1700 | 235940 | 111891 | 244247 | 13559.4 | 1.60 | 1.56 | N/A | 2.45 F | 88.70 | 3241.65 | 741.65 | | |
| 6 | 1850 | 252413 | 105788 | 261533 | 16027.0 | 1.54 | 1.56 | N/A | 2.29 F | 90.29 | 3305.05 | 805.05 | | |
| 7 | 1850 | 239292 | 105787 | 248323 | 14592.9 | 1.56 | 1.56 | N/A | 2.42 F | 90.29 | 3305.06 | 805.06 | | |
| 8 | 1950 | 240267 | 101966 | 249748 | 15117.2 | 1.54 | 1.56 | N/A | 2.41 F | 91.30 | 3344.87 | 844.87 | | |
| 9 | 1950 | 234781 | 101965 | 244223 | 14517.5 | 1.56 | 1.56 | N/A | 2.47 F | 91.30 | 3344.87 | 844.87 | | |
| 10 | 2050 | 230871 | 98395 | 240694 | 14480.4 | 1.55 | 1.56 | N/A | 2.51 F | 92.23 | 3381.89 | 881.89 | | |
| 11 | 2050 | 227794 | 98394 | 237594 | 14144.2 | 1.55 | 1.56 | N/A | 2.54 F | 92.23 | 3381.89 | 881.89 | | |
| 12 | 2300 | 117966 | 90294 | 127818 | 3024.7 | 1.70 | 1.56 | N/A | 4.91 F | 94.35 | 3466.13 | 966.13 | | |
| 13 | 2300 | 104686 | 90293 | 114432 | 1573.2 | 1.71 | 1.56 | N/A | 5.53 F | 94.35 | 3466.14 | 966.14 | | |
| 14 | 2370 | 102469 | 88077 | 112431 | 1573.2 | 1.71 | 1.56 | N/A | 5.65 F | 94.94 | 3489.28 | 989.28 | | |
| 15 | 2370 | 100817 | 86424 | 111200 | 1573.2 | 1.75 | 1.59 | N/A | 5.75 F | 94.94 | 3489.29 | 1036.40 | | |
| 16 | 2700 | 83660 | 75583 | 95052 | 882.8 | 1.74 | 1.59 | N/A | 6.92 F | 97.73 | 3599.97 | 1152.35 | | |
| 17 | 2700 | 88072 | 75583 | 99504 | 1365.1 | 1.74 | 1.59 | N/A | 6.58 F | 97.73 | 3599.97 | 1152.35 | | |
| 18 | 3100 | 86049 | 62442 | 98863 | 2580.4 | 1.71 | 1.59 | N/A | 6.73 F | 101.11 | 3734.23 | 1293.00 | | |
| 19 | 3100 | 76477 | 62441 | 89195 | 1534.2 | 1.72 | 1.59 | N/A | 7.57 F | 101.11 | 3734.23 | 1293.01 | | |
| 20 | 3700 | 55953 | 42882 | 70509 | 1428.8 | 1.69 | 1.60 | N/A | 10.35 F | 106.15 | 3934.24 | 1502.54 | | |
| 21 | 3700 | 48311 | 42881 | 62778 | 593.5 | 1.71 | 1.60 | N/A | 11.99 F | 106.16 | 3934.25 | 1502.55 | | |
| 22 | 4000 | 41458 | 33043 | 56865 | 919.9 | 1.69 | 1.60 | N/A | 13.97 F | 108.69 | 4034.82 | 1607.91 | | |
| 23 | 4650 | 26293 | 11655 | 43706 | 1600.1 | 1.63 | 1.60 | N/A | 22.03 F | 114.20 | 4253.37 | 1836.86 | | |
| 24 | 4900 | 32619 | 4156 | 50970 | 3111.2 | 1.59 | 1.60 | N/A | 17.76 F | 116.32 | 4337.37 | 1924.87 | | |
| 25 | 4900 | 21439 | 4155 | 39625 | 1889.2 | 1.61 | 1.60 | N/A | 27.02 F | 116.32 | 4337.38 | 1924.87 | | |
| 26 | 5039 | 15822 | 26 | 34389 | 1726.6 | 1.61 | 1.61 | N/A | 36.61 F | 117.49 | 4383.77 | 1973.48 | | |
| 27 | 5039 | 15822 | 26 | 34388 | 1726.6 | 1.61 | 1.61 | N/A | 36.61 F | 117.49 | 4383.78 | 1973.49 | | |
| 28 | 5600 | -33912 | -16743 | -14286 | 1876.7 | 1.57 | 1.61 | N/A | (14.60) | 122.23 | 4572.11 | 2170.78 | | |
| 29 | 5650 | -30585 | -18235 | -10742 | 1350.0 | 1.58 | 1.61 | N/A | (16.18) | 122.66 | 4588.87 | 2188.34 | | |
| 30 | | | | | | | | | | | | | | |
| 31 | | F | Conn Fracture | | | | | | | | | | | |
| 32 | | (| Compression | | | | | | | | | | | |
| 33 | | (V) | Vector Collapse Safety Factor | | | | | | | | | | | |
| 34 | | | | | | | | | | | | | | |

Working Config Min SF Load/SF DF Summary VME Wallplot

For Help, press F1

Default Datum @ 0.00 usft API - US Survey Feet jgriffin2

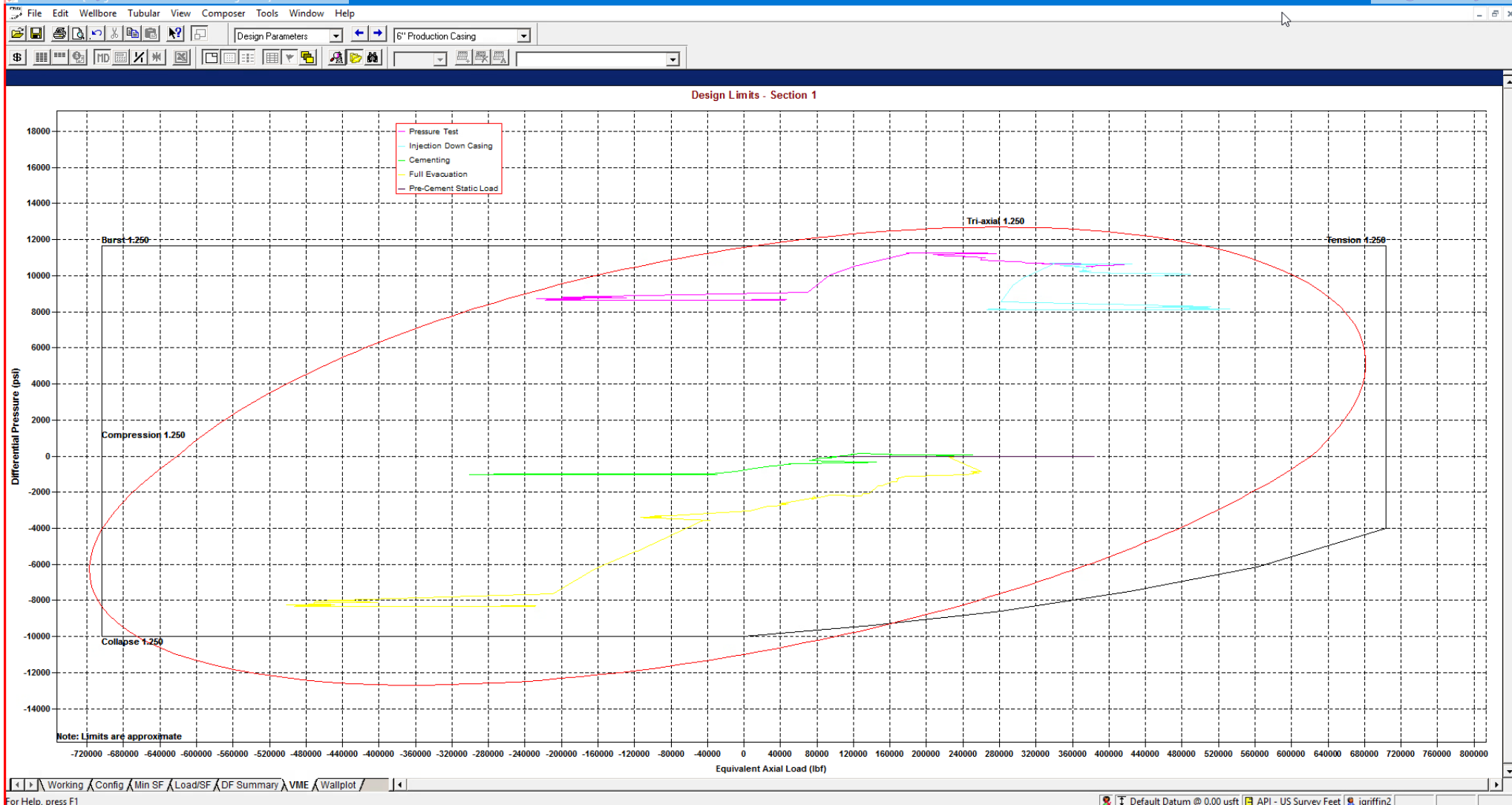
8-5/8" Intermediate Casing Pressure Test:
 Internal Profile based off Surface Pressure + Hydrostatic: 4589 psi
 External Profile based off Pore Pressure: 2188 psi



StressCheck - [String Summary - Shallow 3.0 Mile *]

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) | |
|----------------|-----------------------------------|--------------------------|--------------------|----------------|-----------------------------|--------------|-------|----------|------------------|--------|
| | | | | | Burst | Collapse (V) | Axial | Triaxial | | |
| 1 | Intermediate Casing | 8 5/8", 32,000 ppf, J-55 | BTC, J-55 | 0.0-5650.0 | 7.875 A | 1.56 | 1.57 | 1.81 F | 1.34 | 80,117 |
| Total = 80,117 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | F Conn Fracture | | | | | | | | | |
| 5 | A Alternate Drift | | | | | | | | | |
| 6 | (V) Vector Collapse Safety Factor | | | | | | | | | |
| 7 | | | | | | | | | | |

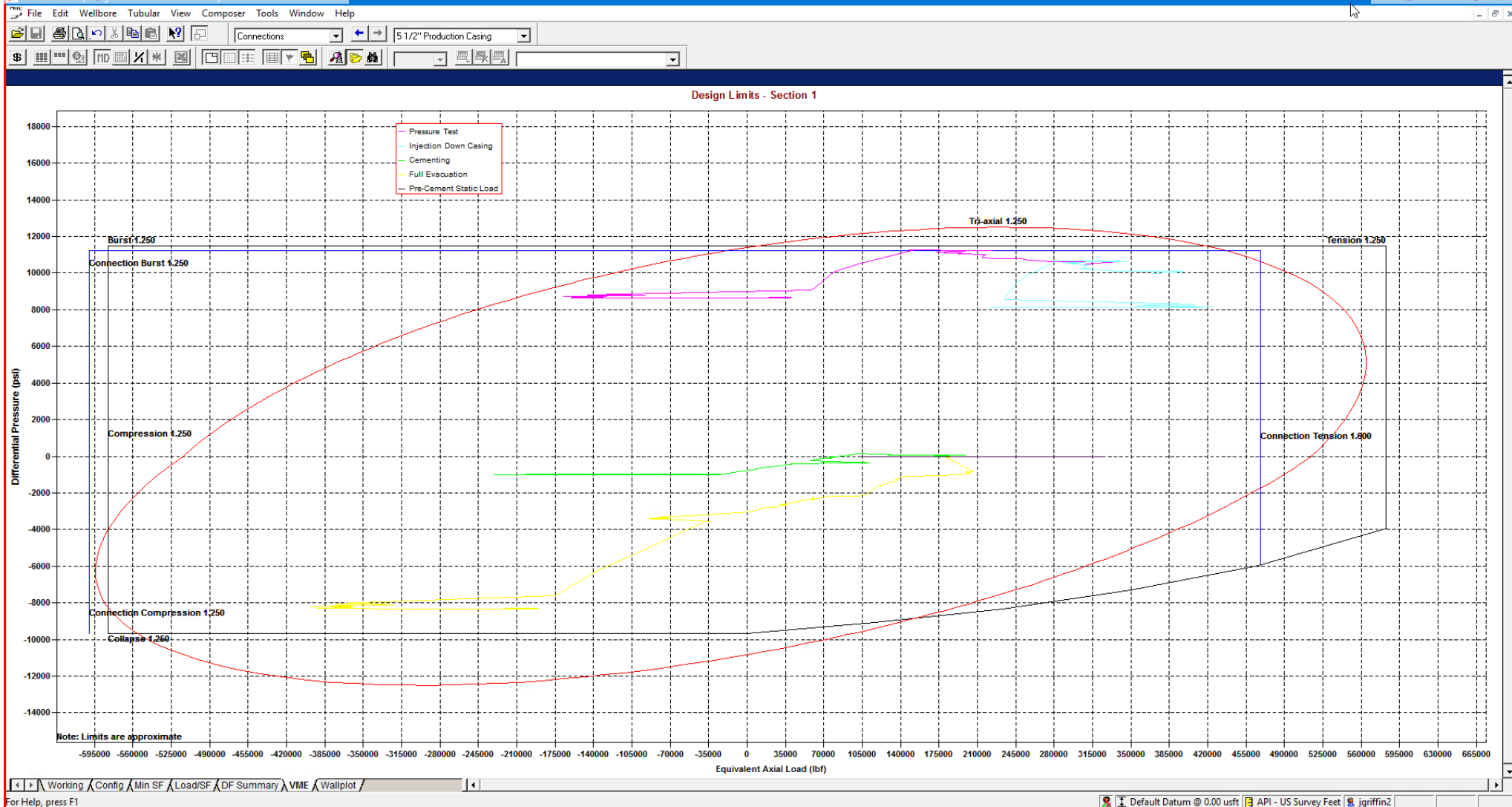
*Modelling done with 8-5/8" 32# Intermediate Casing. Passes all Burst, Collapse and Tensile design criteria.



String Summary

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) | |
|-----------------|-----------------------------------|--------------------------|--------------------|----------------|-----------------------------|--------------|--------------|----------|------------------|---------|
| | | | | | Burst | Collapse (V) | Axial (1.75) | Triaxial | | |
| 1 | Production Casing | 6", 24.500 ppf, P110 ICY | BTC, P110 ICY | 0.0-28578.0 | 5.075 | 1.29 | 1.52 | (1.75) | 1.37 | 541,493 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | () Compression | | | | | | | | | |
| 5 | (V) Vector Collapse Safety Factor | | | | | | | | | |
| 6 | | | | | | | | | | |
| Total = 541,493 | | | | | | | | | | |

*Modelling done with 6" Production Casing with a 125ksi Control Yield. Passes all Burst, Collapse and Tensile design criteria.



StressCheck - [String Summary - Shallow 3.0 Mile]

| String | OD/Weight/Grade | Connection | MD Interval (usft) | Drift Dia. (") | Minimum Safety Factor (Abs) | | | | Design Cost (\$) | |
|-----------------|-----------------------------------|------------------------------|--------------------|----------------|-----------------------------|--------------|-------|----------|------------------|---------|
| | | | | | Burst | Collapse (V) | Axial | Triaxial | | |
| 1 | Production Casing | 5 1/2", 20.000 ppf, P110 ICY | BTC, P110 ICY | 0.0-28578.0 | 4.653 | 1.27 | 1.47 | 1.90 F | 1.35 | 446,902 |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | F Conn Fracture | | | | | | | | | |
| 5 | () Compression | | | | | | | | | |
| 6 | (V) Vector Collapse Safety Factor | | | | | | | | | |
| 7 | | | | | | | | | | |
| Total = 446,902 | | | | | | | | | | |

*Modelling done with 5-1/2" 20# Production Casing with a 125ksi Control Yield. Passes all Burst, Collapse and Tensile design criteria.



Shallow Casing Design 501H

| Additive | Purpose |
|---------------------|---|
| Bentonite Gel | Lightweight/Lost circulation prevention |
| Calcium Chloride | Accelerator |
| Cello-flake | Lost circulation prevention |
| Sodium Metasilicate | Accelerator |
| MagOx | Expansive agent |
| Pre-Mag-M | Expansive agent |
| Sodium Chloride | Accelerator |
| FL-62 | Fluid loss control |
| Halad-344 | Fluid loss control |
| Halad-9 | Fluid loss control |
| HR-601 | Retarder |
| Microbond | Expansive Agent |

Cement integrity tests will be performed immediately following plug bump.

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

EOG requests variance from minimum standards to pump a two stage cement job on the production casing string with the first stage being pumped conventionally with the calculated top of cement at the top of the Brushy Canyon and the second stage performed as a 1000 sack bradenhead squeeze with planned cement from the Brushy Canyon to surface. If necessary, a top out consisting of 400 sacks of Class C cement + 3% Salt + 1% PreMag-M + 6% Bentonite Gel (1.32 yld, 14.8 ppg) will be executed as a contingency. Top will be verified by Echo-meter.

Bradenhead will be the primary option for production cementing. EOG also requests to have the conventional option in place to accommodate for logistical or wellbore conditions. The tie back requirements will be met if the cement is pumped conventionally, and cement volumes will be adjusted accordingly. TOC will be verified by CBL.



MUD PROGRAM:

During this procedure we plan to use a Closed-Loop System and haul contents to the required disposal. The applicable depths and properties of the drilling fluid systems are as follows:

| Measured Depth | Type | Weight (ppg) | Viscosity | Water Loss |
|-----------------------------|-------------|--------------|-----------|------------|
| 0 – 2,030' | Fresh - Gel | 8.6-8.8 | 28-34 | N/c |
| 2,030' – 7,793' | Brine | 9-10.5 | 28-34 | N/c |
| 5,450' – 28,578' Lateral | Oil Base | 8.8-9.5 | 58-68 | N/c - 6 |

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

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



Appendix A - Spec Sheets

[New Search »](#)

[« Back to Previous List](#)

USC Metric

6/8/2015 10:04:37 AM

| Mechanical Properties | Pipe | BTC | LTC | STC | |
|----------------------------------|--------|--------|-----|--------|----------|
| Minimum Yield Strength | 55,000 | -- | -- | -- | psi |
| Maximum Yield Strength | 80,000 | -- | -- | -- | psi |
| Minimum Tensile Strength | 75,000 | -- | -- | -- | psi |
| Dimenstons | Pipe | BTC | LTC | STC | |
| Outside Diameter | 13.375 | 14.375 | -- | 14.375 | in. |
| Wall Thickness | 0.380 | -- | -- | -- | in. |
| Inside Diameter | 12.615 | 12.615 | -- | 12.615 | in. |
| Standard Drift | 12.459 | 12.459 | -- | 12.459 | in. |
| Alternate Drift | -- | -- | -- | -- | in. |
| Nominal Linear Weight, T&C | 54.50 | -- | -- | -- | lbs/ft |
| Plain End Weight | 52.79 | -- | -- | -- | lbs/ft |
| Performance | Pipe | BTC | LTC | STC | |
| Minimum Collapse Pressure | 1,130 | 1,130 | -- | 1,130 | psi |
| Minimum Internal Yield Pressure | 2,740 | 2,740 | -- | 2,740 | psi |
| Minimum Pipe Body Yield Strength | 853.00 | -- | -- | -- | 1000 lbs |
| Joint Strength | -- | 909 | -- | 514 | 1000 lbs |
| Reference Length | -- | 11,125 | -- | 6,290 | ft |
| Make-Up Data | Ptpe | BTC | LTC | STC | |
| Make-Up Loss | -- | 4.81 | -- | 3.50 | in. |
| Minimum Make-Up Torque | -- | -- | -- | 3,860 | ft-lbs |
| Maximum Make-Up Torque | -- | -- | -- | 6,430 | ft-lbs |

[New Search »](#)

[« Back to Previous List](#)

USC Metric

6/8/2015 10:23:27 AM

| Mechanical Properties | Pipe | BTC | LTC | STC | |
|----------------------------------|--------|--------|--------|--------|----------|
| Minimum Yield Strength | 55,000 | -- | -- | -- | psi |
| Maximum Yield Strength | 80,000 | -- | -- | -- | psi |
| Minimum Tensile Strength | 75,000 | -- | -- | -- | psi |
| Dimenstons | Pipe | BTC | LTC | STC | |
| Outside Diameter | 9.625 | 10.625 | 10.625 | 10.625 | in. |
| Wall Thickness | 0.395 | -- | -- | -- | in. |
| Inside Diameter | 8.835 | 8.835 | 8.835 | 8.835 | in. |
| Standard Drift | 8.679 | 8.679 | 8.679 | 8.679 | in. |
| Alternate Drift | 8.750 | 8.750 | 8.750 | 8.750 | in. |
| Nominal Linear Weight, T&C | 40.00 | -- | -- | -- | lbs/ft |
| Plain End Weight | 38.97 | -- | -- | -- | lbs/ft |
| Performance | Pipe | BTC | LTC | STC | |
| Minimum Collapse Pressure | 2,570 | 2,570 | 2,570 | 2,570 | psi |
| Minimum Internal Yield Pressure | 3,950 | 3,950 | 3,950 | 3,950 | psi |
| Minimum Pipe Body Yield Strength | 630.00 | -- | -- | -- | 1000 lbs |
| Joint Strength | -- | 714 | 520 | 452 | 1000 lbs |
| Reference Length | -- | 11,898 | 8,665 | 7,529 | ft |
| Make-Up Data | Pipe | BTC | LTC | STC | |
| Make-Up Loss | -- | 4.81 | 4.75 | 3.38 | in. |
| Minimum Make-Up Torque | -- | -- | 3,900 | 3,390 | ft-lbs |
| Maximum Make-Up Torque | -- | -- | 6,500 | 5,650 | ft-lbs |



Connection Data Sheet

| | | | | | | |
|----------|------------------------------------|------------|------------|-----------------|------|-------------|
| OD (in.) | WEIGHT (lbs./ft.) | WALL (in.) | GRADE | API DRIFT (in.) | RBW% | CONNECTION |
| 5.500 | Nominal: 20.00 Plain End: 19.83 | 0.361 | VST P110EC | 4.653 | 87.5 | DWC/C-IS MS |

| PIPE PROPERTIES | | | CONNECTION PROPERTIES | | |
|-----------------------|---------|--------|------------------------------|------------------|---------|
| Outside Diameter | 5.500 | in. | Connection Type | Semi-Premium T&C | |
| Inside Diameter | 4.778 | in. | Connection O.D. (nom) | 6.115 | in. |
| Nominal Area | 5.828 | sq.in. | Connection I.D. (nom) | 4.778 | in. |
| Grade Type | API 5CT | | Make-Up Loss | 4.125 | in. |
| Min. Yield Strength | 125 | ksi | Coupling Length | 9.250 | in. |
| Max. Yield Strength | 140 | ksi | Critical Cross Section | 5.828 | sq.in. |
| Min. Tensile Strength | 135 | ksi | Tension Efficiency | 100.0% | of pipe |
| Yield Strength | 729 | klb | Compression Efficiency | 100.0% | of pipe |
| Ultimate Strength | 787 | klb | Internal Pressure Efficiency | 100.0% | of pipe |
| Min. Internal Yield | 14,360 | psi | External Pressure Efficiency | 100.0% | of pipe |
| Collapse | 12,090 | psi | | | |

| CONNECTION PERFORMANCES | | | FIELD END TORQUE VALUES | | |
|---|--------|----------|-------------------------------|--------|-------|
| Yield Strength | 729 | klb | Min. Make-up torque | 16,100 | ft.lb |
| Parting Load | 787 | klb | Opti. Make-up torque | 17,350 | ft.lb |
| Compression Rating | 729 | klb | Max. Make-up torque | 18,600 | ft.lb |
| Min. Internal Yield | 14,360 | psi | Min. Shoulder Torque | 1,610 | ft.lb |
| External Pressure | 12,090 | psi | Max. Shoulder Torque | 12,880 | ft.lb |
| Maximum Uniaxial Bend Rating | 104.2 | °/100 ft | Min. Delta Turn | - | Turns |
| Reference String Length w 1.4 Design Factor | 26,040 | ft | Max. Delta Turn | 0.200 | Turns |
| | | | Maximum Operational Torque | 21,100 | ft.lb |
| | | | Maximum Torsional Value (MTV) | 23,210 | ft.lb |

Need Help? Contact: tech.support@vam-usa.com
 Reference Drawing: 8136PP Rev.01 & 8136BP Rev.01
 Date: 12/03/2019
 Time: 06:19:27 PM

For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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Tech Support Email: tech.support@vam-usa.com

DWC Connection Data Sheet Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact tech.support@vam-usa.com for details on connection ratings and make-up.



Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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10.750 40.50/0.350 J55

PDF

New Search »

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USC Metric

6/8/2015 10:14:05 AM

| Mechanical Properties | Pipe | BTC | LTC | STC | |
|----------------------------------|--------|--------|-----|--------|----------|
| Minimum Yield Strength | 55,000 | -- | -- | -- | psi |
| Maximum Yield Strength | 80,000 | -- | -- | -- | psi |
| Minimum Tensile Strength | 75,000 | -- | -- | -- | psi |
| Dimenstons | Pipe | BTC | LTC | STC | |
| Outside Diameter | 10.750 | 11.750 | -- | 11.750 | in. |
| Wall Thickness | 0.350 | -- | -- | -- | in. |
| Inside Diameter | 10.050 | 10.050 | -- | 10.050 | in. |
| Standard Drift | 9.894 | 9.894 | -- | 9.894 | in. |
| Alternate Drift | -- | -- | -- | -- | in. |
| Nominal Linear Weight, T&C | 40.50 | -- | -- | -- | lbs/ft |
| Plain End Weight | 38.91 | -- | -- | -- | lbs/ft |
| Performance | Pipe | BTC | LTC | STC | |
| Minimum Collapse Pressure | 1,580 | 1,580 | -- | 1,580 | psi |
| Minimum Internal Yield Pressure | 3,130 | 3,130 | -- | 3,130 | psi |
| Minimum Pipe Body Yield Strength | 629.00 | -- | -- | -- | 1000 lbs |
| Joint Strength | -- | 700 | -- | 420 | 1000 lbs |
| Reference Length | -- | 11,522 | -- | 6,915 | ft |
| Make-Up Data | Pipe | BTC | LTC | STC | |
| Make-Up Loss | -- | 4.81 | -- | 3.50 | in. |
| Minimum Make-Up Torque | -- | -- | -- | 3,150 | ft-lbs |
| Maximum Make-Up Torque | -- | -- | -- | 5,250 | ft-lbs |

Released to Imaging: 3/16/2026 1:54:33 PM



API 5CT, 10th Ed. Connection Data Sheet

| O.D. (in) | WEIGHT (lb/ft) | WALL (in) | GRADE | *API DRIFT (in) | RBW % |
|-----------|------------------------------------|-----------|-------|-----------------|-------|
| 8.625 | Nominal: 32.00 Plain End: 31.13 | 0.352 | J55 | 7.796 | 87.5 |

Material Properties (PE)

| Pipe | |
|---------------------------|--------|
| Minimum Yield Strength: | 55 ksi |
| Maximum Yield Strength: | 80 ksi |
| Minimum Tensile Strength: | 75 ksi |
| Coupling | |
| Minimum Yield Strength: | 55 ksi |
| Maximum Yield Strength: | 80 ksi |
| Minimum Tensile Strength: | 75 ksi |

Pipe Body Data (PE)

| Geometry | |
|--|-----------------------|
| Nominal ID: | 7.92 inch |
| Nominal Area: | 9.149 in ² |
| *Special/Alt. Drift: | 7.875 inch |
| Performance | |
| Pipe Body Yield Strength: | 503 kips |
| Collapse Resistance: | 2,530 psi |
| Internal Yield Pressure: (API Historical) | 3,930 psi |

API Connection Data

Coupling OD: 9.625"

| STC Performance | |
|---------------------------------------|-----------|
| STC Internal Pressure: | 3,930 psi |
| STC Joint Strength: | 372 kips |
| LTC Performance | |
| LTC Internal Pressure: | 3,930 psi |
| LTC Joint Strength: | 417 kips |
| SC-BTC Performance - Cplg OD = 9.125" | |
| BTC Internal Pressure: | 3,930 psi |
| BTC Joint Strength: | 503 kips |

API Connection Torque

| STC Torque (ft-lbs) | | | | | |
|---|-------|-------|-------|------|-------|
| Min: | 2,793 | Opti: | 3,724 | Max: | 4,655 |
| LTC Torque (ft-lbs) | | | | | |
| Min: | 3,130 | Opti: | 4,174 | Max: | 5,217 |
| BTC Torque (ft-lbs) | | | | | |
| <i>follow API guidelines regarding positional make up</i> | | | | | |

*Alt. Drift will be used unless API Drift is specified on order.

