



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: 4 file(s)
  - Blowout Prevention BOP Diagram Attachment: 1 file(s)
  - Casing Design Assumptions and Worksheet(s): 1 file(s)
  - Hydrogen sulfide drilling operations plan: 1 file(s)
  - Proposed horizontal/directional/multi-lateral plan submission: 6 file(s)
  - Other Facets: 2 file(s)
  - Other Variances: 2 file(s)
- SUPO Report
- SUPO Attachments
  - Existing Road Map: 1 file(s)
  - New Road Map: 2 file(s)
  - New road access plan attachment: 1 file(s)
  - Attach Well map: 1 file(s)
  - Production Facilities map: 2 file(s)
  - Water source and transportation map: 1 file(s)
  - Construction Materials source location attachment: 1 file(s)
  - Well Site Layout Diagram: 1 file(s)
  - Recontouring attachment: 1 file(s)
- PWD Report
- PWD Attachments
  - None

- Bond Report
- Bond Attachments
  - None

Form 3160-3 (June 2015) **Approved and Updated NOI Attached, please refer to NOI for most recent Design Plan**

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

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

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No.
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator		8. Lease Name and Well No.
3a. Address	3b. Phone No. (include area code)	9. API Well No. <b>30-025-55913</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory <b>La Rica; WOLFCAMP</b>
14.		11. Sec., T. R. M. or Blk. and Survey or Area
		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
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. W
  - 2. A Drilling Plan.
  - 3. A Surface Use Plan (if the location is on National Forest System Lands, the
- Item 20 above).
- BLM.

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

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



(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

**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

**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

**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.

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.

## 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, Mail Stop 401

LS, Washington, D.C. 20240.

## Additional Operator Remarks

### Location of Well

0. SHL: LOT 4 / 224 FNL / 760 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.696326 / LONG: -103.571378 ( TVD: 0 feet, MD: 0 feet )  
PPP: SENW / 2766 FNL / 1952 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.689339 / LONG: -103.567537 ( TVD: 9370 feet, MD: 11957 feet )  
PPP: LOT 4 / 100 FNL / 1945 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.696666 / LONG: -103.567526 ( TVD: 10099 feet, MD: 10236 feet )  
PPP: NESW / 1319 FNL / 1956 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.678381 / LONG: -103.567554 ( TVD: 10700 feet, MD: 17240 feet )  
PPP: SENW / 1334 FSL / 1956 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.685673 / LONG: -103.567543 ( TVD: 10700 feet, MD: 13253 feet )  
BHL: SESW / 100 FSL / 1945 FWL / TWSP: 19S / RANGE: 34E / SECTION: 9 / LAT: 32.667777 / LONG: -103.567571 ( TVD: 10700 feet, MD: 21098 feet )

### BLM Point of Contact

Name: JANET D ESTES  
Title: ADJUDICATOR  
Phone: (575) 234-6233  
Email: JESTES@BLM.GOV

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**Review and Appeal Rights**

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

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## Big Iron 4-9 FED COM 302H

### **APD - Geology COAs (Not in Potash or WIPP)**

- For at least one well per pad (deepest well within initial development preferred) the record of the drilling rate (ROP) along with the Gamma Ray (GR) and Neutron (CNL) well logs run from TVD to surface in the vertical section of the hole shall be submitted to the BLM office as well as all other logs run on the full borehole 30 days from completion. Any other logs run on the wellbore, excluding cement remediation, should also be sent. Only digital copies of the logs in .TIF or .LAS formats are necessary; paper logs are no longer required. Logs shall be emailed to [blm-cfo-geology@doimspp.onmicrosoft.com](mailto:blm-cfo-geology@doimspp.onmicrosoft.com). Well completion report should have .pdf copies of any CBLs or Temp Logs run on the wellbore.
- Exceptions: In areas where there is extensive log coverage (in particular the salt zone adjacent to a pad), Operators are encouraged to contact BLM Geologists to discuss if additional GR and N logs are necessary on a pad. Operator may request a waiver of the GR and N log requirement due to good well control or other reasons to be approved by BLM Geologist prior to well completion. A waiver approved by BLM must be attached to completion well report to satisfy COAs.
- The top of the Rustler, top and bottom of the Salt, and the top of the Capitan Reef (if present) are to be recorded on the Completion Report.

Be aware that:

- H2S has been reported within one mile of the proposed project. Measurements up to 200 ppm were recorded from the La Rica - Delaware Group.

Questions? Contact Thomas Evans, BLM Geologist at 575-234-5965 or [tvevans@blm.gov](mailto:tvevans@blm.gov)

**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	Cimarex Energy Company of Colorado
LEASE NO.:	NMNM04591
COUNTY:	Lea County, New Mexico

Wells:

- Big Iron 4-9 Fed Com 102H
- Big Iron 4-9 Fed Com 202H
- Big Iron 4-9 Fed Com 301H
- Big Iron 4-9 Fed Com 302H

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## 1. GENERAL PROVISIONS

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

### 1.1. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

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

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

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

The existing access road is to be used for transit. No modifications are allowed to be made to its boundaries. If future maintenance is required it, must be reviewed by a BLM-CFO archeologist.

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

### 1.2. RANGELAND RESOURCES

#### 1.2.1. Cattleguards

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be

repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

#### 1.2.2. Fence Requirement

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

#### 1.2.3. Livestock Watering Requirement

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

### 1.3. NOXIOUS WEEDS

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

#### 1.3.1 African Rue (*Peganum harmala*)

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

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

### 1.4. LIGHT POLLUTION

#### 1.4.1. Downfacing

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

#### 1.4.2. Shielding

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

#### 1.4.3. Lighting Color

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

## 2. SPECIAL REQUIREMENTS

### 2.1. WATERSHED

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

#### 2.1.1. Tank Battery

Tank battery locations will be lined and bermed. A 20-mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Secondary containment holding capacity must be large enough to contain 1 ½ times the content of the largest tank or 24-hour production, whichever is greater (displaced volume from all tanks within the berms MUST be subtracted from total volume of containment in calculating holding capacity). Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

### 2.3 WILDLIFE

#### 2.3.1 Lesser Prairie Chicken

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

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

##### 2.3.1.2 Timing Limitation Exceptions:

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

### 2.3.1.3 Ground-level Abandoned Well Marker to avoid raptor perching:

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at [BLM\\_NM\\_CFO\\_Construction\\_Reclamation@blm.gov](mailto:BLM_NM_CFO_Construction_Reclamation@blm.gov).

### 2.3.2 Dunes Sagebrush Lizard

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

## 2.4 VISUAL RESOURCE MANAGEMENT

### 2.5.1 VRM IV

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

## 3. CONSTRUCTION REQUIREMENTS

### 3.1 CONSTRUCTION NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at [BLM\\_NM\\_CFO\\_Construction\\_Reclamation@blm.gov](mailto:BLM_NM_CFO_Construction_Reclamation@blm.gov) at least 3 working days prior to commencing construction of the access road and/or well pad.

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

### 3.2 TOPSOIL

The operator shall strip the topsoil (the A horizon) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. No more than the top 6 inches of topsoil shall be removed. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming

the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

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

### 3.3 CLOSED LOOP SYSTEM

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

### 3.4 FEDERAL MINERAL PIT

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

### 3.5 WELL PAD & SURFACING

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

### 3.6 EXCLOSURE FENCING (CELLARS & PITS)

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

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

### 3.7 ON LEASE ACCESS ROAD

#### 3.7.1 Road Width

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

#### 3.7.2 Surfacing

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

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

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

#### 3.7.3 Crowning

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

**3.7.4 Ditching**

Ditching shall be required on both sides of the road.

**3.7.5 Turnouts**

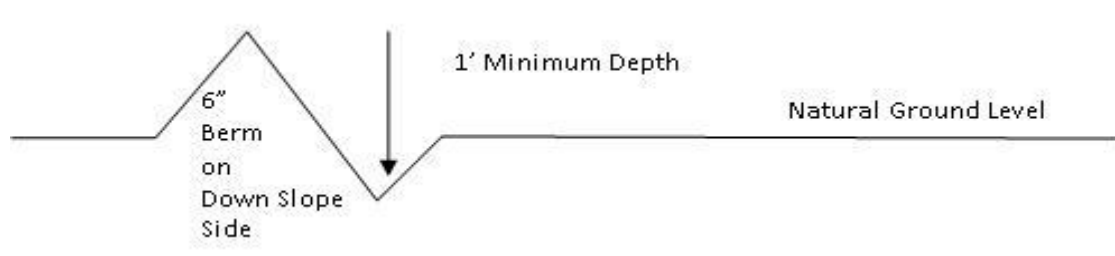
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**3.7.6 Drainage**

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

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

**Cross Section of a Typical Lead-off Ditch**



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

**Formula for Spacing Interval of Lead-off Ditches**

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

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

**3.7.7 Public Access**

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

**Construction Steps**

1. Salvage topsoil
2. Construct road

3. Redistribute topsoil
4. Revegetate slopes

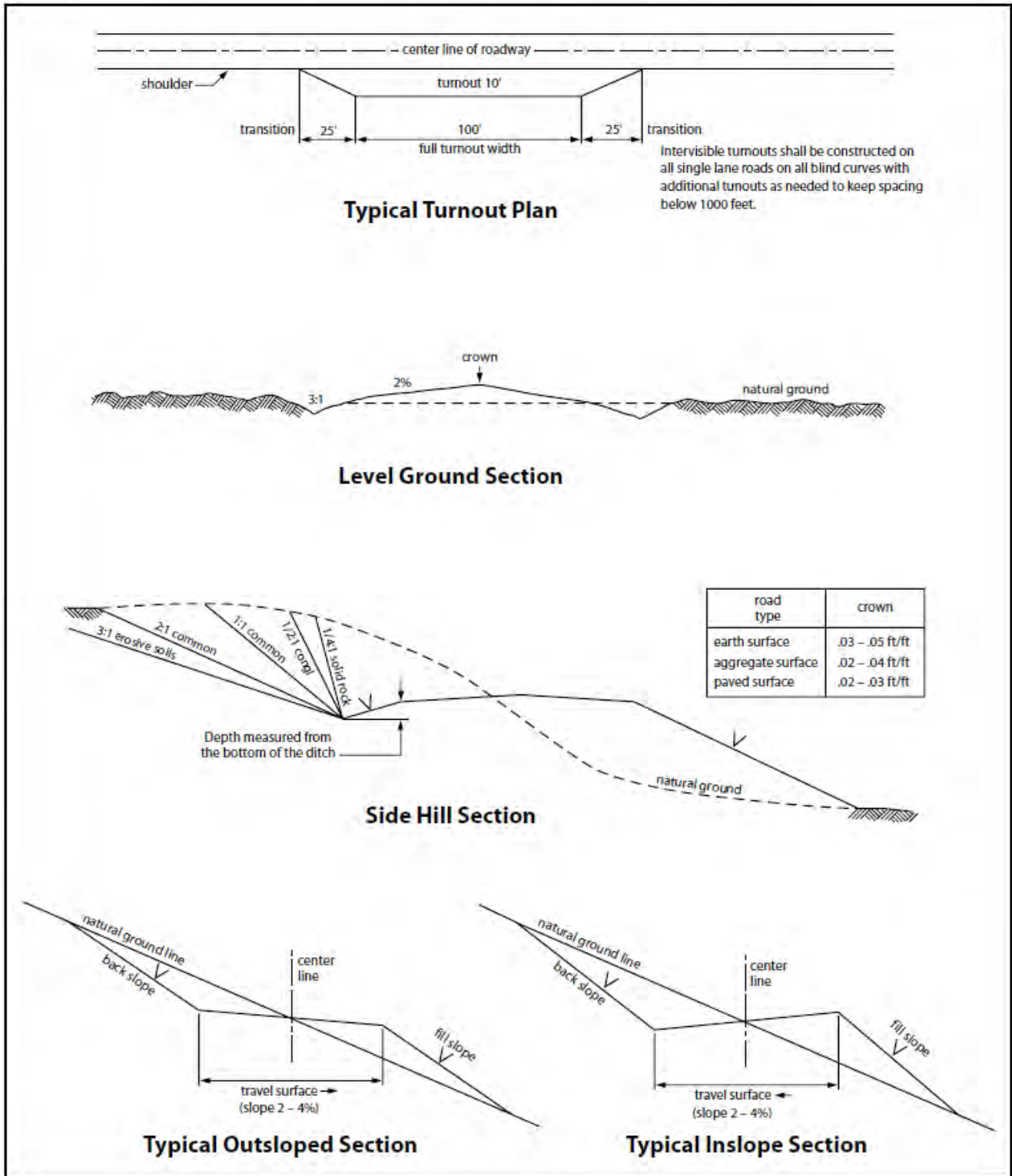


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

## 4.1 RANGLAND MITIGATION FOR PIPELINES

### 4.5.1 Fence Requirement

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

### 4.5.2 Cattleguards

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

### 4.5.3 Livestock Watering Requirement

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

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

- Livestock operators will be contacted, and adequate crossing facilities will be provided as needed to ensure livestock are not prevented from reaching water sources because of the open trench.
- Wildlife and livestock trails will remain open and passable by adding soft plugs (areas where the trench is excavated and replaced with minimal compaction) during the construction phase. Soft plugs with ramps on either side will be left at all well-defined livestock and wildlife trails along the open trench to allow passage across the trench and provide a means of escape for livestock and wildlife that may enter the trench.
- Trenches will be backfilled as soon as feasible to minimize the amount of open trench. The Operator will avoid leaving trenches open overnight to the extent possible and open trenches that cannot be backfilled immediately will have escape ramps (wooden) placed at no more than 2,500 feet intervals and sloped no more than 45 degrees.

## 5. PRODUCTION (POST DRILLING)

### 5.1 WELL STRUCTURES & FACILITIES

#### 5.1.1 Placement of Production Facilities

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

#### 5.1.2 Exclosure Netting (Open-top Tanks)

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will

net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

### **5.1.3. Chemical and Fuel Secondary Containment and Enclosure Screening**

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

### **5.1.4. Open-Vent Exhaust Stack Enclosures**

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

### **5.1.5. Containment Structures**

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

## **6. RECLAMATION**

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

### **6.1 ROAD AND SITE RECLAMATION**

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

### **6.2 EROSION CONTROL**

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

### 6.3 INTERIM RECLAMATION

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

Within six (6) months of well completion, operators must work with BLM surface protection specialists (BLM\_NM\_CFO\_Construction\_Reclamation@blm.gov) to devise the best strategies to reduce the size of the location. Interim reclamation must allow for remedial well operations, as well as safe and efficient removal of oil and gas.

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

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided in section 6.6.

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

### 6.4 FINAL ABANDONMENT & RECLAMATION

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

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

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding will be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM. After earthwork and seeding is completed, the operator is required to submit a Sundry Notice, Subsequent Report of Reclamation.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (BLM\_NM\_CFO\_Construction\_Reclamation@blm.gov).

### 6.5 SEEDING TECHNIQUES

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

## 6.6 SOIL SPECIFIC SEED MIXTURE

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

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

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

**Seed Mixture #5 for LPC Sand/Shinnery Sites**

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

<u>Species</u>	<u>lb/acre</u>
Plains Bristlegrass	5lbs/A
Sand Bluestem	5lbs/A
Little Bluestem	3lbs/A
Big Bluestem	6lbs/A
Plains Coreopsis	2lbs/A
Sand Dropseed	1lbs/A

\*Pounds of pure live seed:

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

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	Cimarex Energy Company
<b>LOCATION:</b>	Section 4, T.19 S., R.34 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Big Iron 4-9 Fed Com 202H
<b>ATS/API ID:</b>	ATS-24-1862
<b>APD ID:</b>	10400099012
<b>Sundry ID:</b>	N/a

<b>WELL NAME &amp; NO.:</b>	Big Iron 4-9 Fed Com 301H
<b>ATS/API ID:</b>	ATS-24-1860
<b>APD ID:</b>	10400099014
<b>Sundry ID:</b>	N/a

<b>WELL NAME &amp; NO.:</b>	Big Iron 4-9 Fed Com 302H
<b>ATS/API ID:</b>	ATS-24-1861
<b>APD ID:</b>	10400099016
<b>Sundry ID:</b>	N/a

COA

H2S	Yes		
Potash	None	None	
Cave/Karst Potential	Low		
Cave/Karst Potential	<input type="checkbox"/> Critical		
Variance	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Other
Wellhead	Conventional and Multibowl		
Other	<input type="checkbox"/> 4 String <input type="checkbox"/> 5 String	Capitan Reef None	<input type="checkbox"/> WIPP
Other	Pilot Hole None	<input type="checkbox"/> Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter None	Primary Cement Squeeze None
Special Requirements	<input type="checkbox"/> Water Disposal/Injection	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry	Waste Prevention Waste MP	
Special Requirements Variance	<input type="checkbox"/> BOPE Break Testing <input type="checkbox"/> Offline BOPE Testing	<input type="checkbox"/> Offline Cementing	<input type="checkbox"/> Casing Clearance

## A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

## B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1780 feet** (a minimum of 70 feet into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**
3. The minimum required fill of cement behind the **7** inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

4. The minimum required fill of cement behind the 4-1/2 inch production liner is:
  - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.  
**Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

### C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2.

#### Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

#### Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** 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.

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

## D. SPECIAL REQUIREMENT (S)

### Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- 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.

### Commercial Well Determination

- A commercial well determination shall be submitted after production has been established for at least six months if the well penetrate a federal exploratory unit acreage, in addition the unit number and participating area number shall be on the well sign when the well is determined to be a Unit well.
- If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

## 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)

**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
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 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.

### 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-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke

manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead 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).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the 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.)

- c. 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 part 3170 Subpart 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).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 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.

Long Vo (LVO) 6/16/2025



# Operator Certification Data Report

06/18/2025

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:** SHELLY BOWEN

**Signed on:** 06/11/2024

**Title:** Regulatory Analyst

**Street Address:** 6001 DEAUVILLE BLVD STE 300N

**City:** MIDLAND

**State:** TX

**Zip:** 79706

**Phone:** (432)620-1644

**Email address:** DL\_PBUREGULATORY@COTERRA.COM

## Field

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**



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

# Application Data

06/18/2025

APD ID: 10400099016

Submission Date: 06/12/2024

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

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: BIG IRON 4-9 FED COM

Well Number: 302H

Well Type: OIL WELL

Well Work Type: Drill

**\*APPROVED APD WAS SUNDRIED ON 12/02/2025. IT WAS APPROVED ON 1/29/2026.**

## Section 1 - General

APD ID: 10400099016

Tie to previous NOS? N

Submission Date: 06/12/2024

BLM Office: Carlsbad

User: SHELLY BOWEN

Title: Regulatory Analyst

Federal/Indian APD: FED

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

Lease number: NMNM04591

Lease Acres:

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO

APD Operator: CIMAREX ENERGY COMPANY OF COLORADO

Operator letter of

## Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY OF COLORADO

Operator Address: 6001 DEAUVILLE BLVD STE 300N

Zip: 79706

Operator PO Box:

Operator City: MIDLAND

State: TX

Operator Phone: (432)620-1936

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: BIG IRON 4-9 FED COM

Well Number: 302H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: E-K

Pool Name: BONE SPRING

**\*Pool change from Bone Spring to Wolfcamp per approved BLM sundry notice, see page 3.**

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

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: Big Iron 4-9 Fed Com

Number: W2W2 Pad

Well Class: HORIZONTAL

Number of Legs: 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: DELINEATION

Describe sub-type:

Distance to town: 27 Miles

Distance to nearest well: 20 FT

Distance to lease line: 330 FT

Reservoir well spacing assigned acres Measurement: 325 Acres

**\*Updated dedicated acres. See BLM SN pg. 3**

Well plat: BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_302H\_C102\_updated\_02172025\_20250219063553.pdf

Well work start Date: 04/06/2025

Duration: 30 DAYS

**Section 3 - Well Location Table**

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83

Vertical Datum: NAVD88

Survey number: 23782

Reference Datum: GROUND LEVEL

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	224	FNL	760	FW L	19S	34E	4	Lot 4	32.696326	-103.571378	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 04591	3911			Y
KOP Leg #1	100	FNL	1945	FW L	19S	34E	4	Lot 4	32.696666	-103.567526	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 04591	-6188	10236	10099	Y
PPP Leg #1-1	100	FNL	1945	FW L	19S	34E	4	Lot 4	32.696666	-103.567526	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 04591	-6188	10236	10099	Y

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

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	2766	FNL	1952	FWL	19S	34E	4	Aliquot SENW	32.689339	-103.567537	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 9414	-5459	11957	9370	Y
PPP Leg #1-3	1334	FSL	1956	FWL	19S	34E	4	Aliquot SENW	32.685673	-103.567543	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 10474	-6789	13253	10700	Y
PPP Leg #1-4	1319	FNL	1956	FWL	19S	34E	4	Aliquot NESW	32.678381	-103.567554	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 04591	-6789	17240	10700	N
EXIT Leg #1	100	FSL	1945	FWL	19S	34E	9	Aliquot SESW	32.667777	-103.567571	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 04591	-6789	21098	10700	Y
BHL Leg #1	100	FSL	1945	FWL	19S	34E	9	Aliquot SESW	32.667777	-103.567571	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 04591	-6789	21098	10700	Y

\*Well location position and depth has changed per approved BLM Sundry Notice. Changes include SHL, KOP, PP, EXIT, BHL and TVD. See BLM SN Pg. 3 for summary of changes.

<b>C-102</b>  Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department <b>OIL CONSERVATION DIVISION</b>	Revised July 9, 2024
*C-102 has changed per approved BLM Sundry Notice. Changes include Pool Code/Name, SHL, BHL, Dedicated Acreage. See BLM SN Pg. 16		Submittal Type: <input checked="" type="checkbox"/> Initial Submittal <input type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled

**WELL LOCATION INFORMATION**

API Number	Pool Code <b>50460</b>	Pool Name <b>Quail Ridge; Bone Spring</b>
Property Code	Property Name <b>BIG IRON 4-9 FED COM</b>	Well Number <b>302H</b>
OGRID No. <b>215099</b>	Operator Name <b>CIMAREX ENERGY OF COLORADO</b>	Ground Level Elevation <b>3914.7'</b>
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
4	4	19S	34E		224 NORTH	760 WEST	32.696326°	-103.571378°	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
N	9	19S	34E		100 SOUTH	1945 WEST	32.667777°	-103.567571°	LEA

Dedicated Acres <b>324.63</b>	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers.		Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No		

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
3	4	19S	34E		100 NORTH	1945 WEST	32.696666°	-103.567526°	LEA

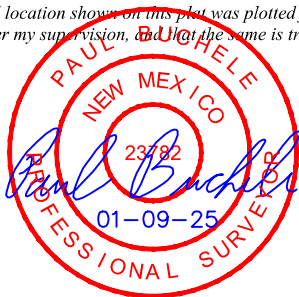
First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
3	4	19S	34E		100 NORTH	1945 WEST	32.696666°	-103.567526°	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
N	9	19S	34E		100 SOUTH	1945 WEST	32.667777°	-103.567571°	LEA

Unitized Area or Area of Uniform Interest	Spacing Unit Type <input type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation:
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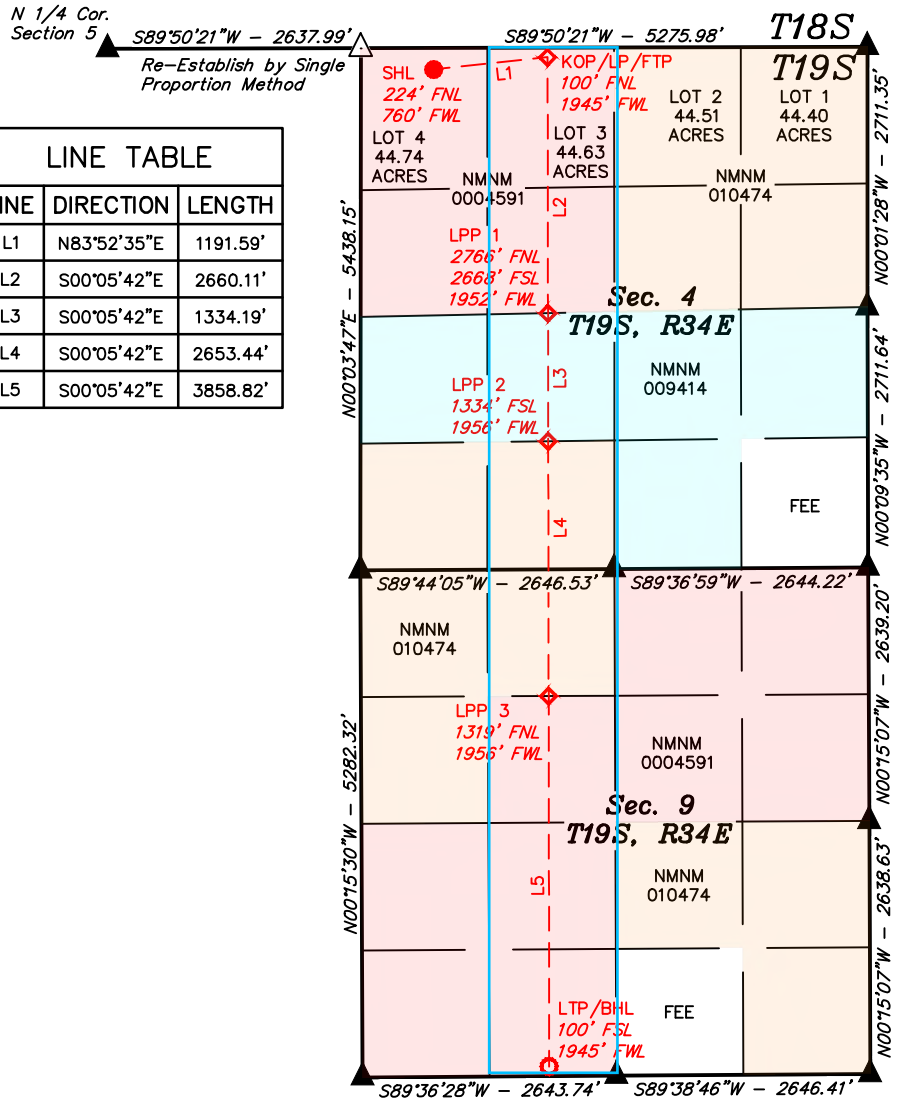
<p><b>OPERATOR CERTIFICATIONS</b></p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the 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></p> <p><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></p> <p style="text-align: center;"><i>Shelly Bowen</i>      2/17/2025</p>	<p><b>SURVEYOR CERTIFICATIONS</b></p> <p><i>I hereby certify that the well location shown on this plot was plotted from the 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></p> <div style="text-align: center;">  </div>
Signature _____ Date _____	Signature and Seal of Professional Surveyor
Shelly Bowen	23782      January 8, 2025
Printed Name	Certificate Number      Date of Survey
shelly.bowen@coterra.com	
Email Address	

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

Property Name BIG IRON 4-9 FED COM	Well Number 302H	Drawn By N.D.T. 06-21-23	Revised By REV. 4 D.J.S. 01-08-25 (SHL MOVE)
---------------------------------------	---------------------	-----------------------------	---

<b>NAD 83 (SURFACE HOLE LOCATION)</b>
LATITUDE = 32°41'46.77" (32.696326°)
LONGITUDE = -103°34'16.96" (-103.571378°)
<b>NAD 27 (SURFACE HOLE LOCATION)</b>
LATITUDE = 32°41'46.33" (32.696203°)
LONGITUDE = -103°34'15.18" (-103.570882°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 617896.71' E: 775735.12'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 617832.77' E: 734555.47'
<b>NAD 83 (KOP/LP/FTP)</b>
LATITUDE = 32°41'48.00" (32.696666°)
LONGITUDE = -103°34'03.09" (-103.567526°)
<b>NAD 27 (KOP/LP/FTP)</b>
LATITUDE = 32°41'47.55" (32.696543°)
LONGITUDE = -103°34'01.31" (-103.567030°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 618028.83' E: 776919.15'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 617964.86' E: 735739.50'
<b>NAD 83 (LPP 1)</b>
LATITUDE = 32°41'21.62" (32.689339°)
LONGITUDE = -103°34'03.13" (-103.567537°)
<b>NAD 27 (LPP 1)</b>
LATITUDE = 32°41'21.18" (32.689216°)
LONGITUDE = -103°34'01.35" (-103.567042°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 615363.21' E: 776934.89'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 615299.33' E: 735755.16'
<b>NAD 83 (LPP 2)</b>
LATITUDE = 32°41'08.42" (32.685673°)
LONGITUDE = -103°34'03.15" (-103.567543°)
<b>NAD 27 (LPP 2)</b>
LATITUDE = 32°41'07.98" (32.685550°)
LONGITUDE = -103°34'01.37" (-103.567048°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 614029.27' E: 776942.76'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 613965.43' E: 735762.99'
<b>NAD 83 (LPP 3)</b>
LATITUDE = 32°40'42.17" (32.678381°)
LONGITUDE = -103°34'03.20" (-103.567554°)
<b>NAD 27 (LPP 3)</b>
LATITUDE = 32°40'41.73" (32.678258°)
LONGITUDE = -103°34'01.41" (-103.567060°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 611376.33' E: 776958.42'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 611312.57' E: 735778.57'
<b>NAD 83 (LTP/BHL)</b>
LATITUDE = 32°40'04.00" (32.667777°)
LONGITUDE = -103°34'03.25" (-103.567571°)
<b>NAD 27 (LTP/BHL)</b>
LATITUDE = 32°40'03.55" (32.667653°)
LONGITUDE = -103°34'01.48" (-103.567077°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 607518.23' E: 776981.18'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 607454.59' E: 735801.22'

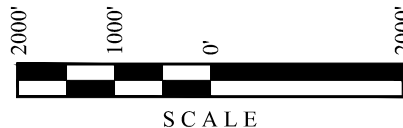
LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N83°52'35"E	1191.59'
L2	S00°05'42"E	2660.11'
L3	S00°05'42"E	1334.19'
L4	S00°05'42"E	2653.44'
L5	S00°05'42"E	3858.82'



- = SURFACE HOLE LOCATION
- ◆ = KICK OFF POINT/LANDING POINT/FIRST TAKE POINT/LPP
- = LAST TAKE POINT/BOTTOM HOLE LOCATION
- ▲ = SECTION CORNER LOCATED
- △ = SECTION CORNER RE-ESTABLISHED. (Not Set on Ground.)

NOTE:

- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)
- Colored areas within section lines represent Federal oil & gas leases.





# Drilling Plan Data Report

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

06/18/2025

APD ID: 10400099016

Submission Date: 06/12/2024

Highlighted data reflects the most recent changes

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: BIG IRON 4-9 FED COM

Well Number: 302H

Well Type: OIL WELL

Well Work Type: Drill

Show Final Text

\*Formation Change from Bone Spring to Wolfcamp. For depth changes see BLM SN pg 18.

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
15854267	RUSTLER	0	1640	1640	ANHYDRITE, SANDSTONE	USEABLE WATER	N
15854268	TOP SALT	-1718	1718	1718	ANHYDRITE	NONE	N
15854269	BASE OF SALT	-3117	3117	3176	ANHYDRITE	NONE	N
15854271	LAMAR	-3117	3117	3176	SANDSTONE	NONE	N
15854270	BELL CANYON	-3581	3581	3657	SANDSTONE	NONE	N
15854272	CHERRY CANYON	-5928	5928	6086	SANDSTONE	NONE	N
15854273	BRUSHY CANYON	-6442	6442	6617	SANDSTONE	NONE	N
15854274	BONE SPRING LIME	-7919	7919	8097	LIMESTONE	NATURAL GAS, OIL	N
15854275	AVALON SAND	-8474	8474	8652	SHALE	NATURAL GAS, OIL	Y
15854276	BONE SPRING 1ST	-9185	9185	9412	SANDSTONE	NATURAL GAS, OIL	Y
15854277	BONE SPRING 2ND	-9442	9442	9442	SHALE	NATURAL GAS, OIL	Y
15854278	BONE SPRING 2ND	-9727	9727	9727	SANDSTONE	NATURAL GAS, OIL	Y
15854279	BONE SPRING 3RD	-10199	10199	10512	OTHER, SANDSTONE : Carbonate	NATURAL GAS, OIL	Y
15854280	BONE SPRING 3RD	-10512	10512	10700	SANDSTONE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**Pressure Rating (PSI):** 10M

**Rating Depth:** 21099

\*Rating Depth change. See BLM SN pg. 18

**Equipment:** A BOP consisting of three rams, including one blind ram and two pipe rams and one annular preventer. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A rotating head may be installed as needed. A Kelly clock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

**Requesting Variance?** YES

**Variance request:** See attached.

**Testing Procedure:** A multi-bowl wellhead will be utilized and will be tested per 43 CFR 3172 after the installation on the surface casing. The testing interval shall be for 30 days. Whenever any seal subject to pressure is broken, a full BOPE test shall be performed.

**Choke Diagram Attachment:**

CHOKE\_HOSE\_M15486\_20250605141852.pdf

10M\_BOP\_DIAGRAM\_20250605141852.pdf

COTERRA\_10K\_PROD\_TREE\_20250605141852.pdf

COTERRA\_10M\_MBU\_3T\_CFL\_13.38\_X\_9.58\_X\_5.5\_HBE1215DQ\_20250605141852.pdf

**BOP Diagram Attachment:**

10M\_BOPE\_BLM\_SUBMISSION\_REV.0\_20250605141858.pdf

**Section 3 - Casing**

\*Casing changes. See BLM SN pg. 18

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1690	0	1690	3911	2221	1690	J-55	54.5	BUTT	1.55	3.76	BUOY	9.26	BUOY	9.26
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	3157	0	3157	3911	754	3157	HCK-55	40	LT&C	2.28	2.36	BUOY	4.44	BUOY	4.44
3	PRODUCTION	8.75	5.5	NEW	API	N	0	10216	0	10216	3911	-6305	10216	P-110	20	BUTT	2.02	2.24	BUOY	66.22	BUOY	66.22

**Casing Attachments**

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**Casing Attachments**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

302H\_Casing\_Assumptions\_20250605142017.pdf

**\*Casing assumption changes. Please see BLM SN pg. 18**

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

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

**Casing ID:** 3                      **String**                      PRODUCTION

**Inspection Document:**

**Spec Document:**

**Tapered String Spec:**

**Casing Design Assumptions and Worksheet(s):**

**Section 4 - Cement**

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**\*Cement changes. Please see BLM SN pg. 20**

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0	0	0	0
PRODUCTION	Tail		2957	2107 9	3161	1.3	14.2	4109	25	50:50 (Poz:H)	Salt, Bentonite, Fluid Loss, Dispersant, SMS
SURFACE	Lead		0	1390	819	1.72	13.5	1408	45	Class C	Bentonite
SURFACE	Tail		1390	1690	219	1.34	14.8	293	45	Class C	LCM
INTERMEDIATE	Lead		0	2157	536	1.88	12.9	1007	58	35:65 (Poz:C)	Salt, Bentonite
INTERMEDIATE	Tail		2157	3157	185	1.34	6.32	247	58	Class C	LCM

### Section 5 - Circulating Medium

**Mud System Type:** Closed

**Will an air or gas system be Used?** NO

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

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

**Describe what will be on location to control well or mitigate other conditions:** Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

**Describe the mud monitoring system utilized:** PVT/Pason/Visual Monitoring

### Circulating Medium Table

**\*Mud depth changes. See BLM SN pg. 22**

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	1690	OTHER : Fresh water	7.8	8.3				25			
1690	3157	OTHER : Brine Water	9.7	10.2				25			

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

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
3157	2107 9	OTHER : Cut brine or OBM	9.4	9.9				25			

### Section 6 - Test, Logging, Coring

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

Logs will be run.

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

DIRECTIONAL SURVEY,COMPENSATED NEUTRON LOG,GAMMA RAY LOG,

**Coring operation description for the well:**

N/A

### Section 7 - Pressure

\*BHL pressure change. See BLM SN pg. 22

**Anticipated Bottom Hole Pressure:** 5508

**Anticipated Surface Pressure:** 3154

**Anticipated Bottom Hole Temperature(F):** 176

**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**

H2S\_PLAN\_REV.0\_20250605142741.pdf

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**Section 8 - Other Information**

**\*Attachment changes. Please see BLM SN pgs. 18-40**

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

WELL\_CONTROL\_PLAN\_REV.0\_20250605142806.pdf

Proposal\_\_\_Coterra\_Big\_Iron\_4\_9\_Fed\_Com\_302H\_Rev1\_kFc\_22Apr25\_20250605142827.pdf

3D\_ACSummary\_10\_\_\_Coterra\_Big\_Iron\_4\_9\_Fed\_Com\_302H\_Rev1\_kFc\_22Apr25\_20250605142827.pdf

Proposal\_100\_\_\_Coterra\_Big\_Iron\_4\_9\_Fed\_Com\_302H\_Rev1\_kFc\_22Apr25\_20250605142827.pdf

WP\_\_\_Coterra\_Big\_Iron\_4\_9\_Fed\_Com\_302H\_Rev1\_kFc\_22Apr25\_20250605142827.pdf

302H\_Drilling\_Plan\_New\_Mexico\_20250605142827.pdf

**Other proposed operations facets description:**

**\*Attachments identified below did not change between the approved BLM APD & Sundry Notice, See APD pages 81-95.**

**Other proposed operations facets attachment:**

Big\_Iron\_4\_9\_302H\_NGMP\_20250219064450.pdf

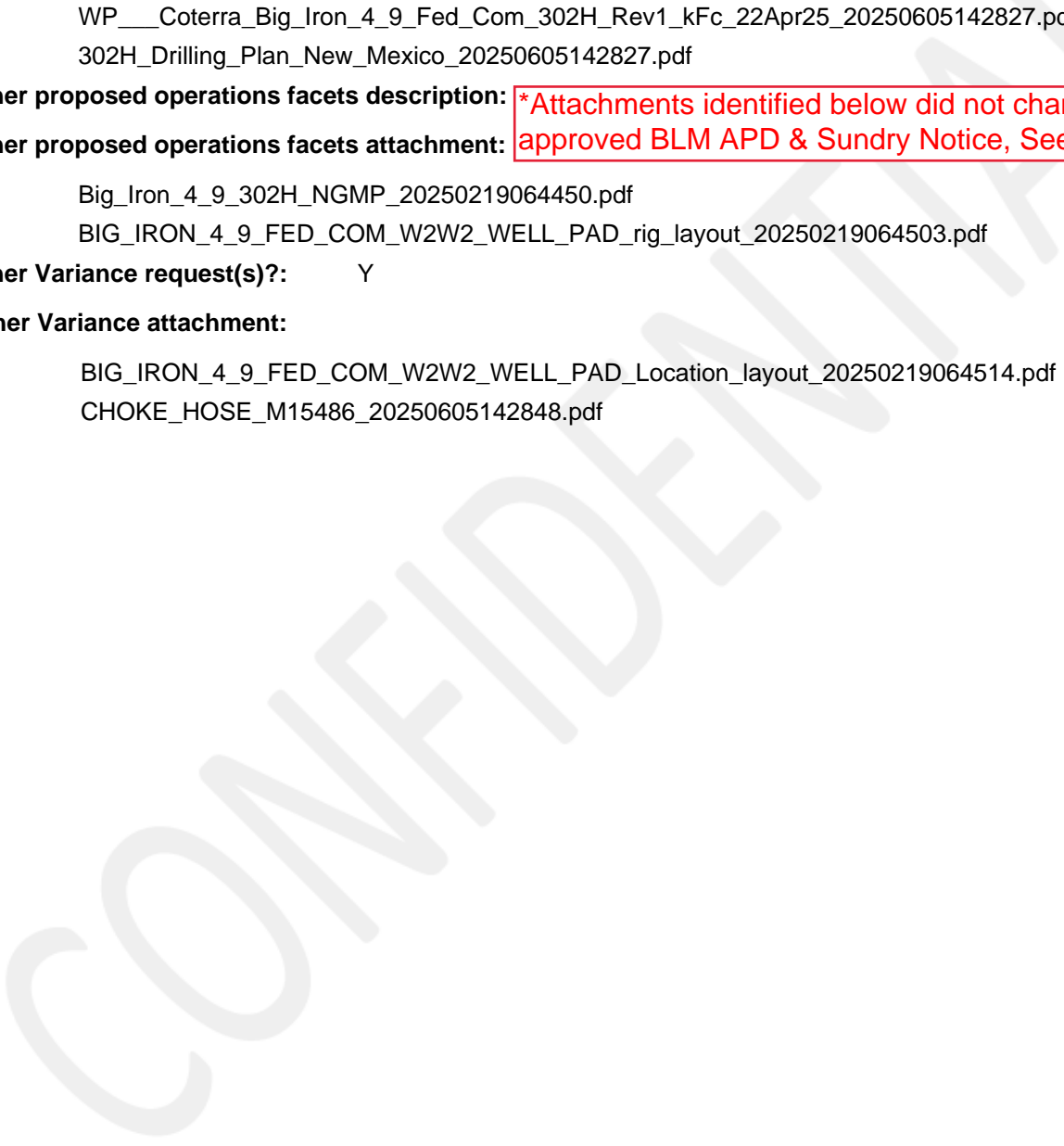
BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_WELL\_PAD\_rig\_layout\_20250219064503.pdf

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

**Other Variance attachment:**

BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_WELL\_PAD\_Location\_layout\_20250219064514.pdf

CHOKE\_HOSE\_M15486\_20250605142848.pdf





CERTIFICATE OF QUALITY

LTYY/QR-5.7.1-19B

No: LT2024-156-001


Customer Name			
Product Name	Choke And Kill Hose		
Product Specification	3"×10000psi×35ft (10.67m)	Quantity	1PCS
Serial Number	VTC-7660257	FSL	FSL3
customer number	PO890145-001	Standard	API Spec 16C 3 <sup>rd</sup> edition
Temperature Range	-29℃ ~ +121℃	Inspection date	2024.09.03

Inspection Items	Inspection results
Appearance Checking	In accordance with API Spec 16C 3 <sup>rd</sup> edition
Size and Lengths	In accordance with API Spec 16C 3 <sup>rd</sup> edition
Dimensions and Tolerances	In accordance with API Spec 16C 3 <sup>rd</sup> edition
End Connections: 4-1/16"×10000psi Integral flange for sour gas service	In accordance with API Spec 6A 21 <sup>st</sup> edition
End Connections: 4-1/16"×10000psi Integral flange for sour gas service	In accordance with API Spec 17D 3 <sup>rd</sup> edition
Hydrostatic Testing	In accordance with API Spec 16C 3 <sup>rd</sup> edition
product Marking	In accordance with API Spec 16C 3 <sup>rd</sup> edition

Inspection conclusion	The inspected items meet standard requirements of API Spec 16C 3 <sup>rd</sup> edition
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Remarks	16C-0403 
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Approver	Jane C	Auditor	Alice D	Inspector	Leo W
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LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD	
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HYDROSTATIC TESTING REPORT

LTYT/QR-5.7.1-28

No: 24090301

Product Name	Choke And Kill Hose	Standard	API Spec 16C 3 <sup>rd</sup> edition
Product Specification	3"×10000psi×35ft (10.67m)	Serial Number	VTC-7660257
Inspection Equipment	MTU-BS-1600-3200-E	Test medium	Water
customer number	PO890145-001	Inspection Date	2024.08.30

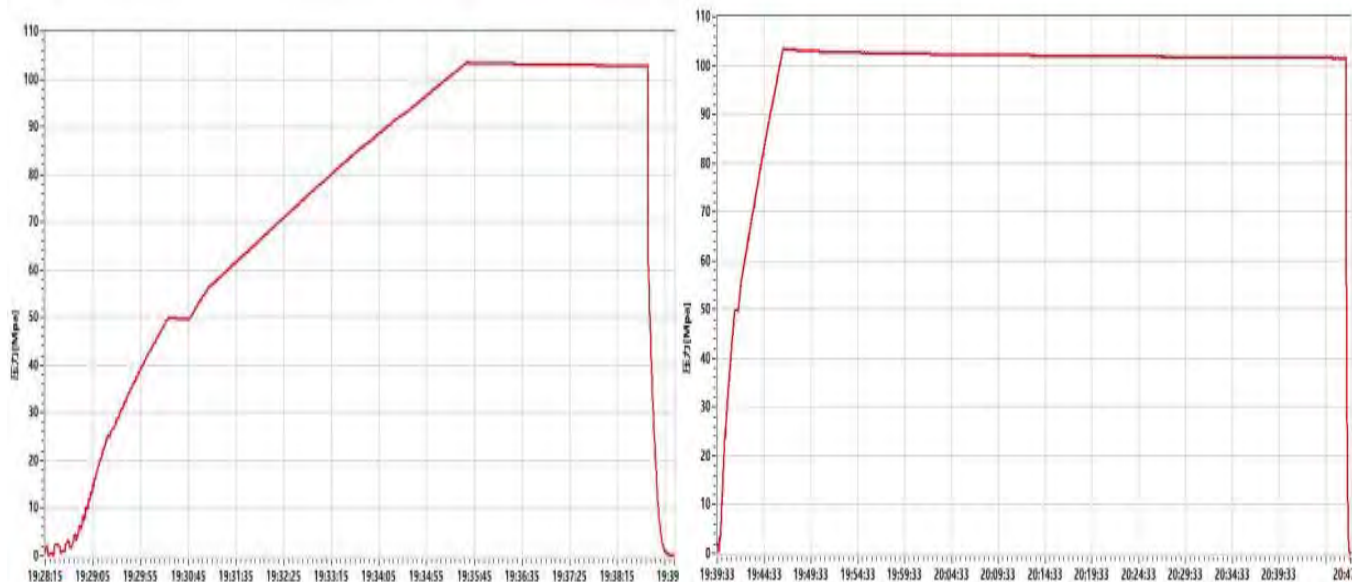
Rate of length change

Standard requirements	At working pressure ,the rate of length change should not more than ±2%
Testing result	10000psi (69.0MPa) ,Rate of length change 0.6%

Hydrostatic testing

Standard requirements	At 1.5 times working pressure, the initial pressure-holding period of not less than three minutes, the second pressure-holding period of not less than one hour, no leakage.
Testing result	15000psi (103.5MPa), 3 min for the first time, 60 min for the second time, no leakage

Graph of pressure testing:



Conclusion	The inspected items meet standard requirements of API Spec 16C 3 <sup>rd</sup> edition		16C-0403
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Approver	Jane C	Auditor	Alice D	Inspector	Leo W
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LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD	
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CERTIFICATE OF CONFORMANCE

**№:LT24090307**

Product Name: Choke And Kill Hose

Product Specification: 3"×10000psi×35ft (10.67m)

Serial Number: VTC-7660257

customer number: PO890145-001

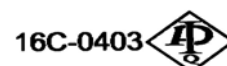
End Connections: 4-1/16"×10000psi Integral flange for sour gas service

The Choke And Kill Hose assembly was produced by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD.in Sep,2024, and inspected by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD. according to API Spec 16C 3<sup>rd</sup> edition on Sep 3, 2024. The overall condition is good. This is to certify that the Choke And Kill Hose complies with all current standards and specifications for API Spec 16C 3<sup>rd</sup> edition .

QC Manager:

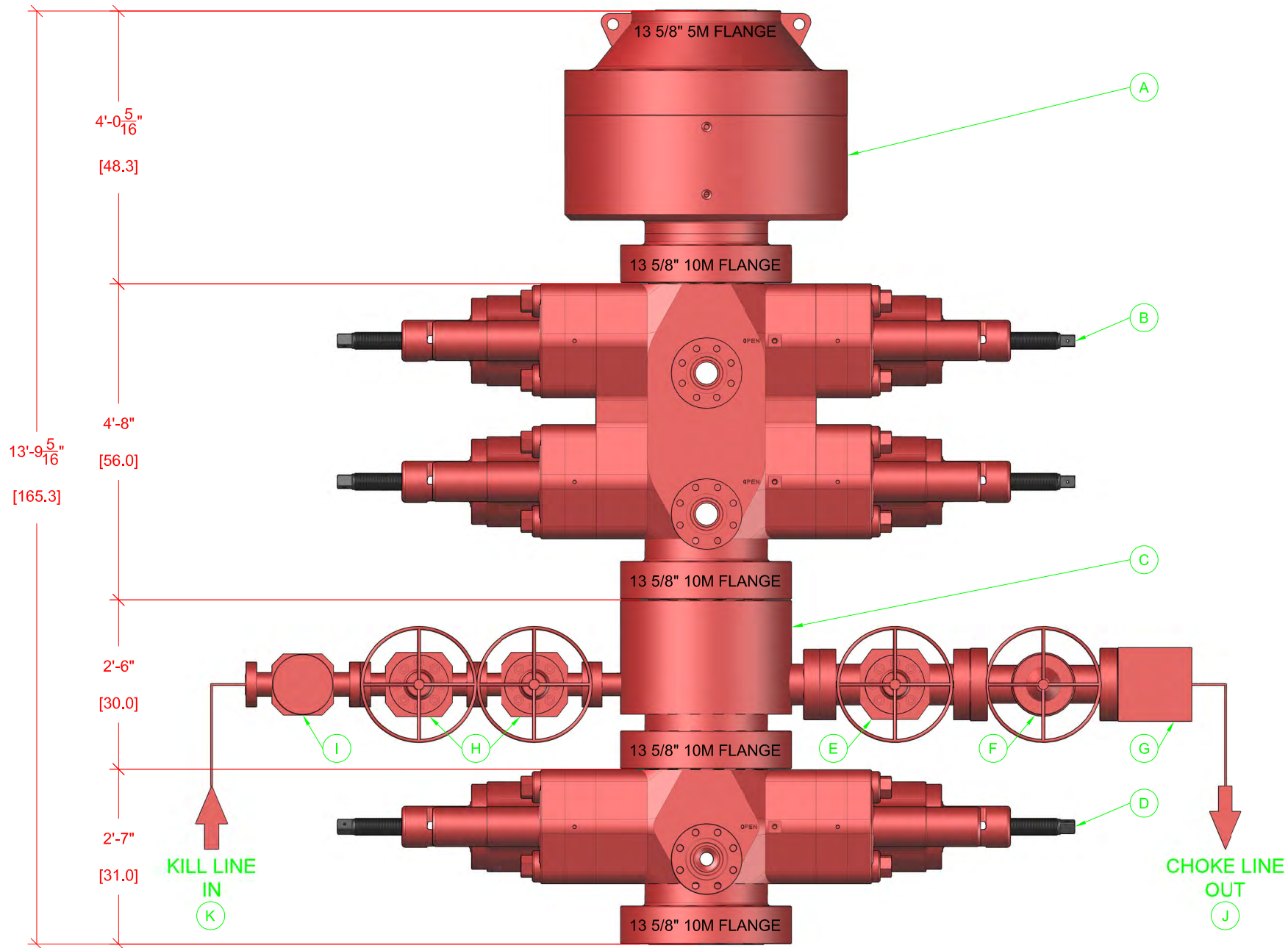
*Jane C*

Date:Sep 3, 2024



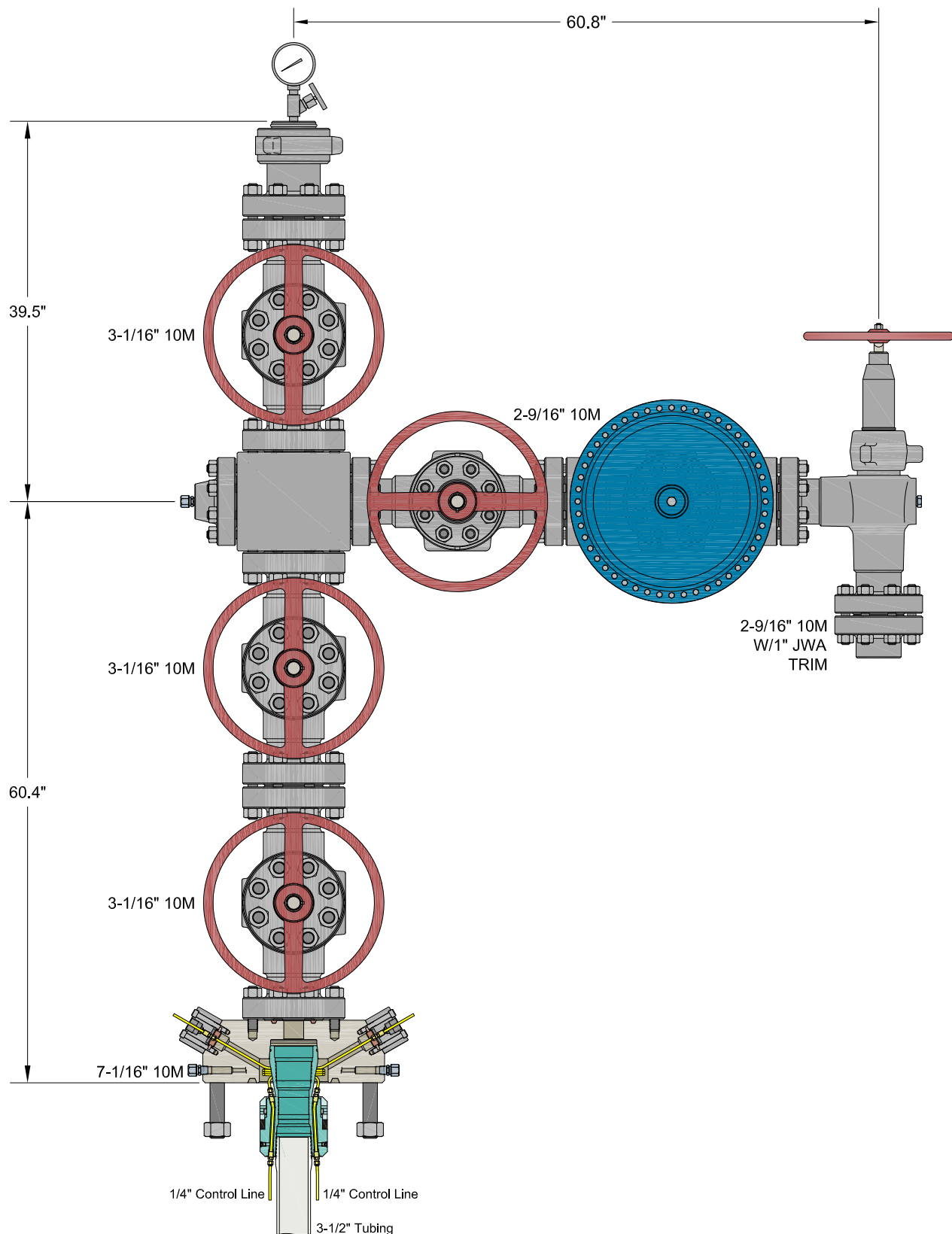
LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD





**BOP EQUIPMENT INFORMATION**

DESCRIPTION	MODEL	QTY	ITEM	DESCRIPTION	MODEL	QTY
ANNULAR BOP	13 5/8" 5M	1	G	STUDDED BLOCK	4 1/2" 10M	1
DOUBLE RAM BOP	13 5/8" 10M TYPE-U	1	H	GATE VALE	2 1/2" 10M FC MANUAL	2
MUD CROSS	13 5/8" 10M	1	I	CHECK VALVE	2 1/2" 10M	1
SINGLE RAM BOP	13 5/8" 10M TYPE-U	1	J	CHOKE HOSE	4 1/2" 10M	1
GATE VALVE	4 1/2" 10M FC MANUAL	1	K	KILL HOSE	2 1/2" 10M	1
HCR VALVE	4 1/2" 10M HCR	1	L			