**If above API connections do not suit your needs, VAM® premium connections are available up to 100% of pipe body ratings.

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VALLOUREC STAR 8.625 32# J55 S S2L2 DA 7.875 W/O# SLN# PO# MADE IN USA FT LB

Issued on: 10 Feb. 2021 by Wesley Ott



Connection Data Sheet

| | | | | | |
|-------------|--|-----------------------|-----------------|-------------------------|-------------------------------------|
| OD 6 in. | Weight (lb/ft) Nominal: 24.50 Plain End: 23.95 | Wall Th. 0.400 in. | Grade P110EC | API Drift: 5.075 in. | Connection VAM® SPRINT-SF |
|-------------|--|-----------------------|-----------------|-------------------------|-------------------------------------|

| PIPE PROPERTIES | |
|--------------------------------|-------------|
| Nominal OD | 6.000 in. |
| Nominal ID | 5.200 in. |
| Nominal Cross Section Area | 7.037 sqin. |
| Grade Type | High Yield |
| Min. Yield Strength | 125 ksi |
| Max. Yield Strength | 140 ksi |
| Min. Ultimate Tensile Strength | 135 ksi |

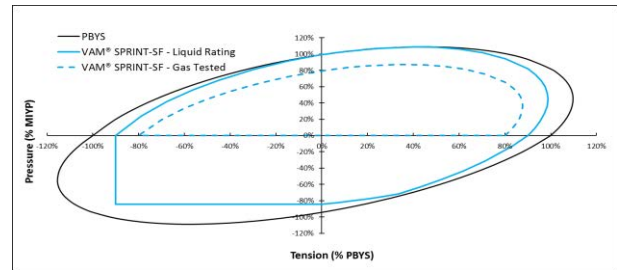
| CONNECTION PROPERTIES | |
|------------------------------|---------------------|
| Connection Type | Integral Semi-Flush |
| Connection OD (nom): | 6.277 in. |
| Connection ID (nom): | 5.146 in. |
| Make-Up Loss | 5.386 in. |
| Critical Cross Section | 6.417 sqin. |
| Tension Efficiency | 91.0 % of pipe |
| Compression Efficiency | 91.0 % of pipe |
| Internal Pressure Efficiency | 100 % of pipe |
| External Pressure Efficiency | 100 % of pipe |

| CONNECTION PERFORMANCES | |
|---------------------------------------|------------|
| Tensile Yield Strength | 801 klb |
| Compression Resistance | 801 klb |
| Internal Yield Pressure | 14,580 psi |
| Collapse Resistance | 12,500 psi |
| Max. Structural Bending | 83 °/100ft |
| Max. Bending with ISO/API Sealability | 30 °/100ft |

| TORQUE VALUES | |
|------------------------------------|--------------|
| Min. Make-up torque | 21,750 ft.lb |
| Opt. Make-up torque | 24,250 ft.lb |
| Max. Make-up torque | 26,750 ft.lb |
| Max. Torque with Sealability (MTS) | 53,000 ft.lb |

* 87.5% RBW

VAM® SPRINT-SF is a semi-flush connection innovatively designed for extreme shale applications. Its high tension rating and ultra high torque capacity make it ideal to run a fill string length as production casing in shale wells with extended horizontal sections and tight clearance requirements.



Do you need help on this product? - Remember no one knows VAM® like VAM®

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singapore@vamfieldservice.com
australia@vamfieldservice.com

Over 140 VAM® Specialists available worldwide 24/7 for Rig Site Assistance





Connection Data Sheet

| | | | | | | |
|-------------------|---|---------------------|---------------------|--------------------------|--------------|------------------------|
| OD (in.) 6.000 | WEIGHT (lbs./ft.) Nominal: 22.30 Plain End: 21.70 | WALL (in.) 0.360 | GRADE VST P110EC | API DRIFT (in.) 5.155 | RBW% 92.5 | CONNECTION DWC/C-IS |
|-------------------|---|---------------------|---------------------|--------------------------|--------------|------------------------|

| PIPE PROPERTIES | | |
|------------------------------|---------|--------|
| Nominal OD | 6.000 | in. |
| Nominal ID | 5.280 | in. |
| Nominal Area | 6.379 | sq.in. |
| Grade Type | API 5CT | |
| Min. Yield Strength | 125 | ksi |
| Max. Yield Strength | 140 | ksi |
| Min. Tensile Strength | 135 | ksi |
| Yield Strength | 797 | klb |
| Ultimate Strength | 861 | klb |
| Min. Internal Yield Pressure | 13,880 | psi |
| Collapse Pressure | 9,800 | psi |

| CONNECTION PROPERTIES | | |
|------------------------------|------------------|---------|
| Connection Type | Semi-Premium T&C | |
| Connection OD (nom) | 6.650 | in. |
| Connection ID (nom) | 5.280 | in. |
| Make-Up Loss | 4.313 | in. |
| Coupling Length | 9.625 | in. |
| Critical Cross Section | 6.379 | sq.in. |
| Tension Efficiency | 100.0% | of pipe |
| Compression Efficiency | 100.0% | of pipe |
| Internal Pressure Efficiency | 100.0% | of pipe |
| External Pressure Efficiency | 100.0% | of pipe |

| CONNECTION PERFORMANCES | | |
|---|--------|----------------------|
| Yield Strength | 797 | klb |
| Parting Load | 861 | klb |
| Compression Rating | 797 | klb |
| Min. Internal Yield | 13,880 | psi |
| External Pressure | 9,800 | psi |
| Maximum Uniaxial Bend Rating | 47.7 | ^o /100 ft |
| Reference String Length w 1.4 Design Factor | 25,530 | ft. |

| FIELD END TORQUE VALUES | | |
|-------------------------------|--------|-------|
| Min. Make-up torque | 17,000 | ft.lb |
| Opti. Make-up torque | 18,250 | ft.lb |
| Max. Make-up torque | 19,500 | ft.lb |
| Min. Shoulder Torque | 1,700 | ft.lb |
| Max. Shoulder Torque | 13,600 | ft.lb |
| Min. Delta Turn | - | Turns |
| Max. Delta Turn | 0.200 | Turns |
| Maximum Operational Torque | 24,200 | ft.lb |
| Maximum Torsional Value (MTV) | 26,620 | ft.lb |

Need Help? Contact: tech.support@vam-usa.com
 Reference Drawing: 8135PP Rev.02 & 8135BP Rev.02
 Date: 07/30/2020
 Time: 07:50:47 PM

For detailed information on performance properties, refer to DWC Connection Data Notes on following page(s).

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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VAM® USA Sales E-mail: VAMUSAsales@vam-usa.com
 Tech Support Email: tech.support@vam-usa.com

DWC Connection Data Sheet Notes:

1. DWC connections are available with a seal ring (SR) option.
2. All standard DWC/C connections are interchangeable for a given pipe OD. DWC connections are interchangeable with DWC/C-SR connections of the same OD and wall.
3. Connection performance properties are based on nominal pipe body and connection dimensions.
4. DWC connection internal and external pressure resistance is calculated using the API rating for buttress connections. API Internal pressure resistance is calculated from formulas 31, 32, and 35 in the API Bulletin 5C3.
5. DWC joint strength is the minimum pipe body yield strength multiplied by the connection critical area.
6. API joint strength is for reference only. It is calculated from formulas 42 and 43 in the API Bulletin 5C3.
7. Bending efficiency is equal to the compression efficiency.
8. The torque values listed are recommended. The actual torque required may be affected by field conditions such as temperature, thread compound, speed of make-up, weather conditions, etc.
9. Connection yield torque is not to be exceeded.
10. Reference string length is calculated by dividing the joint strength by both the nominal weight in air and a design factor (DF) of 1.4. These values are offered for reference only and do not include load factors such as bending, buoyancy, temperature, load dynamics, etc.
11. DWC connections will accommodate API standard drift diameters.
12. DWC/C family of connections are compatible with API Buttress BTC connections. Please contact tech.support@vam-usa.com for details on connection ratings and make-up.

Connection specifications within the control of VAM USA were correct as of the date printed. Specifications are subject to change without notice. Certain connection specifications are dependent on the mechanical properties of the pipe. Mechanical properties of mill proprietary pipe grades were obtained from mill publications and are subject to change. Properties of mill proprietary grades should be confirmed with the mill. Users are advised to obtain current connection specifications and verify pipe mechanical properties for each application.

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2018-151

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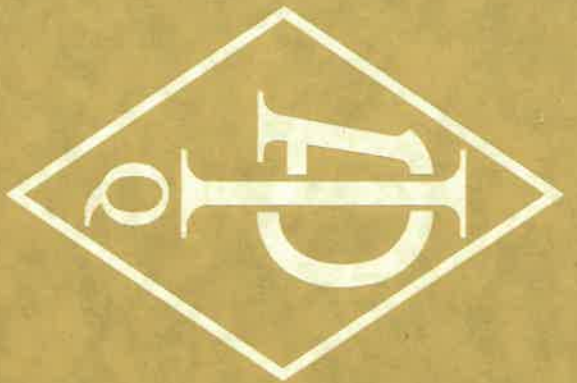
QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: OCTOBER 24, 2024

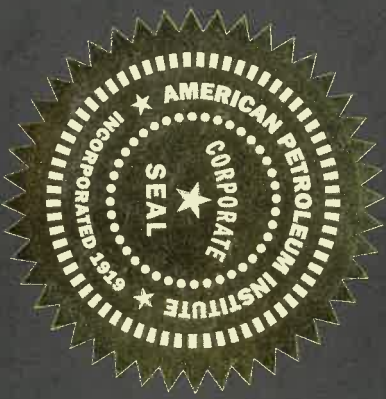
Expiration Date: DECEMBER 18, 2027

Senior Vice President of Global Industry Services

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2018-151

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QMS Exclusions: No Exclusions Identified as Applicable

Effective Date: OCTOBER 24, 2024

Expiration Date: DECEMBER 18, 2027

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Senior Vice President of Global Industry Services



REGISTRATION NO. Q1-3650

Certificate of Registration

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has been assessed by the American Petroleum Institute and found to be in conformance with the following:

API Spec Q1, 9th Edition

The scope of this registration and the approved quality management system applies to the

**Assembly and Pressure Test of High Pressure Mud and Cement Hoses,
Flexible Choke and Kill Lines and General Rubber Hydraulic Hose Assemblies**

API approves the organization's justification for excluding

No Exclusions Identified as Applicable



Effective Date: OCTOBER 24, 2024
Expiration Date: DECEMBER 18, 2027
Registered Since: DECEMBER 18, 2018

Senior Vice President of Global Industry Services

This certificate is valid for the period specified herein. The registered organization must continually meet all requirements of API Spec Q1, *Specification for Quality Management System Requirements for Manufacturing Organizations for the Petroleum and Natural Gas Industry*, and the requirements of the Registration Agreement. Registration is maintained and regularly monitored through annual full system audits. This certificate has been issued from API offices located at 200 Massachusetts Avenue, NW Suite 1100, Washington, DC 20001-5571, U.S.A. It is the property of API and must be returned upon request. **To verify the authenticity of this certificate, go to www.api.org/compositelist.**



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FAX: +1 (281) 602-4147
EMAIL: gesna.quality@gates.com
WEB: gates.com/oilandgas

CERTIFICATE OF CONFORMANCE

This is to verify that all Parts and/or Materials included in this shipment have been manufactured and/or processed in Conformance with applicable drawings and specifications, and that Records of Required Tests are on file and subject to examination. The following items were purchased via **Gates Engineering & Services North America** facilities in Houston, TX, USA. This hose assembly was designed and manufactured to meet requirements of API Spec 16C, 3rd Edition.

CUSTOMER: HELMERICH & PAYNE INTERNATIONAL DRILLING CO.
CUSTOMER P.O.#: 740399823 (TAG WITH H&P I.D # 88076545 &H&P P.O. # 740399823 (UK S/O 34557))
CUSTOMER P/N: 3.035.016C4116FX-FLTSSA
PART DESCRIPTION: 3" X 35 FT GATES API 16C CHOKE & KILL FSL 3 TEMP B HOSE ASSEMBLY WITH STAINLESS STEEL ARMOR C/W 4 1/16" 10K H2S SUITED FLOAT X FLOAT FLANGES WITH BX 155 RING GROOVE SUPPLIED WITH SAFETY CLAMPS/LIFT EYE CLAMPS
SALES ORDER #: 525112
QUANTITY: 1
SERIAL #: SN 139321 HOSE BATCH 139244

SIGNATURE: _____
TITLE: _____ **QUALITY ASSURANCE** _____
DATE: _____ **2/10/2023** _____


| | | | |
|--|----------|----------------------------------|---|
| Gates Engineering & Services UK Ltd | | CERTIFICATE OF CONFORMITY |  |
| Doc. Ref. | Form-056 | | |
| Revision | 4 | | |


| | |
|---|---|
| Gates SO No. 34557 | Customer Name & Address: |
| Customer PO No: 1803964/ 1 | Gates Engineering & Services NA Inc |
| Description: 3" 10K API 16C CHOKE & KILL HOSE ASSEMBLY X 35FT OAL (QTY 5) | Accounts payable |
| | 7N GESNA |
| | 1144 Fifteenth Street, Suite 1400 Denver, CO 80202 USA |

This is to certify that the components listed below have been supplied in accordance with API 16C & the above referenced order number. The assemblies listed below have been manufactured and tested in the UK.

SPECIFICATION

| ITEM | DESCRIPTION | BATCH NUMBER | QTY |
|------|--|--------------|-----|
| 1 | 3" 10K API 16C CHOKE & KILL HOSE ASSEMBLY X 35FT OAL PART NO: HA34539-001 END A: 4.1/16" 10K API SPEC 6A TYPE FLANGE WITH BX155 RING GROOVE END B: 4.1/16" 10K API SPEC 17D SV SWIVEL FLANGE WITH BX155 RING GROOVE EACH END HAS AN INCONEL 625 INLAID RING GROOVE HOSE METALLIC PARTS MEET NACE-MR-0175 LATEST EDITION REQUIREMENTS WORKING PRESSURE: 10,000 PSI TEST PRESSURE: 15,000 PSI STANDARD: API 16C FSL3 MONOGRAMMED, 3RD EDITION EXTERNAL PROTECTION: STAINLESS STEEL ARMOUR INCLUDED FIRE RATED: API 16C STANDARD SECTION B.12.4 (704° FOR 30 MINS) H2S SERVICE SUITABLE TEMPERATURE CLASS B(-25 TO 100°C) HIGH TEMPERATURE EXPOSURE / SURVIVAL @ 177°C (INTERNAL IN A KICK SITUATION) SAFETY EQUIPMENT: INCLUDED 2 X HOSE SAFETY CLAMPS 2 X 3.6T SHACKLES 2 X 10MM OD X 6FT PCP COATED CHAINS HOSE ASSEMBLY WORKS ORDERS NUMBERS: 139051 139052 139053 139054 139321 | 139062 | 5 |
| | | 139063 | |
| | | 139064 | |
| | | 139065 | |
| | | 139244 | |
| | SAFETY/LIFTER CLAMP 195MM 1.7T PART NO: HCC108 | MYB59483 | 10 |
| | SAFETY CHAIN 10MM C/S PCP 6FT PART NO: CHC001 | ACU59481 | 10 |


J. Winkler
06 DEC 2022
 Accepted by..... for and on behalf of Gates Engineering & Services UK Ltd

| | | | |
|--|----------|----------------------------------|---|
| Gates Engineering & Services UK Ltd | | PRESSURE TEST CERTIFICATE |  |
| Doc. Ref. | Form-051 | | |
| Revision | 9 | | |


| | | | |
|--------------------------------|---|---------------------------------|-----------------------------------|
| <input type="checkbox"/> BURST | <input checked="" type="checkbox"/> HYDROSTATIC | <input type="checkbox"/> CYCLIC | Certificate No: PTC-139321 |
|--------------------------------|---|---------------------------------|-----------------------------------|

| | | | |
|--------------|--|---------------------|---------------|
| Product: | CK03F | Hose WO/Batch: | 139244 |
| Assembly WO: | 139321 | Length: | 35FT |
| SO No: | 34557 | Date: | 25/11/22 |
| Customer: | Gates Engineering & Services NA Inc | Customer Reference: | PO 1803964/ 1 |

| | | | |
|-------------------|-------|------|----------|
| Inner Diameter: | 3 | Inch | |
| Working Pressure: | 10000 | Psi | 690 bar |
| Test Pressure: | 15000 | Psi | 1034 bar |
| Burst Pressure: | 22500 | Psi | 1551 bar |

| Hose Description: | | 3" 10K API 16C CHOKE & KILL HOSE ASSEMBLY X 35FT OAL END A: 4.1/16" 10K API SPEC 6A TYPE FLANGE WITH BX155 RING GROOVE END B: 4.1/16" 10K API SPEC 17D SV SWIVEL FLANGE WITH BX155 RING GROOVE | |
|-------------------|-----|--|---------------------------------|
| Item No | Qty | Part Code | Customer Tag No (if applicable) |
| 1 | 1 | HA34539-001 | N/A |

| | |
|------------------|--|
| Details of Test: | Pressure tested with water at ambient temperature for a minimum of 60 minutes at test pressure 1034 BAR Pressure Transducer S/N: 131203 (CH1) Chart Recorder S/N: S5VB14523 Calibration Certificate No: IKMCERTU823 |
| Results: | Pressure Loss: 8.43 BAR Acceptance Criteria: Pressure loss not to exceed 500 PSI (34.47 BAR) |

| | |
|--|-------------|
| GESUK Ltd | Third Party |
|  <i>J. W. W. W.</i> 06 DEC 2022 | |

1/1

File Message : CH1 139321
Device Type : GX20
Serial No. : S5VB14523

Start Time : 2022/11/25 00:53:50.000 (UTC+08:00)
Stop Time : 2022/11/25 03:53:20.000 (UTC+08:00)

Start Time : 2022/11/25 00:53:50.000 (UTC+08:00)
Stop Time : 2022/11/25 03:53:20.000 (UTC+08:00)

Print Groups : GROUP 1
Print Range : 2022/11/25 00:53:50.000 - 2022/11/25 03:53:20.000 (UTC+08:00)



J. W. Johnson
06 DEC 2022

| Section | 427 | 787 | 2022/11/25 02:05:00.000 | | 2022/11/25 03:05:00.000 | |
|---------------|---------|---------|-------------------------|---------|-------------------------|---------|
| Channel | MIN | MAX | P-P | Mean | RMS | |
| CH0001[bar g] | 1050.12 | 1058.55 | 8.43 | 1053.28 | 1053.28 | 1053.28 |





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

SUPO Data Report

01/07/2026

APD ID: 10400108171

Submission Date: 11/06/2025

Highlighted data reflects the most recent changes

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

Show Final Text

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

RUBY_XL_2_26_FED_COM__591H_VIC_20251104153936.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:

EP_RUBY_XL_2_26_FED_COM_ACCESS_ROADS_REV5_20251104090131.pdf

New road type: RESOURCE

Length: 11116 Feet

Width (ft.): 30

Max slope (%): 2

Max grade (%): 20

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. We plan to water twice a year.

New road access plan or profile prepared? N

| | |
|--|--------------------------|
| Operator Name: EOG RESOURCES INCORPORATED | Well Number: 591H |
| Well Name: RUBY XL 2-26 FED COM | |

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: See attached SUPO

Access other construction information:

Access miscellaneous information:

Number of access turnouts:

Access turnout map:

Drainage Control

New road drainage crossing: CULVERT,OTHER

Other Description: See attached SUPO

Drainage Control comments: See attached SUPO

Road Drainage Control Structures (DCS) description: See attached SUPO

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Existing Well map Attachment:

RUBY_XL_2_26_FED_COM__591H_MILES_RADIUS_20251104153948.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description:

Production Facilities map:

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

- BO_RUBY_XL_2_26_FED_COM_CTB_S_20251104090208.pdf
- EP_RUBY_2_FED_COM_GAS_WATER_LIFT_S_20251104090209.pdf
- EP_RUBY_XL_2_26_FC_101_103_201_202_301_303_401_402_501_503_591_592_PH1_FL_GL_FO_S_20251104090208.pdf
- EP_RUBY_XL_2_26_FC_101_103_201_202_301_303_401_402_501_503_591_592_PH1_FUEL_GAS_20251104090208.pdf
- EP_RUBY_XL_2_26_FC_101_103_201_202_301_303_401_402_501_503_591_592_PH1_FUEL_GAS_S_20251104090208.pdf
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- EP_RUBY_XL_2_26_FC_106_205_305_306_405_506_507_595_755_757_PH3_PH7_FUEL_GAS_S_20251104090209.pdf
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- EP_RUBY_XL_2_26_FED_COM_FO_S_20251104090208.pdf
- EP_RUBY_XL_2_26_FED_COM_WL_OL_REV5_S_20251104090208.pdf
- SK_RUBY_XL_2_26_FED_COM_EXHIBIT_5_REV3_20251104090208.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 management program. (i) Water will be obtained from commercial water to the location by trucks using existing and proposed roads attached. (ii) Water may be supplied from frac ponds and temporary above-ground surface lines as shown on the map. 4-inch polyethylene or layflat lines and up to eight 12-inch water. Freshwater contains less than 10,000 mg/l Total petroleum sheen when standing, and is not previously used. expose it to heavy metals or other potential toxins. EOG polyethylene or layflat lines and up to eight 12-inch layflat produced water, defined as reconditioning produced water include mechanical and chemical processes. Freshwater Township 26S, Range 34E, Lea County, New Mexico (N Source: Lomas Reuse Pit, Section 26, Township 25S, R Mexico (SWNW and SENW) Temporary surface lines with multiple water source locations in the surrounding area temporarily laid above ground with minimal

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

OTHER

disturbance. Temporary surface line(s) shall be laid no
the existing disturbance (i.e., edge of bar/borrow ditch,
other man-made addition to the landscape). A push-off
used. All vehicle equipment will remain within the existin
showing the locations of the temporary surface lines wil
included in the Environmental Assessment. An electron
shall be submitted with the Environmental Assessment.

Source latitude:

Source longitude:

Source datum:

City:

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

Ruby_Fed_Com_Water_Map_20251104090237.pdf

Water source comments:

New water well? N

New Water Well Info

Well latitude:

Well Longitude:

Well datum:

Well target aquifer:

Est. depth to top of aquifer(ft):

Est thickness of aquifer:

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.):

Operator Name: EOG RESOURCES INCORPORATED**Well Name:** RUBY XL 2-26 FED COM**Well Number:** 591H**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 within the proposed well site dimensions will be used 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 stockpiled 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 stockpiled outside the well pad dimensions. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat. * If 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 before obtaining mineral material from BLM pits or federal land.

Construction Materials source location

Ruby_2_Fed_Com_Caliche_Map_20251104090248.pdf

Section 7 - Methods for Handling

Waste type: GARBAGE**Waste content description:** TRASH GENERATED ONSITE**Amount of waste:****Waste disposal frequency :** Weekly**Safe containment description:** ENCLOSED DUMPSTERS**Safe containmant attachment:****Waste disposal type:** OTHER**Disposal location ownership:** OTHER**Disposal type description:** LEA COUNTY, NM LANDFILL**Disposal location description:** Trash dumpsters are utilized to contain garbage onsite. Dumpsters are maintained by a third-party vendor. All trash is hauled to Lea County, NM landfill.**Waste type:** DRILLING

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

Amount of waste: 0 barrels

| | |
|--|--------------------------|
| Operator Name: EOG RESOURCES INCORPORATED | |
| Well Name: RUBY XL 2-26 FED COM | Well Number: 591H |

Waste disposal frequency : Weekly

Safe containment description: STEEL TANKS

Safe containmant attachment:

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

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 third-party vendor: Qual Run Services LLC (a Licensed Waste Management Service Facility in Reeves County, Texas) or ReUse OilField Services (a Licensed Waste Management Facility in Mentone, TX)

Safe containmant attachment:

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

Disposal type description:

Disposal location description: Qual Run Services LLC (a licensed waste management service facility in Reeves County, TX) or ReUse OilField Services (a licensed waste management facility in Mentone, TX)

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit?

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

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

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

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

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

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

Soil treatment: Re-seed according to BLM standards. All reclaimed areas will be monitored periodically to ensure that revegetation occurs, that the area is not redisturbed, and that erosion is controlled.

Existing Vegetation at the well pad: Grass, forbs, and small woody vegetation, such as mesquite will be excavated as the topsoil is removed. Large woody vegetation will be stripped and stored separately and respreads evenly on the site following topsoil respreading. Topsoil depth is defined as the top layer of soil that contains 80% of the roots. In areas to be heavily disturbed, the top 6 inches of soil material, will be stripped and stockpiled on the perimeter of the well location and along the perimeter of the access road to control run-on and run-off, to keep topsoil viable, and to make redistribution of topsoil more efficient during interim reclamation. Stockpiled topsoil should include vegetative material. Topsoil will be clearly segregated and stored separately from subsoils.

Existing Vegetation at the well pad

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

| | |
|--|--------------------------|
| Operator Name: EOG RESOURCES INCORPORATED | Well Number: 591H |
| Well Name: RUBY XL 2-26 FED COM | |

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?

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project?

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation?

Seed harvest description:

Seed harvest description attachment:

[Seed](#)

[Seed Table](#)

[Seed Summary](#)

Total pounds/Acre:

| Seed Type | Pounds/Acre |
|-----------|-------------|
|-----------|-------------|

Seed reclamation

[Operator Contact/Responsible Official](#)

First Name:

Last Name:

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

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

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

Monitoring plan

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface

Disturbance type: WELL PAD

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NM

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Section 12 - Other

Right of Way needed? N

Use APD as ROW?