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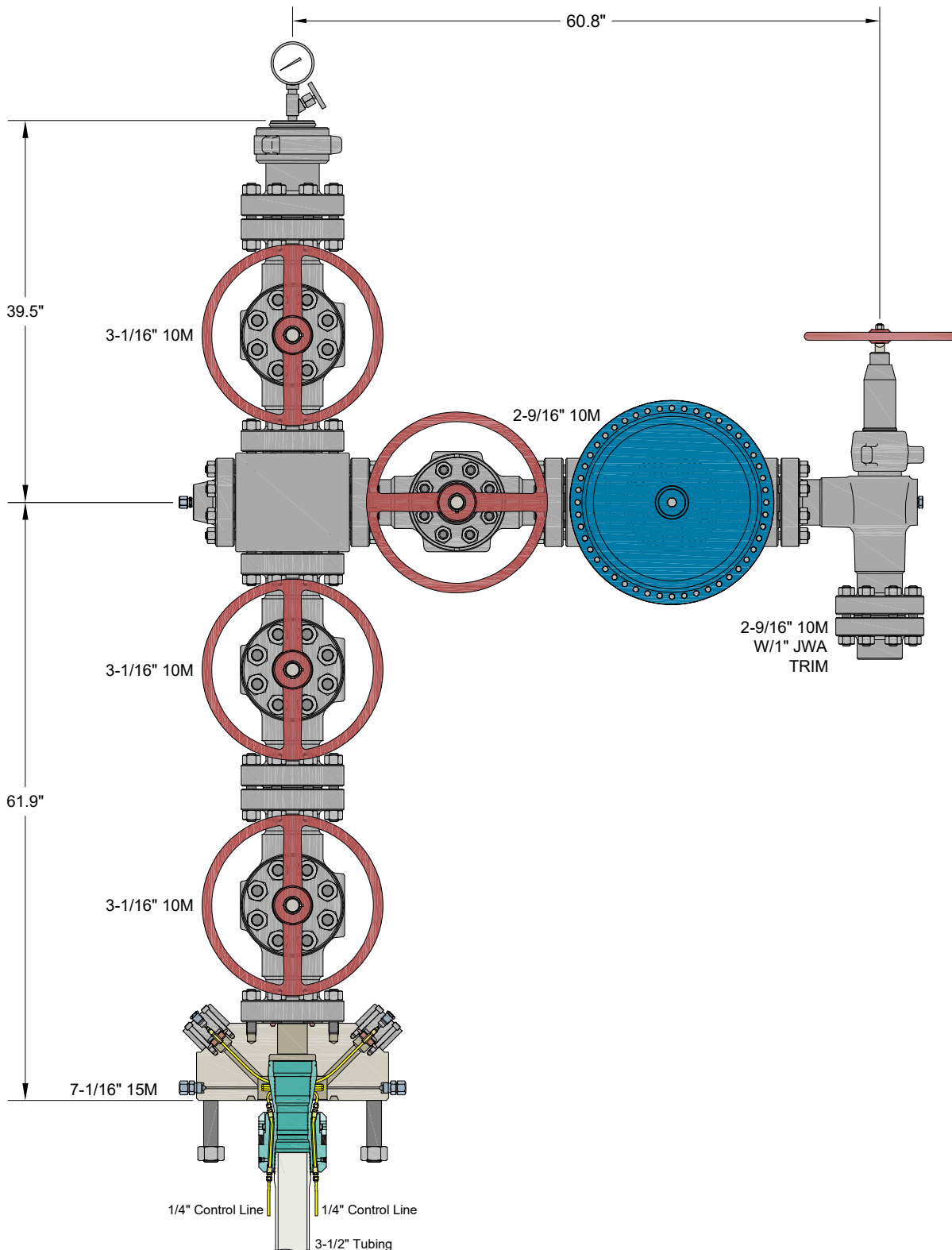
ALL DIMENSIONS APPROXIMATE

# CACTUS WELLHEAD LLC

CIMAREX  
HOBBS, NM

7-1/16" 10M x 3-1/16" x 2-9/16" 10M Production Tree Assembly  
With 7-1/16" 10M x 3-1/16" 10M T40-CCL Tubing Head Adapter  
And 7-1/16" 3-1/2" T40-CCL Tubing Hanger

DRAWN	VJK	05SEP23
APPRV		
DRAWING NO.	HBE0001018	



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ALL DIMENSIONS APPROXIMATE

# CACTUS WELLHEAD LLC

CIMAREX  
HOBBS, NM

7-1/16" 15M x 3-1/16" x 2-9/16" 10M Production Tree Assembly  
With 7-1/16" 15M x 3-1/16" 10M T40-CCL Tubing Head Adapter  
And 7-1/16" 3-1/2" T40-CCL Tubing Hanger

DRAWN	VJK	13DEC23
APPRV		
DRAWING NO.	HBE0001018	



**Cactus**

**Quotation**

**Quote Number : HBE0001018**

Hobbs, NM  
4120 W Carlsbad Hwy  
Hobbs NM 88240  
Phone: 817-682-8336

Date: 09/08/2023  
Valid For 30 Days

**Page 1 of 5**

**Bill To:** 7050

CIMAREX  
ATTN: DAVID SHAW  
202 S CHEYENNE AVENUE SUITE 1000  
TULSA OK 74103  
US

**Ship To:** 1016

2023 PRICING REVIEW  
202 S Cheyenne Ave Ste 1000  
Tulsa OK 74103-3001  
US

	Quantity	Price	Ext Price
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CIMAREX

HOBBS, NM

PRODUCTION TREE ASSEMBLY  
7-1/16" 10M X 3-1/16" 10M X 2-9/16" 10M  
OPTIONAL 15M ADAPTER

QUOTATION SUMMARY:

- PRODUCTION TREE ASSEMBLY - \$49,338.02

CACTUS CONTACT:

RILEY STAFFORD / MIKE SPINKS  
OFFICE: 405.708.7217 (RILEY) / 713.396.5762 (MIKE)  
MOBILE: 405.445.2222 (RILEY) / 832.691.7724 (MIKE)  
EMAIL: riley.stafford@cactuswellhead.com / mike.spinks@cactuswellhead.com

DUE TO VOLATILITY IN THE STEEL MARKET, PRICING FOR ITEMS MADE FROM NICKEL ALLOYS (EX. 410SS, 17-4PHSS, INCONEL, ETC.) WILL BE VALID FOR TWO WEEKS. CW WILL REVIEW AND ADJUST, IF NECESSARY, AT ORDER PLACEMENT.

PREMIUM THREADED CASING HANGERS/RUNNING TOOLS & CUSTOMER SPECIFIC EQUIPMENT ARE NON-CANCELABLE AND MAY REQUIRE A PURCHASE ORDER (PO) PRIOR TO MANUFACTURING.

SUPPLY CHAIN PRICING IS BASED UPON A 135 DAY DELIVERY ARO. EXPEDITED PRICING CAN BE PROVIDED UPON REQUEST. PRICES ARE F.O.B. CACTUS BOSSIER CITY, LA. THE FOLLOWING QUOTATION DOES NOT INCLUDE APPLICABLE MILEAGE AND SERVICE CHARGES THAT MAY BE CHARGED AT TIME OF INVOICING.


**Cactus**
**Quotation**
**Quote Number : HBE0001018**

 Hobbs, NM  
 4120 W Carlsbad Hwy  
 Hobbs NM 88240  
 Phone: 817-682-8336

Date: 09/08/2023

Valid For 30 Days

**Page 2 of 5**

		Quantity	Price	Ext Price
<b>PRODUCTION TREE ASSEMBLY</b>				
1	124314P2 ADPT,TBGHD,CW,T40-CCL,7-1/16 10M STD X 3-1/16 10M STD,W/TWO #14 DHCV W/1/4 LP INLETS,10000 PSI MAX WP,TEMP PU,MATL EE,PSL2,PR2	1.00	4,830.00	4,830.00
2	120242MV VLV,CW,SB100,3-1/16 10M FE BB/EE-0,5 (API 6A LU BB/EE-0,5 PSL3 PR1) QPQ TRIM, API 6A PR1 SECTION 10.5.2 (BORE VENT HOLE)	1.00	4,343.00	4,343.00
3	120242MV VLV,CW,SB100,3-1/16 10M FE BB/EE-0,5 (API 6A LU BB/EE-0,5 PSL3 PR1) QPQ TRIM, API 6A PR1 SECTION 10.5.2 (BORE VENT HOLE)	1.00	4,343.00	4,343.00
4	128365 CRSS,STD,AOZE,3-1/16 10M X 2-9/16 10M,6A-LU-EE-3	1.00	2,650.00	2,650.00
5	120242MV VLV,CW,SB100,3-1/16 10M FE BB/EE-0,5 (API 6A LU BB/EE-0,5 PSL3 PR1) QPQ TRIM, API 6A PR1 SECTION 10.5.2 (BORE VENT HOLE)	1.00	4,343.00	4,343.00
6	142800 TREECAP,NEWAY,BHTA,B15A,3-1/16 10M X 3-1/2 EU ILT,W/1/2 NPT & 3.06 MIN BORE,MONOGRAMMED,TEMP PU,MATL EE,PSL2	1.00	1,270.00	1,270.00
7	BX154 RING GASKET,BX154,3-1/16 10/15/20M	5.00	10.44	52.20
8	780077-20E1 STUD,ALL-THD W/2 HVY HEX NUTS,BLK,1-8UNC X 7,API 20E BSL-1 ASTM A193 GR B7 ALL THREAD STUD W/2 API 20E BSL-1 ASTM A194 GR 2H HEAVY HEX NUTS,NO PLATING	16.00	19.83	317.28
9	132879 FLG,BLIND,AOZE,3-1/16 10M X 1/2 NPT,W/HUB,TEMP LU,MATL EE,PSL3	1.00	495.00	495.00
10	100048 FTG,GRS,VENTED CAP,1/2 NPT,4140 -50F W/ELECTROLESS NICKEL COATING NACE,K-MONEL BALL,INCONEL X-750 SPRING	1.00	59.74	59.74
11	115900MV VLV,CW,SB100,2-9/16 10M FE BB/EE-0,5 (API 6A LU BB/EE-0,5 PSL2 PR2) QPQ TRIM, API 6A PR2 ANNEX F (BORE VENT HOLE)	1.00	3,285.00	3,285.00
12	128567 VLV/ACT,OMNI,FS-R,2-9/16 10M FE EE HF C/W MODEL DX-18 DIAPHRAGM PNEUMATIC ACTUATOR, FORGED BODY, REVERSE ACTING SLAB GATE, FLOATING SEATS & DIRECTIONAL FLOW BODY BUSHING (FLOW FROM RIGHT TO LEFT): MAT'L CLASS EE, HARDFACE TRIM, TEMP PU (-20 TO 250 F), PSL-2, PR-2; ACTUATOR: MATERIAL CLASS BB, TEMP P (-20F TO 180F) PR-2 (FC TYPE) W/MANUAL OVERRIDE,ACTUATOR REQUIRES 112 PSI TO OPEN AT FULL 10,000 PSI	1.00	8,292.00	8,292.00
13	130652 CHOKE,ADJ,HOE,H2,2-9/16 10M FE X FE ALLOY BDY,3" NOMINAL,W/ 2" SSTC TRIM,H2S SERVICE,API MONOGRAMMED,PSL-2 PR-2 TEMP-PU MATL-EE-1.5	1.00	7,500.00	7,500.00
14	120734 FLG,COMP,AOZE,2-9/16 10M X 2-7/8 EU,5000 PSI MAX WP,TEMP LU,PSL3,PR1	1.00	399.00	399.00



**Cactus**

**Quotation**

**Quote Number : HBE0001018**

Hobbs, NM  
 4120 W Carlsbad Hwy  
 Hobbs NM 88240  
 Phone: 817-682-8336

Date: 09/08/2023  
 Valid For 30 Days

**Page 3 of 5**

		Quantity	Price	Ext Price
15	BX153 RING GASKET,BX153,2-9/16 10/15/20M	5.00	11.54	57.70
16	780067-20E1 STUD,ALL-THD W/2 HVY HEX NUTS,BLK,7/8-9UNC X 6-1/2,API 20E BSL-1 ASTM A193 GR B7 ALL THREAD STUD W/2 API 20E BSL-1 ASTM A194 GR 2H HEAVY HEX NUTS,NO PLATING	24.00	14.70	352.80
17	135166 TBGHGR,CW,T40-CCL,7-1/16 X 3-1/2 EU API MOD BOX BTM X 3-1/2 EU BOX TOP,W/3 HBPV THD,W/ TWO 1/4 CCL & DOVETAIL SEAL,CF 124316P2,10000 PSI MAX WP,17-4PH SS,TEMP PU,MATL FF-0,5,PSL2,PR2	1.00	4,490.00	4,490.00
18	BX156 RING GASKET,BX156,7-1/16 10/15/20M	1.00	62.48	62.48
19	NVS NEEDLE VALVE,MFS,1/2 NPT MXF,10M PSI WP,CARBON STEEL BODY, 304/316SS STEM, TFE PACKING (NON-NACE)	1.00	61.16	61.16
20	PG10M PRESSURE GAUGE,10M,4-1/2 FACE, LIQUID FILLED,1/2 NPT	1.00	58.24	58.24
21	PRO Prorata Freight	0.75	2,768.56	2,076.42
				<b>49,338.02</b>

**OPTIONAL 15M ADAPTER**

22	124999P2 ADPT,TBGHD,CW,T40-CCL,7-1/16 15M STD X 3-1/16 10M STD,W/TWO #14 DHCV W/1/4 NPT INLET,10000 PSI MAX WP,TEMP PU,MAT'L EE,PSL2,PR2	0.00	7,423.00	0.00
				<b>0.00</b>

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For Acceptance of this Quotation  
 Please Contact Ph: 713-626-8800  
 sales@cactuswellhead.com

<b>Matl:</b>	47,261.60
<b>Labor:</b>	0.00
<b>Misc:</b>	2,076.42
<b>Sales Tax:</b>	0.00
<b>Total:</b>	<b>49,338.02</b>



# Cactus

## Quotation

Quote Number : HBE0001018

Hobbs, NM  
4120 W Carlsbad Hwy  
Hobbs NM 88240  
Phone: 817-682-8336

Date: 09/08/2023

Valid For 30 Days

Page 4 of 5

### CACTUS WELLHEAD, LLC PURCHASE TERMS AND CONDITIONS

1. **ACCEPTANCE:** Acceptance of Cactus Wellhead, LLC (herein: Company) Purchase Terms and Conditions (herein: CACTUS Purchase Terms) shall be deemed effective upon shipment of the Products and/or rendering of Services which are the subject of an order by Customer (defined as the party purchasing CACTUS Products and or Services referred on the invoice). Any proposal made by Customer for additional or different terms and conditions or any attempt by Customer to vary in any degree any of the terms and conditions of CACTUS Purchase Terms is hereby rejected.
2. **PRICING.** Each Product and Service shall be invoiced at (and Customer shall pay) the respective price shown on the reverse side hereof, or if no price is shown on the reverse side hereof, at the price shown in the current price list of Company. In addition, Customer shall pay any and all additional charges for mileage, transportation, freight, packing and other related charges, as well as any federal, state or local tax, excise, or charge applicable on the sale, transportation, or use of Products and Services, unless otherwise specified.
3. **TERMS OF PAYMENT.** Customer agrees to pay Company any and all payments due on or before thirty (30) days from invoice date at the designated address of Company. Amounts unpaid after such thirty (30) day period shall bear interest at the lesser of (i) one and one-half percent (1½%) per month or (ii) the maximum rate allowed by law. Customer shall also pay any and all of Company's attorney's fees and court costs if any amounts hereunder are collected by an attorney or through legal proceedings. Company reserves the right, among other remedies, either to terminate this agreement or to suspend further deliveries upon failure of Customer to make any payment as provided herein.
4. **LIMITED WARRANTY.** COMPANY MAKES NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE MERCHANTABILITY, FITNESS FOR PURPOSE, DESCRIPTION, QUALITY, PRODUCTIVENESS, ACCURACY OR ANY OTHER MATTER WITH RESPECT TO PRODUCTS OR SERVICES, ALL SUCH WARRANTIES BEING HEREBY SPECIFICALLY AND EXPRESSLY DISCLAIMED BY COMPANY. COMPANY MAY OFFER TECHNICAL ADVICE OR ASSISTANCE WITH REGARD TO THE PRODUCTS AND SERVICES BASED ON LABORATORY AND/OR FIELD EXPERIENCE AND CUSTOMER UNDERSTANDS AND AGREES THAT SUCH ADVICE REPRESENTS ONLY GOOD FAITH OPINIONS AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE. THE SOLE AND EXPRESS WARRANTY PROVIDED BY COMPANY IS TO WARRANT THAT THE PRODUCTS SOLD AS LISTED ON THE REVERSE SIDE HEREOF COMPLY WITH COMPANY'S SOLE SPECIFICATION AT THE DATE AND TIME OF MANUFACTURE. COMPANY MAKES NO WARRANTY THAT SUCH PRODUCTS SHALL MEET SUCH SPECIFICATION AT ANY TIME AFTER SHIPMENT OF PRODUCTS. USE OF SUCH PRODUCTS IS SPECIFICALLY NOT WARRANTED.
5. **REMEDY.** The exclusive remedy for this warranty for Products shall be limited to, in Company's sole discretion and judgment, the replacement of defective part(s), F.O.B. Company's plant (transportation, redesign, dismantling, disposal of material and installation are not included and shall be borne and paid for by Customer), or repair of defective part(s). The exclusive remedy for this warranty for Services shall be limited to the repeat of Services performed F.O.B. Company's plant (transportation, redesign, dismantling, disposal of material and installation are not included and shall be borne and paid for by Customer). Any such repeat of Services or replacement or repair of Products shall not include any materials not sold by Company hereunder, and specifically excludes any obligation by Company related to other property of the Customer or any property of third parties. Provided, however, Company may in its sole discretion, decide to instead give Customer credit memorandum for the amounts already paid by Customer to Company for such Product or Service. IN ANY EVENT AND NOTWITHSTANDING THE LANGUAGE TO THE CONTRARY HEREIN, CUSTOMER ACKNOWLEDGES THAT ANY CLAIM IT MAY HAVE ARISING OUT OF OR IN CONNECTION WITH ANY ORIGINAL PRODUCTS AND SERVICES, ANY REPLACEMENT PRODUCTS OR REPEAT OF SERVICES AND THESE CACTUS PURCHASE TERMS SHALL BE LIMITED TO AND NOT EXCEED THE AMOUNT CUSTOMER HAS ACTUALLY PAID TO COMPANY FOR SUCH PRODUCTS AND/OR SERVICES PURSUANT HERETO. If Customer fails to make any such claim within thirty (30) days after completion of Service or delivery of Products, Customer hereby waives (to the extent permitted by applicable law) any and all claims it may or does have with respect to such Products and Services. Unless Customer is an authorized reseller of Company, Company's liability in connection with Products and Services shall extend only to Customer. CUSTOMER HEREBY INDEMNIFIES AND HOLDS COMPANY (AND ITS AGENTS, REPRESENTATIVES, OFFICERS DIRECTORS AND EMPLOYEES) HARMLESS FOR ANY LOSS, EXPENSE OR DAMAGE (WHETHER OF CUSTOMER OR OF ANY THIRD PARTY) ARISING FROM OR IN CONNECTION WITH PRODUCTS AND SERVICES, INCLUDING WITHOUT LIMITATION ANY FAILURE OF SUCH PRODUCTS AND SERVICES TO CONFORM TO CUSTOMER'S ORDER OR SPECIFICATION OR ANY OTHER STANDARD, OR ANY NEGLIGENCE OR BREACH OF WARRANTY BY COMPANY WITH RESPECT TO ANYTHING DONE OR FAILED TO HAVE BEEN DONE BY COMPANY, IF AND TO THE EXTENT THAT SUCH LOSS, EXPENSE OR DAMAGE EXCEEDS THE AMOUNT CUSTOMER HAS ACTUALLY PAID COMPANY PURSUANT HERETO FOR SUCH PRODUCTS OR SERVICES.
6. **INSPECTION.** The results of any inspection or testing reported by the Company to Customer represents only good faith opinions and are not to be construed as warranties or guarantees of the quality, classification, merchantability, fitness for purpose, condition, or liability of any equipment or material that has been inspected or tested by the Company.
7. **INSURANCE.** Each party agrees to maintain comprehensive general liability insurance in the amount of \$1,000,000 each occurrence, \$2,000,000 general aggregate, and Workers Compensation insurance per statutory requirements providing coverage for the indemnity obligations in this agreement. The Company (and such of its affiliates as it shall designate) including their officers, directors, members, shareholders, partners, joint ventures, employees, agents and representatives shall be named as additional insureds under the policies of Customer on a primary basis to the extent of its indemnification obligations set forth in these CACTUS Purchase Terms, and the policies shall also provide a waiver of subrogation rights in favor of the Company (and such of its affiliates as it shall designate) and their officers, directors, members, shareholders, employees, agents and representatives. The provisions of this Section 7 shall apply and the obligation to maintain insurance of each party in the coverages and amounts set forth herein shall remain in force regardless and independent of the validity or enforceability of the indemnity provisions of Section 8, below; the obligation to obtain insurance is a separate and independent obligation. If the insurance required herein is more or less than allowed by prevailing law, the indemnity obligations in Section 8 below shall be effective only to the maximum extent permitted under applicable law.
8. **INDEMNIFICATION.** The following indemnifications and releases of liability will apply to any Products or Services provided under this contract. COMPANY AND CUSTOMER EXPRESSLY AGREE THAT, TO THE EXTENT REQUIRED BY APPLICABLE LAW TO BE EFFECTIVE, THE INDEMNITIES AND DISCLAIMERS OF WARRANTIES CONTAINED HEREIN ARE "CONSPICUOUS."
  - A. **Customer Indemnity Obligations.** Customer hereby releases Company from any liability for, and shall protect, defend, indemnify, and hold harmless Company, its parents, affiliates, subsidiaries, partners, joint owners, joint ventures, and its contractors and subcontractors of any tier, and the officers, directors, agents, representatives, employees, insurers, and consultants (specifically excluding any member of Customer Group) of all of the foregoing, and its and their respective successors, heirs and assigns ("Company Group") from and against all costs (including the payment of reasonable attorneys' fees), losses, liabilities, demands, causes of action, damages, or claims of every type and character ("Claims"), arising out of or resulting from or related, directly or indirectly, to (i) injury to, illness or death of Customer its parents, affiliates, subsidiaries, partners, joint owners, joint ventures, and its contractors and subcontractors of any tier, and the officers, directors, agents, representatives, employees, customers, insurers, invitees and consultants of all of the foregoing, and its and their respective successors, heirs and assigns ("Customer Group"), or (ii) loss of or damage to any property of any member of Customer Group, REGARDLESS OF THE CAUSE OF SUCH CLAIMS, INCLUDING THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT, ACTIVE OR PASSIVE) STRICT LIABILITY, OR ANY OTHER LEGAL FAULT OR RESPONSIBILITY OF ANY MEMBER OF COMPANY GROUP, BUT NOT IN THE CASE OF GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF ANY MEMBER OF COMPANY GROUP.
  - B. **Company Indemnity Obligations.** Company hereby releases Customer from any liability for, and shall protect, defend, indemnify, and hold harmless Customer from and against all Claims arising out of or resulting from or related, directly or indirectly, to (i) injury to, illness or death of any member of Company Group, or (ii) loss of or damage to any property of any member of Company Group, REGARDLESS OF THE CAUSE OF SUCH CLAIMS, INCLUDING THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT, ACTIVE OR PASSIVE) STRICT LIABILITY, OR ANY OTHER LEGAL FAULT OR RESPONSIBILITY OF ANY MEMBER OF CUSTOMER GROUP, BUT NOT IN THE CASE OF GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF ANY MEMBER OF COMPANY GROUP.
  - C. **Third Party Claims.** Notwithstanding the foregoing, to the extent of its negligence, Company and Customer shall each indemnify, defend and hold harmless from and against all Claims, of every type and character, which are asserted by third parties for bodily injury, death or loss or destruction of property or interests in property in any manner caused by, directly or indirectly resulting from, incident to, connected with or arising out of the work to be performed, Services to be rendered or Products or materials furnished to Customer. When personal injury, death or loss of or damage to property is the result of joint or concurrent negligence of Customer and Company, the indemnitor's duty of indemnification shall be in proportion to its allocable share of such negligence.
  - D. **Pollution.** Company agrees that it shall be totally responsible for, and shall protect, defend and indemnify, Customer for all losses, damages, claims, demands, costs, charges, and other expenses, including attorneys' fees, for any and all waste and/or hazardous substances which are in Company Group's exclusive possession and control and directly associated with Company Group's equipment and facilities, EVEN IF THE LOSSES, DAMAGES, CLAIMS, DEMANDS, COSTS, FEES, AND EXPENSES ARE CAUSED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF CUSTOMER GROUP. Customer shall assume all responsibility for, including control and removal of, and shall protect, defend and indemnify Company Group from and against all Claims arising directly or indirectly from all other pollution or contamination which may occur during the conduct of operations hereunder, including, but not limited to, that which may result from fire, blowout, cratering, seepage or any other uncontrolled flow of oil, gas, water or other substance, EVEN IF THE LOSSES, DAMAGES, CLAIMS, DEMANDS, COSTS, FEES, AND EXPENSES ARE CAUSED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF COMPANY GROUP.
  - E. **Wild Well.** Customer shall release Company Group of any liability for, and shall protect, defend and indemnify Company Group for any damages, expenses, losses, fines, penalties, costs, expert fees and attorneys' fees arising out of a fire, blow out, cratering, seepage or wild well, including regaining control thereof, debris removal and property restoration and remediation. THIS INDEMNITY APPLIES EVEN IF THE LOSSES, DAMAGES, CLAIMS, DEMANDS, COSTS, FEES, AND EXPENSES ARE CAUSED NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT, ACTIVE OR PASSIVE, ORDINARY OR GROSS) STRICT LIABILITY, OR ANY OTHER LEGAL FAULT OR RESPONSIBILITY OF ANY MEMBER OF COMPANY GROUP.
  - F. **Underground Damage.** Customer shall release Company Group of any liability for, and shall protect, defend and indemnify Company Group from and against any and all claims, liability and expenses resulting from operations related to the work under this agreement on account of injury to, destruction of, or loss or impairment of any property right in or to oil, gas or other mineral substance or water, if at the time of the act or omission causing such injury, destruction, loss or impairment said substance and not been reduced to physical possession above the surface of the earth, and for any loss or damage to any formation, strata, or reservoir beneath the surface of the earth. THIS INDEMNITY APPLIES EVEN IF THE LOSSES, DAMAGES, CLAIMS, DEMANDS, COSTS, FEES, AND EXPENSES ARE CAUSED NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT, ACTIVE OR PASSIVE, ORDINARY OR GROSS) STRICT LIABILITY, OR ANY OTHER LEGAL FAULT OR RESPONSIBILITY OF ANY MEMBER OF COMPANY GROUP.
  - G. The foregoing indemnities set forth in these CACTUS Purchase Terms are intended to be enforceable against the parties hereto in accordance with the express terms and scope hereof notwithstanding Texas' Express Negligence Rule or any similar directive that would prohibit or otherwise limit indemnities because of the negligence (whether sole, concurrent, active or passive, ordinary or gross) or other fault or strict liability of Company or Customer.
  - H. If a claim is asserted against one of the parties to this agreement which may give rise to a claim for indemnity against the other party hereto, the party against whom the claim is first asserted must notify the potential indemnitor in writing and give the potential indemnitor the right to defend or assist in the defense of the claim.
9. **RISK OF LOSS.**
  - A. Title and risk of loss shall pass to Customer upon delivery as specified in Article 11. Customer's receipt of any material delivered hereunder shall be an unqualified acceptance of, and a waiver by Customer of any and all claims with respect to, such material unless Customer gives Company written notice of claim within thirty (30) days after such receipt. Notwithstanding the foregoing, installation or use of materials or equipment shall unequivocally constitute irrevocable acceptance of said materials. Customer assumes all risk and liability for the results obtained by the use of any material or Products delivered hereunder in work performed by on behalf of Customer or in combination with other or substances. No claim of any kind, whether as to material delivered or for non-delivery of material, and whether or not based on negligence, shall be greater in amount than the purchase price of the


**Cactus**
**Quotation**
**Quote Number : HBE0001018**

 Hobbs, NM  
 4120 W Carlsbad Hwy  
 Hobbs NM 88240  
 Phone: 817-682-8336

Date: 09/08/2023

Valid For 30 Days

**Page 5 of 5**

material in respect of which such claim is made.

B. For Services, Company shall not be liable for loss or deterioration of any equipment and material of Customer under Company's control or stored on Company's premises after Company has completed its work if such loss or deterioration results from atmospheric condition, Act of God or other occurrence not within the reasonable control of Company.

10. **TERMINATION.** Company reserves the right to terminate the order at issue, or any part hereof, solely for its convenience at any time without cause with notice to Customer. Company shall have the right to cancel any unfilled order without notice to Customer in the event that Customer becomes insolvent, adjudicated bankrupt, petitions for or consents to any relief under any bankruptcy reorganization statute, violates a term of these CACTUS Purchase Terms, or is unable to meet its financial obligations in the normal course of business. In the event of such termination, Company shall immediately stop all work hereunder. Prior to delivery, Customer may terminate this order without cause upon thirty (30) day notice in writing to Company. In the event of such termination, Company at its sole option shall cease work up to thirty (30) days after such notice. Upon the cessation of work, Customer agrees to pay Company a reasonable termination charge consisting of a percentage of the invoice price, such percentage to reflect the value of the Products, Services or work in progress completed upon the cessation of work. Customer shall also pay promptly to Company any costs incurred due to paying and settling claims of Company's vendors or subcontractors arising out of the termination of the order by Customer.

11. **DELIVERY.** Unless different terms are provided on the face of this order, all items are sold FOB Company's manufacturing facility in Bossier City, LA., and Customer shall bear the cost of transportation to any other named destination. Upon notification of Company of delivery, Customer shall become liable and shall bear all risk of loss associated with the Products at issues regardless of whether the Products are at a location controlled by Company and whether or not caused by the negligence of Company. In the case of Customer pick-up, the truck furnished by Customer is the destination and Company's obligations regarding shipments are fulfilled when the Products are loaded on the truck. Items to be shipped to any other destination outside of the United States are sold FOB port of shipment (Customer will deliver and bear the cost of transportation to the named port and will bear the cost of transportation thereafter to the final destination). The means of shipment and carrier to the point at which Company's liability for transportation costs ceases shall be chosen by Company. Excess packing, marking, shipping, and transportation charges resulting from compliance with Customer's request shall be for Customer's account. Unless otherwise agreed in writing, delivery time is not of the essence.