ROW Type(s):

ROW

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

SUPO Additional Information: Onsite meeting was conducted on- No onsite required We plan to use eight 12-inch lay flat hoses to transport water and eight 4-inch polylines or layflat for drilling and frac operations. 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:

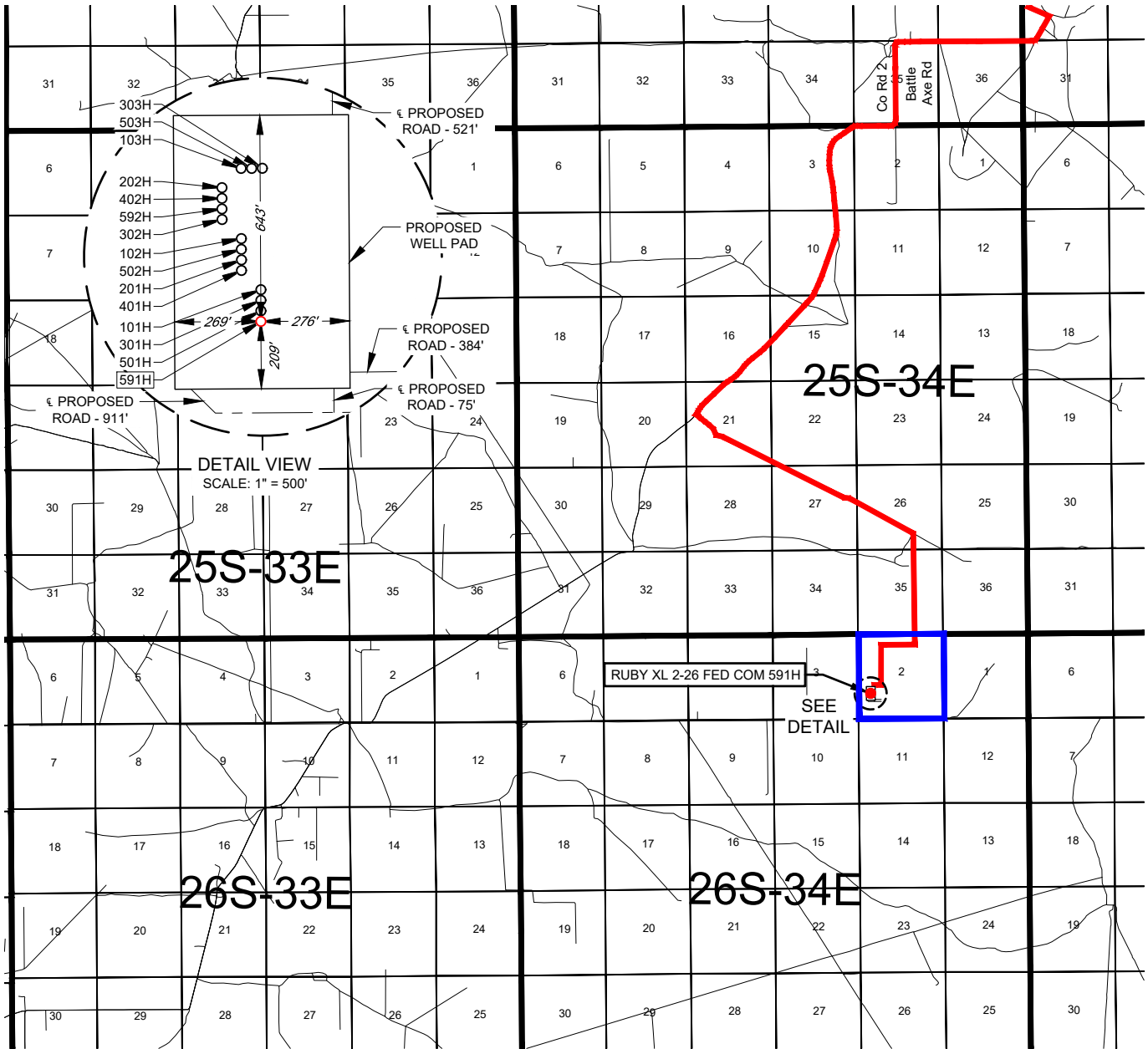
Other SUPO

SUPO_SEC_7_WASTE_ATTACHMENT_RE_20251104150514.pdf

RUBY_XL_2_26_FED_COM__591H_L_E_20251104154145.pdf

SUPO_RUBY_XL_2_26_FED_COM_591H_20251104154150.pdf

EXHIBIT 2
VICINITY MAP



LEASE NAME & WELL NO.: RUBY XL 2-26 FED COM 591H

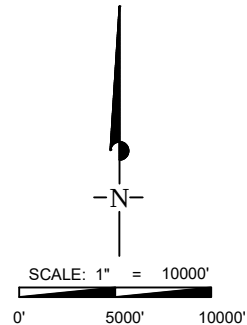
SECTION 2 TWP 26-S RGE 34-E SURVEY N.M.P.M.
 COUNTY LEA STATE NM
 DESCRIPTION 1368' FSL & 802' FWL

DISTANCE & DIRECTION

FROM INT. OF NM-21 N. & NM-128. GO EAST ON NM-128 ±6.6 MILES.
THENCE SOUTHWEST (RIGHT) ON BATTLE AXE RD./CR 2 ±7.6 MILES.
THENCE SOUTHWEST (LEFT) ON A LEASE RD. ±3.0 MILES, THENCE
SOUTH (RIGHT) ON A LEASE RD. ±1.3 MILES, THENCE WEST (RIGHT)
ON A LEASE RD. ±0.9 MILES, THENCE WEST (RIGHT) ON A PROPOSED
RD. ±521 FEET TO A POINT ±681 FEET NORTHEAST 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.

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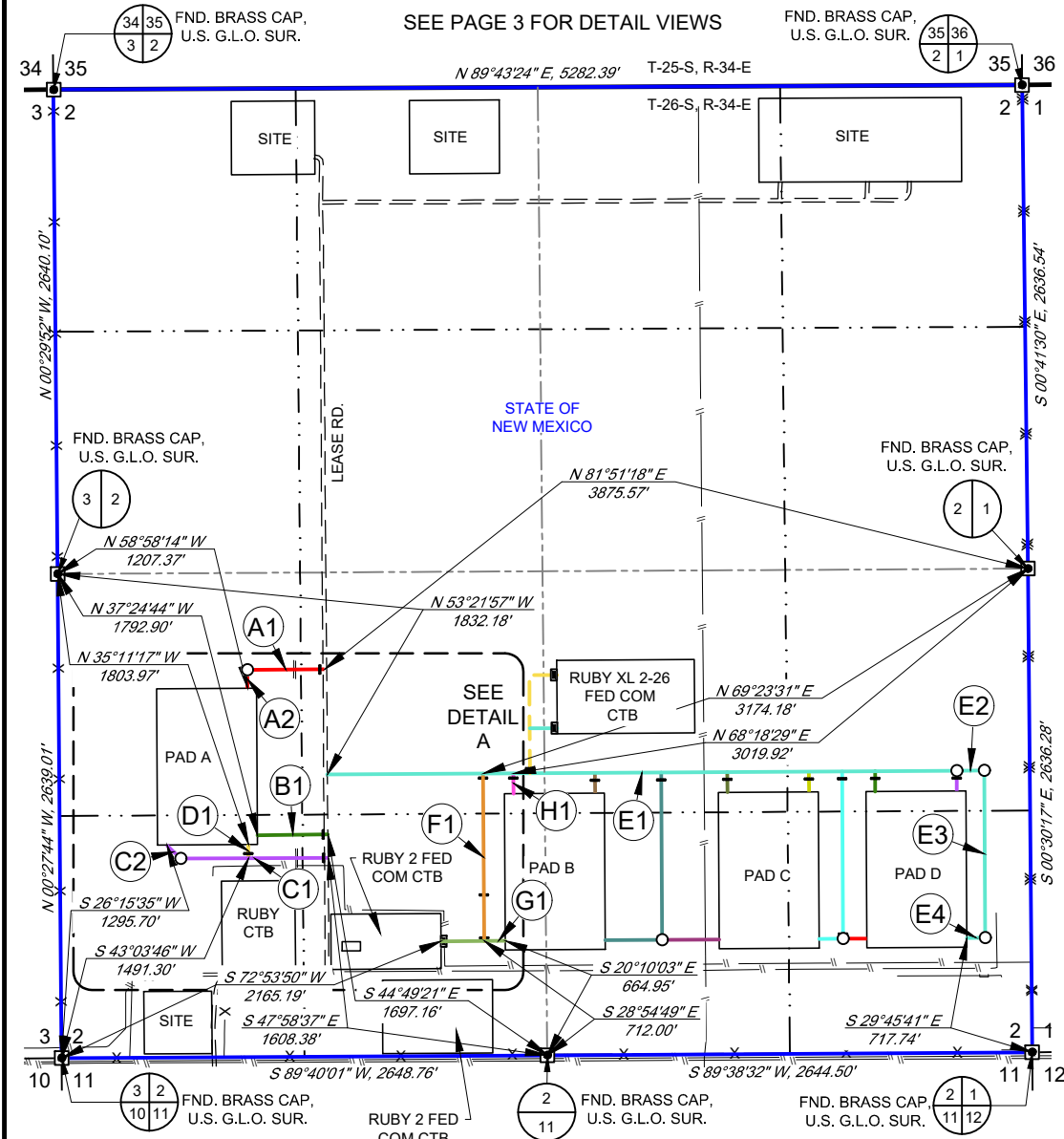


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SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'

SEE PAGE 3 FOR DETAIL VIEWS



LEGEND

- TOWNSHIP LINE
- SECTION LINE
- SURVEYED BASELINE A
- SURVEYED BASELINE B
- SURVEYED BASELINE C
- SURVEYED BASELINE D
- SURVEYED BASELINE E
- SURVEYED BASELINE F
- SURVEYED BASELINE G
- SURVEYED BASELINE H
- SURVEYED BASELINE I
- SURVEYED BASELINE J
- SURVEYED BASELINE K
- SURVEYED BASELINE L
- SURVEYED BASELINE M
- SURVEYED BASELINE N
- SURVEYED BASELINE O
- SURVEYED BASELINE P
- SURVEYED BASELINE Q
- SURVEYED BASELINE R
- SURVEYED BASELINE S
- TRACT BORDER
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- POINT OF INTERSECTION
- MONUMENT
- PROPOSED CULVERT
- PROPOSED CATTLE GUARD

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| A1 | S 89°40'01" W | 420.73' |
| A2 | S 00°19'59" E | 100.00' |
| B1 | S 89°21'17" W | 384.42' |
| C1 | S 89°40'01" W | 805.20' |
| C2 | N 45°19'59" W | 106.07' |
| D1 | N 00°00'00" E | 75.05' |
| E1 | N 89°38'58" E | 3432.11' |
| E2 | N 89°18'30" E | 149.96' |
| E3 | S 00°22'19" E | 912.86' |
| E4 | S 89°37'41" W | 100.00' |
| F1 | S 00°21'06" E | 912.22' |
| G1 | N 89°32'16" E | 350.04' |
| H1 | S 00°21'02" E | 110.00' |

RUBY XL 2-26 FED COM ACCESS ROADS

Being a proposed access road easement of being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 11950.67 feet or 724.28 rods, containing 8.23 acres more or less and allocated by quarter quarters as follows:

- NW/4 SW/4 - 392.76 feet or 23.80 rods, containing 0.27 acres
- SW/4 SW/4 - 1092.67 feet or 66.22 rods, containing 0.74 acres
- NE/4 SW/4 - 2331.62 feet or 99.46 rods, containing 1.11 acres
- SE/4 SW/4 - 1322.00 feet or 80.12 rods, containing 0.91 acres
- NW/4 SE/4 - 1906.05 feet or 106.77 rods, containing 1.18 acres
- SW/4 SE/4 - 1315.02 feet or 79.70 rods, containing 0.90 acres
- NE/4 SE/4 - 1843.46 feet or 111.72 rods, containing 1.23 acres
- SE/4 SE/4 - 1747.08 feet or 105.88 rods, containing 1.20 acres



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"PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE."

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

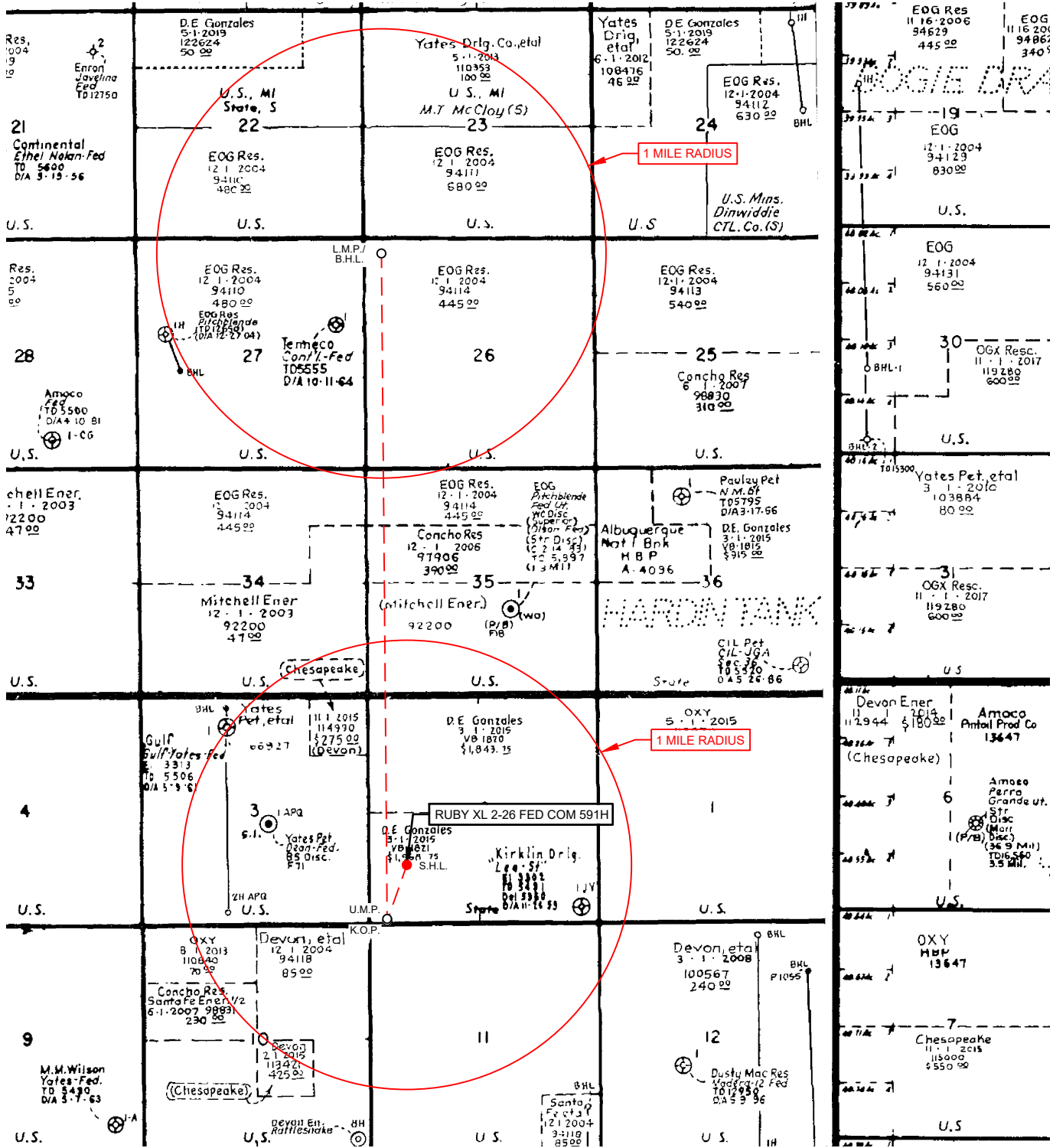


| RUBY XL 2-26 FED COM ACCESS ROADS | REVISION: | |
|---|-----------|------------|
| | INT | DATE |
| DATE: 06/09/2023 | DO | 03/12/2024 |
| FILE: EP_RUBY_XL_2-26_FED_COM_ACCESS_ROADS_REV5 | TLW | 03/19/2024 |
| DRAWN BY: CSG | MEP | 04/01/2024 |
| SHEET: 1 OF 4 | DO | 05/07/2024 |

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 - 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.O.B. = POINT OF BEGINNING
 - ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.
 - E.O.L./P.O.E. = END OF LINE / POINT OF EXIT

EXHIBIT 3

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: RUBY XL 2-26 FED COM 591H

591H LATITUDE N 32.0689622

591H LONGITUDE W 103.4466756

SCALE: NTS

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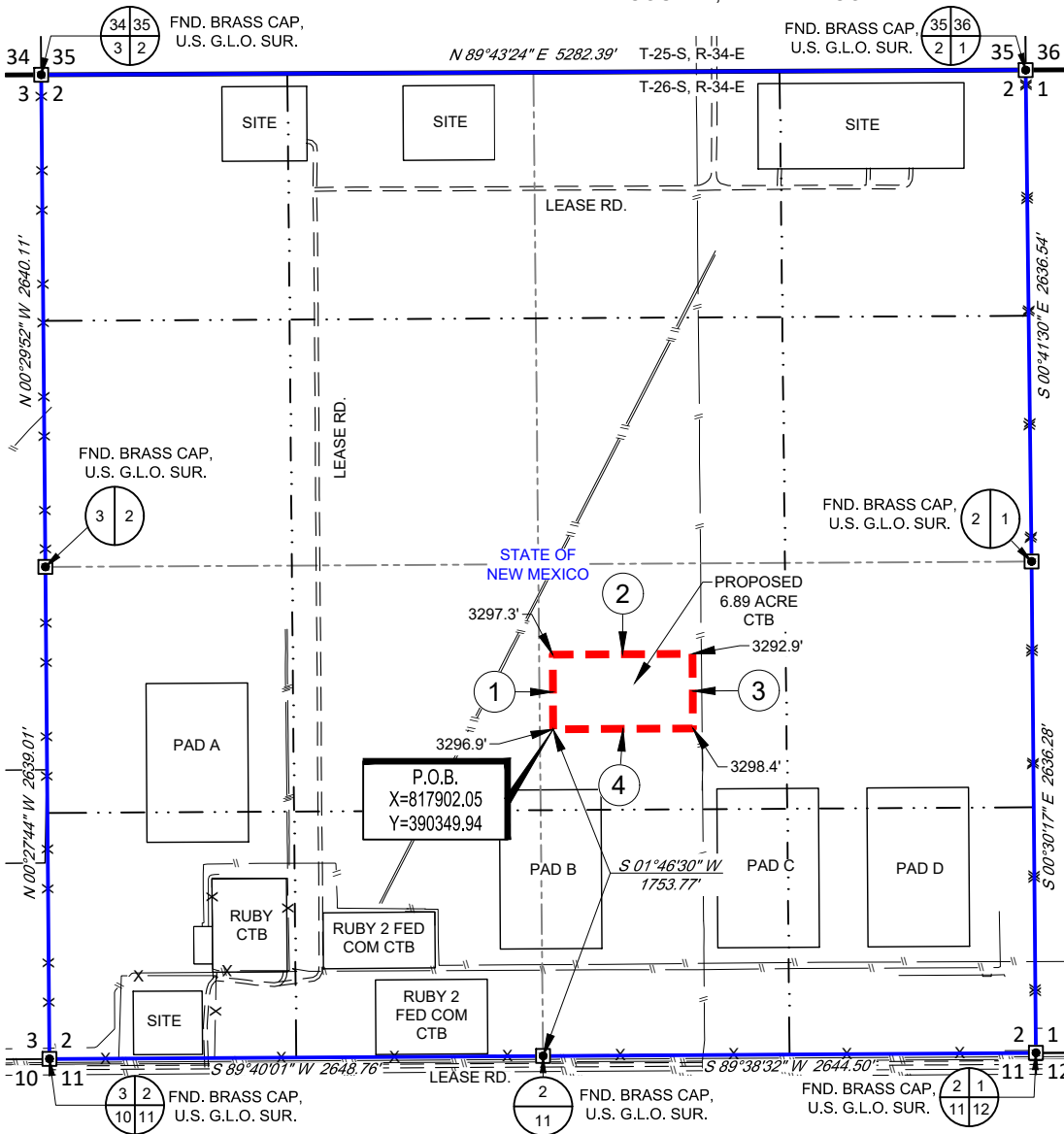
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SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



RUBY XL 2-26 FED COM CTB
Metes and Bounds Description of a proposed 6.89 acre site located within Section 2, Township 26 South, Range 34 East, N.M.P.M., in Lea County, New Mexico.
BEGINNING at the Southwest corner of this site, from whence a brass cap monument found for the South quarter corner of said Section 2, bears:
S 01°46'30" W, a distance of 1,753.77 feet;
Thence N 00°21'06" W, a distance of 400.00 feet to a point for the Northwest corner of this site;
Thence N 89°38'54" E, a distance of 750.00 feet to a point for the Northeast corner of this site;
Thence S 00°21'06" E, a distance of 400.00 feet to a point for the Southeast corner of this site;
Thence S 89°38'54" W, a distance of 750.00 feet to the Point of Beginning.
NW/4 SE/4 - containing 6.89 acres or 300,000 sq.ft.

LEGEND

- SURVEY/SECTION LINE
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- TRACT BORDER
- PROPOSED SITE
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- MONUMENT FOUND

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°21'06" W | 400.00' |
| 2 | N 89°38'54" E | 750.00' |
| 3 | S 00°21'06" E | 400.00' |
| 4 | S 89°38'54" W | 750.00' |



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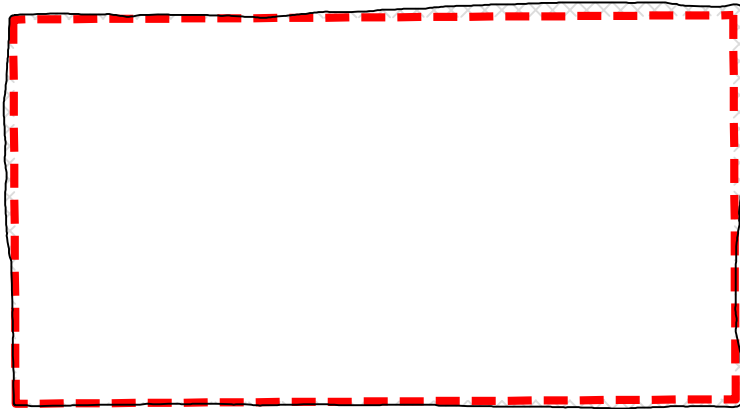
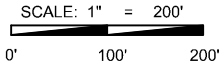
| RUBY XL 2-26 FED COM CTB | REVISION: | |
|---------------------------------|-----------|------|
| | INT | DATE |
| DATE: 05/06/24 | | |
| FILE:BO_RUBY_XL_2-26_FED_COM_CT | | |
| DRAWN BY: GJU | | |
| SHEET: 1 OF 1 | | |

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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. P.O.B. = POINT OF BEGINNING
5. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY.

RUBY XL 2-26 FED COM CTB WELL PAD DETAIL

SECTION 2, TOWNSHIP 25-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEGEND

- PROPOSED SITE
- CUT/FILL DISTURBANCE - 0.33 ACRES



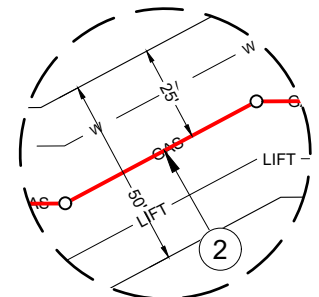
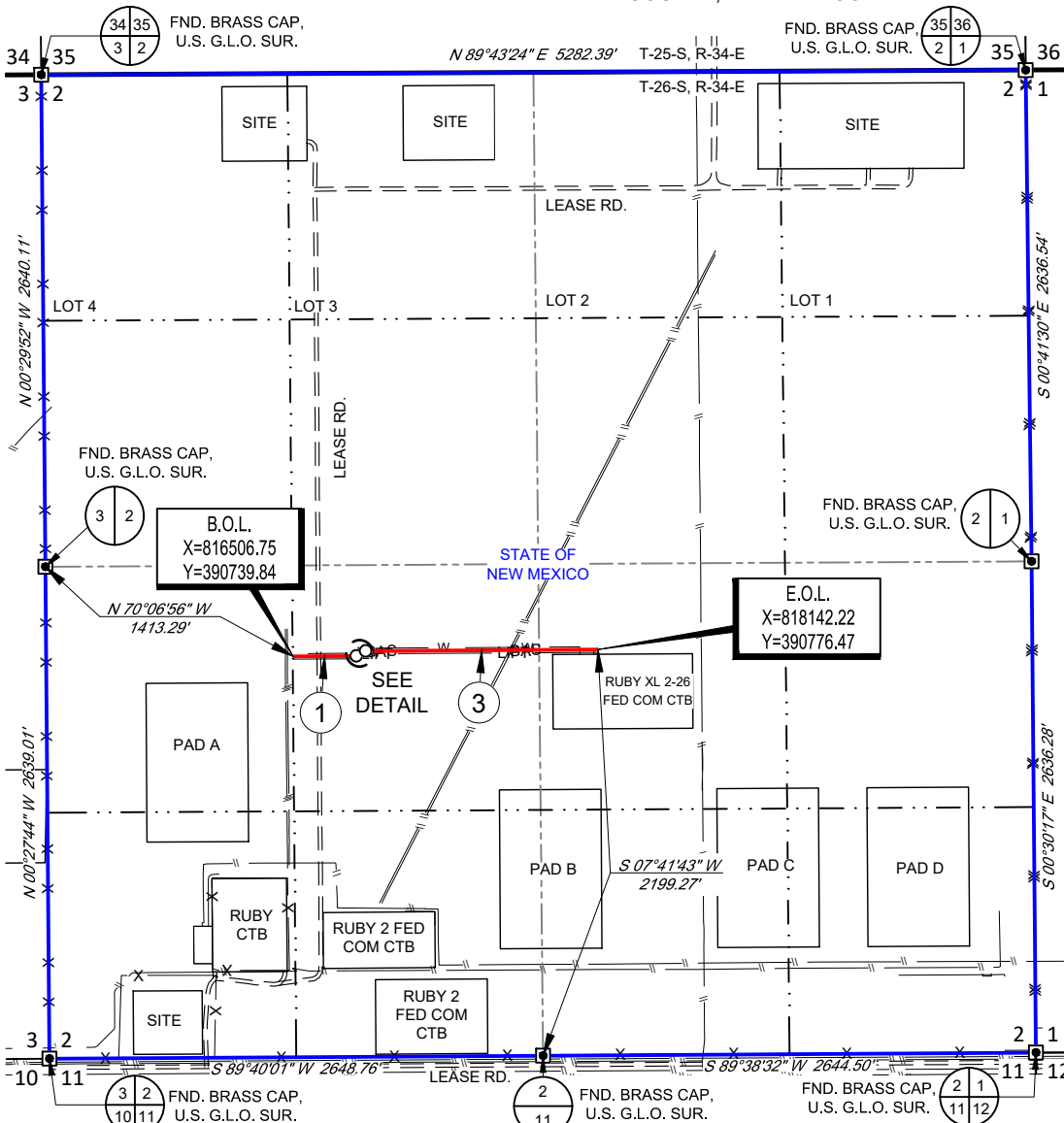
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|-----------------------------|---------------------------------|------|---|
| RUBY XL 2-26 FED COM CTB | REVISION: | | NOTES: 1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" 2. ALL BEARINGS, DISTANCES, AND COORDINATE VALUES CONTAINED HEREIN ARE GRID BASED UPON 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. |
| | INT | DATE | |
| | | | |
| | | | |
| DATE: | 11/07/2024 | | |
| FILE: | CD_RUBY_XL_2-26_FED_COM_PAD_CTB | | |
| DRAWN BY: | MML | | |