12. **RETURNS/REFUND.** Within ninety (90) days of delivery, Customer has the option to return any non-defective Products (any Products found to be defective will be subject to the warranty and remedies expressed in paragraphs four (4) and five (5) above). Customer shall bear all costs of shipment and/or transportation for such return and risk of loss for the returned Products shall remain with Customer until re-delivered to Company's Yard. Customer shall receive a full refund for any returns, less a twenty percent (20%) restocking fee. Company at all times reserves the right to designate certain Products as non-refundable in Company's Sales Quote or Sales Order. In addition, any made-to-order, special order, and/or Product manufactured to Customer specifications are NOT returnable.

13. **DELAYS.** If a specific shipping date is either not given or is estimated only, and is not promised on the face of this order or in a separate writing signed by Company, Company will not be responsible for delays in filling this order nor liable for any loss or damages resulting from such delays. If a specific shipping date is promised, Company will not be liable for delays resulting from causes beyond Company's control, including without limitation accidents to machinery, fire, flood, act of God or other casualty, vendor delays, labor disputes, labor shortages, lack of transportation facilities, priorities required by, requested by, or granted for the benefit of any governmental agency, or restrictions imposed by law or governmental regulation.

14. **LIMITATION OF DAMAGES.** Notwithstanding any other provision contained herein, Company shall not be liable to Customer Group or any third party for consequential (whether direct or indirect damages), indirect, incidental, special or punitive damages, howsoever arising, including, but not limited to loss of profits (whether direct or indirect damages), revenues, production or business opportunities, WHETHER OR NOT SUCH LOSSES ARE THE RESULT IN WHOLE OR IN PART FROM THE NEGLIGENCE (WHETHER SOLE, JOINT, CONCURRENT OR COMPARATIVE, ACTIVE OR PASSIVE, ORDINARY OR GROSS) OF COMPANY GROUP, OR ANY DEFECT IN THE PREMISES, PRE-EXISTING CONDITIONS, PATENT OR LATENT, BREACH OF STATUTORY DUTY, STRICT LIABILITY OR ANY OTHER THEORY OF LEGAL LIABILITY OF COMPANY GROUP (EXCLUDING ONLY LOSSES CAUSED BY THE WILLFUL MISCONDUCT OF COMPANY GROUP).

15. **SECURITY INTEREST.** Customer grants Company, and Company reserves, a security interest, covering all Customer's obligations under these terms (including any liability for breach of Customer's obligations), and applying to all of Customer's right, title, and interest in the Leased Equipment, together with all accessions thereto and any proceeds that may arise in connection with the sale or disposition thereof. Customer shall cooperate with Company in the filing of Financing Statements to perfect such security interest. Furthermore, Customer authorizes Company to execute and file Financing Statements without Customer's signature in any jurisdiction in which such procedure is authorized. Customer warrants, covenants and agrees that it will not, without prior written consent of Company, sell, contract to sell, lease, encumber, or dispose of the Leased Equipment or any interest in it until all obligations secured by this security interest have been fully satisfied.

16. **PATENT AND INTELLECTUAL PROPERTY.** The sale of any Products hereunder does not convey any intellectual property license by implication, estoppel or otherwise regarding the Products. Company retains the copyright in all documents, catalogs and plans supplied to Customer pursuant to or ancillary to the contract. Unless otherwise agreed in writing, Customer shall obtain no intellectual property interest in any Company Product.

17. **TAXES.** Unless otherwise specifically provided for herein, Customer shall be liable for all federal, state, or local taxes or import duties assessed by any governmental entity of any jurisdiction in connection with the Products or Services furnished hereunder.

18. **DECEPTIVE TRADE PRACTICES.** Customer acknowledges the application of Section 17.45(4) of the Texas Deceptive Trade Practices Act (Texas Business Commission Code §17.41 et. seq.) (the "Act") to any transaction contemplated hereby and represents that it is not a "consumer" for the purposes of the Act.

19. **NO WAIVER.** Failure to enforce any or all of the provisions in these CACTUS Purchase Terms in any particular instance shall not constitute or be deemed to constitute a waiver of or preclude subsequent enforcement of the same provision or any other provision of these CACTUS Purchase Terms. Should any provision of these CACTUS Purchase Terms be declared invalid or unenforceable all other provisions of these CACTUS Purchase Terms shall remain in full force and effect.

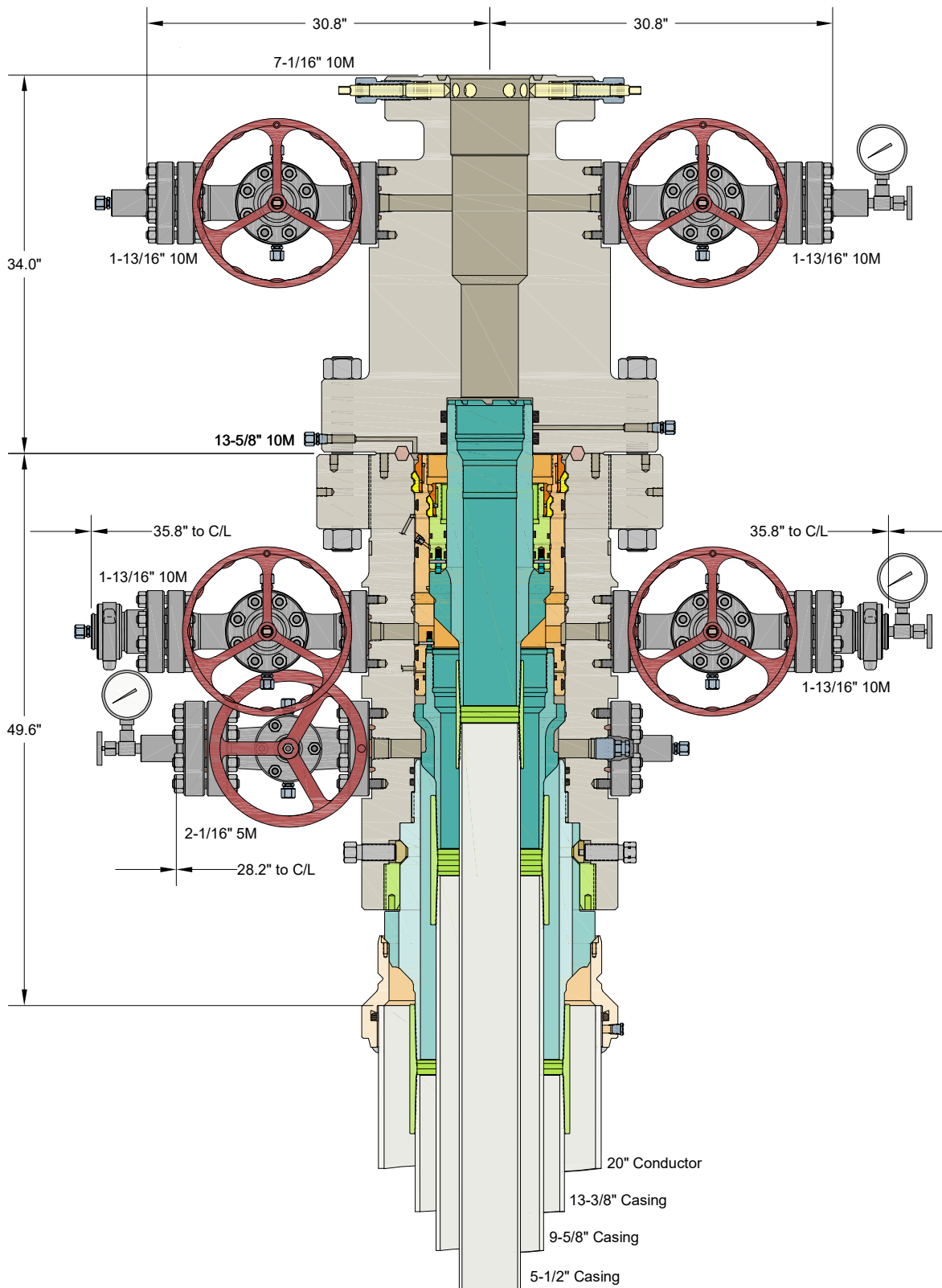
20. **CHOICE OF LAW.** THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND SHALL BE PERFORMABLE IN HARRIS COUNTY, TEXAS. WITHOUT REGARD TO CONFLICTS OF LAW PRINCIPALS AND WAIVER OF SAME, EACH PARTY HERETO SUBMITS TO THE JURISDICTION OF THE COURTS OF THE STATE OF TEXAS IN HARRIS COUNTY, TEXAS AND THE FEDERAL COURTS IN AND FOR THE SOUTHERN DISTRICT OF TEXAS SITTING IN HOUSTON, TEXAS IN CONNECTION WITH ANY DISPUTE ARISING UNDER THIS AGREEMENT OR ANY DOCUMENT OR INSTRUMENT ENTERED INTO IN CONNECTION HEREWITH.

21. **AUTHORITY.** Customer warrants and represents that the individual receiving this order at issue on behalf of Customer has the authority to enter into these CACTUS Purchase Terms on behalf of Customer, and that upon receipt these CACTUS Purchase Terms shall be binding upon Customer.

22. **FORCE MAJEURE.** If Company is unable to carry out its obligations hereunder by reason of force majeure, then upon Company's giving of notice and reasonably full particulars of such force majeure in writing to Customer, Company's obligations that are affected by force majeure shall be suspended during the continuance of the force majeure and Company shall not be liable to Customer for any damages incurred by the Customer as a result thereof.

23. **CONFIDENTIALITY.** Customer acknowledges the highly secret and valuable nature of all proprietary inventions, methods, processes, designs, know-how, and trade secrets embodied in the Company's equipment, Products and Services and its components (hereinafter referred to as "Confidential Data"). Accordingly, Customer agrees not to disclose or use any Confidential Data. Customer further agrees to take any and all necessary precautions to prevent disclosure of the Confidential Data associated with the Company's equipment, Products and Services and components thereof to persons other than those employees of Customer for whom such disclosure is necessary for performance of the work hereunder.

24. **COMPLIANCE.** Customer expressly agrees to comply with and abide by, all of the laws of the United States and of the State of Texas, including, but not limited to, OSHA, EPA and all rules and regulations now existing or that may be hereafter promulgated under and in accordance with any such law or laws, and hereby agrees to indemnify and hold Company harmless from any and all claims, demands, or damages incurred by Company arising from Customer's failure to comply with all laws and governmental regulations. The indemnities in this paragraph shall be in addition to any other indemnity obligations between Customer and Company, including any other indemnity obligations contained herein.



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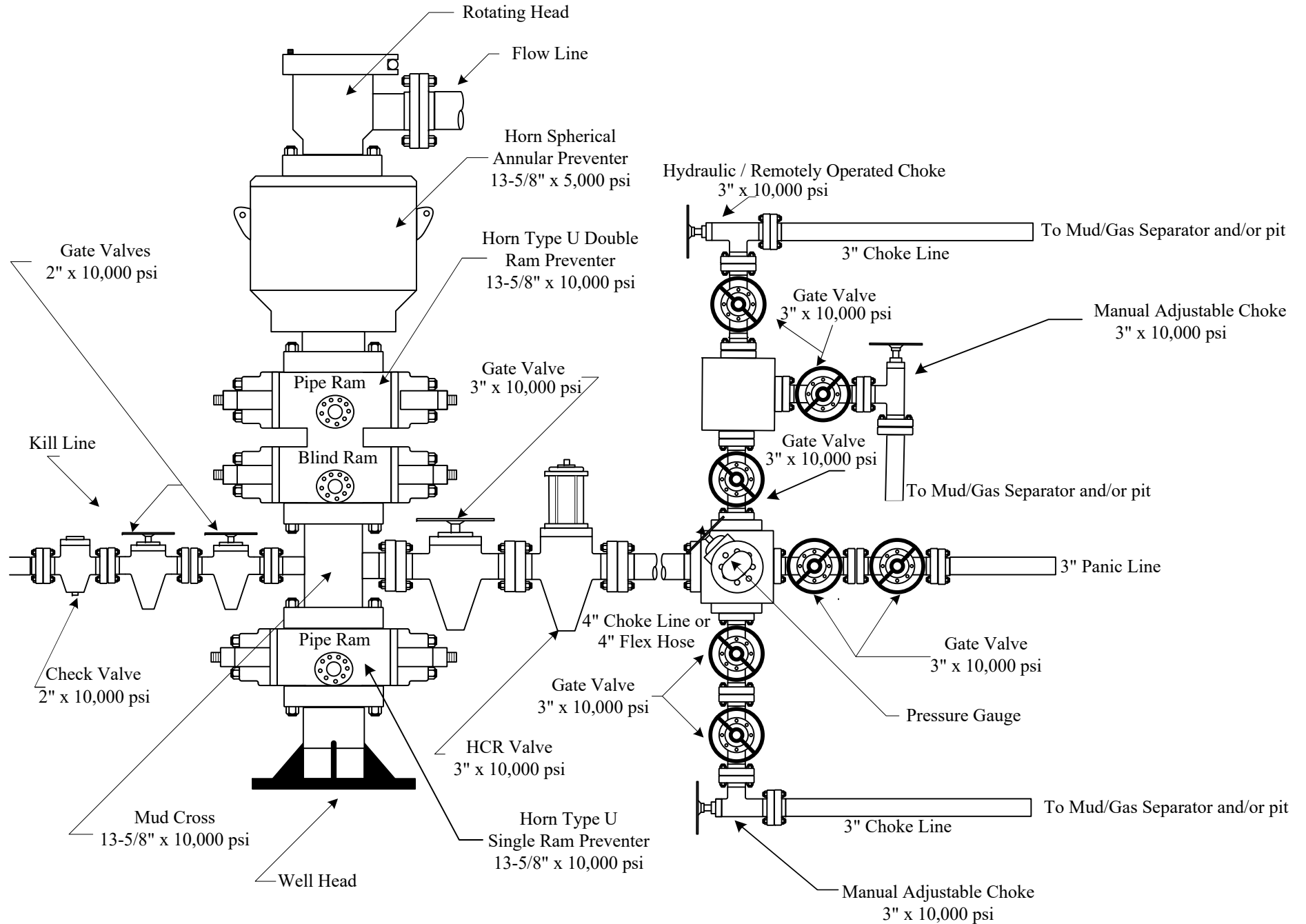
ALL DIMENSIONS APPROXIMATE

# CACTUS WELLHEAD LLC

CIMAREX  
HOBBS, NM

20" x 13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL Wellhead Sys.  
With 13-5/8" 10M x 7-1/16" 10M CTH-DBLHPS Tubing Head  
And 9-5/8" & 5-1/2" Fluted Mandrel Casing Hangers

DRAWN	VJK	01MAY24
APPRV		
DRAWING NO.	HBE0001215	



**1. Geological Formations**

TVD of target 10,700  
MD at TD 21,099

Pilot Hole TD N/A  
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1640	N/A	
Top of Salt	1718	N/A	
Base of Salt/Lamar	3117	N/A	
Top Delaware Sands/Bell Canyon	3581	N/A	
Cherry Canyon	5928	N/A	
Brushy Canyon	6442	N/A	
Bone Spring Lime	7919	N/A	
Leonard	8002	N/A	
Avalon	8474	N/A	
1st Bone Spring Sand	9185	Hydrocarbons	
2nd Bone Spring Shale	9442	Hydrocarbons	
2nd Bone Spring Sand	9727	Hydrocarbons	
3rd Bone Spring Carb	10199	Hydrocarbons	
3rd Bone Spring Sand	10512	Hydrocarbons	
3rd Bone Spring Sand - Target	10700	Hydrocarbons	

**2. Casing Program**

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1690	1690	13-3/8"	54.50	J-55	BT&C	1.55	3.76	9.26
12 1/4	0	3157	3157	9-5/8"	40.00	HCK-55	LT&C	2.28	2.36	4.44
8 3/4	0	10216	10216							
8 3/4	10216	21079	10700	5-1/2"	20.00	P-110	BT&C	2.02	2.24	66.22
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.

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

Coterra: H2S Plan



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# H2S Drilling Operations Plan

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## Training

*All company and contract personnel admitted on location must be trained by a qualified H2S safety instructor to do the following:*

1. Characteristics of H2S
2. Physical effects and hazards
3. Principle and operation of H2S detectors, warning system, and briefing areas
4. Evacuation procedure, routes and first aid
5. Proper use of safety equipment & life support systems
6. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.

## H2S Detection and Alarm Systems

1. H2S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary
2. An audio alarm system will be installed on the derrick floor and in the top doghouse

## Windsock and/or wind streamers

1. Windsock at mudpit area should be high enough to be visible
2. Windsock on the rig floor and / or top of doghouse should be high enough to be visible

## Condition Flags & Signs

1. Warning signs on access road to location
2. Flags are to be displayed on sign at the entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates

## Coterra: H2S Plan

danger (H2S present in dangerous concentration). Only H2S trained and certified personnel admitted to location.

## Well Control Equipment

1. See the pressure control section of this submission.

## Communication

1. While working under masks, chalkboards will be used for communication
2. Hand signals will be used where chalk board is inappropriate.
3. Two way radio will be used to communicate off location in case emergency help is required. In most cases, cellular telephones will be available at most drilling foreman's trailer or living quarters.

## Drillstem Testing

1. No DSTs or cores are planned at this time
2. Drilling contractor supervisor will be required to be familiar with the effects that H2S has on tubular goods and other mechanical equipment.
3. If H2S is encountered, mud system will be altered if necessary to maintain control of the well. A mud gas separator will be brought into service along with H2S scavenger if necessary.

Coterra: H2S Plan

# H2S Contingency Plan

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## Emergency Procedures

In the event of an H2S release, the first responder(s) must:

1. Isolate the area and prevent entry by other persons into the 100 PPM ROE.
2. Evacuate any public places encompassed by the 100 PPM ROE.
3. Be equipped with H2S monitors and air packs in order to control the release.
4. Use the buddy system
5. Take precautions to avoid personal injury during this operation
6. Contact operator and/or local officials to aid in operation. See list of emergency contacts attached.
7. Have received training the detection of H2S, measures for protection against the gas, and equipment used for protection and emergency response

## Ignition of the Gas Source

1. Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

## Contacting Authorities

1. Coterra personnel must liaise with local and state agencies to ensure a proper response to a major release. Additionally, the OCD must be notified of the release as soon as possible but no later than 4 hours.
2. Agencies will ask for information such as type and volume of release, wind direction, location of release, etc. Be prepared with all information available including directions to site. The following call list of essential and potential responders has been prepared for use during a release. Coterra's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

Coterra: H2S Plan

# Emergency Contacts

## Coterra Energy

Charlie Pritchard: Drilling Operations Manager: 432 – 238 – 7084

Darrell Kelly: Vice President EHS: 281 – 589 – 5795

## Third Party

PERMIAN REGION CONTACT NUMBERS					
CALL 911					
Air Ambulance Services					
	Reeves County Medical - Pecos, TX		432-447-3551		
	Aero Care - Midland, TX		800-627-2376		
	Tri State Care Flight- Artesia, NM		800-800-0900		
	Air Methods - Hobbs, NM		800-242-6199		
Fire / Police / Medical Care					
Sheriff's Office		Fire Departments		Hospital / Medical Care Facilities	
Andrews County	432-523-5545	Andrews	432-523-3111	Permian Regional Med.	432-523-2200
Reagan County	325-884-2929	Big Lake	325-884-3650	Reagan Memorial Hosp.	325-884-2561
Howard County	432-264-2244	Big Springs	432-264-2303	Scenic Mountain Med Ctr	432-263-1211
Terry County	806-637-2212	Brownfield	806-637-6633		
Crane County	432-558-3571	Crane	432-558-2361	Crane Memorial Hosp.	432-558-3555
Val Verde County	830-774-7513	Del Rio	830-774-8648	Val Verde Regional Med.	830-775-8566
		Denver City	806-592-3516	Yoakum County Hospital	806-592-2121
Pecos County	432-336-3521	Ft Stockton	432-336-8525		
Glasscock County	432-354-2361	Garden City			
Winkler County	432-586-3461	Kernit	432-586-2577	Winkler County Memorial	432-586-5864
		McCamey	432-652-8232	McCamey Hospital	432-652-8626
Loving County	432-377-2411	Mentone			
Irion County	325-835-2551	Mertzton			
Ward County	432-943-6703	Monahans	432-943-2211	Ward Memorial Hospital	432-943-2511
Ector County	432-335-3050	Odessa	432-335-4650	Odessa Regional Hosp.	432-582-8340
Crocket County	325-392-2661	Ozona	325-392-2626		
Reeves County	432-445-4901	Pecos	505-757-6511	Reeves County Hospital	432-447-3551
Yoakum County	806-456-2377	Plains	806-456-2288		
Garza County	806-495-3595	Post			
Upton County	432-693-2422	Rankin			
Coke County	915-453-2717	Robert Lee			
		Roscoe	325-766-3931		
Hockley County	806-894-3126	Levelland	806-894-3155	Covenant Health	806-894-4963
Tom Green County	325-655-8111	San Angelo	325-657-4355	San Angelo Comm. Med.	325-949-9511
Gaines County	432-758-9871	Seminole	432-758-3621	Memorial Hospital	432-758-5811
Terrell County	432-345-2525	Sanderson			
Scurry County	325-573-3551	Snyder	325-573-3546	DM Cogdell Memorial	325-573-6374
Sterling County	325-378-4771	Sterling City			
Nolan County	325-235-5471	Sweetwater	325-235-8130	Rolling Plains Memorial	325-235-1701
Culberson County	432-283-2060	Van Horn		Culberson Hospital	432-283-2760
New Mexico					
Lea County	505-396-3611	Knowles	505-392-7469	Lea Reg Med Ctr	575-492-5000
Eddy County	575-887-7551	Carlsbad	575-885-3125	Carlsbad Medical	575-887-4100
		Artesia	575-746-5050	Artesia Hospital	575-748-3333
Roosevelt County	575-356-4408				
Chaves County	575-624-7590				
Ground Ambulance Services					
	Reeves County Medical		Pecos, TX		432-447-3551



Coterra Big Iron 4-9 Fed Com 302H Rev1 kFc 22Apr25 Proposal Geodetic Report

Def Plan

<b>Report Date:</b>	April 23, 2025 - 06:35 PM (UTC 0)	<b>Survey / DLS Computation:</b>	Minimum Curvature / Lubinski
<b>Client:</b>	COTERRA	<b>Vertical Section Azimuth:</b>	179.860 (North)
<b>Field:</b>	NM Lea County (NAD 83)	<b>Vertical Section Origin:</b>	0.000 ft, 0.000 ft
<b>Structure / Slot:</b>	Coterra Big Iron 4-9 Fed Com Pad (Lot 4) / Big Iron 4-9 Fed Com 302H	<b>TVD Reference Datum:</b>	RKB
<b>Well:</b>	Big Iron 4-9 Fed Com 302H	<b>TVD Reference Elevation:</b>	3937.700 ft above MSL
<b>Borehole:</b>	Big Iron 4-9 Fed Com 302H	<b>Seated / Ground Elevation:</b>	3914.700 ft above MSL
<b>UBHI / API#:</b>	Unknown / Unknown	<b>Magnetic Declination:</b>	6.075°
<b>Survey Name:</b>	Coterra Big Iron 4-9 Fed Com 302H Rev1 kFc 22Apr25	<b>Total Gravity Field Strength:</b>	998.5045mgm (9.80665 Based)
<b>Survey Date:</b>	April 23, 2025	<b>Gravity Model:</b>	GARM
<b>Turn / AHD / DOI / ERD Ratio:</b>	125.955° / 11535.687 ft / 6.457 / 1.078	<b>Total Magnetic Field Strength:</b>	47450.081 nT
<b>Coordinate Reference System:</b>	NAD83 New Mexico State Plane, Eastern Zone, US Feet	<b>Magnetic Dip Angle:</b>	60.455°
<b>Location Lat / Long:</b>	32°41'46.77445"N, 103°34'16.95918"W	<b>Declination Date:</b>	April 22, 2025
<b>Location Grid NE YX:</b>	N 617896.710 RUS, E 775735.120 RUS	<b>Magnetic Declination Model:</b>	HOGM 2025
<b>CRS Grid Convergence Angle:</b>	0.412°	<b>North Reference:</b>	Grid North
<b>Grid Scale Factor:</b>	0.99997201 (Applied)	<b>Grid Convergence Used:</b>	0.412°
<b>Version / Patch:</b>	2024.5.0.1	<b>Total Corr Mag North-&gt;Grid North:</b>	5.663°
		<b>Local Coord Referenced To:</b>	Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)	DLS (1/100ft)	BR (1/100ft)	TR (1/100ft)
SHL [224FNL, 760FWL]	0.00	0.00	0.00	0.00	-3,937.70	0.00	0.00	0.00	617.896.71	775.735.12	32.69632624	-103.57137755			
Nudge, Build 2'/100R	1,400.00	0.00	82.38	1,400.00	-2,837.70	0.00	0.00	0.00	617.896.71	775.735.12	32.69632624	-103.57137755	0.00	0.00	0.00
Hold	2,099.80	14.00	82.38	2,092.86	-1,844.84	-10.78	11.28	84.30	617.907.99	775.819.41	32.69635556	-103.57110329	2.00	2.00	0.00
Drop 2'/100R	5,538.87	14.00	82.38	5,429.83	-1,492.13	-116.15	121.55	908.70	618.018.25	776.643.80	32.69664232	-103.56842109	0.00	0.00	0.00
Hold	6,238.66	0.00	82.38	6,122.69	-2,184.99	-126.93	132.82	993.00	618.029.53	776.728.09	32.69667194	-103.56814684	2.00	-2.00	0.00
KOP, Build 10'/100R	10,215.66	0.00	82.38	10,099.69	-6,161.99	-126.93	132.82	993.00	618.029.53	776.728.09	32.69667194	-103.56814684	0.00	0.00	0.00
Build & Turn 5'/100R	10,965.66	75.00	164.66	10,653.12	-6,715.42	-283.27	-276.71	1,105.34	617.620.01	776.840.43	32.69554385	-103.56779129	10.00	10.00	0.00
Landing Point	11,324.94	90.00	174.66	10,700.00	-6,762.30	-632.69	-625.77	1,168.48	617.270.96	776.903.57	32.69458326	-103.56759425	5.00	4.18	2.78
Turn 2'/100R	11,424.94	90.00	174.66	10,700.00	-6,762.30	-732.31	-725.34	1,177.79	617.171.40	776.912.87	32.69430943	-103.56756634	0.00	0.00	0.00
Hold	11,674.90	90.00	179.66	10,700.00	-6,762.30	-981.96	-974.91	1,190.17	616.921.83	776.925.26	32.69362325	-103.56753195	2.00	0.00	2.00
Big Iron 4-9 Fed Com 302H - PBHL [100FSL, 1945FWL]	21,078.95	90.00	179.66	10,700.00	-6,762.30	-10,386.00	-10,378.79	1,246.10	607.518.23	776.981.18	32.68777672	-103.56757077	0.00	0.00	0.00

Survey Type: Def Plan

Survey Error Model: ISCWSA0 3 - D 95 % Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	10,200.000	1/100.000	12.25 - 8.75 - 6	- 9.625 - 7 - 4.5		A001Mb_MWD		Big Iron 4-9 Fed Com 302H / Coterra Big Iron 4-9 F
	1	10,200.000	21,086.262	1/100.000	6	4.5		A008Mb_MWD+IFR1+MS		Big Iron 4-9 Fed Com 302H / Coterra Big Iron 4-9 F

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
898.600	17.500	13.375	
4,888.322	12.250	9.625	
9,014.574	8.750	7.000	
21,078.948	6.000	4.500	



## Coterra Big Iron 4-9 Fed Com 302H Rev1 kFc 22Apr25 Anti-Collision Summary Report

**Analysis Date-24hr Time:** April 23, 2025 - 06:34 PM ( UTC 0 )  
**Client:** COTERRA  
**Field:** NM Lea County (NAD 83)  
**Structure:** Coterra Big Iron 4-9 Fed Com Pad (Lot 4)  
**Slot:** Big Iron 4-9 Fed Com 302H  
**Well:** Big Iron 4-9 Fed Com 302H  
**Borehole:** Big Iron 4-9 Fed Com 302H  
**Scan MD Range:** 0.00ft ~ 21078.95ft

**Analysis Method:** 3D Least Distance  
**Reference Trajectory:** Coterra Big Iron 4-9 Fed Com 302H Rev1 kFc 22Apr25 (Def Every 10.00 Measured Depth (ft))  
**Depth Interval:**  
**Rule Set:** NAL Procedure: D&M AntiCollision Standard S002  
**Min Pts:** Absolute minima indicated.  
**Engine Version:** 2024.5.0.1  
**Database \ Project:** Big Iron 4-9 Fed Com 302H-COTERRA

**Trajectory Error Model:** ISCWSA0 3 - D 95 % Confidence 2.7955 sigma

### Offset Trajectories Summary

**Offset Selection Criteria**

Bounding box scan: minimum Ct-Ct separation <= 2000ft  
 Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans  
 Selection filters: - All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

15 out of 20 are selected

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	

Results highlighted in red: Sep-Factor <= 1.5

Result highlighted in boxed, red and bold: all local minima indicated.

Coterra Big Iron 4-9 Fed Com 301H Rev1 kFc 22Apr25 (DefinitivePlan) - **Fail Minor**

20.00	16.40	16.71	3.60	9.36	MAS = 5.00 (m)	0.00	0.00	CtCt<=15.00m			Enter Alert
20.00	16.40	16.71	3.60	9.36	MAS = 5.00 (m)	23.00	23.00				WRP
20.00	16.40	<b>11.14</b>	3.60	<b>2.47</b>	MAS = 5.00 (m)	790.00	790.00				MinPts
<b>20.00</b>	20.14	6.25	-0.14	1.49	OSF1.50	1320.00	1320.00		OSF<=1.50		Enter Minor
<b>20.00</b>	21.33	5.45	-1.33	1.40	OSF1.50	1400.00	1400.00				MinPt-CtCt
<b>20.16</b>	21.77	<b>5.31</b>	-1.61	1.38	OSF1.50	1430.00	1430.00				MinPt-EOU
20.28	21.92	5.34	-1.64	1.38	OSF1.50	1440.00	1440.00				MinPts
22.93	23.24	7.11	-0.31	1.48	OSF1.50	1530.00	1529.96		OSF>1.50		Exit Minor
100.99	31.26	79.82	69.73	4.96	OSF1.50	2080.00	2073.63	OSF>5.00			Exit Alert
1090.78	77.38	1038.86	1013.40	<b>21.40</b>	OSF1.50	5130.00	5033.10				MinPt-SF
<b>1246.67</b>	152.66	1144.56	1094.01	12.32	OSF1.50	10750.00	10559.87				MinPt-CtCt
1246.68	152.69	<b>1144.56</b>	<b>1093.99</b>	12.32	OSF1.50	10760.00	10565.76				MinPts
1247.05	152.77	1144.88	1094.28	<b>12.31</b>	OSF1.50	10790.00	10582.56				MinPt-SF
1279.63	154.61	1176.23	<b>1125.02</b>	12.48	OSF1.50	11330.00	10700.00				MinPt-ADP
<b>1284.81</b>	373.74	<b>1035.32</b>	<b>911.07</b>	<b>5.17</b>	OSF1.50	21078.95	10700.00				MinPts

30-025-20609 - MARATHON-STATE 1 - INC Only to 12670ft - P (DefinitiveSurvey) - **Fail Minor**

1324.48	32.81	1321.09	1291.67	934.58	MAS = 10.00 (m)	0.00	0.00				Surface
1324.48	32.81	1321.02	1291.67	888.74	MAS = 10.00 (m)	23.00	23.00				WRP
798.79	241.33	637.32	557.46	4.99	OSF1.50	4120.00	4053.09	OSF<=5.00			Enter Alert
<b>483.58</b>	484.12	160.30	-0.54	1.50	OSF1.50	8300.00	<b>8184.03</b>		OSF<=1.50		Enter Minor
<b>483.58</b>	603.51	80.74	-119.93	1.20	OSF1.50	10215.66	10099.69				MinPt-CtCt
484.37	605.71	<b>80.06</b>	-121.34	<b>1.20</b>	OSF1.50	10250.00	10134.01				MinPts
484.90	606.35	80.16	-121.45	1.20	OSF1.50	10260.00	10143.98				MinPt-ADP
624.31	628.58	204.76	-4.27	1.49	OSF1.50	10670.00	10507.89		OSF>1.50		Exit Minor
2122.49	640.03	1695.30	1482.46	4.98	OSF1.50	12250.00	10700.00	OSF>5.00			Exit Alert
10951.40	642.99	10522.24	10308.41	25.60	OSF1.50	21078.95	10700.00				TD

Coterra Big Iron 4-9 Fed Com 202H Rev1 kFc 22Apr25 (DefinitivePlan) - **Warning Alert**

20.00	16.39	16.72	3.61	9.36	MAS = 5.00 (m)	0.00	0.00	CtCt<=15.00m			Enter Alert
19.99	16.39	16.70	3.60	9.35	MAS = 5.00 (m)	23.00	23.00				WRP
19.99	16.39	<b>11.14</b>	3.60	2.47	MAS = 5.00 (m)	790.00	790.00				MinPt-EOU
<b>19.99</b>	18.35	7.43	1.64	1.64	OSF1.50	1200.00	1200.00				MinPt-CtCt
20.14	18.79	<b>7.28</b>	1.35	1.61	OSF1.50	1230.00	1230.00				MinPt-EOU
20.26	18.94	7.30	<b>1.32</b>	1.61	OSF1.50	1240.00	1240.00				MinPt-ADP
20.41	19.08	7.36	1.33	<b>1.61</b>	OSF1.50	1250.00	1250.00				MinPt-SF
132.41	87.08	74.03	45.33	<b>2.29</b>	OSF1.50	5960.00	5450.36				MinPt-SF
<b>155.71</b>	140.56	61.67	15.14	1.66	OSF1.50	9410.00	9294.03				MinPt-CtCt
155.99	141.42	<b>61.38</b>	14.57	1.66	OSF1.50	9450.00	9334.03				MinPt-EOU
156.41	141.97	61.44	<b>14.44</b>	1.65	OSF1.50	9470.00	9354.03				MinPt-ADP
156.72	142.27	61.54	14.45	<b>1.65</b>	OSF1.50	9480.00	9364.03				MinPt-SF
409.68	124.69	326.22	284.98	4.96	OSF1.50	10070.00	9954.03	OSF>5.00			Exit Alert
922.35	277.61	736.95	644.74	5.00	OSF1.50	18700.00	10700.00	OSF<=5.00			Enter Alert
922.35	353.03	<b>686.67</b>	<b>569.32</b>	<b>3.93</b>	OSF1.50	21078.95	10700.00				MinPts

Coterra Big Iron 4-9 Fed Com 102H Rev1 kFc 22Apr25 (DefinitivePlan) - **Warning Alert**

40.01	32.39	36.72	7.62	19.37	MAS = 9.87 (m)	0.00	0.00	CtCt<=15.00m			Enter Alert
39.99	32.39	36.71	7.60	19.35	MAS = 9.87 (m)	23.00	23.00				WRP
<b>39.99</b>	32.39	31.53	<b>7.60</b>	5.39	MAS = 9.87 (m)	750.00	750.00				MinPts
40.13	32.39	<b>31.39</b>	7.74	5.21	MAS = 9.87 (m)	780.00	780.00				MinPt-EOU
43.30	32.39	33.81	10.90	<b>4.98</b>	MAS = 9.87 (m)	890.00	890.00				MinPt-SF
48.96	32.39	38.63	16.57	5.13	MAS = 9.87 (m)	980.00	980.00	CtCt>15.00m			Exit Alert
207.75	63.10	165.35	144.64	4.99	OSF1.50	4090.00	4023.98	OSF<=5.00			Enter Alert
236.84	88.57	177.46	148.27	<b>4.04</b>	OSF1.50	5610.00	5499.06				MinPt-SF
324.94	98.54	258.92	226.40	4.98	OSF1.50	6230.00	6114.03	OSF>5.00			Exit Alert
376.99	113.88	300.75	263.12	5.00	OSF1.50	7410.00	7294.03	OSF<=5.00			Enter Alert
377.08	134.64	<b>286.99</b>	242.44	4.22	OSF1.50	8910.00	8794.03				MinPt-EOU
377.18	134.77	287.01	<b>242.41</b>	4.22	OSF1.50	8920.00	8804.03				MinPt-ADP
378.96	135.71	288.16	243.25	<b>4.21</b>	OSF1.50	8990.00	8874.03				MinPt-SF
459.61	138.63	366.86	320.98	5.00	OSF1.50	9420.00	9304.03	OSF>5.00			Exit Alert
<b>1377.84</b>	98.91	1311.58	1278.94	21.09	OSF1.50	11424.94	10700.00				MinPt-CtCt
<b>1378.00</b>	356.67	1139.90	1021.34	5.81	OSF1.50	21070.00	10700.00				MinPt-CtCt
1378.01	356.93	<b>1139.72</b>	<b>1021.07</b>	<b>5.80</b>	OSF1.50	21078.95	10700.00				MinPts

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
Coterra Big Iron 4-9 Fed Com 701H Rev1 kFc 22Apr25 (DefinitivePlan) - Warning Alert												
99.99	32.81	96.70	67.18	49.35	MAS = 10.00 (m)	0.00	0.00					Surface
99.98	32.81	96.69	67.17	49.34	MAS = 10.00 (m)	23.00	23.00					WRP
99.98	32.81	91.13	67.17	13.05	MAS = 10.00 (m)	790.00	790.00					MinPt-EOU
82.31	32.81	64.85	49.51	4.93	MAS = 10.00 (m)	1700.00	1699.45	OSF<=5.00				Enter Alert
42.51	32.81	22.04	9.71	2.13	MAS = 10.00 (m)	1998.53	1994.18					MinPts
42.52	32.81	22.02	9.71	2.13	MAS = 10.00 (m)	2000.00	1995.62					MinPt-EOU
42.64	32.81	22.04	9.84	2.12	MAS = 10.00 (m)	2010.00	2005.40					MinPt-SF
111.73	34.89	88.13	76.83	4.90	OSF1.50	2330.00	2316.23	OSF>5.00				Exit Alert
1093.78	152.14	992.02	941.64	10.84	OSF1.50	10230.00	10114.02					MinPts
1097.26	152.98	994.94	944.28	10.82	OSF1.50	10340.00	10223.05					MinPt-SF
1725.18	370.29	1477.99	1354.89	7.00	OSF1.50	21078.95	10700.00					MinPts
Coterra Big Iron 4-9 Fed Com 101H Rev1 kFc 22Apr25 (DefinitivePlan) - Warning Alert												
134.14	32.81	130.86	101.34	66.42	MAS = 10.00 (m)	0.00	0.00					Surface
134.14	32.81	130.86	101.34	66.42	MAS = 10.00 (m)	23.00	23.00					WRP
134.14	32.81	125.29	101.34	17.55	MAS = 10.00 (m)	790.00	790.00					MinPt-EOU
95.01	32.81	75.05	62.21	4.95	MAS = 10.00 (m)	1950.00	1946.63	OSF<=5.00				Enter Alert
65.12	34.73	41.64	30.40	2.85	OSF1.50	2281.34	2269.01					MinPt-CiCt
65.17	34.86	41.60	30.31	2.84	OSF1.50	2290.00	2277.41					MinPts
65.59	35.17	41.81	30.42	2.83	OSF1.50	2310.00	2296.82					MinPt-SF
133.14	40.67	105.70	92.47	5.00	OSF1.50	2710.00	2684.95	OSF>5.00				Exit Alert
934.65	132.49	846.00	802.16	10.65	OSF1.50	8900.00	8784.03					MinPt-EOU
934.71	132.55	846.01	802.16	10.65	OSF1.50	8910.00	8794.03					MinPt-ADP
936.18	132.94	847.23	803.24	10.63	OSF1.50	8990.00	8874.03					MinPt-SF
1849.23	359.36	1609.33	1489.87	7.74	OSF1.50	21078.95	10700.00					MinPts
Coterra Big Iron 4-9 Fed Com 201H Rev1 kFc 22Apr25 (DefinitivePlan) - Warning Alert												
116.60	32.81	113.31	83.79	57.65	MAS = 10.00 (m)	0.00	0.00					Surface
116.60	32.81	113.31	83.79	57.65	MAS = 10.00 (m)	23.00	23.00					WRP
116.60	32.81	107.74	83.79	15.24	MAS = 10.00 (m)	790.00	790.00					MinPt-EOU
89.77	32.81	70.92	56.96	4.97	MAS = 10.00 (m)	1840.00	1838.27	OSF<=5.00				Enter Alert
66.95	32.81	45.84	34.14	3.28	MAS = 10.00 (m)	2060.73	2054.89					MinPts
67.02	32.81	45.81	34.21	3.27	MAS = 10.00 (m)	2070.00	2063.91					MinPt-EOU
67.26	32.81	45.95	34.45	3.26	MAS = 10.00 (m)	2080.00	2073.63					MinPt-SF
113.34	34.90	89.74	78.44	4.97	OSF1.50	2330.00	2316.23	OSF>5.00				Exit Alert
1144.54	137.99	1052.22	1006.55	12.52	OSF1.50	9350.00	9234.03					MinPt-EOU
1144.67	138.13	1052.25	1006.54	12.51	OSF1.50	9370.00	9254.03					MinPt-ADP
1149.67	139.46	1056.37	1010.21	12.44	OSF1.50	9580.00	9464.03					MinPt-SF
1580.00	360.58	1339.28	1219.42	6.59	OSF1.50	21078.95	10700.00					MinPts
Coterra Big Iron 4-9 Fed Com 801H (DefinitivePlan) - Warning Alert												
126.48	32.81	123.19	93.67	62.59	MAS = 10.00 (m)	0.00	0.00					Surface
126.47	32.81	123.18	93.66	62.58	MAS = 10.00 (m)	23.00	23.00					WRP
126.47	32.81	117.62	93.66	16.55	MAS = 10.00 (m)	790.00	790.00					MinPt-EOU
108.76	33.42	86.15	75.34	4.98	OSF1.50	2190.00	2180.38	OSF<=5.00				Enter Alert
101.22	41.71	73.09	59.51	3.69	OSF1.50	2677.97	2653.87					MinPt-CiCt
102.08	44.33	72.20	57.75	3.50	OSF1.50	2840.00	2811.09					MinPt-EOU
103.13	45.58	72.41	57.55	3.44	OSF1.50	2920.00	2888.71					MinPt-ADP
110.45	50.06	76.75	60.40	3.35	OSF1.50	3220.00	3179.81					MinPt-SF
248.20	152.27	146.35	95.93	2.45	OSF1.50	10215.66	10099.69					MinPt-CiCt
248.24	152.38	146.33	95.86	2.45	OSF1.50	10230.00	10114.02					MinPts
248.46	152.54	146.44	95.92	2.45	OSF1.50	10250.00	10134.01					MinPt-SF
542.75	164.41	432.81	378.34	4.97	OSF1.50	10965.66	10653.12	OSF>5.00				Exit Alert
1719.20	363.06	1476.83	1356.14	7.12	OSF1.50	21078.95	10700.00					MinPts
Coterra Big Iron 4-9 Fed Com 221H (DefinitivePlan) - Warning Alert												
119.99	32.81	116.70	87.18	59.34	MAS = 10.00 (m)	0.00	0.00					Surface
119.98	32.81	116.69	87.17	59.33	MAS = 10.00 (m)	23.00	23.00					WRP
119.98	32.81	111.13	87.17	15.69	MAS = 10.00 (m)	790.00	790.00					MinPt-EOU
119.98	32.81	105.44	87.17	8.78	MAS = 10.00 (m)	1400.00	1400.00					MinPts
120.71	32.81	104.51	87.91	7.87	MAS = 10.00 (m)	1570.00	1569.90					MinPt-EOU
131.20	32.81	111.93	98.39	7.12	MAS = 10.00 (m)	1880.00	1877.76					MinPt-SF
154.16	32.81	132.66	121.35	7.46	MAS = 10.00 (m)	2100.00	2093.06					MinPt-SF
611.22	147.17	512.78	464.05	6.26	OSF1.50	10060.00	9944.03					MinPts
611.28	147.20	512.81	464.07	6.26	OSF1.50	10070.00	9954.03					MinPt-SF
799.19	130.52	711.84	668.66	9.24	OSF1.50	11880.00	10700.00					MinPt-CiCt
799.29	240.71	638.49	558.59	5.00	OSF1.50	16950.00	10700.00	OSF<=5.00				Enter Alert
799.38	362.49	557.39	436.89	3.31	OSF1.50	21078.95	10700.00					MinPts
Coterra Big Iron 4-9 Fed Com 601H (DefinitivePlan) - Warning Alert												
121.63	32.81	118.35	88.83	60.16	MAS = 10.00 (m)	0.00	0.00					Surface
121.63	32.81	118.35	88.82	60.16	MAS = 10.00 (m)	23.00	23.00					WRP
121.63	32.81	112.78	88.82	15.90	MAS = 10.00 (m)	790.00	790.00					MinPt-EOU
121.54	32.81	105.38	88.73	7.94	MAS = 10.00 (m)	1565.06	1564.97					MinPts
122.03	32.81	104.54	89.22	7.34	MAS = 10.00 (m)	1700.00	1699.45					MinPt-EOU
156.32	39.45	129.70	116.88	6.06	OSF1.50	2600.00	2578.21					MinPt-SF
433.89	130.87	346.32	303.02	5.00	OSF1.50	8750.00	8634.03	OSF<=5.00				Enter Alert
433.89	152.15	332.13	281.74	4.30	OSF1.50	10215.66	10099.69					MinPt-CiCt
433.94	152.26	332.10	281.68	4.29	OSF1.50	10230.00	10114.02					MinPts
434.55	152.57	332.51	281.98	4.29	OSF1.50	10270.00	10153.95					MinPt-SF
521.92	157.85	416.36	364.07	4.98	OSF1.50	10710.00	10534.94	OSF>5.00				Exit Alert
782.87	141.45	688.24	641.42	8.35	OSF1.50	11290.00	10699.56					MinPt-SF
800.54	241.04	639.51	559.49	5.00	OSF1.50	16570.00	10700.00	OSF<=5.00				Enter Alert
800.69	370.49	553.37	430.20	3.25	OSF1.50	21078.95	10700.00					MinPts
30-025-22359 - DON-STATE 1 - INC Only to 10260ft - P (DefinitiveSurvey) - Warning Alert												
11211.10	32.81	11207.71	11178.29	7925.20	MAS = 10.00 (m)	0.00	0.00					Surface
11210.86	32.81	11207.47	11178.05	7921.23	MAS = 10.00 (m)	23.00	23.00					WRP
11210.36	65.92	11165.83	11144.45	262.06	OSF1.50	1400.00	1400.00					MinPt-CiCt
2090.81	629.49	1670.65	1461.33	4.99	OSF1.50	19780.00	10700.00	OSF<=5.00				Enter Alert

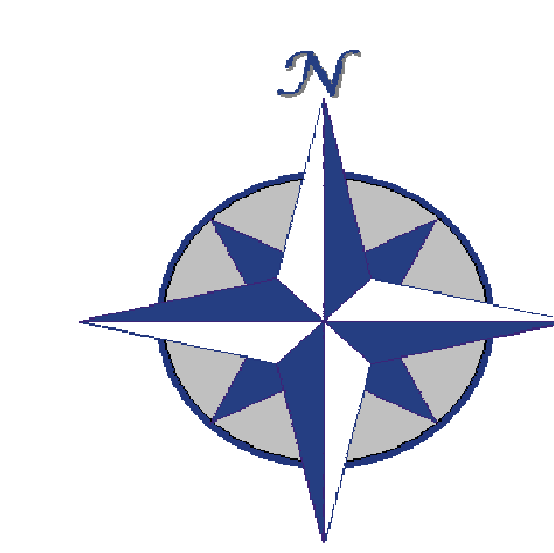
Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
	842.37	586.96	450.56	255.41	2.15	OSF1.50	21078.95	10700.00				MinPts
30-025-23475 - PIPELINE-FEDERAL 1 - INC Only to 14870ft - P (DefinitiveSurvey) - Warning Alert												
4551.26	32.81	4547.87	4518.45	3216.52	MAS = 10.00 (m)		0.00	0.00				Surface
4551.03	32.81	4547.64	4518.23	3215.29	MAS = 10.00 (m)		23.00	23.00				WRP
4550.91	68.77	4504.48	4482.14	101.83	OSF1.50	1400.00	1400.00					MinPt-CiCt
4563.86	109.19	4490.48	4454.67	63.70	OSF1.50	2120.00	2112.46					MinPt-EOU
4690.94	261.53	4516.00	4429.41	27.08	OSF1.50	4560.00	4480.02					MinPt-ADP
2202.23	662.52	1760.06	1539.72	4.99	OSF1.50	13410.00	10700.00	OSF<=5.00				Enter Alert
1219.58	668.89	773.15	550.69	2.74	OSF1.50	15243.70	10700.00					MinPts
1219.59	668.91	773.15	550.68	2.74	OSF1.50	15250.00	10700.00					MinPts
2212.73	667.13	1767.48	1545.60	4.98	OSF1.50	17090.00	10700.00	OSF>5.00				Exit Alert
5961.33	666.31	5516.62	5295.02	13.45	OSF1.50	21078.95	10700.00					TD
30-025-32963 - BOBWHITE 'SV' FEDERAL 1 - INC Only to 14578ft - A (DefinitiveSurvey) - Warning Alert												
2885.02	32.81	2881.63	2852.21	2038.52	MAS = 10.00 (m)		0.00	0.00				Surface
2884.75	32.81	2881.35	2851.94	2037.49	MAS = 10.00 (m)		23.00	23.00				WRP
2884.66	78.61	2831.66	2806.04	56.27	OSF1.50	1400.00	1400.00					MinPt-CiCt
2892.04	103.77	2822.27	2788.26	42.50	OSF1.50	1800.00	1798.70					MinPt-EOU
2899.88	113.18	2823.84	2786.70	39.02	OSF1.50	1970.00	1966.25					MinPt-ADP
2944.21	150.70	2843.16	2793.51	29.63	OSF1.50	2590.00	2568.51					MinPt-ADP
2993.51	206.59	2855.19	2786.91	21.91	OSF1.50	3180.00	3149.99					MinPt-ADP
2340.96	704.17	1871.01	1636.79	4.99	OSF1.50	11820.00	10700.00	OSF<=5.00				Enter Alert
1576.14	706.45	1104.67	869.69	3.35	OSF1.50	13550.86	10700.00					MinPts
1576.17	706.47	1104.69	869.70	3.35	OSF1.50	13560.00	10700.00					MinPt-SF
2354.51	707.98	1882.02	1646.53	5.00	OSF1.50	15300.00	10700.00	OSF>5.00				Exit Alert
7691.32	708.86	7218.24	6982.45	16.31	OSF1.50	21078.95	10700.00					TD
30-025-24626 - PIPELINE STATE 1 - INC Only to 13716ft - P (DefinitiveSurvey) - Warning Alert												
2429.09	32.81	2425.65	2396.28	1654.06	MAS = 10.00 (m)		0.00	0.00				Surface
2429.09	32.81	2425.49	2396.28	1496.65	MAS = 10.00 (m)		23.00	23.00				WRP
1998.78	601.12	1597.54	1397.67	5.00	OSF1.50	9630.00	9514.03	OSF<=5.00				Enter Alert
1998.78	650.72	1564.47	1348.07	4.61	OSF1.50	10215.66	10099.69					MinPt-CiCt
1999.75	653.64	1563.49	1346.11	4.60	OSF1.50	10250.00	10134.01					MinPt-EOU
2001.19	655.34	1563.80	1345.85	4.59	OSF1.50	10270.00	10153.95					MinPt-ADP
2018.12	663.68	1575.17	1354.44	4.57	OSF1.50	10370.00	10252.17					MinPt-SF
2297.72	692.40	1835.63	1605.33	4.99	OSF1.50	10850.00	10612.15	OSF>5.00				Exit Alert
12501.72	701.65	12033.46	11800.08	26.78	OSF1.50	21078.95	10700.00					TD
Coterra Big Iron 4-9 Fed Com 702H Rev1 kFc 22Apr25 (DefinitivePlan) - Pass												
152.29	32.81	149.00	119.48	75.49	MAS = 10.00 (m)		0.00	0.00				Surface
152.29	32.81	149.00	119.48	75.49	MAS = 10.00 (m)		23.00	23.00				WRP
152.29	32.81	146.26	119.48	31.87	MAS = 10.00 (m)	490.00	490.00					MinPts
152.42	32.81	146.04	119.61	29.66	MAS = 10.00 (m)	530.00	530.00					MinPt-EOU
236.08	32.81	222.30	203.28	18.37	MAS = 10.00 (m)	1350.00	1350.00					MinPt-SF
397.02	90.56	336.33	306.47	6.63	OSF1.50	5700.00	5587.19					MinPt-SF
536.87	156.94	431.92	379.93	5.15	OSF1.50	10630.00	10478.85					MinPt-CiCt
536.90	157.09	431.85	379.81	5.15	OSF1.50	10640.00	10486.29					MinPt-EOU
537.01	157.24	431.86	379.77	5.15	OSF1.50	10650.00	10493.61					MinPt-ADP
539.03	158.13	433.28	380.90	5.14	OSF1.50	10700.00	10528.37					MinPt-SF
1206.42	356.43	968.48	850.00	5.09	OSF1.50	21070.00	10700.00					MinPt-CiCt
1206.42	356.65	968.33	849.77	5.08	OSF1.50	21078.95	10700.00					MinPts



<b>Borehole:</b> Big Iron 4-9 Fed Com 302H	<b>Well:</b> Big Iron 4-9 Fed Com 302H	<b>Field:</b> NM Lea County (NAD 83)	<b>Structure:</b> Coterra Big Iron 4-9 Fed Com Pad (Lot 4)
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<b>Gravity &amp; Magnetic Parameters</b>		<b>Surface Location</b>		<b>NAD83 New Mexico State Plane, Eastern Zone, US Feet</b>		<b>Miscellaneous</b>	
Model: HDGM 2025	Dip: 60.455°	Date: 22-Apr-2025	Lat: N 32 41 46.77	Northing: 617896.71ftUS	Grid Conv: 0.4116°	Slot: Big Iron 4-9 Fed Com 302H	TVD Ref: RKB (3937.700 ft above MSL)
MagDec: 6.075°	FS: 47450.081nT	Gravity FS: 998.505mgn (9.80665 Based)	Lon: W 103 34 16.96	Easting: 775735.12ftUS	Scale Fact: 0.9997201	Plan: Coterra Big Iron 4-9 Fed Com 302H Rev1 kFc 22Apr25	