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 89°38'04" E | 338.08' |
| 2 | N 61°55'43" E | 56.41' |
| 3 | N 89°38'09" E | 1247.65' |

LEGEND

- SURVEY/SECTION LINE
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- GAS PROPOSED GAS LINE
- w PROPOSED WATER LINE
- LIFT PROPOSED GAS LIFT LINE
- o POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
GAS/WATER/GAS LIFT EASEMENT

Being a proposed gas/water/gas lift line easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 1642.14 feet or 99.52 rods, containing 1.88 acres more or less and allocated by quarter quarters as follows:

NE/4 SW/4 - 1326.28 feet or 80.38 rods, containing 1.52 acres
NW/4 SE/4 - 315.86 feet or 19.14 rods, containing 0.36 acres



11/7/2024 9:34:01 AM

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



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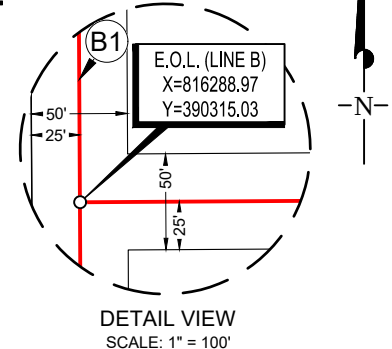
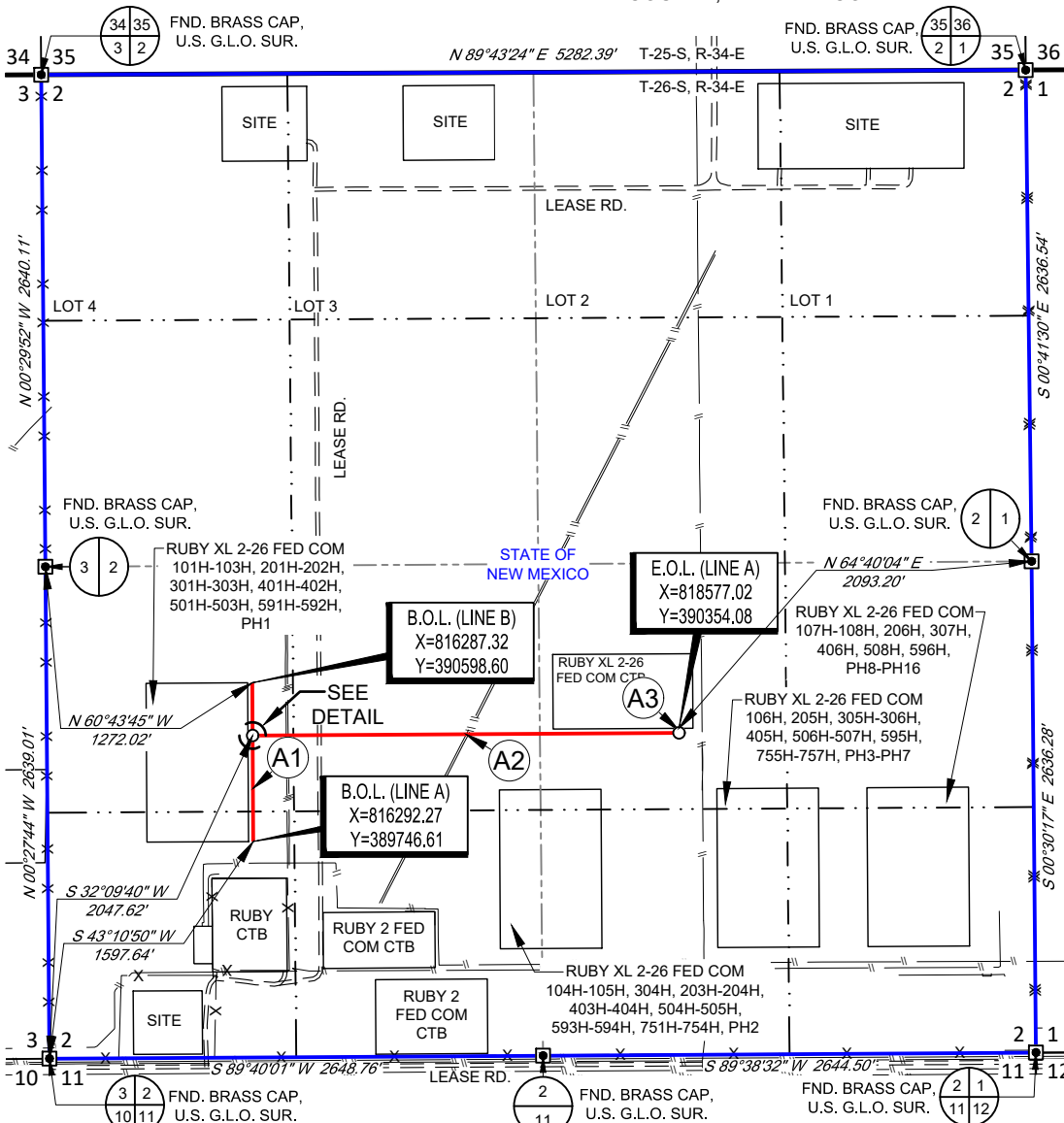


| RUBY XL 2-26 FED COM GAS/WATER/GAS LIFT EASEMENT | REVISION: | |
|--|-----------|------|
| | INT | DATE |
| DATE: 05/03/24 | | |
| FILE: EP_RUBY_2_FED_COM_GAS_WATER_LIFT | | |
| DRAWN BY: GJU | | |
| SHEET: 1 OF 1 | | |

- 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.
 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.

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



LINE TABLE A

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| A1 | N 00°19'59" W | 568.43' |
| A2 | N 89°38'53" E | 2288.25' |
| A3 | N 00°21'06" W | 25.00' |

LINE TABLE B

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| B1 | S 00°19'59" E | 283.57' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- · · · · SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
101H-103H, 201H-202H, 301H-303H, 401H-402H, 501H-503H, 591H-592H, PH1
FLOW LINE, GAS LIFT, FIBER OPTIC

Being a proposed flow line, gas lift, fiber optic easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 3165.25 feet or 191.83 rods, containing 3.63 acres more or less and allocated by quarter quarters as follows:

- SW/4 SW/4 - 160.71 feet or 9.74 rods, containing 0.18 acres
- NW/4 SW/4 - 910.25 feet or 55.17 rods, containing 1.04 acres
- NE/4 SW/4 - 1322.88 feet or 80.17 rods, containing 1.52 acres
- NW/4 SE/4 - 771.41 feet or 46.75 rods, containing 0.89 acres

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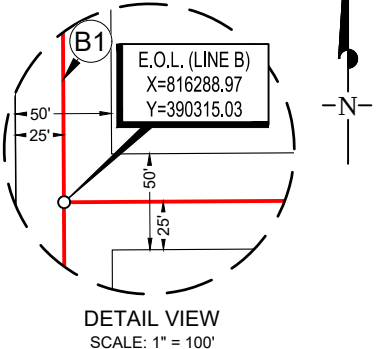
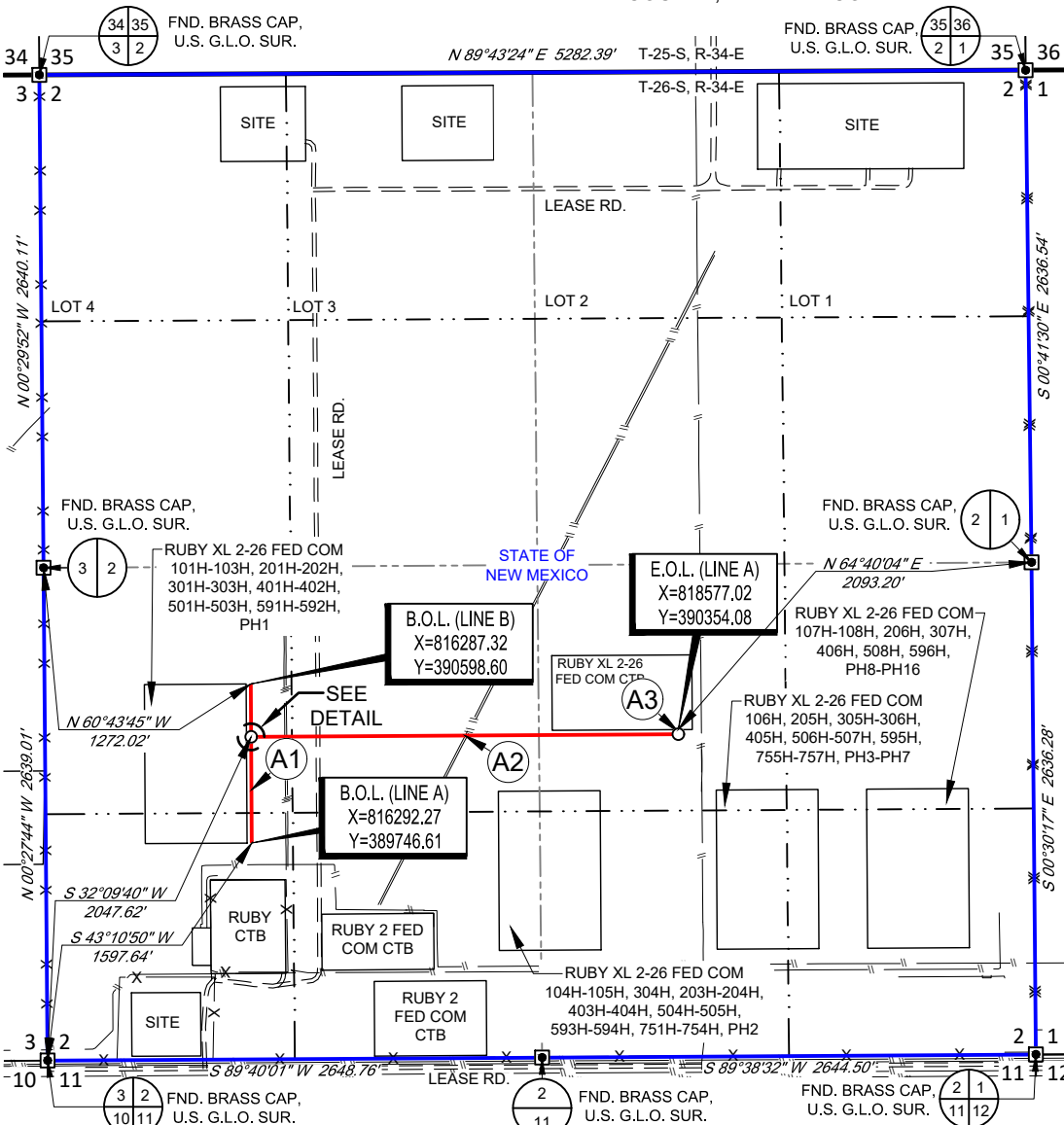
Ramon A. Dominguez, P.S. No. 24508



| | | | |
|--|-----------|------|--|
| RUBY XL 2-26 FED COM 101H-103H, 201H-202H, 301H-303H, 401H-402H, 501H-503H, 591H-592H, PH1 FLOW LINE, GAS LIFT, FIBER OPTIC DATE: 05/02/24 FILE: EP RUBY XL 2-26 FC 101-103_201-202_301-303_401-402_501-503_591-592_PH1_FL_GLO.FD DRAWN BY: MML SHEET: 1 OF 1 | 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 | |
| | | | |
| | | | |
| | | | |

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



LINE TABLE A

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| A1 | N 00°19'59" W | 568.43' |
| A2 | N 89°38'53" E | 2288.25' |
| A3 | N 00°21'06" W | 25.00' |

LINE TABLE B

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| B1 | S 00°19'59" E | 283.57' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- · · · · SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
101H-103H, 201H-202H, 301H-303H, 401H-402H, 501H-503H, 591H-592H, PH1
4 INCH ABOVE GROUND FUEL GAS LINE
(POLY OR FLEXSTEEL LOW PRESSURE)

Being a proposed fuel gas easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 3165.25 feet or 191.83 rods, containing 3.63 acres more or less and allocated by quarter quarters as follows:

- SW/4 SW/4 - 160.71 feet or 9.74 rods, containing 0.18 acres
- NW/4 SW/4 - 910.25 feet or 55.17 rods, containing 1.04 acres
- NE/4 SW/4 - 1322.88 feet or 80.17 rods, containing 1.52 acres
- NW/4 SE/4 - 771.41 feet or 46.75 rods, containing 0.89 acres

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"PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE."

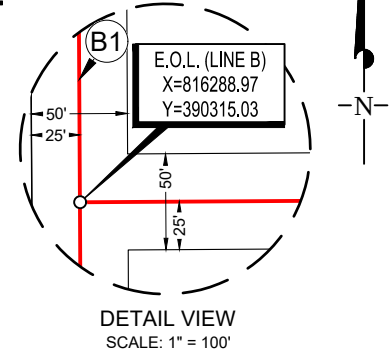
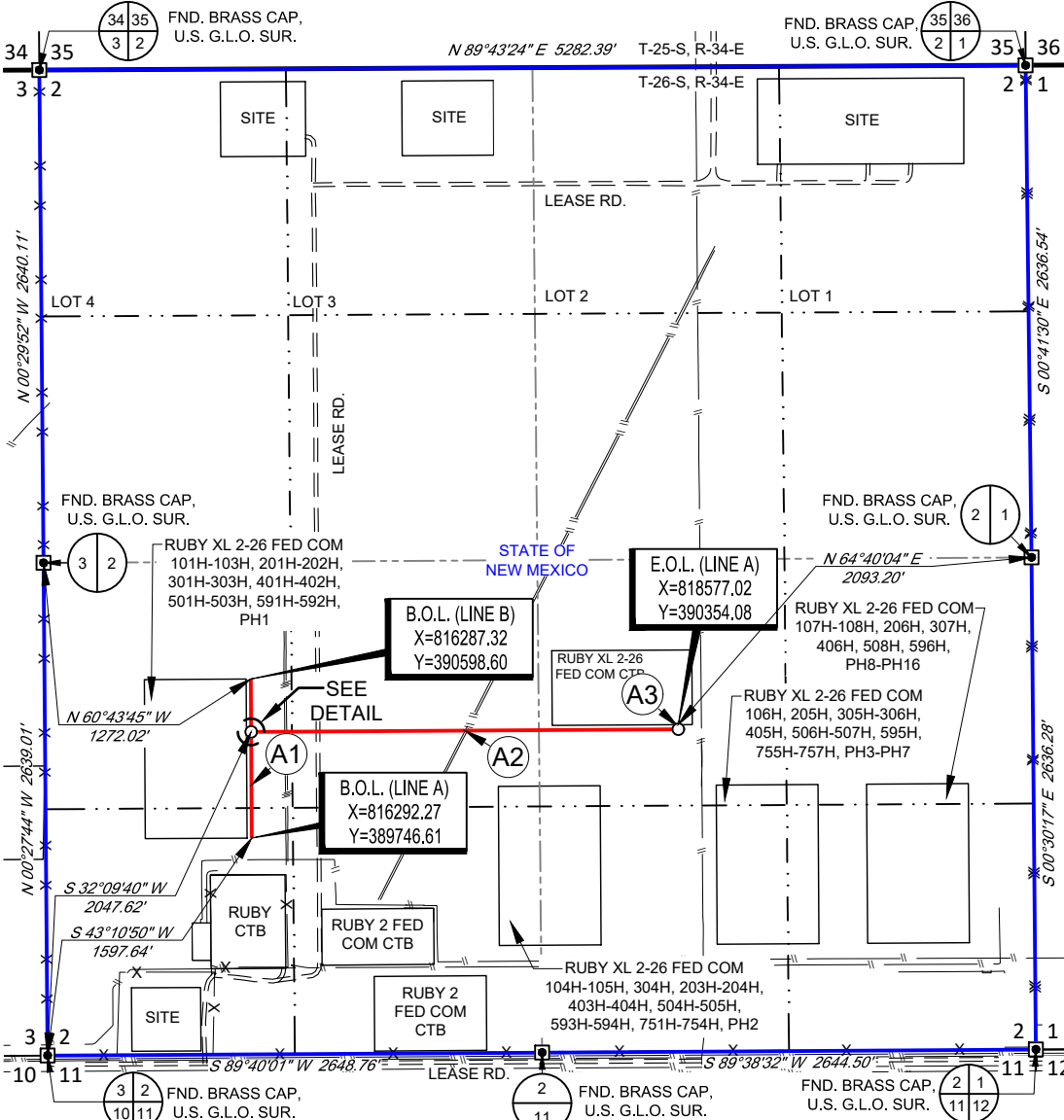
Ramon A. Dominguez, P.S. No. 24508



| | | | | |
|---|---|-----------|------|--|
| RUBY XL 2-26 FED COM 101H-103H, 201H-202H, 301H-303H, 401H-402H, 501H-503H, 591H-592H, PH1 4 INCH ABOVE GROUND FUEL GAS LINE (POLY OR FLEXSTEEL LOW PRESSURE) | | 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. |
| DATE: | 05/02/24 | INT | DATE | |
| FILE: | EP RUBY XL 2-26 FC 101-103 201-202 301-303 401-402 501-503 591-592 PH1 FUEL GAS | | | |
| DRAWN BY: | MML | | | |
| SHEET: | 1 OF 1 | | | |
| | | | | |

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



LINE TABLE A

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| A1 | N 00°19'59" W | 568.43' |
| A2 | N 89°38'53" E | 2288.25' |
| A3 | N 00°21'06" W | 25.00' |

LINE TABLE B

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| B1 | S 00°19'59" E | 283.57' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- · · · · SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
101H-103H, 201H-202H, 301H-303H, 401H-402H, 501H-503H, 591H-592H, PH1
4 INCH ABOVE GROUND FUEL GAS LINE
(POLY OR FLEXSTEEL LOW PRESSURE)

Being a proposed fuel gas easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 3165.25 feet or 191.83 rods, containing 3.63 acres more or less and allocated by quarter quarters as follows:

- SW/4 SW/4 - 160.71 feet or 9.74 rods, containing 0.18 acres
- NW/4 SW/4 - 910.25 feet or 55.17 rods, containing 1.04 acres
- NE/4 SW/4 - 1322.88 feet or 80.17 rods, containing 1.52 acres
- NW/4 SE/4 - 771.41 feet or 46.75 rods, containing 0.89 acres

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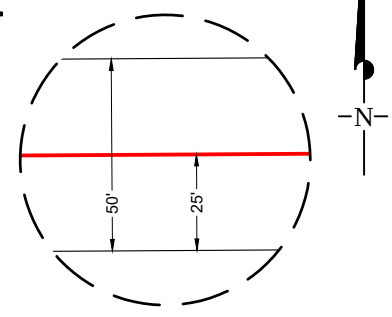
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| REVISION: | | NOTES: |
|-----------|---|---|
| INT | DATE | |
| | | 1. ORIGINAL DOCUMENT SIZE: 8.5" X 11" |
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| | | 5. E.O.L./P.O.E. = END OF LINE/POINT OF EXIT |
| | | 6. ADJOINER INFORMATION SHOWN FOR INFORMATIONAL PURPOSES ONLY. |
| DATE: | 05/02/24 | |
| FILE: | EP RUBY XL 2-26 FC 101-103 201-202 301-303 401-402 501-503 591-592 PH1 FUEL GAS | |
| DRAWN BY: | MML | |
| SHEET: | 1 OF 1 | |

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



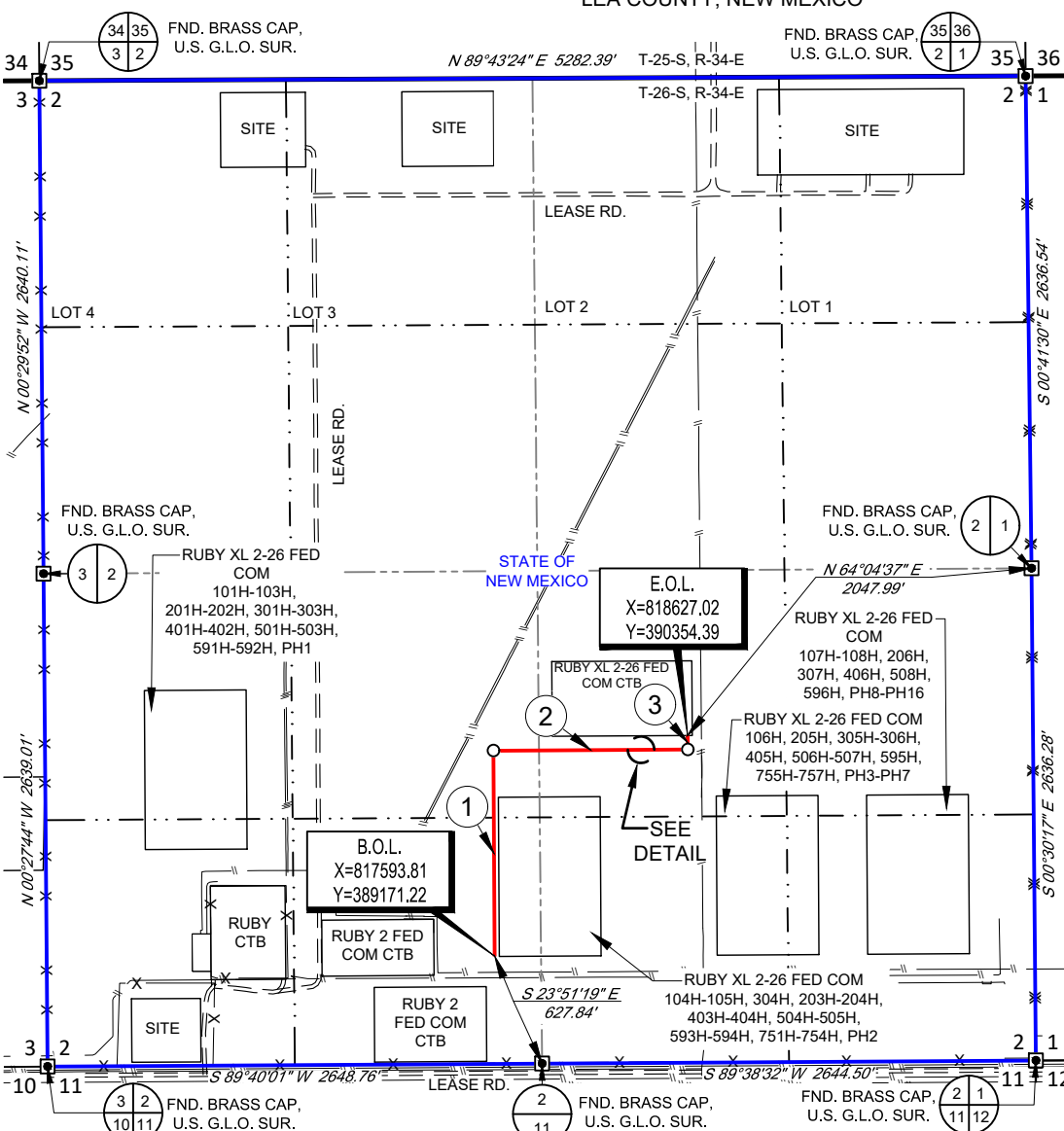
DETAIL VIEW
SCALE: 1" = 50'

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°21'06" W | 1101.81' |
| 2 | N 89°38'53" E | 1040.45' |
| 3 | N 00°21'06" W | 75.00' |

LEGEND

- SURVEY/SECTION LINE
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- OVERHEAD ELECTRIC
- POINT OF INTERSECTION
- MONUMENT FOUND



RUBY XL 2-26 FED COM
104H-105H, 304H, 203H-204H, 403H-404H, 504H-505H, 593H-594H, 751H-754H, PH2
FLOW LINE, GAS LIFT, FIBER OPTIC

Being a proposed flow line, gas lift, fiber optic easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 2217.26 feet or 134.38 rods, containing 2.55 acres more or less and allocated by quarter quarters as follows:

- SE/4 SW/4 - 743.46 feet or 45.06 rods, containing 0.85 acres
- NE/4 SW/4 - 602.57 feet or 36.52 rods, containing 0.69 acres
- NW/4 SE/4 - 871.23 feet or 52.80 rods, containing 1.01 acres



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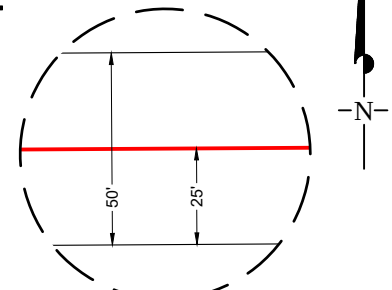
Ramon A. Dominguez, P.S. No. 24508



| | | | |
|---|--|------|--|
| RUBY XL 2-26 FED COM 104H-105H, 304H, 203H-204H, 403H-404H, 504H-505H, 593H-594H, 751H-754H, PH2 FLOW LINE, GAS LIFT, FIBER OPTIC | 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: | 05/02/24 | | |
| FILE: | EP RUBY XL 2-26 FC 104-105 304 203-204 403-404 504-505 593-594 751-754 PH2 FL FO | | |
| DRAWN BY: | MML | | |
| SHEET: | 1 OF 1 | | |

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



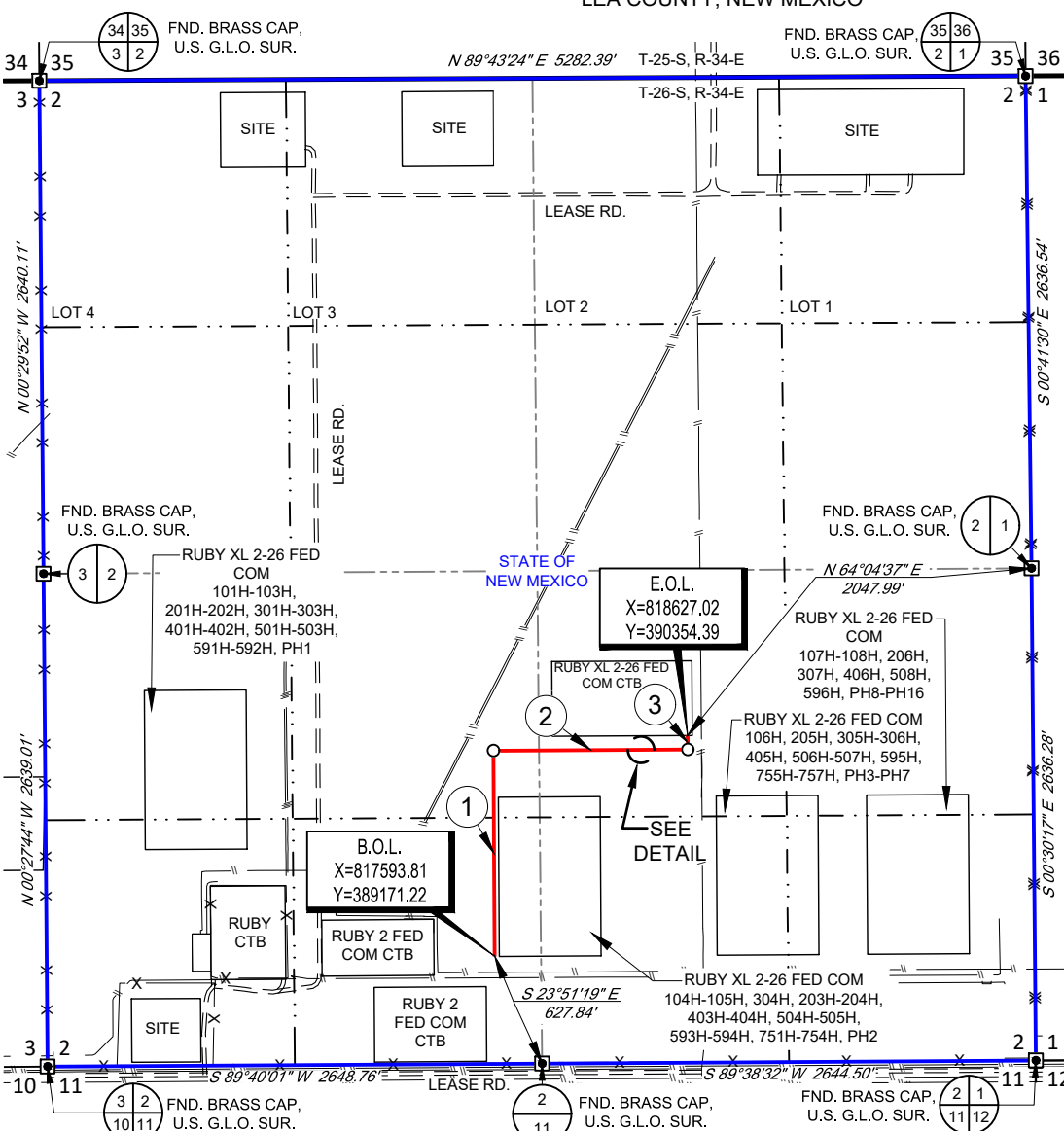
DETAIL VIEW
SCALE: 1" = 50'