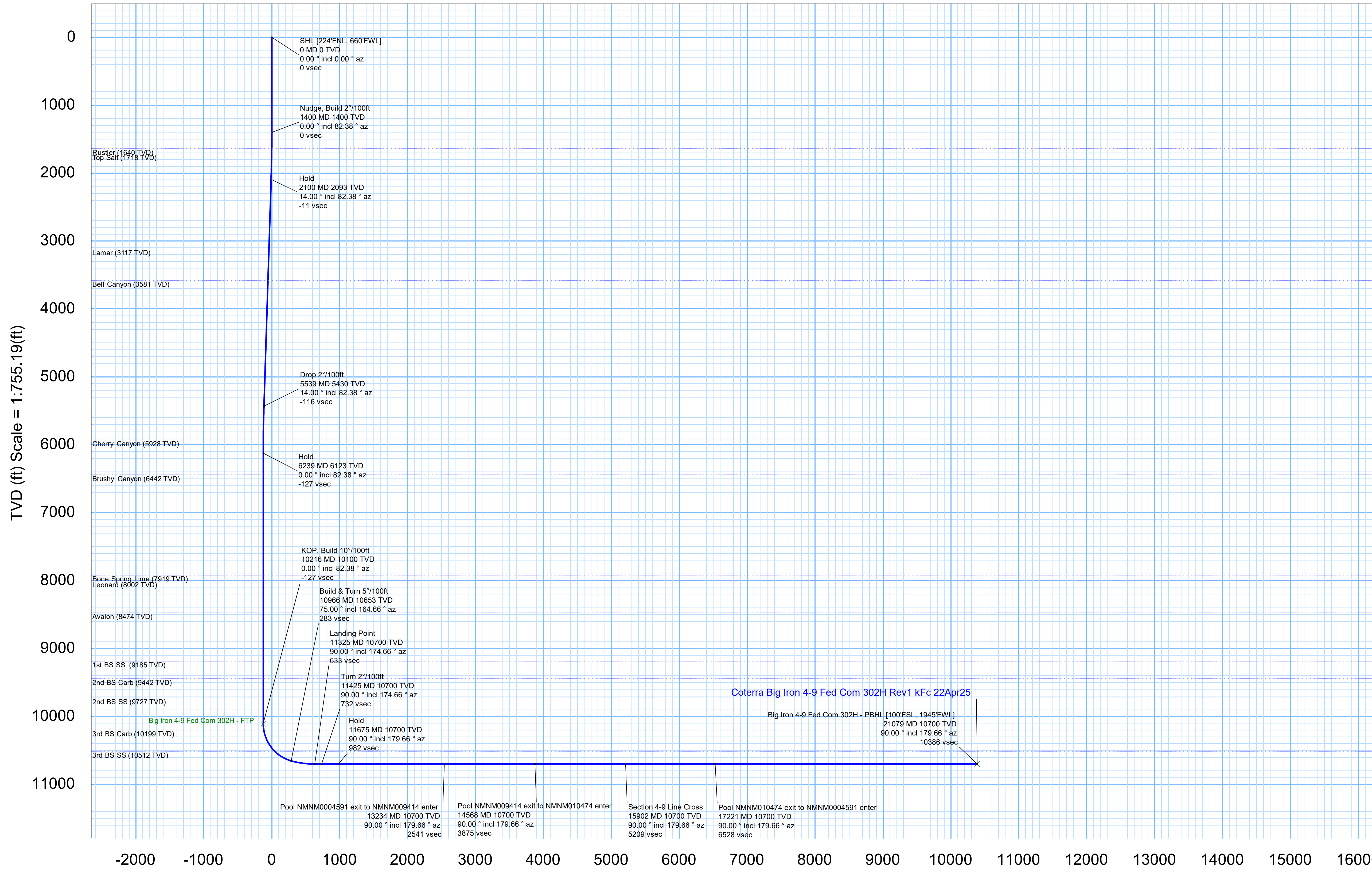
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [224°FNL, 760°FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nudge, Build 2"/100ft	1400.00	0.00	82.38	1400.00	0.00	0.00	0.00	0.00
Rustler	1640.28	4.81	82.38	1640.00	-1.28	1.34	9.98	2.00
Top Salt	1718.66	6.37	82.38	1718.00	-2.24	2.35	17.55	2.00
Hold	2099.80	14.00	82.38	2092.86	-10.78	11.28	84.30	2.00
Lamar	3155.27	14.00	82.38	3117.00	-43.12	45.12	337.31	2.00
Bell Canyon	3633.47	14.00	82.38	3581.00	-57.77	60.45	451.95	0.00
Drop 2"/100ft	5538.87	14.00	82.38	5429.83	-116.15	121.55	908.70	0.00
Cherry Canyon	6043.82	3.90	82.38	5928.00	-126.09	131.95	986.44	2.00
Hold	6238.66	0.00	82.38	6122.69	-126.93	132.82	993.00	2.00
Brushy Canyon	6557.97	0.00	82.38	6442.00	-126.93	132.82	993.00	0.00
Bone Spring Lime	8034.97	0.00	82.38	7919.00	-126.93	132.82	993.00	0.00
Leonard	8117.97	0.00	82.38	8002.00	-126.93	132.82	993.00	0.00
Avalon	8589.97	0.00	82.38	8474.00	-126.93	132.82	993.00	0.00
1st BS SS	9300.97	0.00	82.38	9185.00	-126.93	132.82	993.00	0.00
2nd BS Carb	9557.97	0.00	82.38	9442.00	-126.93	132.82	993.00	0.00
2nd BS SS	9842.97	0.00	82.38	9727.00	-126.93	132.82	993.00	0.00
KOP, Build 10"/100ft	10215.66	0.00	82.38	10099.69	-126.93	132.82	993.00	0.00
3rd BS Carb	10315.48	9.98	164.66	10199.00	-118.55	124.46	995.29	10.00
3rd BS SS	10675.89	46.02	164.66	10512.00	42.22	-36.05	1039.33	10.00
Build & Turn 5"/100ft	10965.66	75.00	164.66	10653.12	283.27	-276.71	1105.34	10.00
Landing Point	11324.94	90.00	174.66	10700.00	632.69	-625.77	1168.48	5.00
Turn 2"/100ft	11424.94	90.00	174.66	10700.00	732.31	-725.34	1177.79	0.00
Hold	11674.90	90.00	179.66	10700.00	981.96	-974.91	1190.17	2.00
Pool NNM0004591 exit to NNM009414 enter	13234.00	90.00	179.66	10700.00	2541.05	-2533.98	1199.44	0.00
Pool NNM009414 exit to NNM010474 enter	14568.00	90.00	179.66	10700.00	3875.05	-3867.96	1207.38	0.00
Section 4-9 Line Cross	15902.00	90.00	179.66	10700.00	5209.05	-5201.93	1215.31	0.00
Pool NNM010474 exit to NNM0004591 enter	17221.00	90.00	179.66	10700.00	6528.05	-6520.91	1223.15	0.00
Big Iron 4-9 Fed Com 302H - PBHL [100°FSL, 1945°FWL]	21078.95	90.00	179.66	10700.00	10386.00	-10378.79	1246.10	0.00



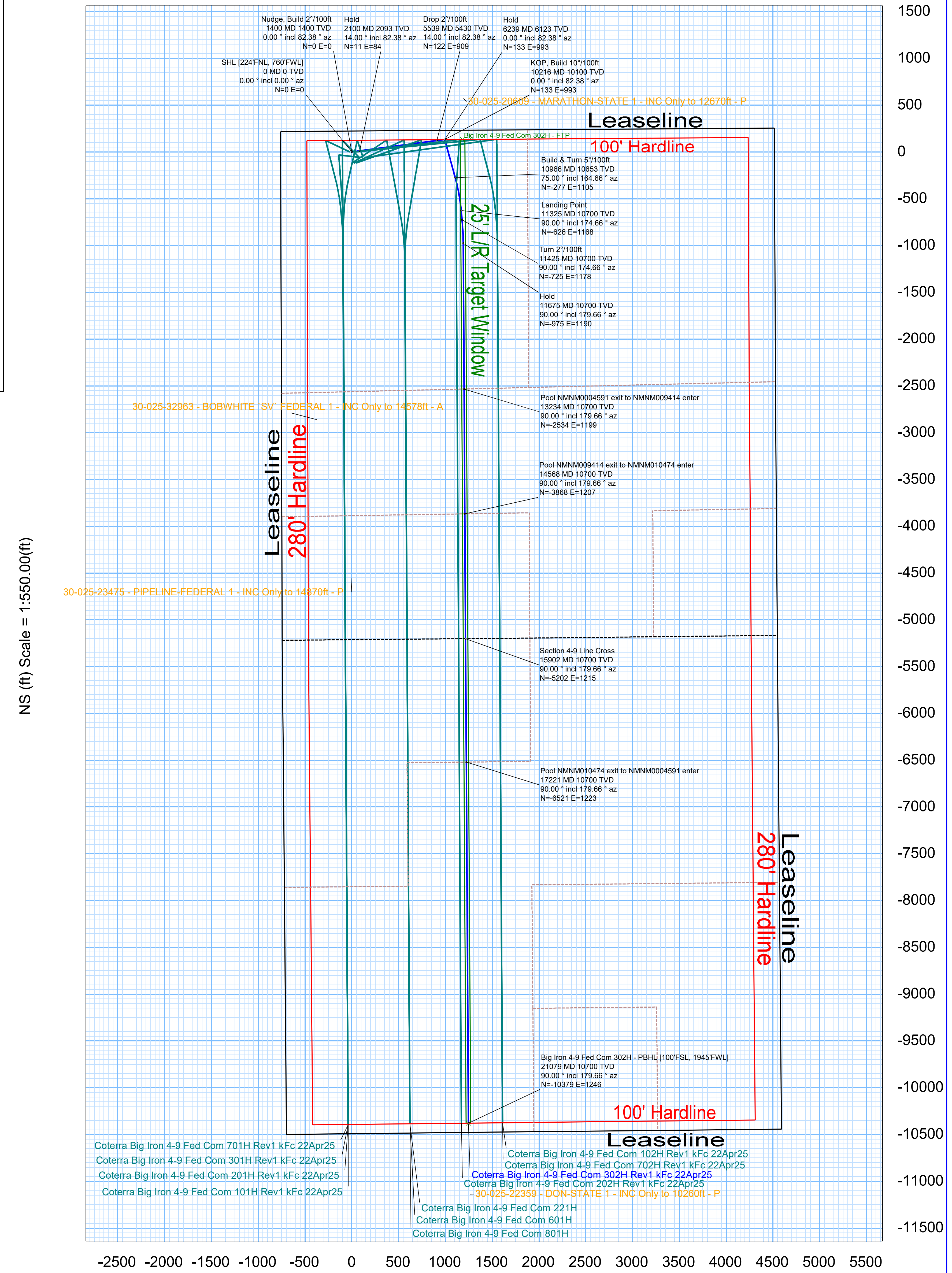
**Grid**  
True ↑  
Mag ↑

Grid North  
Tot Corr (M->G 5.663°)  
Mag Dec (6.075°)  
Grid Conv (0.412°)

<b>CONTROLLED</b>	
Plan ref	Coterra Big Iron 4-9 Fed Com 302H Rev1 kFc 22Apr25
Drawing ref	
Copy number	of 3
Date	23-Apr-2025
1 Client	
2 Client	
3 Office	
4 Office	
Copy number	for



Vertical Section (ft) Azim = 179.66° Scale = 1:755.19(ft) Origin = 0N/-S, 0E/-W



EW (ft) Scale = 1:550.00(ft)



Coterra Big Iron 4-9 Fed Com 302H Rev1 kFc 22Apr25 Proposal Geodetic Report

Def Plan

Report Date: April 23, 2025 - 08:34 PM (UTC 0)
Client: COTERRA
Field: NM Lea County (NAD 83)
Structure / Slot: Coterra Big Iron 4-9 Fed Com Pad (Lot 4) / Big Iron 4-9 Fed Com 302H
Well: Big Iron 4-9 Fed Com 302H
Borehole: Big Iron 4-9 Fed Com 302H
UBH1 / API#: Unknown / Unknown
Survey Name: Coterra Big Iron 4-9 Fed Com 302H Rev1 kFc 22Apr25
Survey Date: April 23, 2025
Tort / AHD / DDI / ERD Ratio: 125.955 \* 11535.687 ft / 6.457 / 1.078
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: 32°11'46.7745"N, 103°34'16.95916"W
Location Grid NE YK: N 817896.710 RUS, E 775735.120 RUS
CRS Grid Convergence Angle: 0.412"
Grid Scale Factor: 0.99997201(Applied)
Version / Patch: 2024.5.0.1

Def Plan
Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.660 (GRID North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3937.700 ft above MSL
Seated / Ground Elevation: 3914.700 ft above MSL
Magnetic Declination: 6.075"
Total Gravity Field Strength: 998.5045mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47450.081 nT
Magnetic Dip Angle: 60.455"
Declination Date: April 22, 2025
Magnetic Declination Model: HDGM 2025
North Reference: Grid North
Grid Convergence Used: 0.412"
Total Corr Mag North->Grid North: 5.663"
Local Coord Referenced To: Well Head

Table with columns: Comments, MD (ft), Incl (°), Azim (°), TVD (ft), TVDSS (ft), VSECC (ft), NS (ft), EW (ft), Northing (RUS), Easting (RUS), Latitude (°), Longitude (°), DLS (ft/100ft), BR (ft/100ft), TR (ft/100ft). Rows include SHL [224\FNL, 760\FWL], Nudge, Build 2"/100ft, Rustler, Top Salt, Hold, Lamar, Bell Canyon, Drop 2"/100ft, Cherry Canyon, Brushy Canyon, Bone Spring Lime, Leonard, and Avalon.

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)	DLS (ft/100ft)	BR (ft/100ft)	TR (ft/100ft)
	9,100.00	0.00	82.38	8,984.03	5,046.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	9,200.00	0.00	82.38	9,084.03	5,146.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	9,300.00	0.00	82.38	9,184.03	5,246.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
1st BS SS	9,300.97	0.00	82.38	9,185.00	5,247.30	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	9,400.00	0.00	82.38	9,284.03	5,346.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	9,500.00	0.00	82.38	9,384.03	5,446.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
2nd BS Carb	9,557.97	0.00	82.38	9,442.00	5,504.30	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	9,600.00	0.00	82.38	9,484.03	5,546.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	9,700.00	0.00	82.38	9,584.03	5,646.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	9,800.00	0.00	82.38	9,684.03	5,746.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
2nd BS SS	9,842.97	0.00	82.38	9,727.00	5,789.30	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	9,900.00	0.00	82.38	9,784.03	5,846.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	10,000.00	0.00	82.38	9,884.03	5,946.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	10,000.00	0.00	82.38	9,984.03	6,046.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	10,200.00	0.00	82.38	10,084.03	6,146.33	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
KOP, Build 10*/100ft	10,215.66	0.00	82.38	10,099.69	6,161.99	-126.93	132.82	993.00	618,029.53	776,728.09	32.69667164	-103.56814684	0.00	0.00	0.00
	10,300.00	8.43	164.66	10,183.72	6,246.02	-120.94	126.85	994.64	618,023.56	776,729.73	32.69665518	-103.56814165	10.00	10.00	0.00
3rd BS Carb	10,315.48	9.98	164.66	10,199.00	6,261.30	-118.55	124.46	995.29	618,021.17	776,730.38	32.69664861	-103.56813958	10.00	10.00	0.00
	10,400.00	18.43	164.66	10,280.86	6,343.16	-98.53	104.47	1,000.78	618,001.18	776,735.87	32.69659356	-103.56812222	10.00	10.00	0.00
	10,500.00	28.43	164.66	10,372.50	6,434.80	-80.17	66.17	1,011.28	617,962.88	776,746.37	32.69648808	-103.56808897	10.00	10.00	0.00
	10,600.00	38.43	164.66	10,465.85	6,516.15	-70.02	1,020.84	617,906.81	618,039.15	776,760.93	32.69631955	-103.56794290	10.00	10.00	0.00
3rd BS SS	10,675.89	46.02	164.66	10,512.00	6,574.30	-42.22	-38.05	1,030.33	617,860.66	776,771.41	32.69626559	-103.56800222	10.00	10.00	0.00
	10,700.00	48.43	164.66	10,528.37	6,590.67	59.31	-53.11	1,044.01	617,843.60	776,779.10	32.69615960	-103.56798541	10.00	10.00	0.00
	10,800.00	58.43	164.66	10,587.87	6,650.17	136.79	-130.47	1,065.23	617,766.24	776,800.32	32.69594657	-103.56791825	10.00	10.00	0.00
	10,900.00	68.43	164.66	10,632.54	6,694.84	223.07	-216.62	1,088.86	617,680.10	776,823.95	32.69570934	-103.56784346	10.00	10.00	0.00
Build & Turn 5*/100ft	10,965.66	75.00	164.66	10,653.12	6,715.42	283.27	-276.71	1,105.34	617,620.01	776,840.43	32.69545385	-103.56779129	10.00	10.00	0.00
	11,000.00	76.42	165.65	10,661.60	6,723.90	315.48	-308.87	1,113.87	617,587.84	776,848.95	32.69545529	-103.56776434	5.00	4.14	2.90
	11,100.00	80.58	167,681.54	10,674.81	6,745.19	411.09	-340.00	1,130.77	617,496.85	776,870.85	32.69526151	-103.56763454	5.00	4.16	2.83
	11,200.00	84.76	171.25	10,684.29	6,758.59	508.88	-501.96	1,153.19	617,398.76	776,898.76	32.69492384	-103.56751404	5.00	4.18	2.77
	11,300.00	88.95	173.98	10,699.78	6,762.08	607.86	-600.95	1,166.02	617,295.77	776,901.10	32.69465151	-103.56760169	5.00	4.19	2.73
Landing Point	11,324.94	90.00	174.66	10,700.00	6,762.00	632.69	-625.77	1,168.48	617,270.96	776,903.57	32.69458326	-103.56759425	5.00	4.20	2.72
	11,400.00	90.00	174.66	10,700.00	6,762.30	707.47	-700.50	1,175.47	617,196.23	776,910.55	32.69437772	-103.56757330	0.00	0.00	0.00
Turn 2*/100ft	11,424.94	90.00	174.66	10,700.00	6,762.30	732.31	-725.34	1,177.79	617,171.40	776,912.87	32.69430943	-103.56756634	0.00	0.00	0.00
	11,500.00	90.00	176.10	10,700.00	6,762.30	807.16	-800.15	1,183.80	617,096.58	776,918.88	32.69410388	-103.56754858	2.00	0.00	2.00
	11,600.00	90.00	176.10	10,700.00	6,762.30	907.06	-900.33	1,193.75	617,026.83	776,926.83	32.69382910	-103.56753182	2.00	0.00	2.00
Hold	11,674.90	90.00	176.86	10,700.00	6,762.30	981.96	-981.17	1,199.17	616,921.83	776,932.17	32.69362325	-103.56751505	2.00	0.00	2.00
	11,700.00	90.00	176.86	10,700.00	6,762.30	1,007.05	-1,000.01	1,190.32	616,896.73	776,925.41	32.69354288	-103.56753205	0.00	0.00	0.00
	11,800.00	90.00	176.86	10,700.00	6,762.30	1,107.05	-1,100.01	1,190.92	616,796.74	776,926.00	32.69327943	-103.56753247	0.00	0.00	0.00
	11,900.00	90.00	176.86	10,700.00	6,762.30	1,207.05	-1,200.01	1,191.51	616,696.74	776,926.60	32.69300459	-103.56753288	0.00	0.00	0.00
	12,000.00	90.00	176.86	10,700.00	6,762.30	1,307.05	-1,300.00	1,192.11	616,596.75	776,927.19	32.69272974	-103.56753330	0.00	0.00	0.00
	12,100.00	90.00	176.86	10,700.00	6,762.30	1,407.05	-1,400.00	1,192.70	616,496.75	776,927.78	32.69245490	-103.56753372	0.00	0.00	0.00
	12,200.00	90.00	176.86	10,700.00	6,762.30	1,507.05	-1,500.00	1,193.30	616,396.75	776,928.38	32.69218005	-103.56753414	0.00	0.00	0.00
	12,300.00	90.00	176.86	10,700.00	6,762.30	1,607.05	-1,600.00	1,193.89	616,296.76	776,928.97	32.69190520	-103.56753456	0.00	0.00	0.00
	12,400.00	90.00	176.86	10,700.00	6,762.30	1,707.05	-1,700.00	1,194.48	616,196.76	776,929.57	32.69163037	-103.56753498	0.00	0.00	0.00
	12,500.00	90.00	176.86	10,700.00	6,762.30	1,807.05	-1,799.99	1,195.08	616,096.77	776,930.16	32.69135552	-103.56753536	0.00	0.00	0.00
	12,600.00	90.00	176.86	10,700.00	6,762.30	1,907.05	-1,899.99	1,195.67	615,996.77	776,930.76	32.69108068	-103.56753578	0.00	0.00	0.00
	12,700.00	90.00	176.86	10,700.00	6,762.30	2,007.05	-1,999.99	1,196.27	615,896.78	776,931.35	32.69080583	-103.56753619	0.00	0.00	0.00
	12,800.00	90.00	176.86	10,700.00	6,762.30	2,107.05	-2,099.99	1,196.86	615,796.78	776,931.95	32.69053099	-103.56753660	0.00	0.00	0.00
	12,900.00	90.00	176.86	10,700.00	6,762.30	2,207.05	-2,199.99	1,197.46	615,696.79	776,932.54	32.69025614	-103.56753702	0.00	0.00	0.00
	13,000.00	90.00	176.86	10,700.00	6,762.30	2,307.05	-2,299.99	1,198.05	615,596.80	776,933.13	32.68998129	-103.56753744	0.00	0.00	0.00
	13,100.00	90.00	176.86	10,700.00	6,762.30	2,407.05	-2,399.98	1,198.65	615,496.80	776,933.73	32.68970646	-103.56753786	0.00	0.00	0.00
	13,200.00	90.00	176.86	10,700.00	6,762.30	2,507.05	-2,499.98	1,199.24	615,396.80	776,934.33	32.68943161	-103.56753828	0.00	0.00	0.00
Pool NMNM0004591 exit to NMN	13,234.00	90.00	176.86	10,700.00	6,762.30	2,541.05	-2,533.98	1,199.44	615,362.80	776,934.53	32.68933816	-103.56753840	0.00	0.00	0.00
	13,300.00	90.00	176.86	10,700.00	6,762.30	2,607.05	-2,599.98	1,199.84	615,296.81	776,934.92	32.68915677	-103.56753867	0.00	0.00	0.00
	13,400.00	90.00	176.86	10,700.00	6,762.30	2,707.05	-2,699.98	1,200.43	615,196.81	776,935.52	32.68888192	-103.56753909	0.00	0.00	0.00
	13,500.00	90.00	176.86	10,700.00	6,762.30	2,807.05	-2,799.98	1,201.03	615,096.82	776,936.11	32.68860708	-103.56753950	0.00	0.00	0.00
	13,600.00	90.00	176.86	10,700.00	6,762.30	2,907.05	-2,899.98	1,201.63	614,996.82	776,936.70	32.68833222	-103.56753992	0.00	0.00	0.00
	13,700.00	90.00	176.86	10,700.00	6,762.30	3,007.05	-2,999.97	1,202.22	614,896.83	776,937.30	32.68805739	-103.56754033	0.00	0.00	0.00
	13,800.00	90.00	176.86	10,700.00	6,762.30	3,107.05	-3,099.97	1,202.81	614,796.83	776,937.89	32.68778254	-103.56754074	0.00	0.00	0.00
	13,900.00	90.00	176.86	10,700.00	6,762.30	3,207.05	-3,199.97	1,203.40	614,696.84	776,938.49	32.68750770	-103.56754115	0.00	0.00	0.00
	14,000.00	90.00	176.86	10,700.00	6,762.30	3,307.05	-3,299.97	1,204.00	614,596.84	776,939.08	32.68723286	-103.56754156	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)	DLS (*/100ft)	BR (*/100ft)	TR (*/100ft)
	20,600.00	90.00	179.66	10,700.00	6,762.30	9,907.05	-9,899.85	1,243.25	607,997.16	776,978.33	32.66909309	-103.56756880	0.00	0.00	0.00
	20,700.00	90.00	179.66	10,700.00	6,762.30	10,007.05	-9,999.85	1,243.84	607,897.16	776,978.93	32.66881825	-103.56756921	0.00	0.00	0.00
	20,800.00	90.00	179.66	10,700.00	6,762.30	10,107.05	-10,099.85	1,244.44	607,797.16	776,979.52	32.66854340	-103.56756962	0.00	0.00	0.00
	20,900.00	90.00	179.66	10,700.00	6,762.30	10,207.05	-10,199.85	1,245.03	607,697.17	776,980.12	32.66826856	-103.56757003	0.00	0.00	0.00
	21,000.00	90.00	179.66	10,700.00	6,762.30	10,307.05	-10,299.84	1,245.63	607,597.17	776,980.71	32.66799371	-103.56757044	0.00	0.00	0.00
Big Iron 4-9 Fed Com 302H - PBI	21,078.95	90.00	179.66	10,700.00	6,762.30	10,386.00	-10,378.79	1,246.10	607,518.23	776,981.18	32.66777672	-103.56757077	0.00	0.00	0.00

Survey Type: Def Plan

Survey Error Model: ISCSA0 3 - D 95 % Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	10,200.000	1/100,000 - 12.25 - 8.75 - 6 - 9.625 - 7 - 4.5				A001Mb_MWD		Big Iron 4-9 Fed Com 302H / Coterra Big Iron 4-9 F
	1	10,200.000	21,086.262	1/100,000	6	4.5		A008Mb_MWD+IFR1+MS		Big Iron 4-9 Fed Com 302H / Coterra Big Iron 4-9 F

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
898.600	17.500	13.375	
4,888.322	12.250	9.625	
9,014.574	8.750	7.000	
21,078.948	6.000	4.500	

**1. Geological Formations**

TVD of target 10,700  
MD at TD 21,099

Pilot Hole TD N/A  
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1640	N/A	
Top of Salt	1718	N/A	
Base of Salt/Lamar	3117	N/A	
Top Delaware Sands/Bell Canyon	3581	N/A	
Cherry Canyon	5928	N/A	
Brushy Canyon	6442	N/A	
Bone Spring Lime	7919	N/A	
Leonard	8002	N/A	
Avalon	8474	N/A	
1st Bone Spring Sand	9185	Hydrocarbons	
2nd Bone Spring Shale	9442	Hydrocarbons	
2nd Bone Spring Sand	9727	Hydrocarbons	
3rd Bone Spring Carb	10199	Hydrocarbons	
3rd Bone Spring Sand	10512	Hydrocarbons	
3rd Bone Spring Sand - Target	10700	Hydrocarbons	

**2. Casing Program**

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1690	1690	13-3/8"	54.50	J-55	BT&C	1.55	3.76	9.26
12 1/4	0	3157	3157	9-5/8"	40.00	HCK-55	LT&C	2.28	2.36	4.44
8 3/4	0	10216	10216							
8 3/4	10216	21079	10700	5-1/2"	20.00	P-110	BT&C	2.02	2.24	66.22
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.  
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

## Cimarex Energy Co., Big Iron 4-9 Fed Com 302H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N
Is AC Report included?	Y

**3. Cementing Program**

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	819	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	219	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	536	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	185	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production						
	3161	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface		45
Intermediate		58
Production	2957	25

Cimarex request the ability to perform casing integrity tests after plug bump of cement job.

**4. Pressure Control Equipment**

A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	10M	Annular	X	100% of working pressure
			Blind Ram		10M
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	10M	Annular	X	100% of working pressure
			Blind Ram		10M
			Pipe Ram	X	
			Double Ram	X	
			Other		

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
X	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?

**5. Mud Program**

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1690'	Fresh Water	7.80 - 8.30	28	N/C
1690' to 3157'	Brine Water	9.70 - 10.20	30-32	N/C
3157' to 21079'	Water Based Mud	9.40 - 9.90	40-80	N/C

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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**6. Logging and Testing Procedures**

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

Additional Logs Planned	Interval
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**7. Drilling Conditions**

Condition	
BH Pressure at deepest TVD	5508 psi
Abnormal Temperature	No

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
X	H2S is present
X	H2S plan is attached

**8. Other Facets of Operation**

**9. Wellhead**

1. The multi-bowl wellhead will be installed by a vendor representative. A copy of the installation instructions has been sent to the BLM field office.

2. A packoff will be installed after running and cementing the production casing. This packoff will be tested to 10K psi.

**BOPE Additional Information & Testing**

1. After running the first string of casing, a 10M BOP/BOPE system with 10M annular will be installed. BOPs will be tested according to Onshore Order #2. BOPE will be tested to full rated pressure (10K for all BOPE ). For the low test, the system will be tested to 250 psi.

2. All BOP equipment will be tested utilizing a conventional test plug.

3. A remote kill line is included in the BOPE system

4. All casing strings will be tested per Onshore Order #2, to 0.22 psi/ft or 1,500 psi, whichever is greater, not to exceed 70% of casing burst.

5. If well conditions dictate, conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

**Additional Well Control Notes**

1. In the event wellbore pressure encroaches to the maximum rated pressure of the annular, primary pressure control will be switched to the higher rated components (i.e., switch from annular to pipe rams) – upper pipe rams will be closed, and the annular opened in order to not exceed maximum rated pressures.

Coterra: Well Control Plan



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## Well Control Plan

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### Warning Signs of a Kick

If a kick is ever suspected, perform flow check.

While Drilling:

1. Drilling break or increase in penetration rate
2. Increase of flow
3. Pit gain
4. Flow without pumping
5. Circulating pressure decrease and/or spm increase
6. Increase in gas cutting at the shakers
7. Decrease in cuttings at shakers

While Tripping:

1. Hole not taking the proper fill on trip out of hole
2. Hole returns too much mud on trip in hole
3. Flow without pumping

While Out of the Hole:

1. Flow
2. Pit gain

### Well Control Procedures with Diverter

A TIW valve in the open position must be on the rig floor at all times.

If rotating head is installed:

1. Perform flow check.
2. If well is flowing, divert flow down flow line and through separator, before returning across shakers.
3. Swap to 10 ppg brine and circulate around. Notify superintendent.

## Coterra: Well Control Plan

4. If well becomes uncontrollable, close annular, which will open HCR to divert flow away from rig.

If rotating head is not installed:

1. Perform flow check.
2. If well is flowing uncontrollably, close annular, which will open HCR to divert flow away from rig.
3. Swap to 10 ppg brine and circulate around. Notify superintendent.
4. After 10 ppg is circulated around shut pumps off and perform flow check.

## Well Control Procedures

Coterra follows a hard shut-in procedure. Choke will be in the closed position.

### *General Well Control*

1. If in doubt, secure the well first, then inform your supervisor.
2. Never wait for approval to shut in the well.
3. Verify that the mud pump is off before you close the BOP.
4. Always check and verify the well is properly secured after shut in.
5. Always install TIW valve in the open position.
6. If TIW valve is installed and then closed, apply estimated DP shut-in pressure above valve before opening.
7. The weak link in the mud system and mud lines is the pressure relief valve or pop off valve on the mud pump.
8. Keep the TIW valve wrench in a designated location on the rig floor and in the open position.
9. Use a drill string float above the bit. Don't perforate or disable the float.
10. In the event wellbore pressure encroaches to the maximum rated pressure of the annular, primary pressure control will be switched to the higher rated components (i.e., switch from annular to pipe rams) – upper pipe rams will be closed, and the annular opened in order to not exceed maximum rated pressures.