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°21'06" W | 1101.81' |
| 2 | N 89°38'53" E | 1040.45' |
| 3 | N 00°21'06" W | 75.00' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- · · · · SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND



RUBY XL 2-26 FED COM
104H-105H, 304H, 203H-204H, 403H-404H, 504H-505H, 593H-594H, 751H-754H, PH2
4 INCH ABOVE GROUND FUEL GAS LINE
(POLY OR FLEXSTEEL LOW PRESSURE)

Being a proposed fuel gas easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 2217.26 feet or 134.38 rods, containing 2.55 acres more or less and allocated by quarter quarters as follows:

- SE/4 SW/4 - 743.46 feet or 45.06 rods, containing 0.85 acres
- NE/4 SW/4 - 602.57 feet or 36.52 rods, containing 0.69 acres
- NW/4 SE/4 - 871.23 feet or 52.80 rods, containing 1.01 acres



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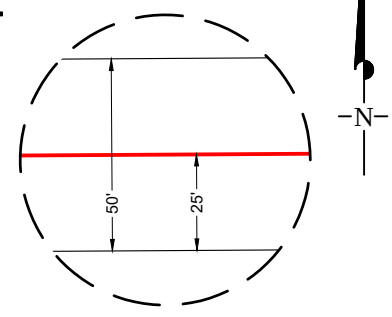
Ramon A. Dominguez, P.S. No. 24508



| | | | |
|---|---|------|--|
| RUBY XL 2-26 FED COM 104H-105H, 304H, 203H-204H, 403H-404H, 504H-505H, 593H-594H, 751H-754H, PH2 4 INCH ABOVE GROUND FUEL GAS LINE (POLY OR FLEXSTEEL LOW PRESSURE) | 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: | 05/02/24 | | |
| FILE: | EP RUBY XL 2-26 FC 104-105_304_203-204_403-404_504-505_593-594_751-754_PH2_FUEL_GAS | | |
| DRAWN BY: | MML | | |
| SHEET: | 1 OF 1 | | |

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



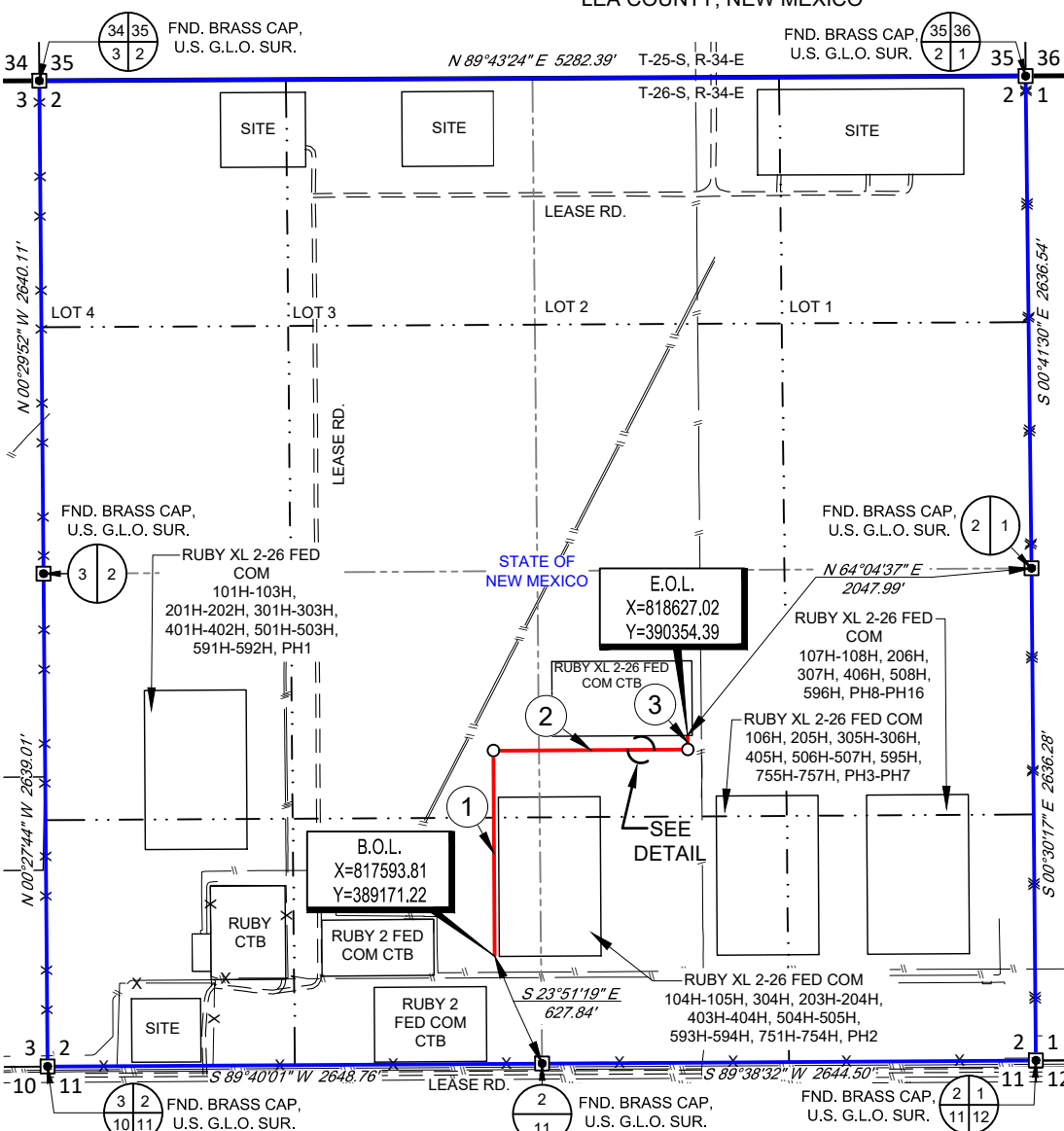
DETAIL VIEW
SCALE: 1" = 50'

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°21'06" W | 1101.81' |
| 2 | N 89°38'53" E | 1040.45' |
| 3 | N 00°21'06" W | 75.00' |

LEGEND

- SURVEY/SECTION LINE
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- OVERHEAD ELECTRIC
- POINT OF INTERSECTION
- MONUMENT FOUND



RUBY XL 2-26 FED COM
104H-105H, 304H, 203H-204H, 403H-404H, 504H-505H, 593H-594H, 751H-754H, PH2
4 INCH ABOVE GROUND FUEL GAS LINE
(POLY OR FLEXSTEEL LOW PRESSURE)

Being a proposed fuel gas easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 2217.26 feet or 134.38 rods, containing 2.55 acres more or less and allocated by quarter quarters as follows:

- SE/4 SW/4 - 743.46 feet or 45.06 rods, containing 0.85 acres
- NE/4 SW/4 - 602.57 feet or 36.52 rods, containing 0.69 acres
- NW/4 SE/4 - 871.23 feet or 52.80 rods, containing 1.01 acres



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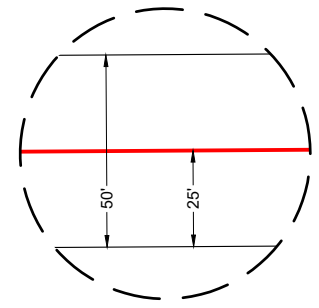
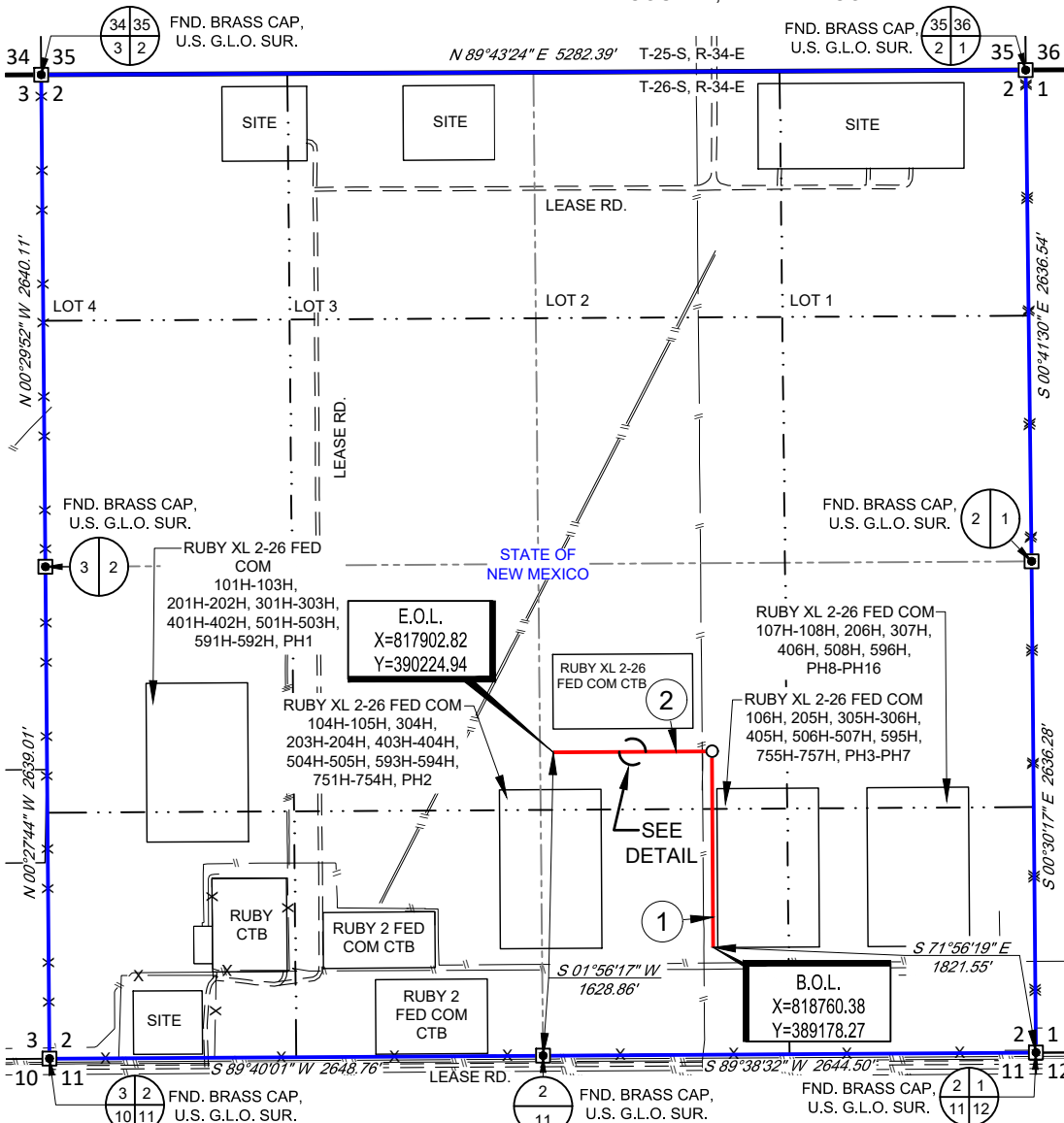
Ramon A. Dominguez, P.S. No. 24508



| | | | |
|---|--|------|--|
| RUBY XL 2-26 FED COM 104H-105H, 304H, 203H-204H, 403H-404H, 504H-505H, 593H-594H, 751H-754H, PH2 4 INCH ABOVE GROUND FUEL GAS LINE (POLY OR FLEXSTEEL LOW PRESSURE) | 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: | 05/02/24 | | |
| FILE: | SEP RUBY XL 2-26 FC 104-105 304 203-204 403-404 504-505 593-594 751-754 PH2 FUEL GAS | | |
| DRAWN BY: | MML | | |
| SHEET: | 1 OF 1 | | |

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



DETAIL VIEW
SCALE: 1" = 50'

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°21'06" W | 1052.04' |
| 2 | S 89°38'26" W | 851.12' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- - - SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
106H, 205H, 305H-306H, 405H, 506H-507H, 595H, 755H-757H, PH3-PH7
FLOW LINE, GAS LIFT, FIBER OPTIC

Being a proposed flow line, gas lift, fiber optic easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 1903.16 feet or 115.34 rods, containing 2.18 acres more or less and allocated by quarter quarters as follows:

SW/4 SE/4 - 743.22 feet or 45.04 rods, containing 0.85 acres
NW/4 SE/4 - 1159.94 feet or 70.30 rods, containing 1.33 acres



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

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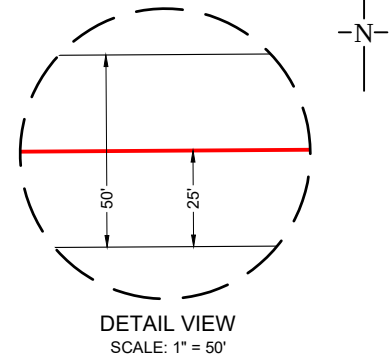
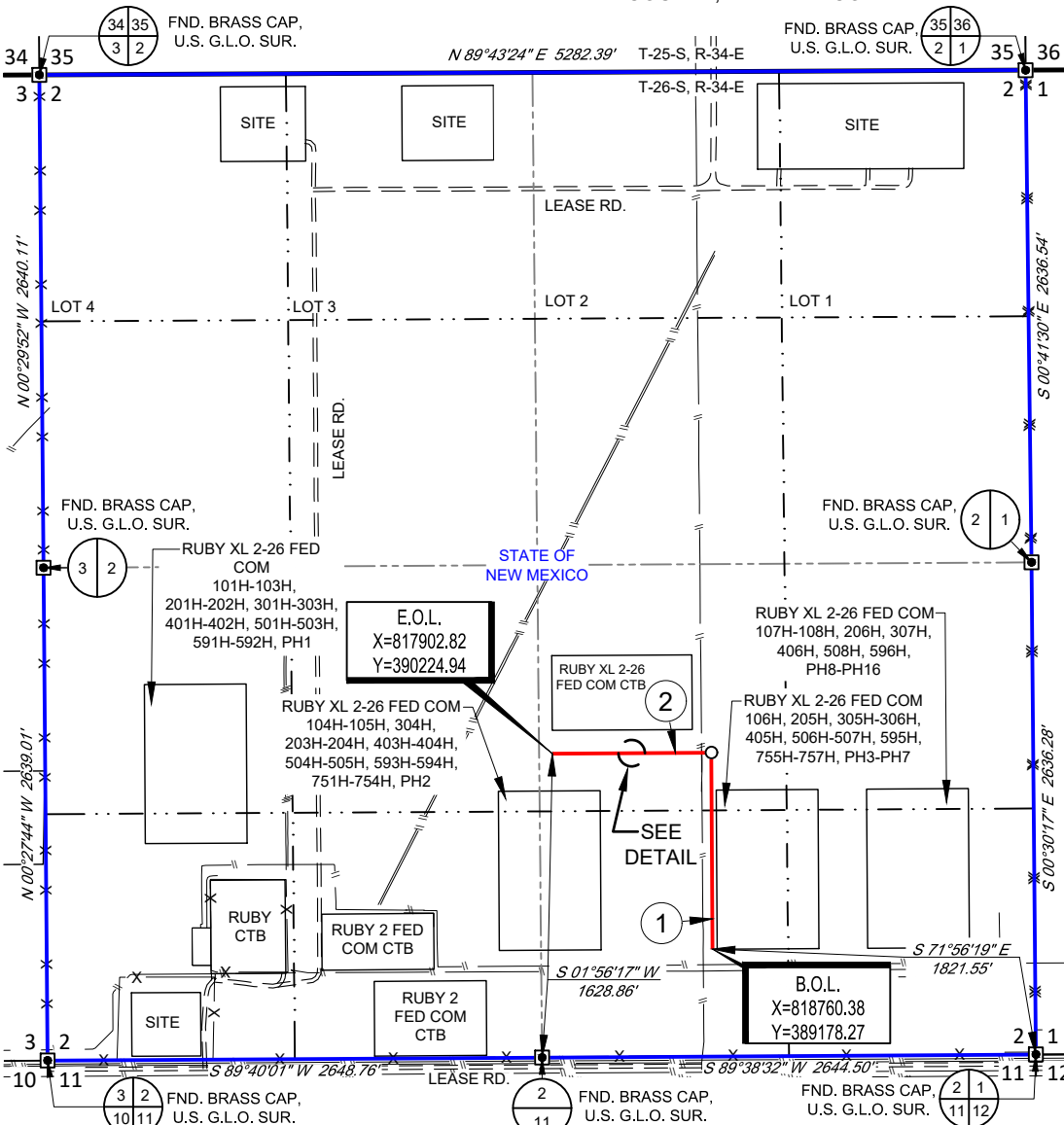
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|---|---|
| RUBY XL 2-26 FED COM 106H, 205H, 305H-306H, 405H, 506H-507H, 595H, 755H-757H, PH3-PH7 FLOW LINE, GAS LIFT, FIBER OPTIC | |
| DATE: | 05/02/24 |
| FILE: | EP RUBY XL 2-26 FC 116 205 305-306 405 506-507 595 755-757 PH3-PH7 FL GL FD |
| DRAWN BY: | MML |
| SHEET : | 1 OF 1 |

| REVISION: | |
|-----------|------|
| INT | DATE |
| | |
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- NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
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 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.
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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.

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°21'06" W | 1052.04' |
| 2 | S 89°38'26" W | 851.12' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- · · SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- == ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
106H, 205H, 305H-306H, 405H, 506H-507H, 595H, 755H-757H, PH3-PH7
4 INCH ABOVE GROUND FUEL GAS LINE
(POLY OR FLEXSTEEL LOW PRESSURE)

Being a proposed fuel gas easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 1903.16 feet or 115.34 rods, containing 2.18 acres more or less and allocated by quarter quarters as follows:

SW/4 SE/4 - 743.22 feet or 45.04 rods, containing 0.85 acres
NW/4 SE/4 - 1159.94 feet or 70.30 rods, containing 1.33 acres

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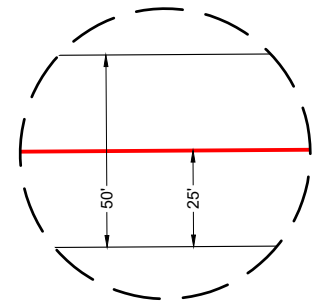
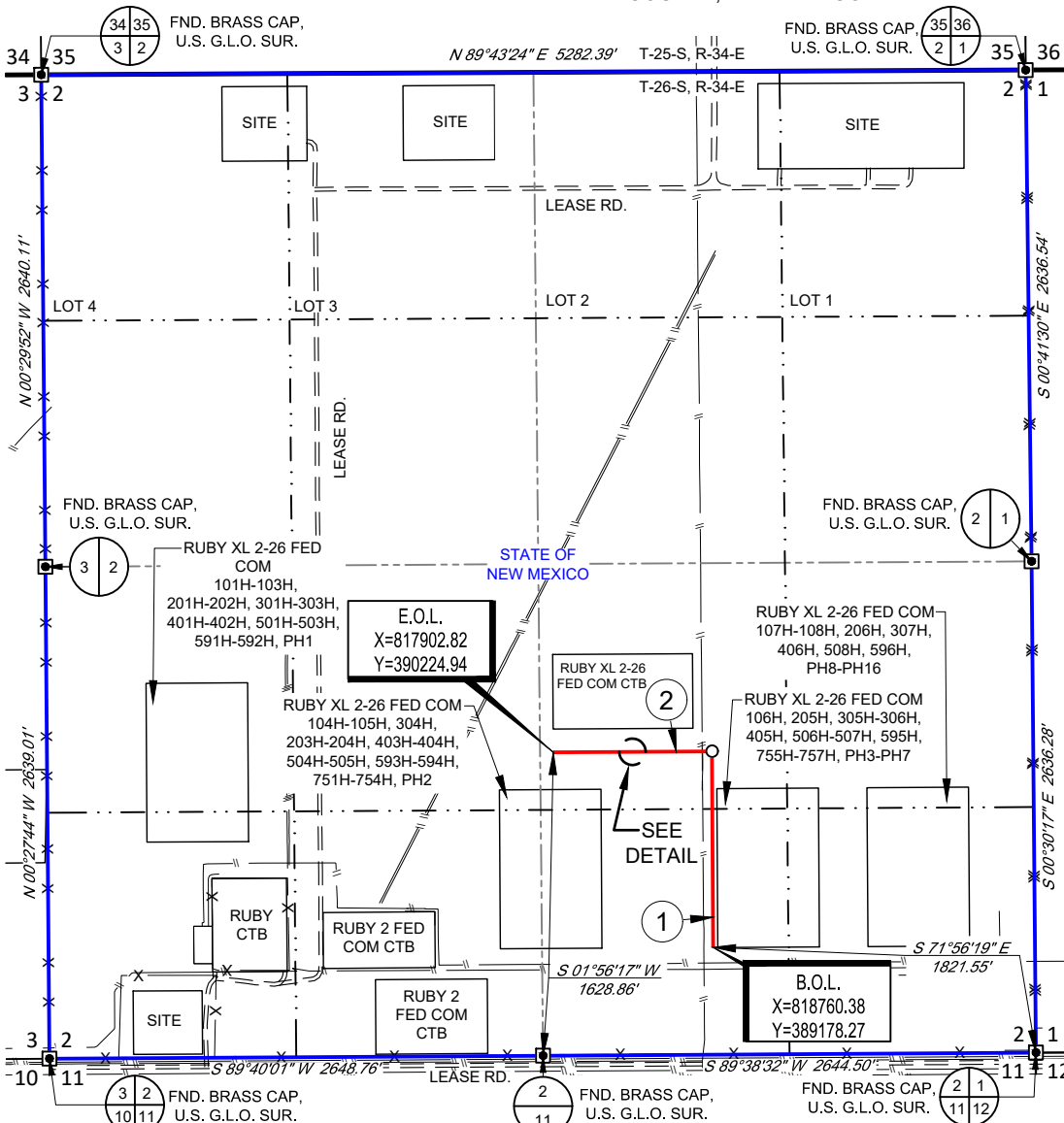
Ramon A. Dominguez, P.S. No. 24508



| | | | |
|--|---|------|--|
| RUBY XL 2-26 FED COM 106H, 205H, 305H-306H, 405H, 506H-507H, 595H, 755H-757H, PH3-PH7 4 INCH ABOVE GROUND FUEL GAS LINE (POLY OR FLEXSTEEL LOW PRESSURE) | 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: | 05/02/24 | | |
| FILE: | EP RUBY XL 2-26 FC 106 205 305-306 405 506-507 595 755-757 PH3-PH7 FUEL GAS | | |
| DRAWN BY: | MML | | |
| SHEET : | 1 OF 1 | | |

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



DETAIL VIEW
SCALE: 1" = 50'

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°21'06" W | 1052.04' |
| 2 | S 89°38'26" W | 851.12' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- - - - SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
106H, 205H, 305H-306H, 405H, 506H-507H, 595H, 755H-757H, PH3-PH7
4 INCH ABOVE GROUND FUEL GAS LINE
(POLY OR FLEXSTEEL LOW PRESSURE)

Being a proposed fuel gas easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 1903.16 feet or 115.34 rods, containing 2.18 acres more or less and allocated by quarter quarters as follows:

SW/4 SE/4 - 743.22 feet or 45.04 rods, containing 0.85 acres
NW/4 SE/4 - 1159.94 feet or 70.30 rods, containing 1.33 acres

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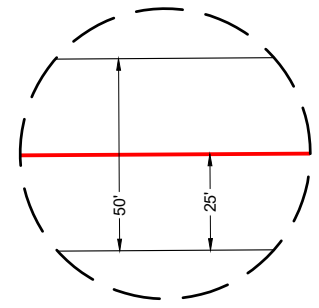
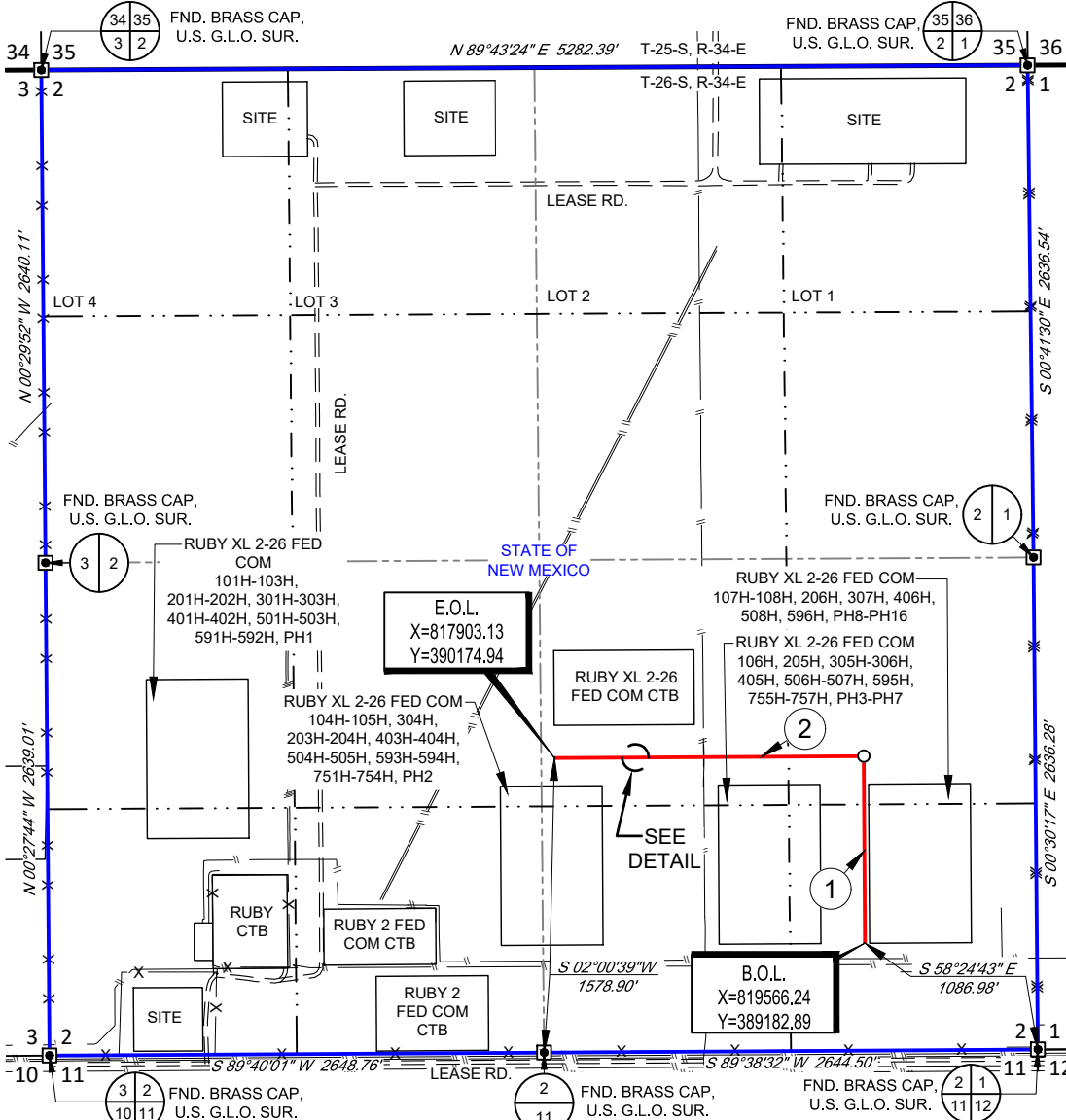
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| DATE: | 05/02/24 |
| FILE: | EP RUBY XL 2-26 FC 106 205 305-306 405 506-507 595 755-757 PH3-PH7 FUEL GAS |
| DRAWN BY: | MML |
| SHEET: | 1 OF 1 |

| REVISION: | |
|-----------|------|
| INT | DATE |
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NOTES:
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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.

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



DETAIL VIEW
SCALE: 1" = 50'

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°22'19" W | 1002.21' |
| 2 | S 89°38'57" W | 1656.64' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
107H-108H, 206H, 307H, 406H, 508H, 596H, PH8-PH16
FLOW LINE, GAS LIFT, FIBER OPTIC

Being a proposed flow line, gas lift, fiber optic easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 2658.85 feet or 161.14 rods, containing 3.05 acres more or less and allocated by quarter quarters as follows:

- SE/4 SE/4 - 743.33 feet or 45.05 rods, containing 0.85 acres
- NE/4 SE/4 - 663.37 feet or 40.20 rods, containing 0.76 acres
- NW/4 SE/4 - 1252.15 feet or 75.89 rods, containing 1.44 acres

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LOYALTY INNOVATION LEGACY
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RAMON DOMINGUEZ
NEW MEXICO
24508
PROFESSIONAL SURVEYOR
11/7/2024 10:35:06 AM

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



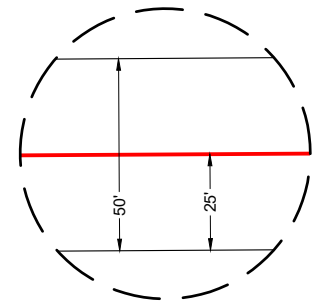
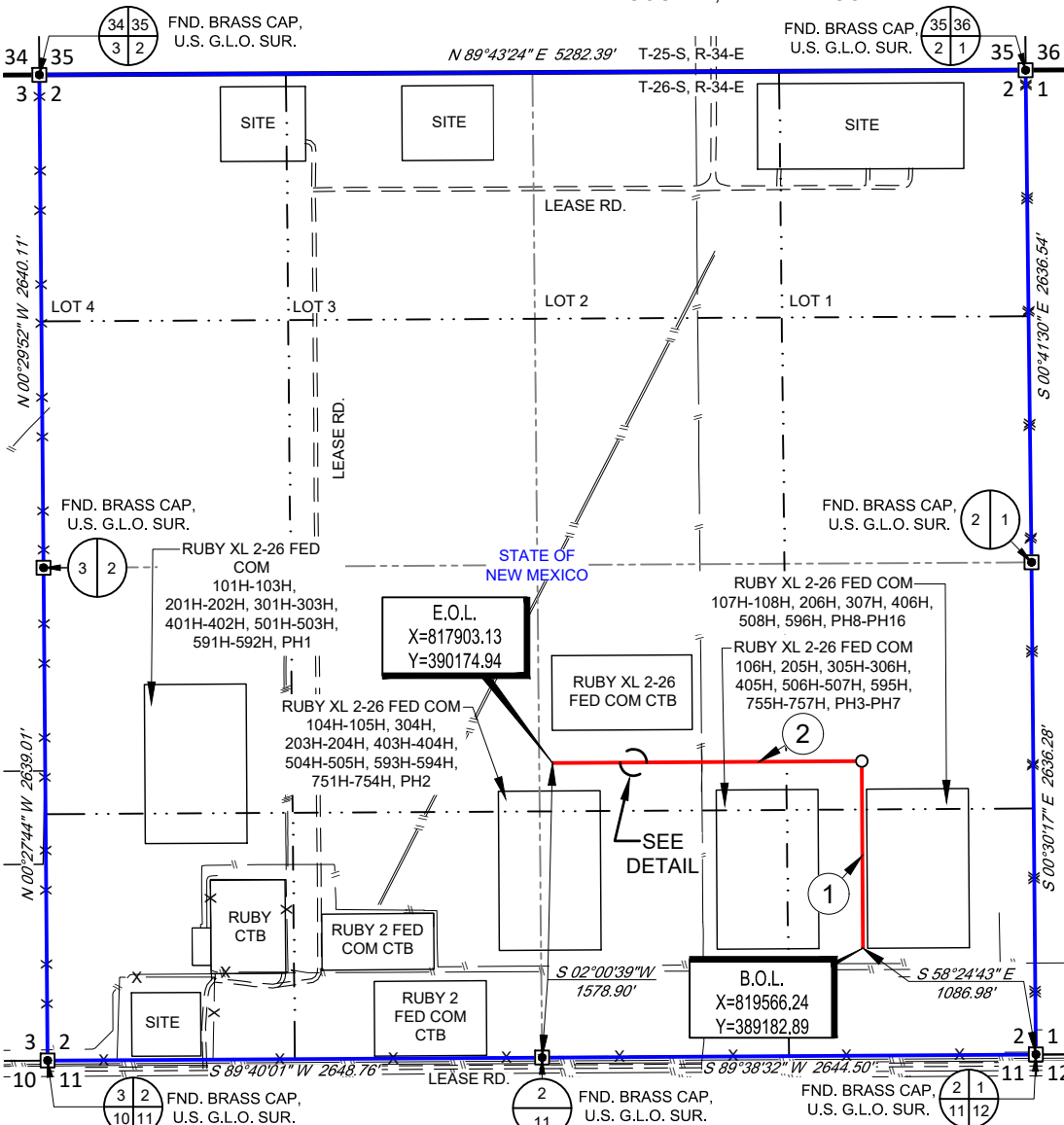
| | |
|--|--|
| RUBY XL 2-26 FED COM 107H-108H, 206H, 307H, 406H, 508H, 596H, PH8-PH16 FLOW LINE, GAS LIFT, FIBER OPTIC | |
| DATE: | 05/02/24 |
| FILE: | EP RUBY XL 2-26 FC 107-108 206 307 406 508 596 PH8-PH16_FL_GL_FO |
| DRAWN BY: | MML |
| SHEET : | 1 OF 1 |

| REVISION: | |
|-----------|------|
| INT | DATE |
| | |
| | |

- NOTES:
- ORIGINAL DOCUMENT SIZE: 8.5" X 11"
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SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



DETAIL VIEW
SCALE: 1" = 50'

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°22'19" W | 1002.21' |
| 2 | S 89°38'57" W | 1656.64' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
107H-108H, 206H, 307H, 406H, 508H, 596H, PH8-PH16
4 INCH ABOVE GROUND FUEL GAS LINE
(POLY OR FLEXSTEEL LOW PRESSURE)

Being a proposed fuel gas easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 2658.85 feet or 161.14 rods, containing 3.05 acres more or less and allocated by quarter quarters as follows:

- SE/4 SE/4 - 743.33 feet or 45.05 rods, containing 0.85 acres
- NE/4 SE/4 - 663.37 feet or 40.20 rods, containing 0.76 acres
- NW/4 SE/4 - 1252.15 feet or 75.89 rods, containing 1.44 acres

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LOYALTY INNOVATION LEGACY
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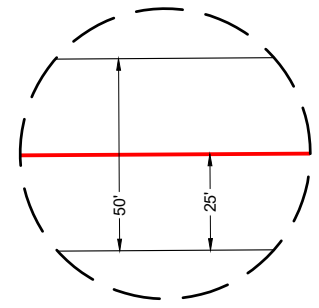
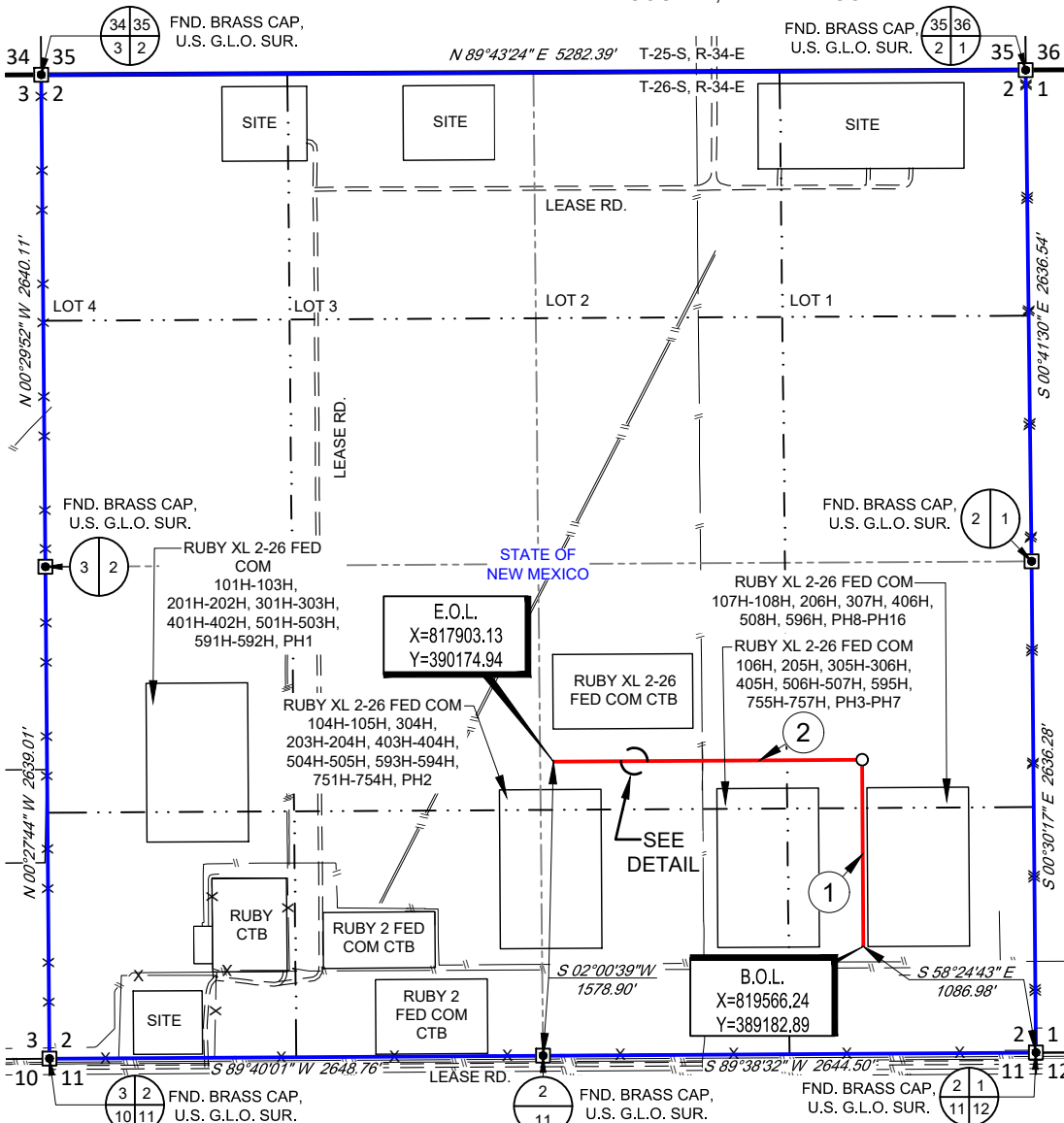
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|-----------|--|
| DATE: | 05/02/24 |
| FILE: | EP RUBY XL 2-26 FC 107-108 206 307 406 508 596 PH8-PH16 FUEL GAS |
| DRAWN BY: | MML |
| SHEET : | 1 OF 1 |

| REVISION: | |
|-----------|------|
| INT | DATE |
| | |
| | |

- 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.

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



DETAIL VIEW
SCALE: 1" = 50'

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 00°22'19" W | 1002.21' |
| 2 | S 89°38'57" W | 1656.64' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- - - - SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- OHE OVERHEAD ELECTRIC
- O POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
107H-108H, 206H, 307H, 406H, 508H, 596H, PH8-PH16
4 INCH ABOVE GROUND FUEL GAS LINE
(POLY OR FLEXSTEEL LOW PRESSURE)

Being a proposed fuel gas easement being 50 feet in width, 25 feet left, and 25 feet right of the above platted centerline total line footage containing 2658.85 feet or 161.14 rods, containing 3.05 acres more or less and allocated by quarter quarters as follows:

- SE/4 SE/4 - 743.33 feet or 45.05 rods, containing 0.85 acres
- NE/4 SE/4 - 663.37 feet or 40.20 rods, containing 0.76 acres
- NW/4 SE/4 - 1252.15 feet or 75.89 rods, containing 1.44 acres

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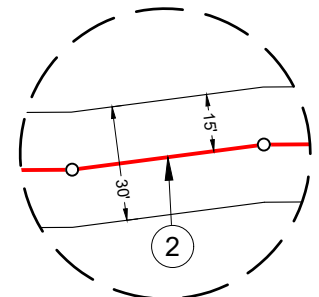
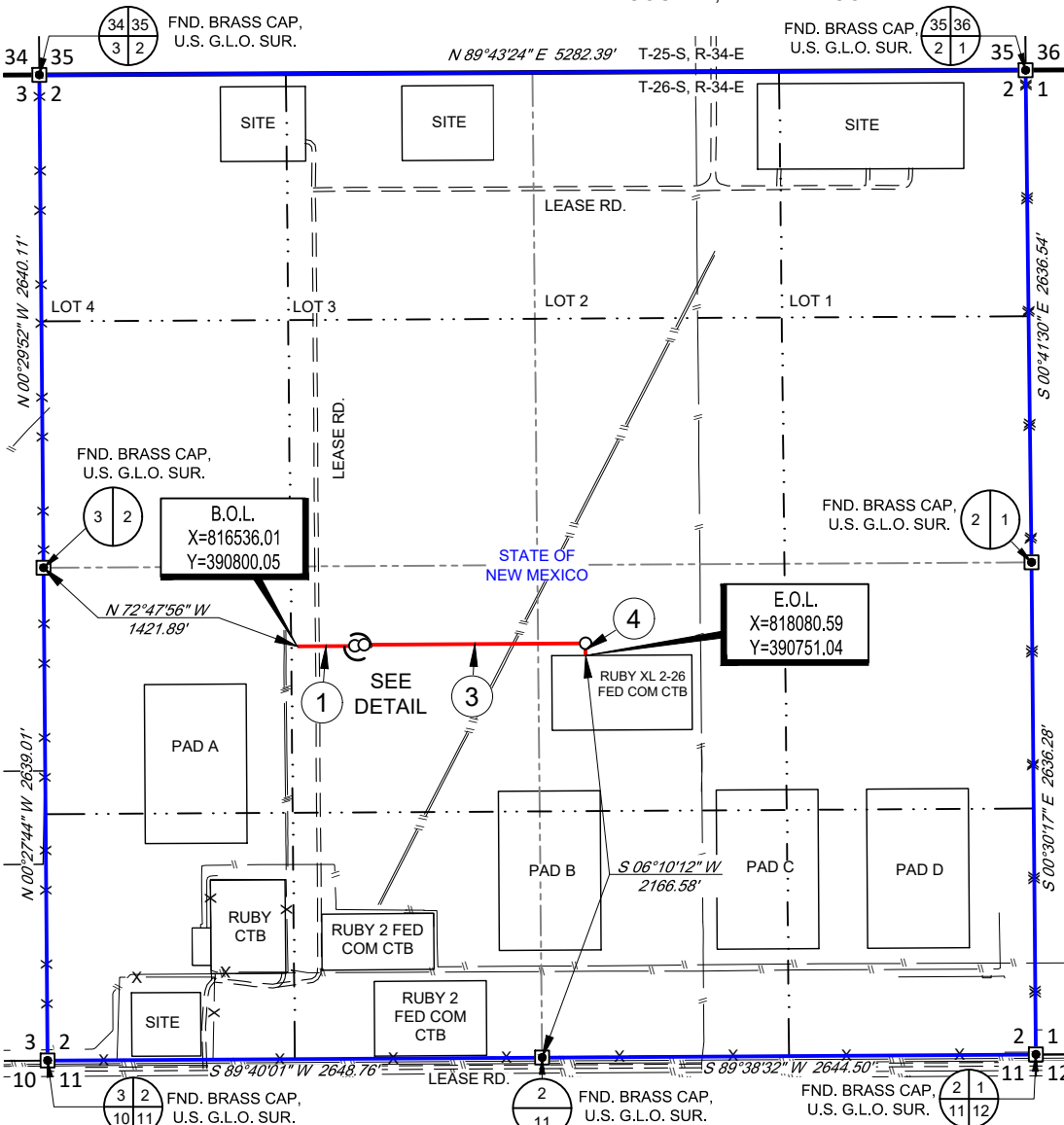
Ramon A. Dominguez, P.S. No. 24508



| | | | |
|--|--|------|--|
| RUBY XL 2-26 FED COM 107H-108H, 206H, 307H, 406H, 508H, 596H, PH8-PH16 4 INCH ABOVE GROUND FUEL GAS LINE (POLY OR FLEXSTEEL LOW PRESSURE) | 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: | 05/02/24 | | |
| FILE: | EP RUBY XL 2-26 FC 107-108_206_307_406_508_596_PH8-PH16_FUEL_GAS | | |
| DRAWN BY: | MML | | |
| SHEET: | 1 OF 1 | | |

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SCALE: 1" = 1000'
0' 500' 1000'



LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 89°38'11" E | 308.26' |
| 2 | N 82°32'10" E | 50.35' |
| 3 | N 89°38'09" E | 1186.02' |
| 4 | S 00°21'06" E | 65.04' |

LEGEND

- SURVEY/SECTION LINE
- - - QUARTER SECTION LINE
- · · · · SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- == ROAD WAY
- X FENCE LINE
- EXISTING PIPELINE
- POINT OF INTERSECTION
- MONUMENT FOUND

RUBY XL 2-26 FED COM
ELECTRIC LINE

Being a proposed electric line easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 1609.67 feet or 97.56 rods, containing 1.11 acres more or less and allocated by quarter quarters as follows:

NE/4 SW/4 - 1290.40 feet or 78.21 rods, containing 0.89 acres
NW/4 SE/4 - 319.27 feet or 19.35 rods, containing 0.22 acres

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RAMON DOMINGUEZ
NEW MEXICO
24508
PROFESSIONAL SURVEYOR

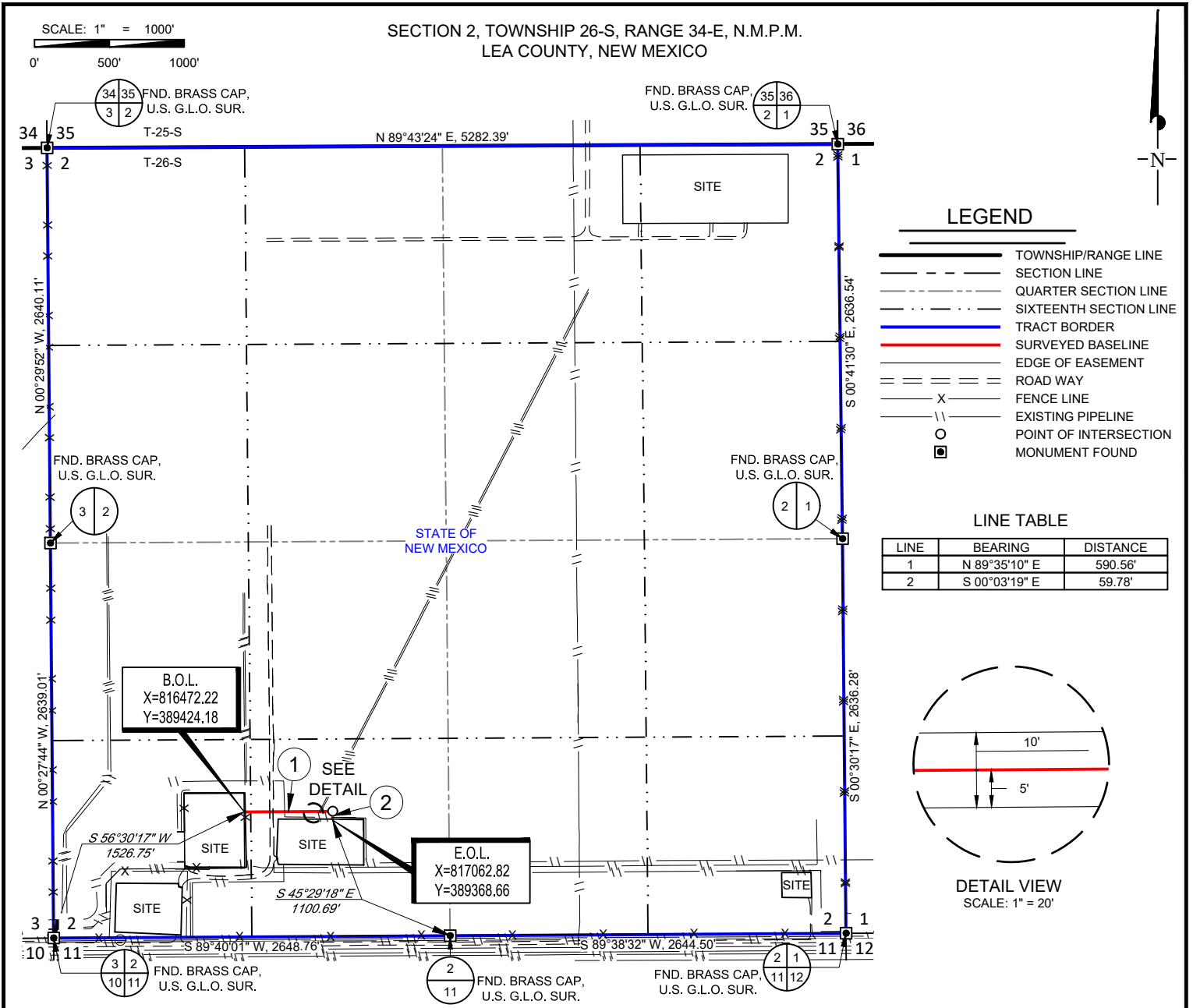
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Ramon A. Dominguez, P.S. No. 24508



| | | |
|---------------------------------------|------------------------------|------|
| RUBY XL 2-26 FED COM ELECTRIC LINE | REVISION: | |
| | INT | DATE |
| | | |
| | | |
| | | |
| DATE: | 05/03/24 | |
| FILE: | EP_RUBY_XL_2-26_FED_COM_ELEC | |
| DRAWN BY: | GJU | |
| SHEET: | 1 OF 1 | |

- NOTES:
1. ORIGINAL DOCUMENT SIZE: 8.5" X 11"
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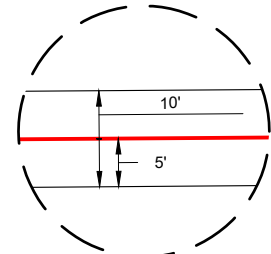


LEGEND

- TOWNSHIP/RANGE LINE
- SECTION LINE
- QUARTER SECTION LINE
- SIXTEENTH SECTION LINE
- TRACT BORDER
- SURVEYED BASELINE
- EDGE OF EASEMENT
- ROAD WAY
- FENCE LINE
- EXISTING PIPELINE
- POINT OF INTERSECTION
- MONUMENT FOUND

LINE TABLE

| LINE | BEARING | DISTANCE |
|------|---------------|----------|
| 1 | N 89°35'10" E | 590.56' |
| 2 | S 00°03'19" E | 59.78' |



RUBY XL 2-26 FED COM FIBER OPTIC LINE

Being a proposed easement being 10 feet in width, 5 feet left, and 5 feet right of the above platted centerline total line footage containing 650.34 feet or 39.41 rods, containing 0.15 acre more or less, and allocated by quarter quarters as follows:

SW/4 SW/4 - 43.69 feet or 2.65 rods, containing 0.01 acre
 SE/4 SW/4 - 606.65 feet or 36.76 rods, containing 0.14 acre