### *Hard Shut-In*

1. Remote choke is closed.
2. Stop pumping and space out.
3. Check for flow.
4. To shut in, close annular or pipe ram if no annular is present.
5. Open the HCR valve.
6. Check systems, bump float. Record Initial Shut in Drill pipe pressure and Initial shut in casing pressure.

## Coterra: Well Control Plan

### *Flow Check when on Bottom*

1. Alert crew & stop rotating
2. Pick up and space out
3. Shut down pumps
4. Observe well for flow
5. Shut-in if flowing

### *Shutting in while Drilling*

1. After flow has been detected via flow check, kill pumps, shut in well and open HCR
2. Verify well is shut-in and flow has stopped
3. Notify supervisory personnel
4. Record data
5. Begin go forward planning

### *Flow Check while Tripping*

1. Alert crew & pick up / space out
2. Stop pipe movement. Set slips with tool joint accessible at rotary table
3. Install open TIW safety valve and close valve
4. Observe well for flow
5. Shut-in if flowing

### *Shutting in while Tripping*

1. Install open TIW safety valve and close valve
2. Shut-in the well
3. Verify well is shut-in and flow has stopped
4. Install IBOP
5. Notify supervisory personnel
6. Record data; SICP, shut-in time, kick depth, and pit gain
7. Begin go forward planning

### *Shutting in while Out of Hole*

1. Sound alarm
2. Shut-in well: close blind rams.
3. Verify well is shut-in and monitor pressures.
4. Notify supervisory personnel
5. Record data; SICP, shut-in time, kick depth, and pit gain
6. Begin go forward planning

### *Information to Record while Shut-In*

1. Shut in drill pipe pressure every 5 minutes

## Coterra: Well Control Plan

2. Shut in casing pressure every 5 minutes
3. Pit gain
4. Total volume in pit system
5. Mud weight in suction pit
6. Current depth
7. Total depth
8. Time the well is shut in

*H2S with Annular Diverter:*

1. Kill Pumps, close annular, which will open HCR, to divert flow away from rig.
2. Muster and take head count.
3. Call ASSI to check location for H2S. Call Coterra superintendent.
4. After ASSI has checked for H2S the path forward will be decided from Coterra superintendent.

*H2S with BOP's:*

1. Kill pumps
2. Shut in annular with HCR open and chokes closed.
3. Muster and take head count.
4. Call ASSI to check location for H2S. Call Coterra superintendent.
5. After ASSI has checked for H2S. discuss path forward with Coterra superintendent

*Procedure for Closing Blind Rams*

- Open HCR valve (visually check that the HCR valve is open – stem in the valve is open, stem out the valve is closed).
- Verify all circulating pumps are off (mud pumps, trip tank pump, etc.)
- Ensure that the hydraulic choke is in the closed position.
- Close the blind rams and place the “blind rams closed, bleed pressure and remove hole cover before opening” sign on the console.
- Monitor the shut in casing pressure gauge periodically while the blinds are closed to ensure that wellbore pressure isn't building. If pressure build up is observed, monitor the shut in casing pressure more frequently & document. Notify rig management and Coterra representative of the pressure build up.
- Ensure that the inner bushings are locked into the master bushings if applicable.
- Install hole cover.

*Procedure for Opening Blind Rams*

- Make sure choke manifold is aligned correctly.
- Open the hydraulic choke to bleed any trapped pressure that may be under the blind rams. (Even if the casing pressure gauge is reading zero).

## Coterra: Well Control Plan

- Confirm that no flow is discharging into the trip tank or possum bellies of the shale shaker (wherever the separator is discharging into).
- Remove hole cover.
- Confirm that the inner bushing are locked into the master bushings if applicable.
- Clear all personnel from the rig floor.
- Remove sign and open blind rams.
- Return the BOPE to its original operating alignment.

### *BOP Drills*

- Drilling crews should conduct BOP drills weekly from BOP nipple up to TD for reaction time to properly simulate securing the well. Record BOP drills on that day's report.
- Standard precautions such as checking the accumulator for proper working pressure, function testing rams, and recording slow pump rates are performed on a daily basis or on trips..
- All supervisory personnel onsite need to be properly trained and currently hold certification from an approved blowout prevention school. Any deviation from this needs to be discussed prior to spud.
- Drillers should always notify the tool pusher and the drilling foreman before performing a blowout drill.

### *Choke Manifold Freeze Prevention*

- When possible, blow out the choke & kill lines as well as the choke manifold with rig air to remove water based fluids.
- When clear water is being placed into the choke & kill line as well as the choke manifold, make sure that the water has a mixture of 30% methanol added.
- When applicable, choke & kill lines as well as choke manifold needs to be pumped through with the rig pump by the driller to ensure that the lines aren't plugged with settling barite or solids.

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:** Cimarex Energy of Colorado **OGRID:** 162683 **Date:** 6/11/24

**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
Big Iron 4-9 Fed Com 301H	NWNW Sec 4 T19S, R34E	224FNL/ 760 FWL	1368	850	1540	

**IV. Central Delivery Point Name:** Big Iron CTB (New) \_\_\_\_\_ [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
Big Iron 4-9 Fed Com 301H		7/3/25	8/11/25	1/21/26	3/1/26	3/1/26

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

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

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

**Section 2 – Enhanced Plan**

**EFFECTIVE APRIL 1, 2022**

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

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

**IX. Anticipated Natural Gas Production:**

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

**X. Natural Gas Gathering System (NGGS):**

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

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

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

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

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

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

### Section 3 - Certifications

Effective May 25, 2021

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

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

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

**If Operator checks this box, Operator will select one of the following:**

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

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

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

### Section 4 - Notices

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

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

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

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

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

Signature:	<i>Shelly Bowen</i>
Printed Name:	<input type="text" value="Shelly Bowen"/>
Title:	<input type="text" value="Sr. Regulatory Analyst"/>
E-mail Address:	<input type="text" value="shelly.bowen@coterra.com"/>
Date:	6/11/24
Phone:	<input type="text" value="432/620-1644"/>

**OIL CONSERVATION DIVISION**  
**(Only applicable when submitted as a standalone form)**

Approved By:
Title:
Approval Date:
Conditions of Approval:

Big Iron   3rd Bone Spring		
Month	Big Iron 302H Gas MCFD	Big Iron 302H Oil BOPD
1	489	813
2	820	1354
3	699	1147
4	535	873
5	439	711
6	375	604
7	329	526
8	294	468
9	267	422
10	245	385
11	227	355
12	212	329
13	199	307
14	188	288
15	178	272
16	170	257
17	162	244
18	156	233
19	149	222
20	144	213
21	139	204
22	134	196
23	130	189
24	126	182
25	123	176
26	119	170
27	116	165
28	112	160
29	109	155
30	106	151
31	103	147
32	101	143
33	98	139
34	96	136
35	93	133
36	91	129



**From State of New Mexico, Natural Gas Management Plan**

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

**XEC Standard Response**

Standard facility gas process flow begins at the inlet separator. These vessels are designed based off of forecasted rates and residence times in accordance with, and often greater than, API 12J. The separated gas is then routed to an additional separation vessel (ie sales scrubber) in order to extract liquids that may have carried over or developed due to the decrease in pressure. The sales scrubber is sized based on API 521. From the sales scrubber, the gas leaves the facility and enters the gas midstream gathering network.

## **Cimarex**

### **VII. Operational Practices**

Cimarex values the sustainable development of New Mexico's natural resources. Venting and flaring of natural gas is a source of waste in the industry, and Cimarex will ensure that its values are aligned with those of NMOCD. As such, Cimarex plans to take pointed steps to ensure compliance with Subsection A through F of 19.15.27.8 NMAC.

Specifically, below are the steps Cimarex will plan to follow under routine well commissioning and operations.

1. Capture or combust natural gas during drilling operations where technically feasible, using the best industry practices and control technologies.
  - a. All flares during these operations will be a minimum of 100ft away from the nearest surface-hole location.
2. All gas present during post-completion drill-out and flow back will be routed through separation equipment, and, if technically feasible, flare unsellable vapors rather than vent. Lastly, formal sales separator commissioning to process well-stream fluids and send gas to a gas flow line/collection system or use the gas for on-site fuel or beneficial usage, gas as soon as is safe and technically feasible.
3. Cimarex will ensure the flare or combustion equipment is properly sized to handle expected flow rates, ensure this equipment is equipped with an automatic or continuous ignition source, and ensure this equipment is designed for proper combustion efficiency.
4. If Cimarex must flare because gas is not meeting pipeline specifications, Cimarex will limit flaring to <60 days, analyze gas composition at least twice per week, and route gas into a gathering pipeline as soon as pipeline specifications are met.
5. Under routine production operations, Cimarex will not flare/vent unless:
  - a. Venting or flaring occurs due to an emergency or equipment malfunction.
  - b. Venting or flaring occurs as a result of unloading practices, and an operator is onsite (or within 30 minutes of drive time and posts contact information at the wellsite) until the end of unloading practice.
  - c. The venting or flaring occurs during automated plungerlift operations, in which case the Cimarex operator will work to optimize the plungerlift system to minimize venting/flaring.
  - d. The venting or flaring occurs during downhole well maintenance, in which case Cimarex will work to minimize venting or flaring operations to the extent that it does not pose a risk to safe operations.
  - e. The well is an exploratory well, the division has approved the well as an exploratory well, venting or flaring is limited to 12 months, as approved by the division, and venting/flaring does not cause Cimarex to breach its State-wide 98% gas capture requirement.
  - f. Venting or flaring occurs because the stock tanks or other low-pressure vessels are being gauged, sampled, or liquids are being loaded out.
  - g. The venting or flaring occurs because pressurized vessels are being maintained and are being blown-down or depressurized.
  - h. Venting or flaring occurs as a result of normal dehydration unit operations.

- i. Venting or flaring occurs as a result of bradenhead testing.
  - j. Venting or flaring occurs as a result of normal compressor operations, including general compressor operations, compressor engines and turbines.
  - k. Venting or flaring occurs as a result of a packer leakage test.
  - l. Venting or flaring occurs as a result of a production test lasting less than 24 hours unless otherwise approved by the division.
  - m. Venting or flaring occurs as a result of new equipment commissioning and is necessary to purge impurities from the pipeline or production equipment.
6. Cimarex will maintain its equipment in accordance with its Operations and Maintenance Program, to ensure venting or flaring events are minimized and that equipment is properly functioning.
7. Cimarex will install automatic tank gauging equipment on all production facilities constructed after May 25, 2021, to ensure minimal emissions from tank gauging practices.
8. By November 25, 2022, all Cimarex facilities equipped with flares or combustors will be equipped with continuous pilots or automatic igniters, and technology to ensure proper function, i.e. thermocouple, fire-eye, etc...
9. Cimarex will perform AVO (audio, visual, olfactory) facility inspections in accordance with NMOCD requirements. Specifically, Cimarex will:
  - a. Perform weekly inspections during the first year of production, and so long as production is greater than 60 MCFD.
  - b. If production is less than 60 MCFD, Cimarex will perform weekly AVO inspections when an operator is present on location, and inspections at least once per calendar month with at least 20 calendar days between inspections.
10. Cimarex will measure or estimate the volume of vented, flared or beneficially used natural gas, regardless of the reason or authorization for such venting or flaring.
11. On all facilities constructed after May 25, 2021, Cimarex will install metering where feasible and in accordance with available technology and best engineering practices, in an effort to measure how much gas could have been vented or flared.
  - a. In areas where metering is not technically feasible, such as low-pressure/low volume venting or flaring applications, engineering estimates will be used such that the methodology could be independently verified.
12. Cimarex will fulfill the division's requirements for reporting and filing of venting or flaring that exceeds 50 MCF in volume or last eight hours or more cumulatively within any 24-hour period.

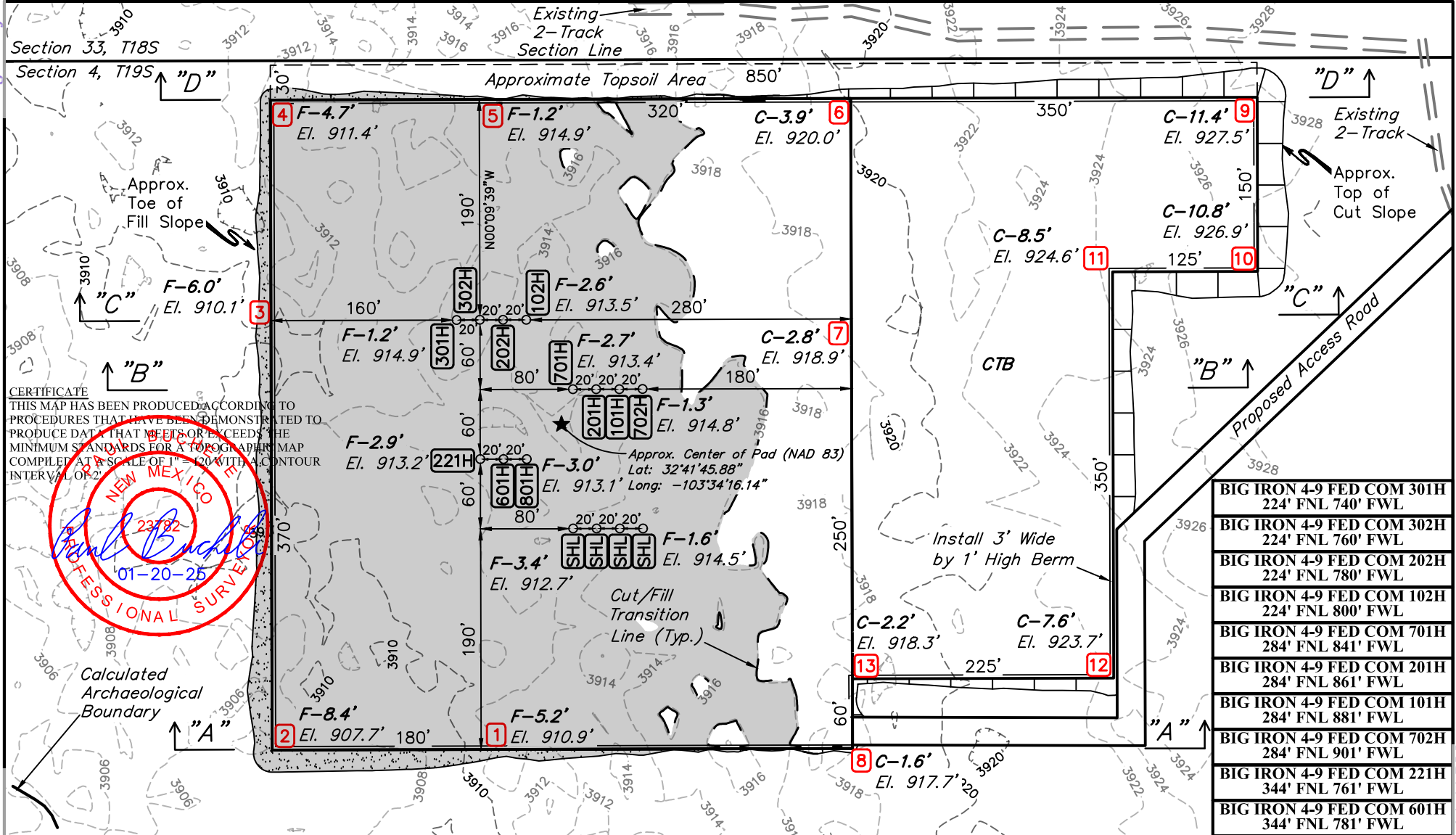
## VIII. Best Management Practices to minimize venting during active and planned maintenance

Cimarex strives to ensure minimal venting occurs during active and planned maintenance activities. Below is a description of common maintenance practices, and the steps Cimarex takes to limit venting exposure.

- **Workovers:**
  - Always strive to kill well when performing downhole maintenance.
  - If vapors or trapped pressure is present and must be relieved then:
    - Initial blowdown to production facility:
      - Route vapors to LP flare if possible/applicable
    - Blowdown to portable gas buster tank:
      - Vent to existing or portable flare if applicable.
  
- **Stock tank servicing:**
  - Minimize time spent with thief hatches open.
  - When cleaning or servicing via manway, suck tank bottoms to ensure minimal volatiles exposed to atmosphere.
    - Connect vacuum truck to low pressure flare while cleaning bottoms to limit venting.
  - Isolate the vent lines and overflows on the tank being serviced from other tanks.
  
- **Pressure vessel/compressor servicing and associated blowdowns:**
  - Route to flare where possible.
  - Blow vessel down to minimum available pressure via pipeline, prior to venting vessel.
  - Preemptively changing anodes to reduce failures and extended corrosion related servicing.
  - When cleaning or servicing via manway, suck vessel bottoms to ensure minimal volatiles exposed to atmosphere.
  
- **Flare/combustor maintenance:**
  - Minimize downtime by coordinating with vendor and Cimarex staff travel logistics.
  - Utilizing preventative and predictive maintenance programs to replace high wear components before failure.
  - Because the flare/combustor is the primary equipment used to limit venting practices, ensure flare/combustor is properly maintained and fully operational at all times via routine maintenance, temperature telemetry, onsite visual inspections.

*The Cimarex expectation is to limit all venting exposure. Equipment that may not be listed on this document is still expected to be maintained and associated venting during such maintenance minimized.*





**CERTIFICATE**  
THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO PRODUCE DATA THAT MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR A TOPOGRAPHIC MAP COMPILED AT A SCALE OF 1" = 120' WITH A CONTOUR INTERVAL OF 2'.

**NEW MEXICO**  
23782  
01-20-25  
**PROFESSIONAL SURVEYOR**

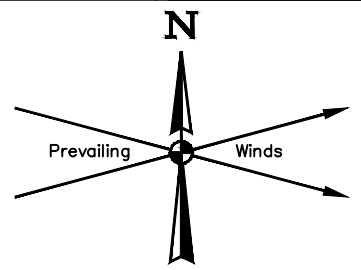
BIG IRON 4-9 FED COM 301H 224' FNL 740' FWL
BIG IRON 4-9 FED COM 302H 224' FNL 760' FWL
BIG IRON 4-9 FED COM 202H 224' FNL 780' FWL
BIG IRON 4-9 FED COM 102H 224' FNL 800' FWL
BIG IRON 4-9 FED COM 701H 284' FNL 841' FWL
BIG IRON 4-9 FED COM 201H 284' FNL 861' FWL
BIG IRON 4-9 FED COM 101H 284' FNL 881' FWL
BIG IRON 4-9 FED COM 702H 284' FNL 901' FWL
BIG IRON 4-9 FED COM 221H 344' FNL 761' FWL
BIG IRON 4-9 FED COM 601H 344' FNL 781' FWL
BIG IRON 4-9 FED COM 801H 344' FNL 801' FWL

NOTE: Earthwork Calculations Require a Fill @ some Location Stakes For Balance. All Fill is to be Compacted to a Minimum of 95% of the Maximum Dry Density Obtained by AASHTO Method t-99.

REV: 6 01-20-25 L.T.T. (ADD WELLS)

FINISHED GRADE ELEVATION = 3916.1'

- NOTES:**
- Flare pit is to be located a min. of 100' from the wellhead.
  - Contours shown at 2' intervals.
  - Cut/Fill slopes 2:1 (Typ. except where noted)
  - Underground utilities shown on this sheet are for visualization purposes only, actual locations to be determined prior to construction.
  - Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)



**CIMAREX ENERGY OF COLORADO**

**BIG IRON 4-9 FED COM W2W2**  
314' FNL 831' FWL (APPROX. CENTER OF PAD)  
LOT 4, SECTION 4, T19S, R34E, N.M.P.M.  
LEA COUNTY, NEW MEXICO

SURVEYED BY	A.H.	01-08-25	SCALE
DRAWN BY	N.D.T.	06-21-23	1" = 120'

**LOCATION LAYOUT**      **EXHIBIT J**



**UELS, LLC**  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017



CERTIFICATE OF QUALITY

LTYY/QR-5.7.1-19B

No: LT2024-156-001

Customer Name			
Product Name	Choke And Kill Hose		
Product Specification	3"×10000psi×35ft (10.67m)	Quantity	1PCS
Serial Number	VTC-7660257	FSL	FSL3
customer number	PO890145-001	Standard	API Spec 16C 3 <sup>rd</sup> edition
Temperature Range	-29℃ ~ +121℃	Inspection date	2024.09.03

Inspection Items	Inspection results
Appearance Checking	In accordance with API Spec 16C 3 <sup>rd</sup> edition
Size and Lengths	In accordance with API Spec 16C 3 <sup>rd</sup> edition
Dimensions and Tolerances	In accordance with API Spec 16C 3 <sup>rd</sup> edition
End Connections: 4-1/16"×10000psi Integral flange for sour gas service	In accordance with API Spec 6A 21 <sup>st</sup> edition
End Connections: 4-1/16"×10000psi Integral flange for sour gas service	In accordance with API Spec 17D 3 <sup>rd</sup> edition
Hydrostatic Testing	In accordance with API Spec 16C 3 <sup>rd</sup> edition
product Marking	In accordance with API Spec 16C 3 <sup>rd</sup> edition

Inspection conclusion	The inspected items meet standard requirements of API Spec 16C 3 <sup>rd</sup> edition
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Remarks	16C-0403 
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Approver	Jane C	Auditor	Alice D	Inspector	Leo W
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LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD	
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HYDROSTATIC TESTING REPORT

LTYT/QR-5.7.1-28

No: 24090301

Product Name	Choke And Kill Hose	Standard	API Spec 16C 3 <sup>rd</sup> edition
Product Specification	3"×10000psi×35ft (10.67m)	Serial Number	VTC-7660257
Inspection Equipment	MTU-BS-1600-3200-E	Test medium	Water
customer number	PO890145-001	Inspection Date	2024.08.30

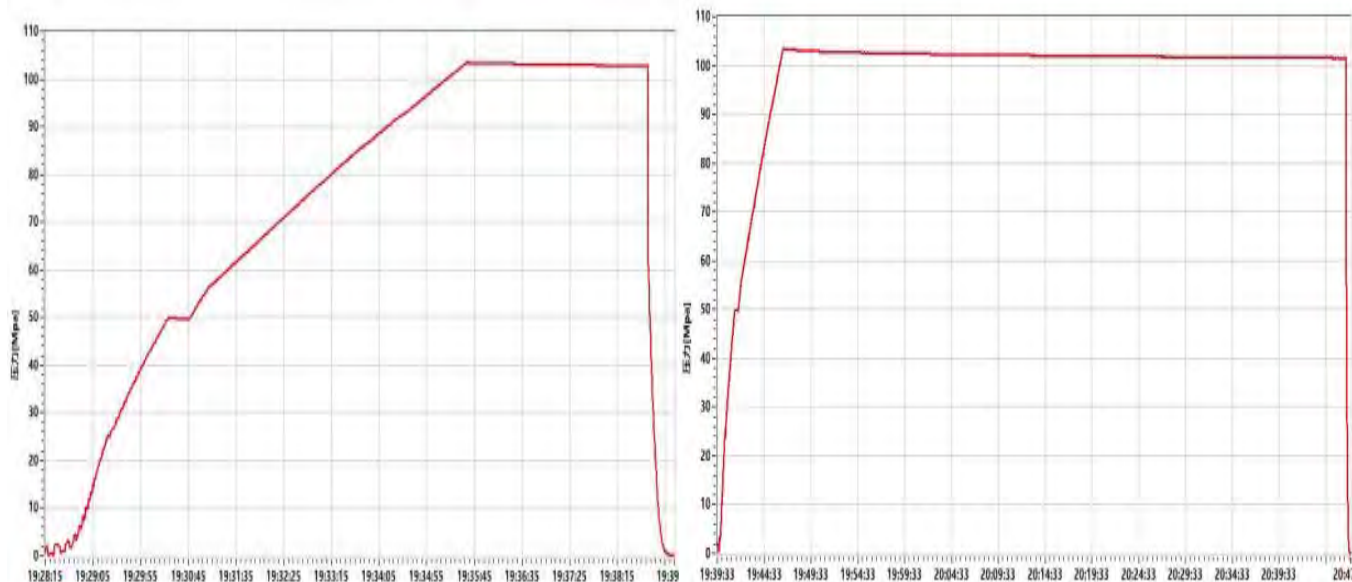
Rate of length change

Standard requirements	At working pressure ,the rate of length change should not more than ±2%
Testing result	10000psi (69.0MPa) ,Rate of length change 0.6%

Hydrostatic testing

Standard requirements	At 1.5 times working pressure, the initial pressure-holding period of not less than three minutes, the second pressure-holding period of not less than one hour, no leakage.
Testing result	15000psi (103.5MPa), 3 min for the first time, 60 min for the second time, no leakage

Graph of pressure testing:



Conclusion	The inspected items meet standard requirements of API Spec 16C 3 <sup>rd</sup> edition		16C-0403
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Approver	Jane C	Auditor	Alice D	Inspector	Leo W
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LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD	
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CERTIFICATE OF CONFORMANCE

**№:LT24090307**

Product Name: Choke And Kill Hose

Product Specification: 3"×10000psi×35ft (10.67m)

Serial Number: VTC-7660257

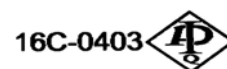
customer number: PO890145-001

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

The Choke And Kill Hose assembly was produced by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD.in Sep,2024, and inspected by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD. according to API Spec 16C 3<sup>rd</sup> edition on Sep 3, 2024. The overall condition is good. This is to certify that the Choke And Kill Hose complies with all current standards and specifications for API Spec 16C 3<sup>rd</sup> edition .

QC Manager: *Jane C*

Date:Sep 3, 2024



LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD	
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U.S. Department of the Interior  
BUREAU OF LAND MANAGEMENT

# SUPO Data Report

06/18/2025

APD ID: 10400099016

Submission Date: 06/12/2024

Highlighted data reflects the most recent changes

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: BIG IRON 4-9 FED COM

Well Number: 302H

Show Final Text

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_road\_access\_20240611083751.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: Resurfacing of existing roads and upgrades will be completed to accommodate equipment and safe general access.

Existing Road Improvement Attachment:

## Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_access\_road\_ROW\_20240611083849.pdf

BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_new\_road\_map\_20240611083848.pdf

New road type: COLLECTOR,LOCAL

Length: 1266 Feet Width (ft.): 30

Max slope (%): 0 Max grade (%): 0

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 20

New road access erosion control: Best management practices will be used for E&S controls.

New road access plan or profile prepared? Y

New road access plan

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO  
**Well Name:** BIG IRON 4-9 FED COM **Well Number:** 302H

BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_road\_access\_20240611084120.pdf

**Access road engineering design?** N

**Access road engineering design**

**Turnout?** N

**Access surfacing type:** GRAVEL

**Access topsoil source:** BOTH

**Access surfacing type description:**

**Access onsite topsoil source depth:** 4

**Offsite topsoil source description:** Onsite and offsite.

**Onsite topsoil removal process:** The topsoil shall be stripped and salvaged to provide for sufficient quantities to be respread to a depth of 4" as determined in the onsite, as needed to disturbed areas needed reclamation. Topsoil shall be stockpiled separately from subsoil materials.

**Access other construction information:** N/A

**Access miscellaneous information:** N/A

**Number of access turnouts:**

**Access turnout map:**

**Drainage Control**

**New road drainage crossing:** CULVERT

**Drainage Control comments:** Best management practices will be used for E&S controls.

**Road Drainage Control Structures (DCS) description:** Drainage structures or drainage dips will be placed in natural drainage ways.