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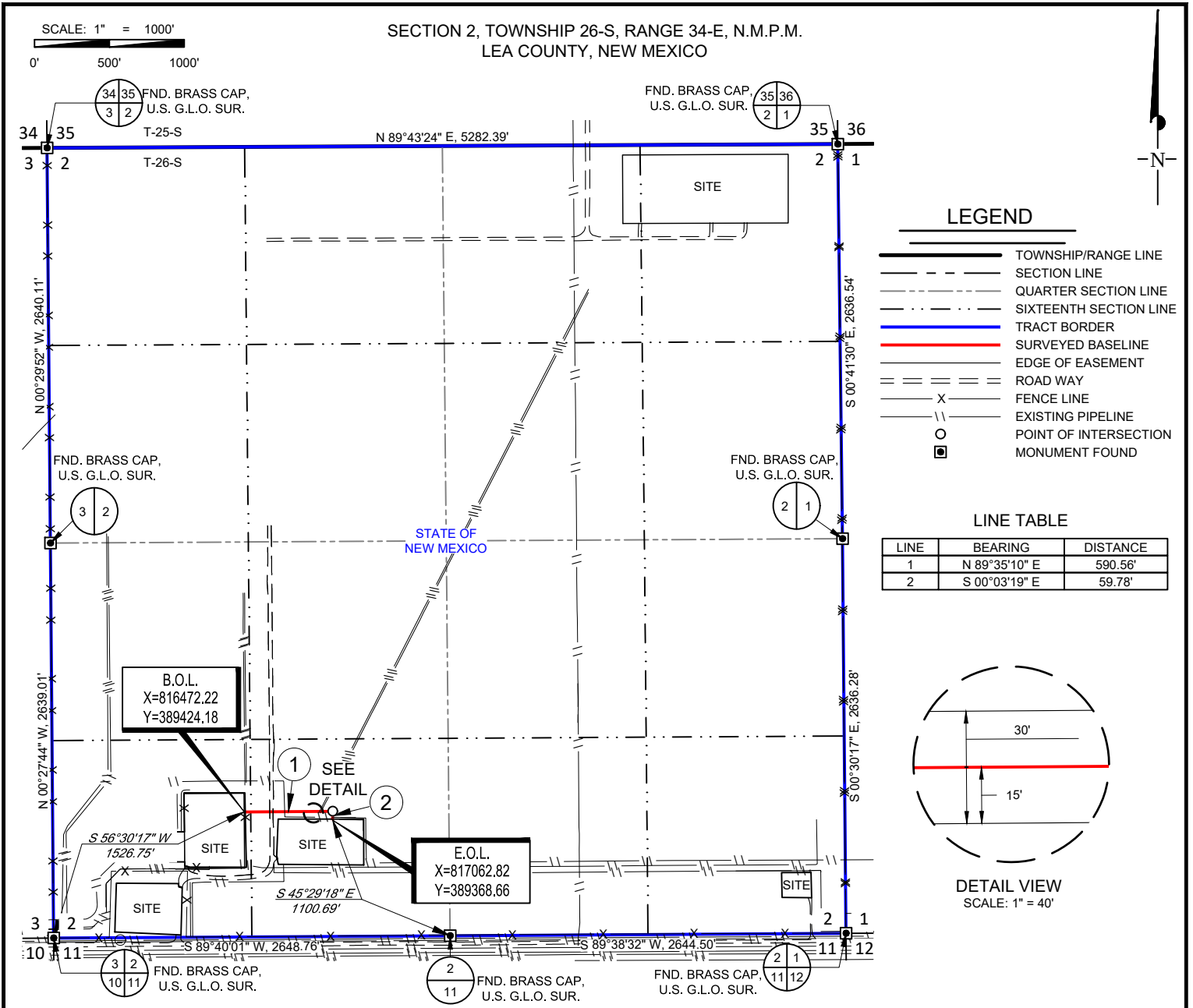


Ramon A. Dominguez, P.S. No. 24508



| RUBY XL 2-26 FED COM FIBER OPTIC LINE | REVISION: | |
|---------------------------------------|-----------|------------|
| | INT | DATE |
| DATE: 03/21/2024 | MEP | 04/01/24 |
| FILE:EP_RUBY_XL_2-26_FED_COM_FO | TCG | 05/13/24 |
| DRAWN BY: CAR | ELS | 08/27/24 |
| SHEET: 1 OF 1 | CAR | 08/29/2024 |
| | ELS | 09/24/24 |

- NOTES:**
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RUBY XL 2-26 FED COM WATER/OIL LINES

Being a proposed easement being 30 feet in width, 15 feet left, and 15 feet right of the above platted centerline total line footage containing 650.34 feet or 39.41 rods, containing 0.45 acre more or less, and allocated by quarter quarters as follows:

SW/4 SW/4 - 43.69 feet or 2.65 rods, containing 0.03 acre
 SE/4 SW/4 - 606.65 feet or 36.76 rods, containing 0.42 acre



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11/7/2024 10:55:02 AM

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



| RUBY XL 2-26 FED COM WATER/OIL LINES | REVISION: | |
|---|-----------|------------|
| | INT | DATE |
| DATE: 03/21/2024 | MEP | 04/01/24 |
| FILE:EP_RUBY_XL_2-26_FED_COM_WL_OL_REV5 | TCG | 05/13/24 |
| DRAWN BY: CAR | ELS | 08/27/24 |
| SHEET: 1 OF 1 | CAR | 08/29/2024 |
| | ELS | 09/24/24 |

NOTES:

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EXHIBIT 5

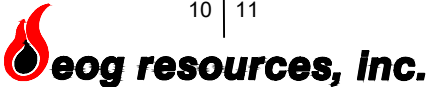
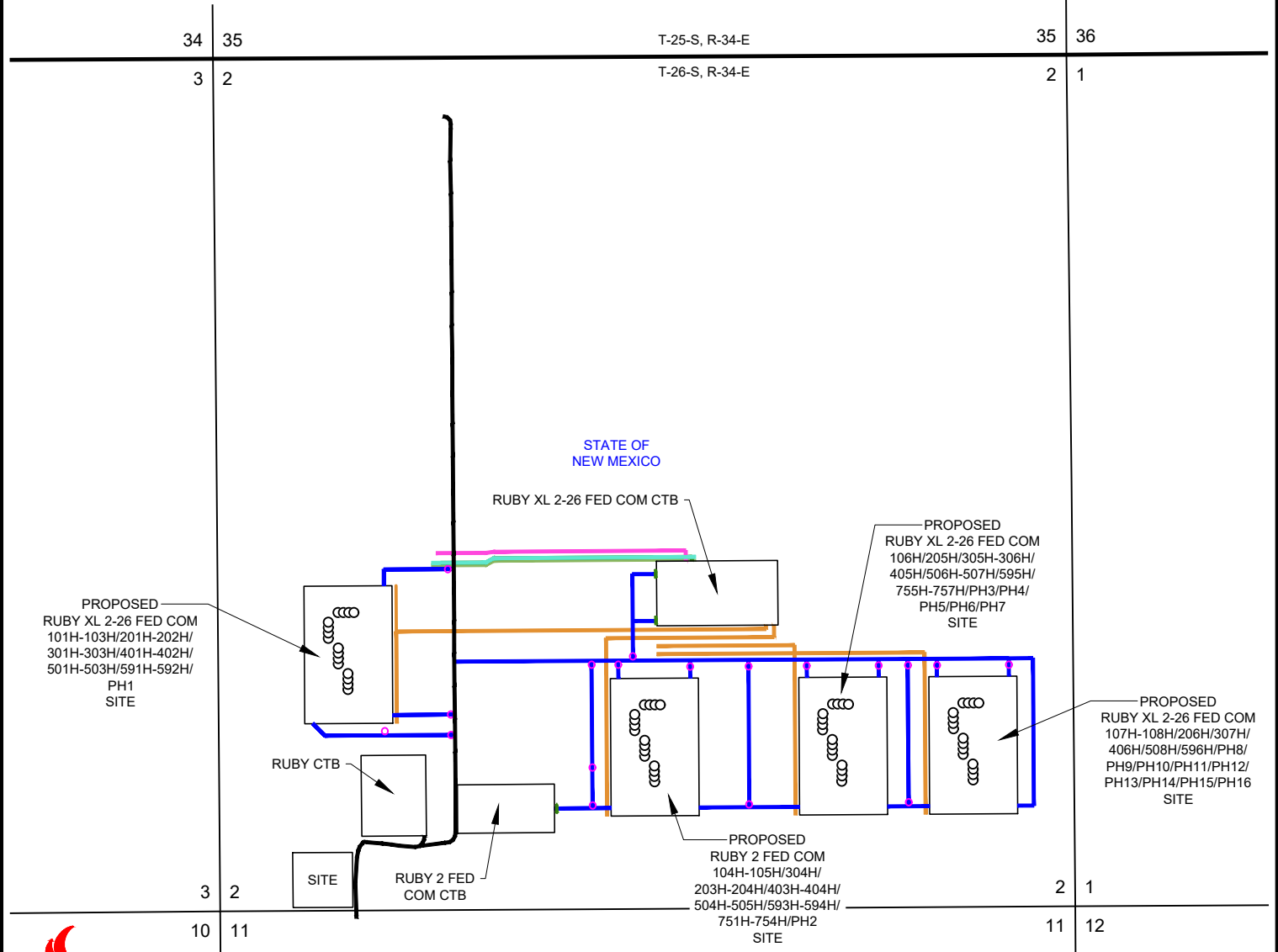
SECTIONS 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

RUBY XL 2-26 FED COM AREA SKETCH



SCALE: 1" = 1000'
0' 500' 1000'

SITE



LEGEND

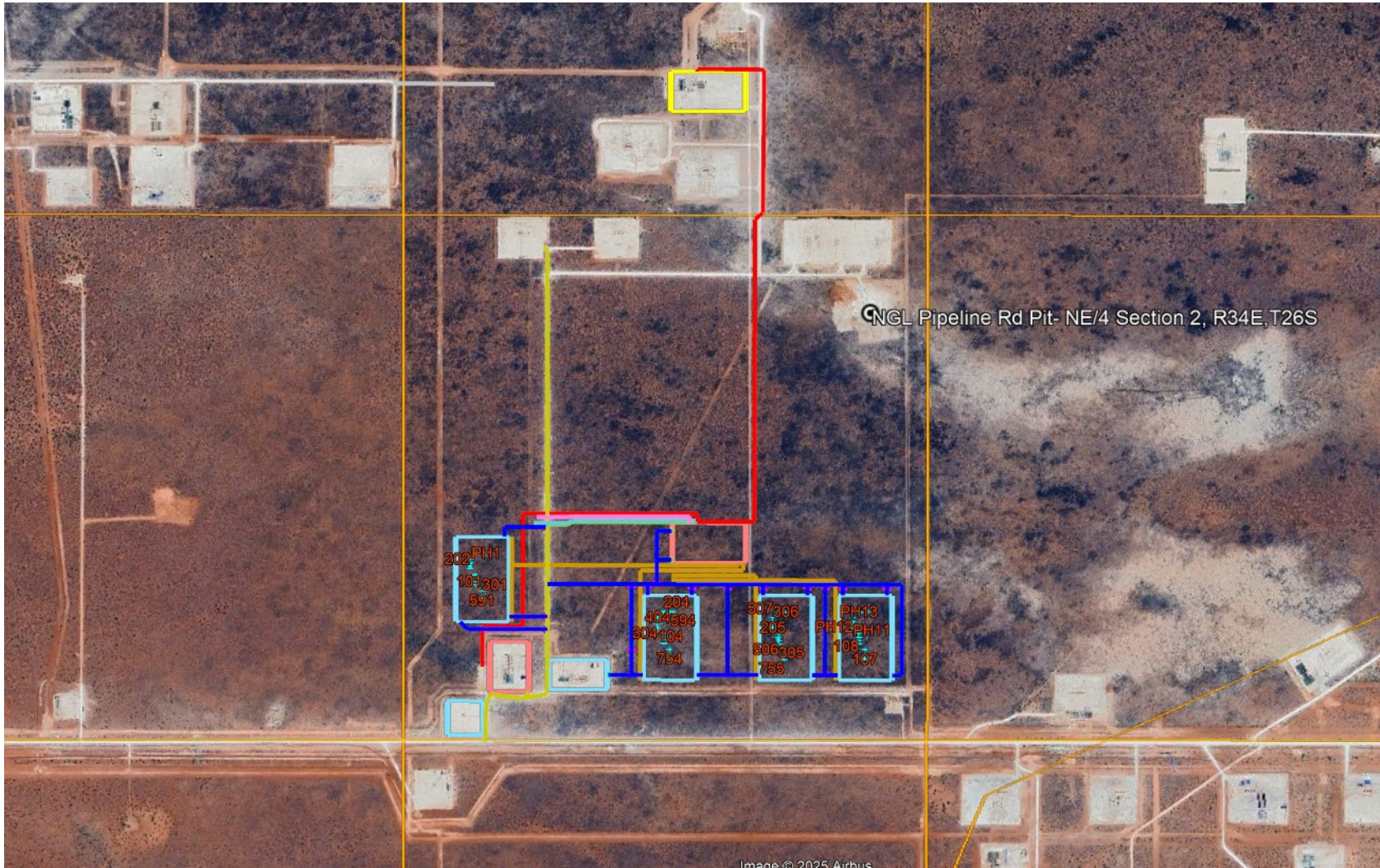
- TOWNSHIP LINE
- SECTION LINE
- PROPOSED ROAD
- EXISTING ROAD CL
- PROPOSED FLOWLINE
- PROPOSED WATER
- PROPOSED GAS LIFT
- PROPOSED GAS
- PROPOSED ELECTRIC
- PROPOSED CULVERT
- PROPOSED CATTLEGUARD

| | | |
|-------------------------------------|--|------------|
| RUBY XL 2-26 FED COM AREA SKETCH | REVISION: | |
| | MEP | 04/02/2024 |
| | ELS | 10/25/2024 |
| DATE: | 3/20/2024 | |
| FILE: | SK_RUBY_XL_2-26_FED_COM_EXHIBIT_5_REV3 | |
| DRAWN BY: | MEP | |
| SHEET : | 1 OF 1 | |

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 TEXAS FIRM REGISTRATION NO. 10042504
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Ruby XL 2-26 Fed Com Caliche Map



NGL Pipeline Rd Pit (32.076944°, -103.433973°) - NE/4 Section 2, Range 34 East, Township 26 South, Lea County, New Mexico.

Exhibit 4

Well Site Diagram

EOG Resources

Ruby XL 2-26 Fed Com #591H

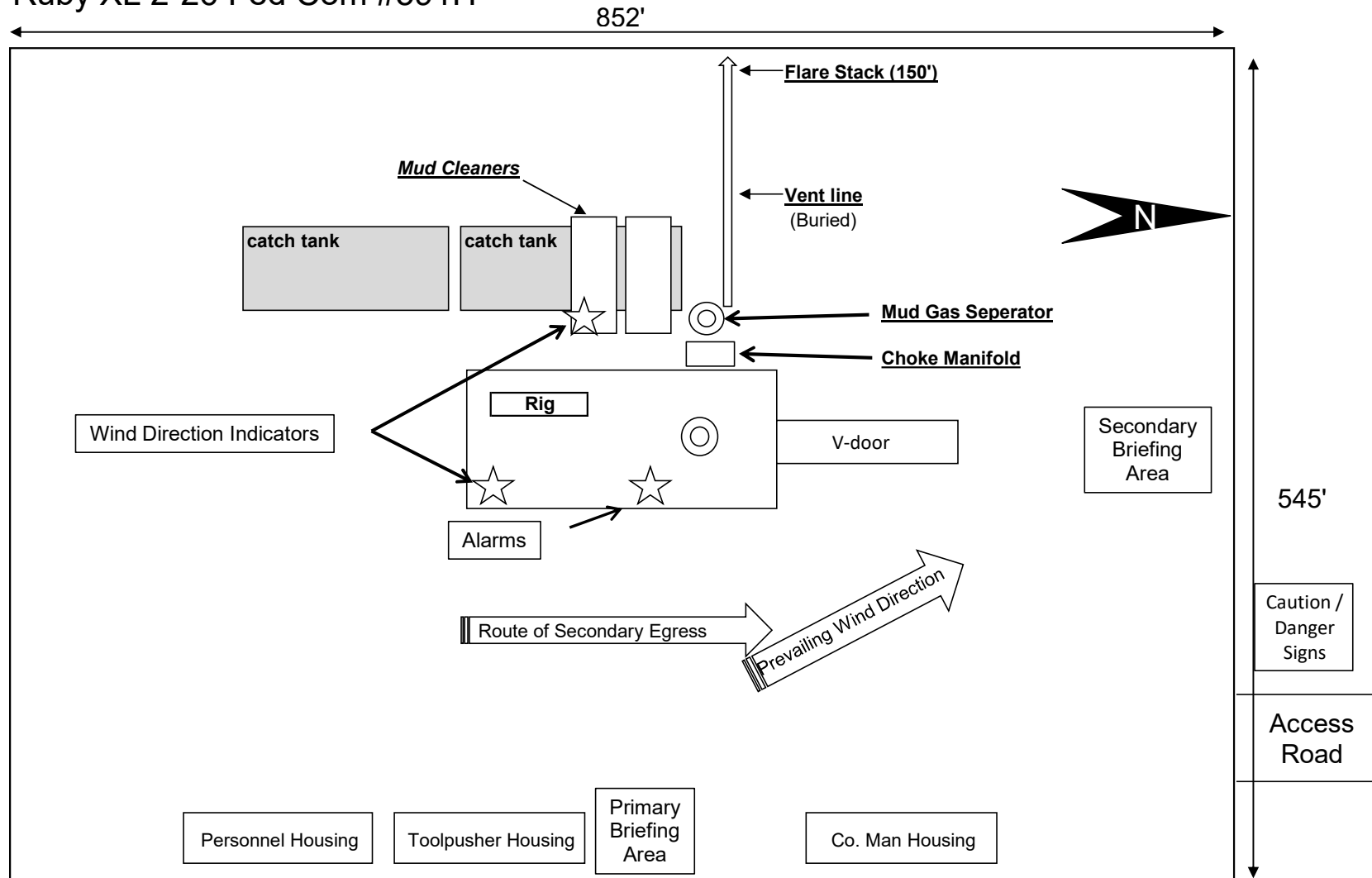


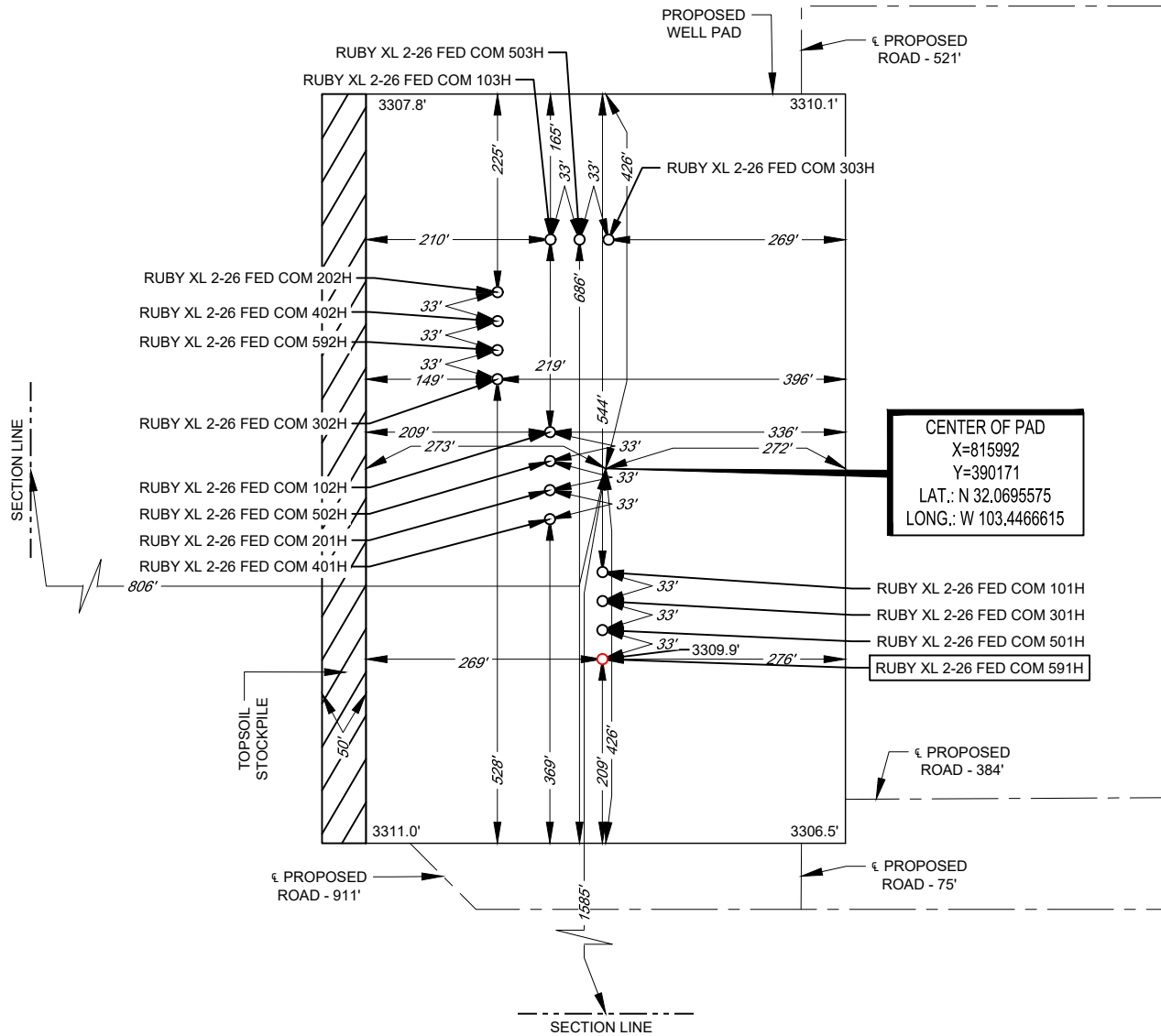
EXHIBIT 2B



LEGEND

- SECTION LINE
- PROPOSED ROAD

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO



LEASE NAME & WELL NO.: RUBY XL 2-26 FED COM 591H
 591H LATITUDE N 32.0689622 591H LONGITUDE W 103.4466756

CENTER OF PAD IS 1585' FSL & 806' FWL



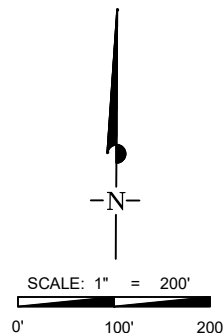
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Ramon A. Dominguez, P.S. No. 24508

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"

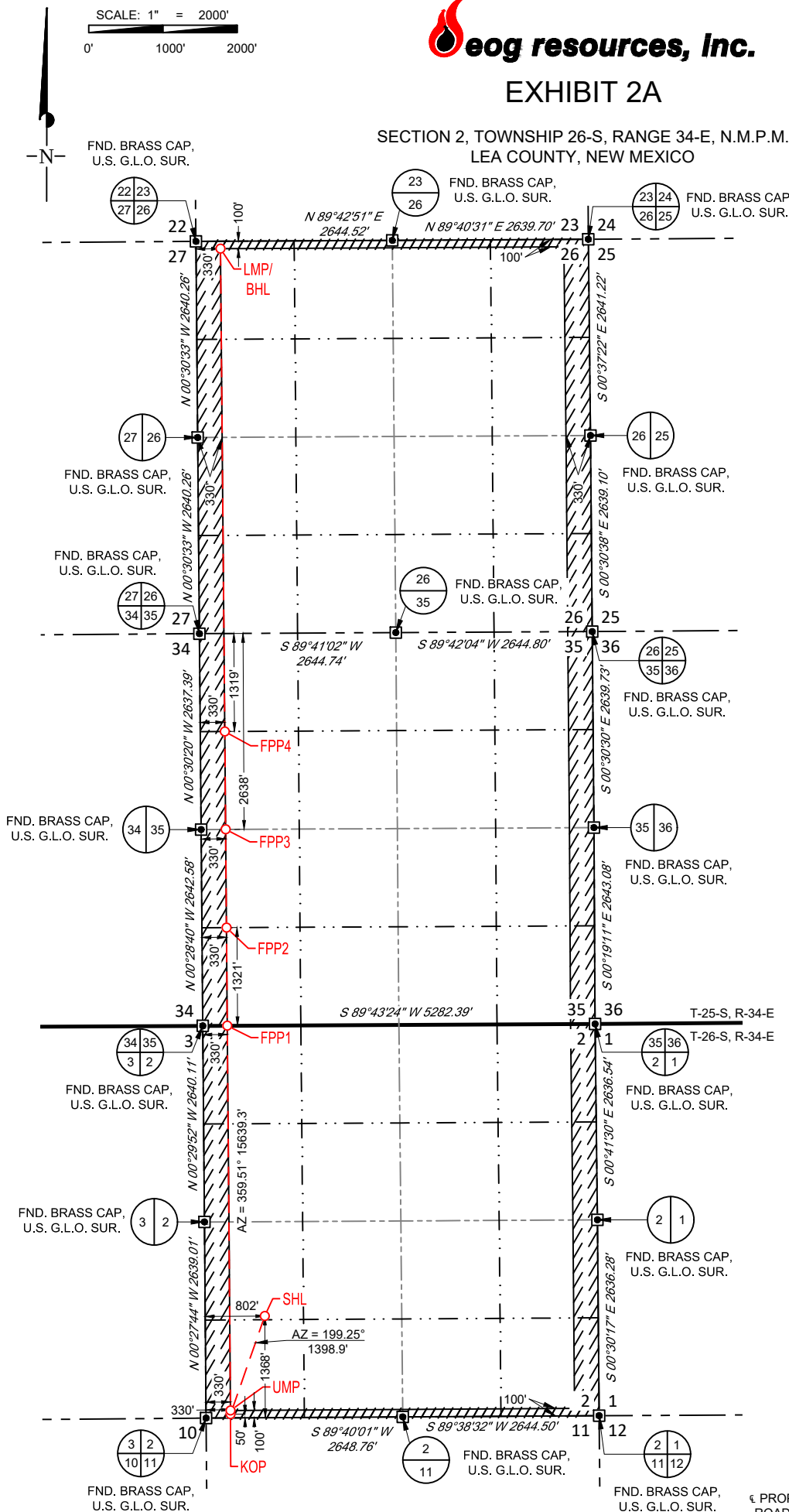


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EXHIBIT 2A

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M. LEA COUNTY, NEW MEXICO



SURFACE LOCATION (SHL)
 NEW MEXICO EAST
 NAD 1983
 X=815990 Y=389954
 LAT.: N 32.0689622
 LONG.: W 103.4466756
 1368' FSL 802' FWL

KICK OFF POINT (KOP)
 NEW MEXICO EAST
 NAD 1983
 X=815529 Y=388634
 LAT.: N 32.0653423
 LONG.: W 103.4481991
 50' FSL 330' FWL

UPPER MOST PERF. (UMP)
 NEW MEXICO EAST
 NAD 1983
 X=815528 Y=388684
 LAT.: N 32.0654797
 LONG.: W 103.4481990
 100' FSL 330' FWL

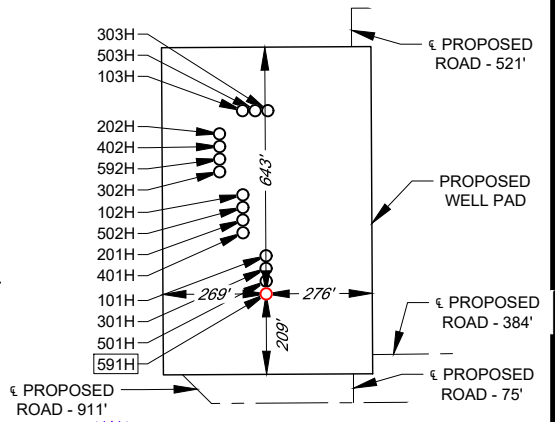
FED PERF. POINT (FPP1)
 NEW MEXICO EAST
 NAD 1983
 X=815485 Y=393862
 LAT.: 32.0797149
 LONG.: 103.4482020
 0' FSL 330' FWL

FED PERF. POINT (FPP2)
 NEW MEXICO EAST
 NAD 1983
 X=815474 Y=395183
 LAT.: N 32.0833468
 LONG.: W 103.4482026
 1321' FSL 330' FWL

FED PERF. POINT (FPP3)
 NEW MEXICO EAST
 NAD 1983
 X=815463 Y=396505
 LAT.: N 32.0869787
 LONG.: W 103.4482031
 2638' FNL 330' FWL

FED PERF. POINT (FPP4)
 NEW MEXICO EAST
 NAD 1983
 X=815451 Y=397823
 LAT.: N 32.0906037
 LONG.: W 103.4482057
 1319' FNL 330' FWL

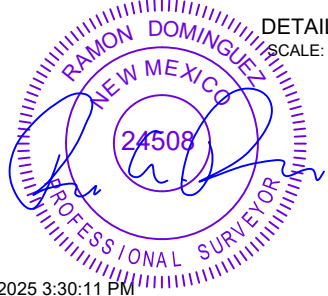
LOWER MOST PERF. (LMP)
BOTTOM HOLE LOCATION (BHL)
 NEW MEXICO EAST
 NAD 1983
 X=815393 Y=404322
 LONG.: W 103.4482197
 100' FNL 330' FWL



LEASE NAME & WELL NO.: RUBY XL 2-26 FED COM 591H

SECTION 2 TWP 26-S RGE 34-E SURVEY N.M.P.M.
 COUNTY LEA STATE NM
 DESCRIPTION 1368' FSL & 802' FWL

DISTANCE & DIRECTION
 FROM INT. OF NM-21 N. & NM-128, GO EAST ON NM-128 ±6.6 MILES,
 THENCE SOUTHWEST (RIGHT) ON BATTLE AXE RD./CR 2 ±7.6 MILES,
 THENCE SOUTHWEST (LEFT) ON A LEASE RD. ±3.0 MILES, THENCE
 SOUTH (RIGHT) ON A LEASE RD. ±1.3 MILES, THENCE WEST (RIGHT) ON
 A LEASE RD. ±0.9 MILES, THENCE WEST (RIGHT) ON A PROPOSED RD.
 ±521 FEET TO A POINT ±681 FEET NORTHEAST OF THE LOCATION.



5/9/2025 3:30:11 PM

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

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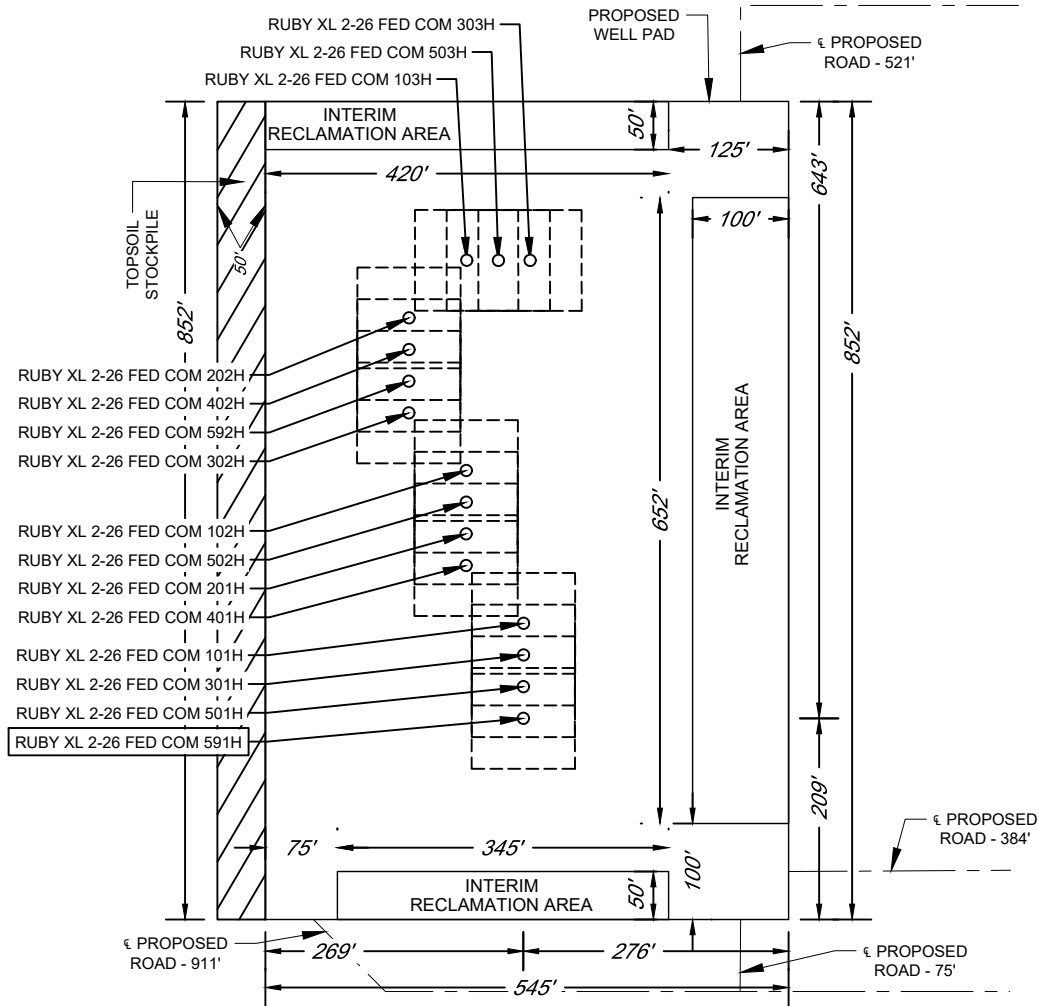
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EXHIBIT 2C RECLAMATION AND FACILITY DIAGRAM - PRODUCTION FACILITIES DIAGRAM

SECTION 2, TOWNSHIP 26-S, RANGE 34-E, N.M.P.M.
LEA COUNTY, NEW MEXICO

DETAIL VIEW
SCALE: 1" = 200'



LEASE NAME & WELL NO.: RUBY XL 2-26 FED COM 591H
 591H LATITUDE N 32.0689622 591H LONGITUDE W 103.4466756

EOG Resources, Inc.

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

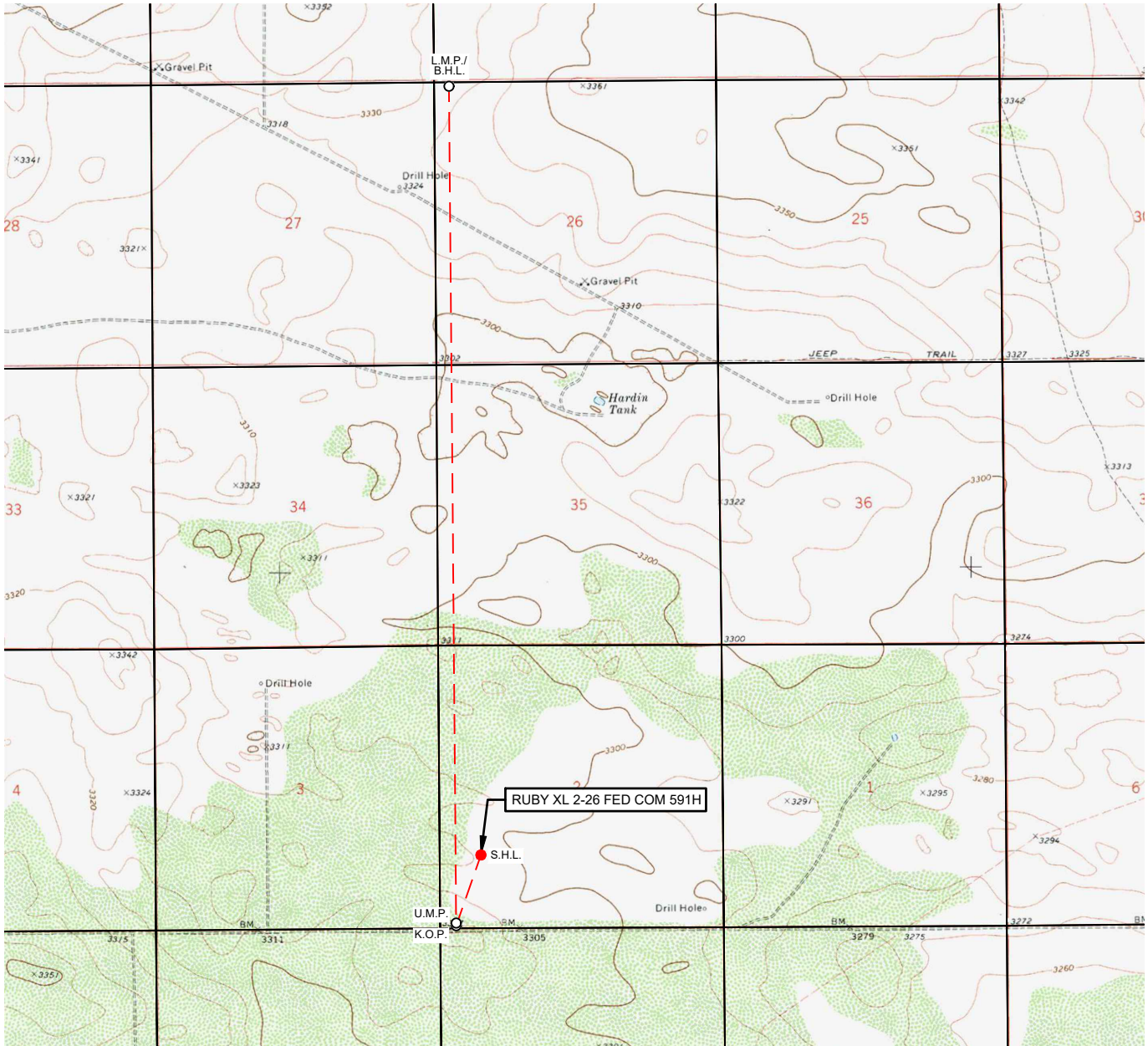
Human waste managed by third-party vendors. ROW construction waste contained in on-site portable toilets maintained by third party vendor. During drilling activities waste is managed by third party vendor utilizing onsite aerobic (treatment) wastewater management. Liquids treated through the aerobic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

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

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

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

LOCATION & ELEVATION VERIFICATION MAP



LEASE NAME & WELL NO.: RUBY XL 2-26 FED COM 591H

SECTION 2 TWP 26-S RGE 34-E SURVEY N.M.P.M.
 COUNTY LEA STATE NM ELEVATION 3310'
 DESCRIPTION 1368' FSL & 802' FWL

LATITUDE N 32.0689622 LONGITUDE W 103.4466756



SCALE: 1" = 3000'
 0' 1500' 3000'

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.



481 WINSOTT ROAD, Ste. 200 • BENBROOK, TEXAS 76126
 TELEPHONE: (817) 744-7512 • FAX (817) 744-7554
 2903 NORTH BIG SPRING • MIDLAND, TEXAS 79705
 TELEPHONE: (432) 682-1653 OR (800) 767-1653 • FAX (432) 682-1743
 WWW.TOPOGRAPHIC.COM

EOG Resources, Inc.
RUBY XL 2-26 FED COM 591H

SHL: 1368 FSL & 802 FWL, Section: 2, T.26S., R.34E.
BHL: 100 FNL & 330 FWL, Section: 26, T.25S., R.34E.

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

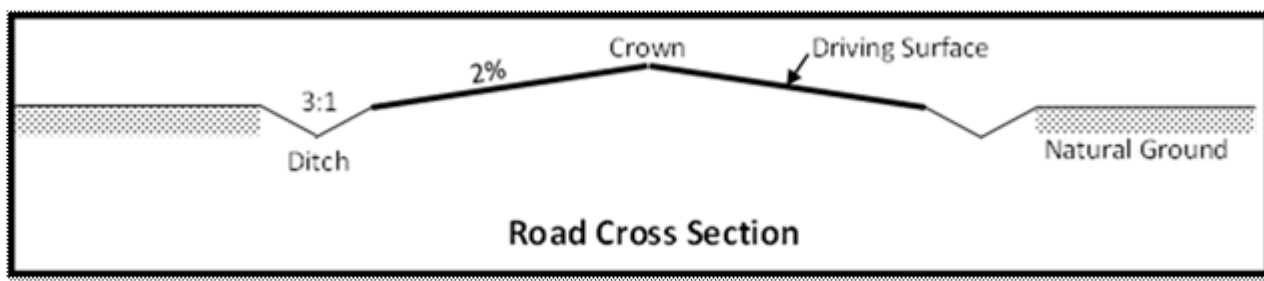
- a. The existing access road route to the proposed project is depicted on RUBY XL 2-26 FED COM 591H VICINITY. Improvements to the driving surface will be done where necessary. No new surface disturbance will be done, unless otherwise noted in the New or Reconstructed Access Roads section of this surface 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 11116 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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- 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. An appropriately sized cattleguard sufficient to carry out the project will be installed and maintained at the fence crossing(s). Prior to cutting the fence, the fence will be braced and tied off on both sides of the passageway with H braces to protect the integrity of the fence line. See the survey plat for the location of the proposed cattle guard.
- 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. An appropriately sized culvert will be installed where drainages cross the access road. The culvert(s) will be no less than 18 inches in diameter and covered with no less than 12 inches of surfacing material. Each culvert will be marked with reflectors attached to T-Posts on both sides of the road. The uphill and downhill opening of the culvert will have rip-rap (cobble stone) extending 3 feet out and 12 inches deep to slow water flow entering and exiting the culvert. Standards in the BLM Gold Book will be used. The culvert will be maintained in its original condition throughout the life of the road. See survey plat for location of culvert(s).
- 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. RUBY XL 2-26 FED COM 591H 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 SEE BELOW FOR SEC 4 ATTACHMENT

- 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

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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. RUBY XL 2 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 protective requirements are deemed necessary.

e. RUBY XL 2-26 FED COM INFRASTRUCTURE MAP/SKETCH 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 FLEXPIPE/FLEXSTEEL pipeline from the proposed well to the offsite production facility. The proposed length of the pipeline will be 9945 feet. The working pressure of the pipeline will be about 1440 psi. A 30 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. RUBY XL 2-26 FED COM INFRASTRUCTURE MAP/SKETCH 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 1610 feet. RUBY XL 2-26 FED COM INFRASTRUCTURE MAP/SKETCH 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 outlined in the drilling program (i) Water will be obtained from commercial water stations in the area and hauled to the location by trucks using existing and proposed roads as depicted on the road map attached (ii) Water may be supplied from frac ponds and transported to the location by temporary above ground surface lines a shown on the map EOG plans to utilize up to eight 4 inch polyethylene or layflat lines and up to eight 12 inch layflat lines to transport fresh water Freshwater contains less than 10_000 mg_I Total Dissolved Solids (TDS)_ exhibits no petroleum sheen when standing_ and is not previously used in mechanical processes that expose it to heavy metals or other potential toxins

EOG plans to utilize up to eight 4 inch polyethylene or layflat lines and up to eight 12 inch layflat lines to transport treated produced water_ defined as reconditioning produced water to a reusable form and may include

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mechanical and chemical processes

Freshwater Source:

Dean Pit Section 3_ Township 26S_ Range 34E_ Lea County_ New Mexico (NWSW)

Treated Produced Water Source:

Lomas Reuse Pit_ Section 26_ Township 25S_ Range 33E_ Lea County_ New Mexico (SWNW and SENW)

Temporary surface lines would originate from a single 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 another mechanism will be used All vehicle equipment will remain within the existing disturbance

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

b. RUBY XL 2-26 FED COM WATER AND CALICHE MAP depicts the proposed route for a 12 inch POLY OR LAYFLAT LINES 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 within the proposed well site dimensions will be used 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 stockpiled 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 stockpiled outside the well pad dimensions. Topsoil will be stockpiled along the edge of the pad as depicted in the Well Site Layout or survey plat.

*□

If 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 before obtaining 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

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facility.

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

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

8. Ancillary Facilities

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

9. Well Site Layout

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

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

ii. well pad dimensions

iii. well pad orientation

iv. drilling rig components

v. proposed access road

vi. elevations of all points

vii. topsoil stockpile

viii. reserve pit location/dimensions if applicable

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

x. existing structures within the 600' x 600' 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 RUBY XL 2-26 FED COM 591H RIG LAYOUT. This diagram depicts the RIG LAYOUT.

d. Topsoil Salvaging

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

10. Plans for Surface Reclamation

Reclamation Objectives

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

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

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

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

v. Interim reclamation will be performed on the well site after the well is drilled and completed. RUBY XL 2-26 FED COM 591H 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

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indistinguishably with the surrounding landscape. Topsoil that was spread over the interim reclamation areas will be stockpiled prior to recontouring. The topsoil will be redistributed evenly over the entire disturbed site to ensure successful revegetation.

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

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

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

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

11. Surface Ownership

- a. The surface ownership of the proposed project is STATE.

12. Other Information

- a. Onsite meeting was conducted on- No onsite required

We plan to use eight 12-inch lay flat hoses to transport water and eight 4-inch polylines or layflay for drilling and frac operations.

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.

24-inch Produced Water:

Section 2, T26-S, R34-E, on lease portion – 1,642.14' or 99.52 rods State Surface

20-inch Gas Sales:

Section 2, T26-S, R34-E, on lease portion – 1,642.14' or 99.52 rods State Surface

3 Phase 14.4 Primary Voltage Overhead Electric Lines:

Section 2, T26-S, R34-E, on lease portion – 1,609.67' or 97.56 rods State Surface

8" Gas Lift Pipeline:

Section 2, T26-S, R34-E, on lease portion – 1,642.14' or 99.52 rods State Surface

Caliche Pit Options:

NGL Rival Pit NW/4 Section 31, Range 34 East, Township 26 South

Intrepid Potash Goss Pit NE/4 Section 5, Range 34 East, Township 26 South

Fresh and Reuse Options:

EOG Dean Freshwater Pit in Section 3, Range 34 East, Township 26 South.

EOG Lomas Reuse Pit in Section 26, Range 33 East, Township 25 South.

EOG will install up to 30-inch culverts crossing proposed lease roads in eighteen locations identified on the attached map. See the coordinates below:

Culvert #1 - N32°04'15.60" W103°26'40.78"

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- Culvert #2 - N32°04'05.69" W103°26'45.41"
- Culvert #3 - N32°04'06.69" W103°26'40.65"
- Culvert #4 - N32°04'05.43" W103°26'40.65"
- Culvert #5 - N32°04'09.66" W103°26'30.49"
- Culvert #6 - N32°04'09.65" W103°26'28.57"
- Culvert #7 - N32°04'09.50" W103°26'23.40"
- Culvert #8 - N32°04'09.49" W103°26'19.21"
- Culvert #9 - N32°04'09.48" W103°26'15.02"
- Culvert #10 - N32°04'09.47" W103°26'09.84"
- Culvert #11 - N32°04'09.47" W103°26'07.75" □
- Culvert #12 - N32°04'09.46" W103°26'05.65"
- Culvert #13 - N32°04'09.45" W103°26'00.48"
- Culvert #14 - N32°04'03.37" W103°26'30.51"
- Culvert #15 - N32°04'01.04" W103°26'30.51"
- Culvert #16 - N32°04'01.02" W103°26'19.24"
- Culvert #17 - N32°04'01.08" W103°26'07.77"
- Culvert #18 - N32°04'01.08" W103°26'07.77"

EOG will install cattleguards at 3 locations on the proposed lease roads. See coordinates below.

- Cattleguard #1- N32°04'15.19" W103°26'25.82"
- Cattleguard #2- N32°04'12.32" W103°26'25.83"
- Cattleguard #3- N32°04'00.88" W103°26'33.07"

13. Maps and Diagrams

- RUBY XL 2-26 FED COM 591H VICINITY - Existing Road
- RUBY XL 2-26 FED COM 591H RADIUS - Wells Within One Mile
- RUBY XL 2 FED COM CTB - Production Facilities Diagram
- RUBY XL 2-26 FED COM INFRASTRUCTURE MAP/SKETCH - Additional Production Facilities Diagram
- RUBY XL 2-26 FED COM INFRASTRUCTURE MAP/SKETCH - Production Pipeline
- RUBY XL 2-26 FED COM INFRASTRUCTURE MAP/SKETCH - Electric Line
- RUBY XL 2-26 FED COM WATER AND CALICHE MAP - Drilling Water Pipeline
- RUBY XL 2-26 FED COM 591H RIG LAYOUT - Well Site Diagram
- RUBY XL 2-26 FED COM 591H RECLAMATION - Interim Reclamation

PROPOSED NEW PIPELINES:

| <u>Type</u> | <u>Product</u> | <u>Size</u> | <u>PSI</u> | <u>Material</u> | <u>Area Width</u> |
|---|--------------------|-------------|------------|--------------------|-------------------|
| Buried <input checked="" type="checkbox"/> Surface <input type="checkbox"/> | Flowline | 6-inch | 1440 | Flexpipe/Flexsteel | 30 |
| Buried <input checked="" type="checkbox"/> Surface <input type="checkbox"/> | Gas Lift Gas | 6-inch | 1440 | Flexpipe/Flexsteel | 30 |
| Buried <input checked="" type="checkbox"/> Surface <input type="checkbox"/> | Produced Water | 20-inch | 250 | Poly | 30 |
| Buried <input checked="" type="checkbox"/> Surface <input type="checkbox"/> | Gas Sales | 20-inch | 1200 | Steel | 30 |
| Buried <input checked="" type="checkbox"/> Surface <input type="checkbox"/> | Localized Gas Lift | 8-inch | 1440 | Flexsteel/Steel | 30 |
| Buried <input checked="" type="checkbox"/> Surface <input type="checkbox"/> | Fiber Optic | 1 inch | NA | Cable Strand | 30 |

24-inch Produced Water:

Section 2, T26-S, R34-E, on lease portion – **1,642.14’ or 99.52 rods** State Surface

20-inch Gas Sales:

Section 2, T26-S, R34-E, on lease portion – **1,642.14’ or 99.52 rods** State Surface

3 Phase 14.4 Primary Voltage Overhead Electric Lines:

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8” Gas Lift Pipeline:

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Caliche Pit Options:

NGL Rival Pit NW/4 Section 31, Range 34 East, Township 26 South

Intrepid Potash Goss Pit NE/4 Section 5, Range 34 East, Township 26 South

Fresh and Reuse Options:

EOG Dean Freshwater Pit in Section 3, Range 34 East, Township 26 South.

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EOG will install up to 30-inch culverts crossing proposed lease roads in eighteen locations identified on the attached map. See the coordinates below:

- | | |
|--|--|
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| Culvert #2 - N32°04'05.69" W103°26'45.41" | Culvert #9 - N32°04'09.48" W103°26'15.02" |
| Culvert #3 - N32°04'06.69" W103°26'40.65" | Culvert #10 - N32°04'09.47" |
| Culvert #4 - N32°04'05.43" W103°26'40.65" | W103°26'09.84" |
| Culvert #5 - N32°04'09.66" W103°26'30.49" | Culvert #11 - N32°04'09.47" |
| Culvert #6 - N32°04'09.65" W103°26'28.57" | W103°26'07.75" |
| Culvert #7 - N32°04'09.50" W103°26'23.40" | |

**Culvert #12 - N32°04'09.46"
W103°26'05.65"**

**Culvert #13 - N32°04'09.45"
W103°26'00.48"**

**Culvert #14 - N32°04'03.37"
W103°26'30.51"**

**Culvert #15 - N32°04'01.04"
W103°26'30.51"**

**Culvert #16 - N32°04'01.02"
W103°26'19.24"**

**Culvert #17 - N32°04'01.08"
W103°26'07.77"**

**Culvert #18 - N32°04'01.08"
W103°26'07.77'**

**EOG will install cattleguards at 3 locations
on the proposed lease roads. See
coordinates below.**

**Cattleguard #1- N32°04'15.19"
W103°26'25.82"**

**Cattleguard #2- N32°04'12.32"
W103°26'25.83"**

**Cattleguard #3- N32°04'00.88"
W103°26'33.07"**



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

PWD Data Report

01/07/2026

APD ID: 10400108171

Submission Date: 11/06/2025

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

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

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD Surface Owner Description:

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

Lined pit Monitor description:

Lined pit Monitor

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Other PWD Surface Owner Description:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

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):

Precipitated Solids Permit

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

TDS lab results:

Geologic and hydrologic

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

State

Unlined Produced Water Pit Estimated

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information

Section 4 -

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD Surface Owner Description:

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection

Underground Injection Control (UIC) Permit?

UIC Permit

Section 5 - Surface

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD Surface Owner Description :

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

Section 6 -

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

PWD Surface Owner Description:

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements



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

Bond Info Data

01/07/2026

APD ID: 10400108171

Submission Date: 11/06/2025

Operator Name: EOG RESOURCES INCORPORATED

Well Name: RUBY XL 2-26 FED COM

Well Number: 591H

Well Type: OIL WELL

Well Work Type: Drill

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

Bond

Federal/Indian APD: FED

BLM Bond number: NMB106709157

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

State of New Mexico
 Energy, Minerals and Natural Resources Department

Submit Electronically
 Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description Effective May 25, 2021

I. Operator: EOG Resources, Inc. **OGRID:** 7377 **Date:** 01/08/2026

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 |
|---------------------------|-----|-------------|----------------------|-----------------------|-----------------------|----------------------------------|
| RUBY XL 2-26 FED COM 591H | | L-2-26S-34E | 1368' FSL & 802' FEL | +/- 1000 | +/- 3500 | +/- 3000 |
| | | | | | | |

IV. Central Delivery Point Name: RUBY XL 2-26 FED COM CTB [See 19.15.27.9(D)(1) NMAC]

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

| Well Name | API | Spud Date | TD Reached Date | Completion Commencement Date | Initial Flow Back Date | First Production Date |
|---------------------------|-----|------------|-----------------|------------------------------|------------------------|-----------------------|
| RUBY XL 2-26 FED COM 591H | | 09/01/2026 | 10/15/26 | 11/01/26 | 02/01/27 | 03/01/27 |
| | | | | | | |

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

If Operator checks this box, Operator will select one of the following:

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

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

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

Section 4 - Notices

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

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

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

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

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

| |
|--|
| Signature: |
| Printed Name: SHEA BAILEY |
| Title: Regulatory Administrator |
| E-mail Address: shea_bailey@eogresources.com |
| Date: 01/08/2026 |
| Phone: (432) 214-9797 |
| OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form) |
| Approved By: |
| Title: |
| Approval Date: |
| Conditions of Approval: |

Natural Gas Management Plan

Items VI-VIII

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

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

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

Drilling Operations

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

Completions/Recompletions Operations

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

Production Operations

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

Performance Standards

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

Measurement & Estimation

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

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

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

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

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

General Information
Phone: (505) 629-6116

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

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

ACKNOWLEDGMENTS

Action 541081

ACKNOWLEDGMENTS

| | |
|---|---|
| Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706 | OGRID: 7377 |
| | Action Number: 541081 |
| | Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

ACKNOWLEDGMENTS

| | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well. |
|-------------------------------------|--|

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

CONDITIONS

Action 541081

CONDITIONS

| | |
|---|---|
| Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706 | OGRID: 7377 |
| | Action Number: 541081 |
| | Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3) |

CONDITIONS

| Created By | Condition | Condition Date |
|------------------|---|----------------|
| shea.keithley | Cement is required to circulate on both surface and intermediate1 strings of casing. | 1/7/2026 |
| jeffrey.harrison | If the method of isolation was not by circulation, a CBL must be performed; if strata isolation is not achieved, then remediation will be required before further operations. | 3/16/2026 |
| jeffrey.harrison | NSP required if not included in an existing order or not an infill to an appropriate defining well in the same pool and spacing unit. | 3/16/2026 |
| jeffrey.harrison | File As Drilled C-102 and a directional Survey with C-104 completion packet. | 3/16/2026 |
| jeffrey.harrison | Notify the OCD 24 hours prior to casing & cement. | 3/16/2026 |
| jeffrey.harrison | 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. | 3/16/2026 |
| jeffrey.harrison | 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. | 3/16/2026 |