**Road Drainage Control Structures (DCS) attachment:**

**Access Additional Attachments**

**Section 3 - Location of Existing Wells**

**Existing Wells Map?** YES

**Existing Well map Attachment:**

BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_1\_mile\_radius\_20240611084221.pdf

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

**Submit or defer a Proposed Production Facilities plan?** SUBMIT

**Production Facilities description:** CTB will be attached to well pad on the east side.

**Production Facilities map:**

BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_location\_layout\_20240611084251.pdf

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

Facility\_Layout\_Plot\_Plan\_01302024\_20240611084314.pdf

### Section 5 - Location and Types of Water Supply

#### Water Source Table

**Water source type:** OTHER

**Describe type:** Freshwater from Kenneth Smith ranch

**Water source use type:** SURFACE CASING  
INTERMEDIATE/PRODUCTION CASING

**Source latitude:** **Source longitude:**

**Source datum:**

**City:**

**Water source permit type:** PRIVATE CONTRACT

**Water source transport method:** TRUCKING

**Source land ownership:** COMMERCIAL

**Source transportation land ownership:** FEDERAL

**Water source volume (barrels):** 5000 **Source volume (acre-feet):** 0.64446548

**Source volume (gal):** 210000

#### Water source and transportation

Big\_Iron\_Water\_Source\_Map\_20240611094001.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:**

<b>Operator Name:</b> CIMAREX ENERGY COMPANY OF COLORADO	
<b>Well Name:</b> BIG IRON 4-9 FED COM	<b>Well Number:</b> 302H

<b>Drilling method:</b>	<b>Drill material:</b>
<b>Grout material:</b>	<b>Grout depth:</b>
<b>Casing length (ft.):</b>	<b>Casing top depth (ft.):</b>
<b>Well Production type:</b>	<b>Completion Method:</b>
<b>Water well additional information:</b>	
<b>State appropriation permit:</b>	
<b>Additional information attachment:</b>	

**Section 6 - Construction Materials**

**Using any construction materials:** YES

**Construction Materials description:** Caliche will be obtained from the actual well site if available. In the event that no caliche is found onsite, caliche will be hauled in from BLM-approved caliche pit in Sec 4 SWSW 19S, 34E

**Construction Materials source location**

Big\_Iron\_Caliche\_Source\_20240611093156.pdf

**Section 7 - Methods for Handling**

**Waste type:** SEWAGE

**Waste content description:** Human waste

**Amount of waste:** 300 gallons

**Waste disposal frequency :** Weekly

**Safe containment description:** Waste will be properly contained and disposed of properly at a state approved disposal facility.

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** A licensed 3rd party contractor will be used to haul and dispose human waste to City of Toyah TX waste water facility.

**Waste type:** DRILLING

**Waste content description:** Drilling Fluids, drill cuttings, water and other waste produced from the well during drilling operations.

**Amount of waste:** 15000 barrels

**Waste disposal frequency :** Weekly

**Safe containment description:** Drilling waste will be contained in appropriate secondary containment.

**Safe containmant attachment:**

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

**Disposal type description:**

<b>Operator Name:</b> CIMAREX ENERGY COMPANY OF COLORADO	
<b>Well Name:</b> BIG IRON 4-9 FED COM	<b>Well Number:</b> 302H

**Disposal location description:** Haul to R360 Environmental Solutions, 4507 Carlsbad Hwy, Hobbs, NM 88240

**Waste type:** GARBAGE

**Waste content description:** Garbage and trash produced during drilling and completion operations.

**Amount of waste:** 32500 pounds

**Waste disposal frequency :** Weekly

**Safe containment description:** A waste will be stored in appropriate and approved containment prior to disposal.

**Safe containmant attachment:**

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

**Disposal type description:**

**Disposal location description:** A licensed 3rd party hauls trash to Lea County Landfill.

**Reserve Pit**

**Reserve Pit being used?** NO

**Temporary disposal of produced water into reserve pit?** NO

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

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

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

**Reserve pit liner**

**Reserve pit liner specifications and installation description**

**Cuttings Area**

**Cuttings Area being used?** NO

**Are you storing cuttings on location?** N

**Description of cuttings location**

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

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

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

**Cuttings area liner**

**Cuttings area liner specifications and installation description**

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

### Section 8 - Ancillary

**Are you requesting any Ancillary Facilities?:** N

**Ancillary Facilities**

**Comments:**

### Section 9 - Well Site

**Well Site Layout Diagram:**

BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_reclamation\_plat\_20240611084953.pdf

**Comments:** The location showing access roads onto the pad and orientation of the rig with respect to the pad and other facilities are shown on Typical Rig Layout, Exhibit K for each well.

### Section 10 - Plans for Surface

**Type of disturbance:** New Surface Disturbance

**Multiple Well Pad Name:** Big Iron 4-9 Fed Com

**Multiple Well Pad Number:** W2W2 Pad

**Recontouring**

BIG\_IRON\_4\_9\_FED\_COM\_W2W2\_reclamation\_plat\_20240611085127.pdf

**Drainage/Erosion control construction:** Pad construction will include drainage control by re-routing drainages around the pad and installing culverts or low water crossings where needed. Erosion control techniques will be used where needed to minimize wind and water erosion and sedimentation loading prior to vegetation establishment.

**Drainage/Erosion control reclamation:** Area wide drainage will be stabilized and restored so that surface runoff flows, and gradients are returned to the condition present prior to development. Drainage basins will have similar features found in nearby, properly functioning basins.

<b>Well pad proposed disturbance (acres):</b> 7.231	<b>Well pad interim reclamation (acres):</b> 3.434	<b>Well pad long term disturbance (acres):</b> 3.79
<b>Road proposed disturbance (acres):</b> 0.808	<b>Road interim reclamation (acres):</b> 0	<b>Road long term disturbance (acres):</b> 0.808
<b>Powerline proposed disturbance (acres):</b> 0	<b>Powerline interim reclamation (acres):</b> 0	<b>Powerline long term disturbance (acres):</b> 0
<b>Pipeline proposed disturbance (acres):</b> 0	<b>Pipeline interim reclamation (acres):</b> 0	<b>Pipeline long term disturbance (acres):</b> 0
<b>Other proposed disturbance (acres):</b> 0	<b>Other interim reclamation (acres):</b> 0	<b>Other long term disturbance (acres):</b> 0
<b>Total proposed disturbance:</b> 8.039	<b>Total interim reclamation:</b> 3.434	<b>Total long term disturbance:</b> 4.598

**Disturbance Comments:** BLM recommended seed mix will be used for reclamation purposes.

**Reconstruction method:** Areas to be reclaimed will be graded to approximate original contours and to blend in with adjacent topography. Graded surfaces will be suitable for the replacement of uniform depth of topsoil, will promote cohesion between subsoil and topsoil layers, will reduce wind erosion, and will facilitate moisture capture. Specialist grading techniques may be applied if warranted and could include slope rounding, star-step grading/tracing and/or contour furrowing.

**Topsoil redistribution:** After compaction relief (ripping/discing) all topsoil will be redistributed on the

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

reclaimed area to a predisturbance depth. Topsoil is typically redistributed with a scarper or front-end loader which leaves friable surface to work with. Waterbars and erosion control devices will be installed on reclaimed areas, as necessary, to control topsoil erosion.

**Soil treatment:** As needed

**Existing Vegetation at the well pad:** N/A

**Existing Vegetation at the well pad**

**Existing Vegetation Community at the road:** N/A

**Existing Vegetation Community at the road**

**Existing Vegetation Community at the pipeline:** N/A

**Existing Vegetation Community at the pipeline**

**Existing Vegetation Community at other disturbances:** N/A

**Existing Vegetation Community at other disturbances**

**Non native seed used?** N

**Non native seed description:**

**Seedling transplant description:**

**Will seedlings be transplanted for this project?** N

**Seedling transplant description attachment:**

**Will seed be harvested for use in site reclamation?** N

**Seed harvest description:**

**Seed harvest description attachment:**

[Seed](#)

[Seed Table](#)

Seed Summary	
Seed Type	Pounds/Acre

**Total pounds/Acre:**

Seed reclamation

[Operator Contact/Responsible Official](#)

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**First Name:** Laci

**Last Name:** Luig

**Phone:** (432)425-0540

**Email:** laci.luig@coterra.com

**Seedbed prep:**

**Seed BMP:**

**Seed method:**

**Existing invasive species?** N

**Existing invasive species treatment description:**

**Existing invasive species treatment**

**Weed treatment plan description:** Weed treatment as needed.

**Weed treatment plan**

**Monitoring plan description:** Monitoring will be done in accordance with BLM reclamation guidelines.

**Monitoring plan**

**Success standards:** Success standards will be done in accordance with BLM reclamation guidelines.

**Pit closure description:** n/a

**Pit closure attachment:**

### Section 11 - Surface

**Disturbance type:** WELL PAD

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:**

**USFS Ranger District:**

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**Disturbance type:** NEW ACCESS ROAD

**Describe:**

**Surface Owner:** BUREAU OF LAND MANAGEMENT

**Other surface owner description:**

**BIA Local Office:**

**BOR Local Office:**

**COE Local Office:**

**DOD Local Office:**

**NPS Local Office:**

**State Local Office:**

**Military Local Office:**

**USFWS Local Office:**

**Other Local Office:**

**USFS Region:**

**USFS Forest/Grassland:**

**USFS Ranger District:**

**Section 12 - Other**

**Right of Way needed?** Y

**Use APD as ROW?** Y

**ROW Type(s):** 281001 ROW - ROADS

**ROW**

**SUPO Additional Information:**

**Use a previously conducted onsite?** Y

**Previous Onsite information:** Onsite completed on 2/27/2024 with Kendra Davis

**Other SUPO**



BEGINNING AT THE INTERSECTION OF STATE HIGHWAY 529 AND GEMINI LANE TO THE SOUTH (LOCATED AT NAD 83 LATITUDE 32.7177° AND LONGITUDE -103.5566°) PROCEED IN A SOUTHERLY, THEN SOUTHEASTERLY DIRECTION ALONG GEMINI LANE APPROXIMATELY 1.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY, THEN WESTERLY DIRECTION APPROXIMATELY 0.6 MILES TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY, THEN SOUTHWESTERLY, THEN SOUTHERLY, THEN WESTERLY DIRECTION APPROXIMATELY 1,305' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF STATE HIGHWAY 529 AND GEMINI LANE TO THE SOUTH (LOCATED AT NAD 83 LATITUDE 32.7177° AND LONGITUDE -103.5566°) TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 2.1 MILES.

REV: 3 04-01-24 C.S.C. (COMPANY NAME CHANGE)

**CIMAREX ENERGY OF COLORADO**

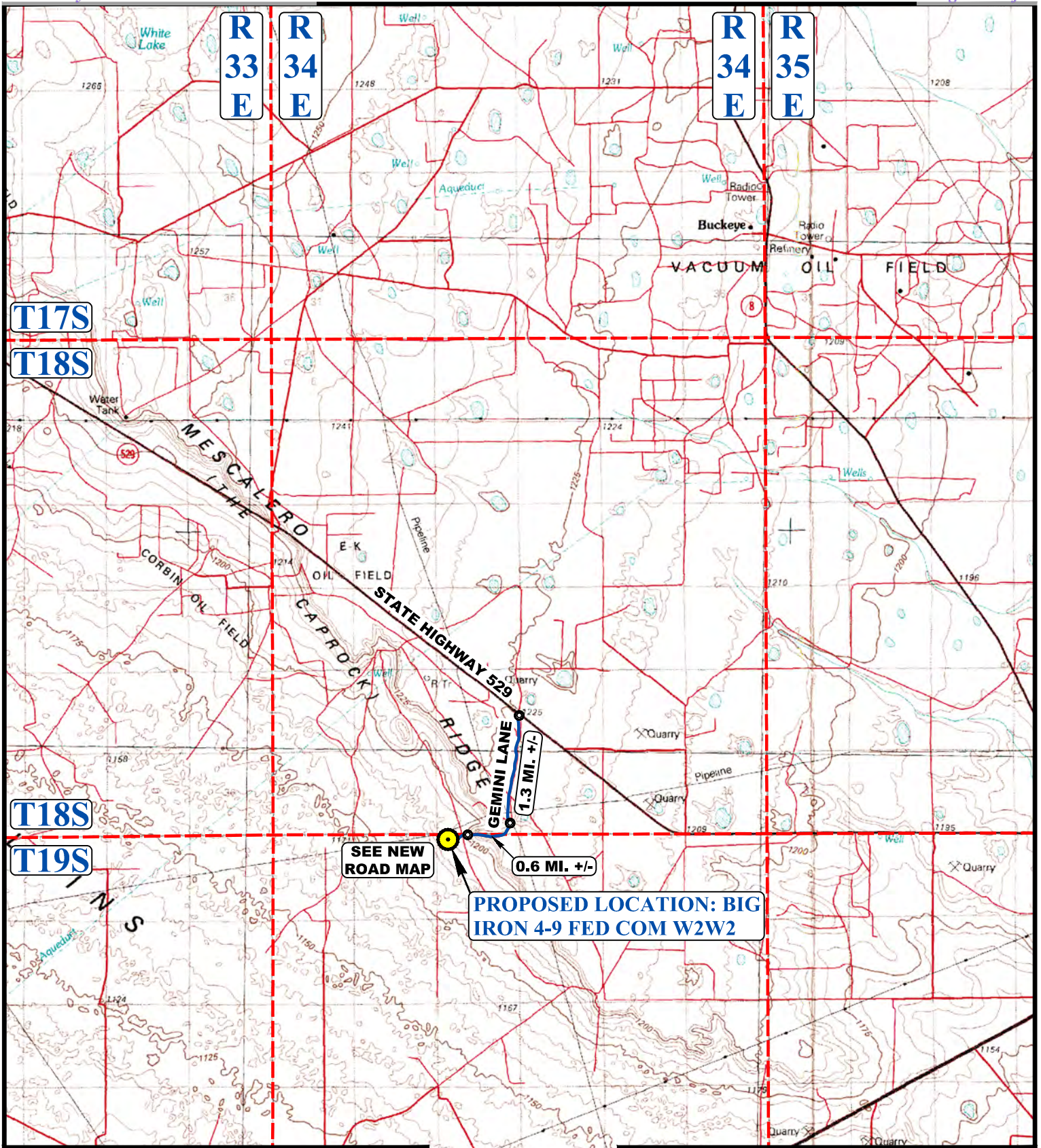
**BIG IRON 4-9 FED COM W2W2  
314' FNL 731' FWL (APPROX. CENTER OF PAD)  
LOT 4, SECTION 4, T19S, R34E, N.M.P.M.  
LEA COUNTY, NEW MEXICO**

<b>SURVEYED BY</b>	R.C., H.R.	02-28-24	
<b>DRAWN BY</b>	D.M.C.	06-26-23	
<b>ROAD DESCRIPTION</b>			<b>EXHIBIT A</b>

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MALJAMAR, NEW MEXICO IS +/- 15.7 MILES NORTHWEST

REV: 2 04-01-24 C.S.C. (COMPANY NAME CHANGE)

**LEGEND:**

 PROPOSED LOCATION



**CIMAREX ENERGY OF COLORADO**

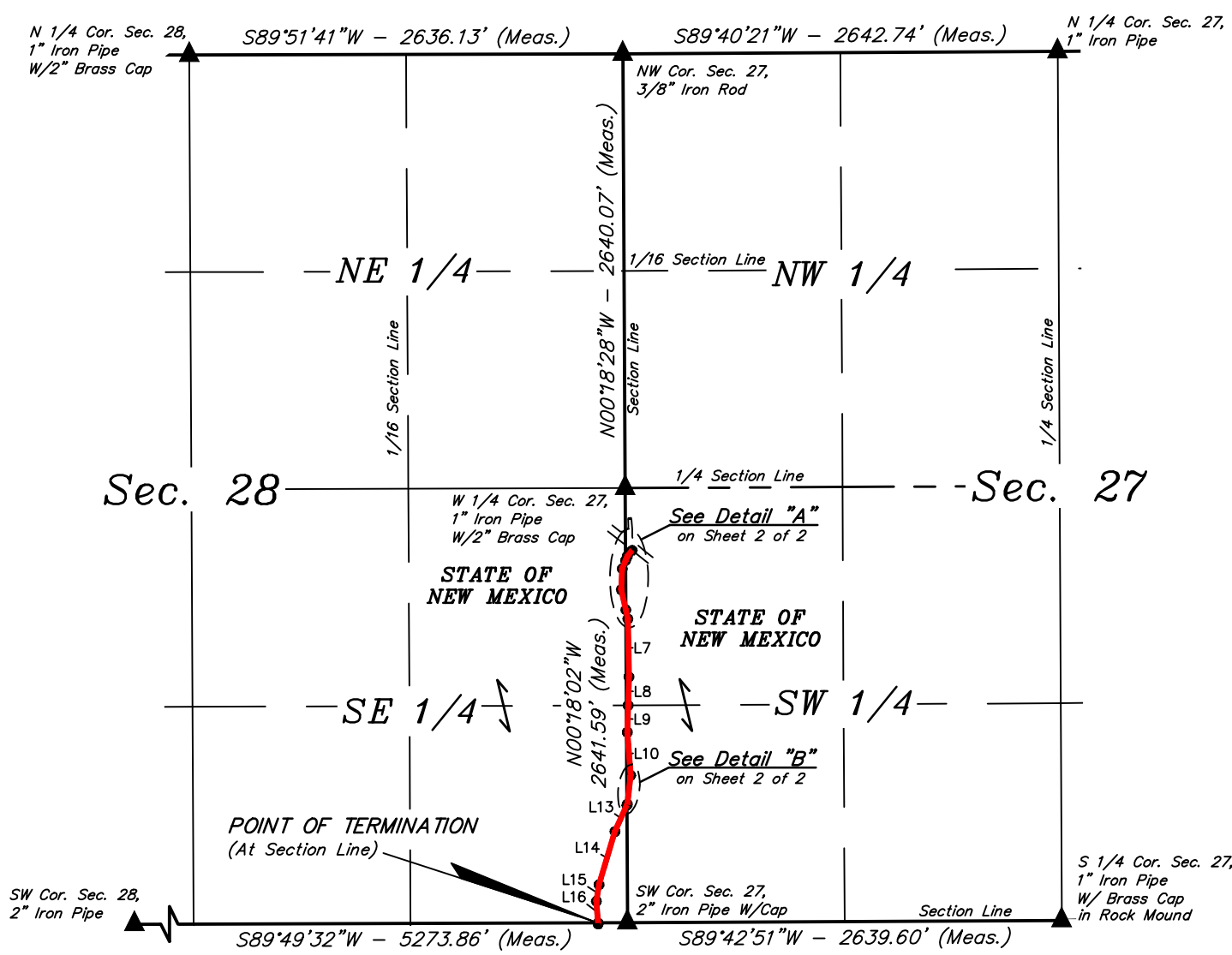
**BIG IRON 4-9 FED COM W2W2**  
314' FNL 731' FWL (APPROX. CENTER OF PAD)  
LOT 4, SECTION 4, T19S, R34E, N.M.P.M.  
LEA COUNTY, NEW MEXICO



**UELS, LLC**  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017

SURVEYED BY	R.C., H.R.	02-28-24	SCALE
DRAWN BY	D.M.C.	06-26-23	1 : 100,000

**PUBLIC ACCESS ROAD MAP EXHIBIT B**



LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S38°58'36"W	46.68'
L2	S22°11'14"W	27.85'
L3	S22°11'14"W	53.95'
L4	S02°30'15"W	127.41'
L5	S12°38'00"E	125.81'
L6	S12°38'00"E	55.98'
L7	S01°05'34"E	353.04'
L8	S01°42'18"W	173.13'
L9	S01°42'18"W	162.89'
L10	S04°34'22"E	263.47'
L11	S06°50'31"W	176.87'
L12	S24°27'27"W	6.48'
L13	S24°27'27"W	175.05'
L14	S16°35'06"W	337.96'
L15	S09°14'36"W	101.85'
L16	S04°27'36"E	131.04'

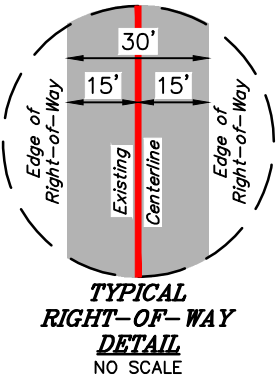
POINT OF BEGINNING BEARS S06°22'10"E 380.32' FROM THE WEST 1/4 CORNER OF SECTION 27, T18S, R34E, N.M.P.M.

P.O.S.L. #1 BEARS S00°18'02"E 440.06' FROM THE WEST 1/4 CORNER OF SECTION 27, T18S, R34E, N.M.P.M.

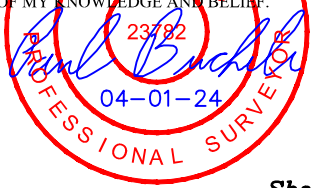
P.O.S.L. #2 BEARS S00°18'02"E 740.08' FROM THE WEST 1/4 CORNER OF SECTION 27, T18S, R34E, N.M.P.M.

P.O.S.L. #3 BEARS N00°18'02"W 713.88' FROM THE SOUTHWEST CORNER OF SECTION 27, T18S, R34E, N.M.P.M.

POINT OF TERMINATION BEARS S89°49'32"W 178.86' FROM THE SOUTHWEST CORNER OF SECTION 27, T18S, R34E, N.M.P.M.



CERTIFICATE  
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



ACREAGE / LENGTH TABLE			
LOCATION	FEET	RODS	ACRES
SEC. 27 (NW 1/4 SW 1/4)	656.68	39.80	0.439
SEC. 27 (SW 1/4 SW 1/4)	609.71	36.95	0.369
TOTAL	1266.39	76.75	0.808

▲ = SECTION CORNERS LOCATED.

REV: 1 04-01-24 C.S.C. (COMPANY NAME CHANGE)

Sheet 1 of 2

NOTES:  
Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of 103°53'00" (NAD 83)

**CIMAREX ENERGY OF COLORADO**  
BIG IRON 4-9 FED COM W2W2 EXISTING ROAD  
ON STATE OF NEW MEXICO LANDS IN  
SECTION 27, T18S, R34E, N.M.P.M.  
LEA COUNTY, NEW MEXICO

SURVEYED BY	N.R., I.A.	06-13-23	SCALE
DRAWN BY	Z.L.	03-15-24	1" = 1000'
FILE	C-7691-A1		

**ACCESS ROAD R-O-W** **EXHIBIT D**

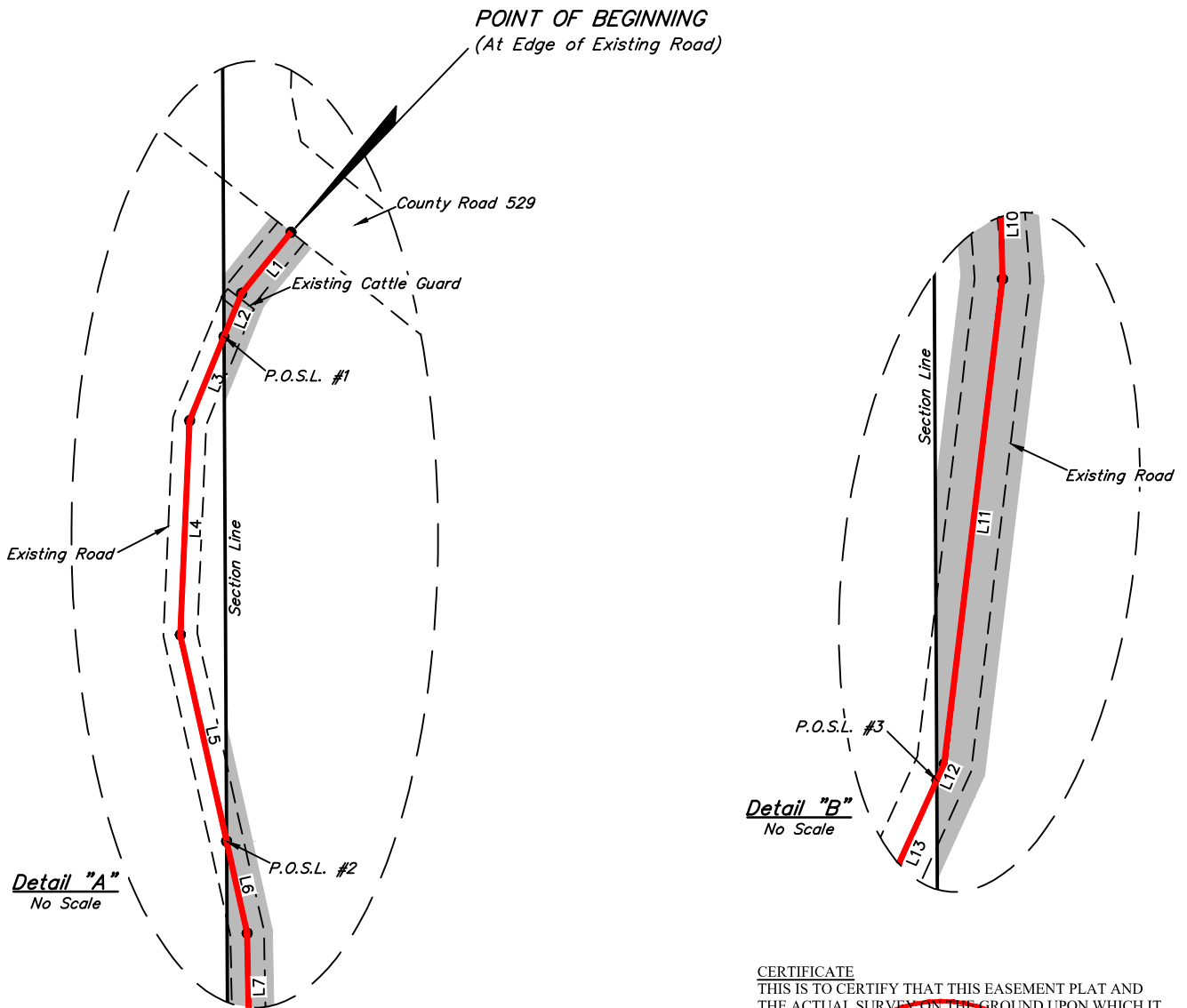


**UELS, LLC**  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017

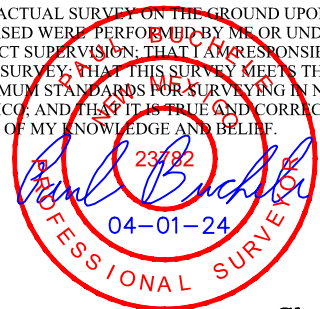
### EXISTING ROAD RIGHT-OF-WAY DESCRIPTION

THE PORTION OF THE FOLLOWING DESCRIBED 30' WIDE RIGHT-OF-WAY LYING IN SECTION 27, T18S, R34E, N.M.P.M. CONTAINS 0.808 ACRES MORE OR LESS, BEING 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

COMMENCING AT THE WEST 1/4 CORNER OF SAID SECTION 27, FROM WHICH THE SOUTHWEST CORNER OF SAID SECTION 27 BEARS  $S00^{\circ}18'02''E$  2641.59, THENCE  $S06^{\circ}22'10''E$  380.32' TO A POINT IN THE NW 1/4 SW 1/4 OF SAID SECTION 27 AND THE POINT OF BEGINNING; THENCE  $S38^{\circ}58'36''W$  46.68'; THENCE  $S22^{\circ}11'14''W$  27.85' TO A POINT ON THE WEST LINE OF THE NW 1/4 SW 1/4 OF SAID SECTION 27, WHICH BEARS  $S00^{\circ}18'02''E$  440.06' FROM THE WEST 1/4 CORNER OF SAID SECTION 27; THENCE CONTINUING  $S22^{\circ}11'14''W$  53.95' INTO SECTION 28, T18S, R34E, N.M.P.M.; THENCE  $S02^{\circ}30'15''W$  127.41'; THENCE  $S12^{\circ}38'00''E$  125.81' TO A POINT ON THE EAST LINE OF THE NE 1/4 SE 1/4 OF SAID SECTION 28, WHICH BEARS  $S00^{\circ}18'02''E$  740.08' FROM THE EAST 1/4 CORNER OF SAID SECTION 28; THENCE CONTINUING  $S12^{\circ}38'00''E$  55.98' INTO SAID SECTION 27; THENCE  $S01^{\circ}05'34''E$  353.04'; THENCE  $S01^{\circ}42'18''W$  173.13' TO A POINT ON THE SOUTH LINE OF THE NW 1/4 SW 1/4 OF SAID SECTION 27; THENCE CONTINUING  $S01^{\circ}42'18''W$  162.89'; THENCE  $S04^{\circ}34'22''E$  263.47'; THENCE  $S06^{\circ}50'31''W$  176.87'; THENCE  $S24^{\circ}27'27''W$  6.48' TO A POINT ON THE WEST LINE OF THE SW 1/4 SW 1/4 OF SAID SECTION 27, WHICH BEARS  $N00^{\circ}18'02''W$  713.88' FROM THE SOUTHWEST CORNER OF SAID SECTION 27; THENCE CONTINUING  $S24^{\circ}27'27''W$  175.05' INTO SAID SECTION 28; THENCE  $S16^{\circ}35'06''W$  337.96'; THENCE  $S09^{\circ}14'36''W$  101.85'; THENCE  $S04^{\circ}27'36''E$  131.04' TO A POINT ON THE SOUTH LINE OF THE SE 1/4 SE 1/4 OF SAID SECTION 28 AND THE POINT OF TERMINATION, WHICH BEARS  $S89^{\circ}49'32''W$  178.86' FROM THE SOUTHEAST CORNER OF SAID SECTION 28. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES.



**CERTIFICATE**  
 THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Sheet 2 of 2

REV: 1 04-01-24 C.S.C. (COMPANY NAME CHANGE)

**NOTES:**  
 • Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of  $103^{\circ}53'00''$  (NAD 83)



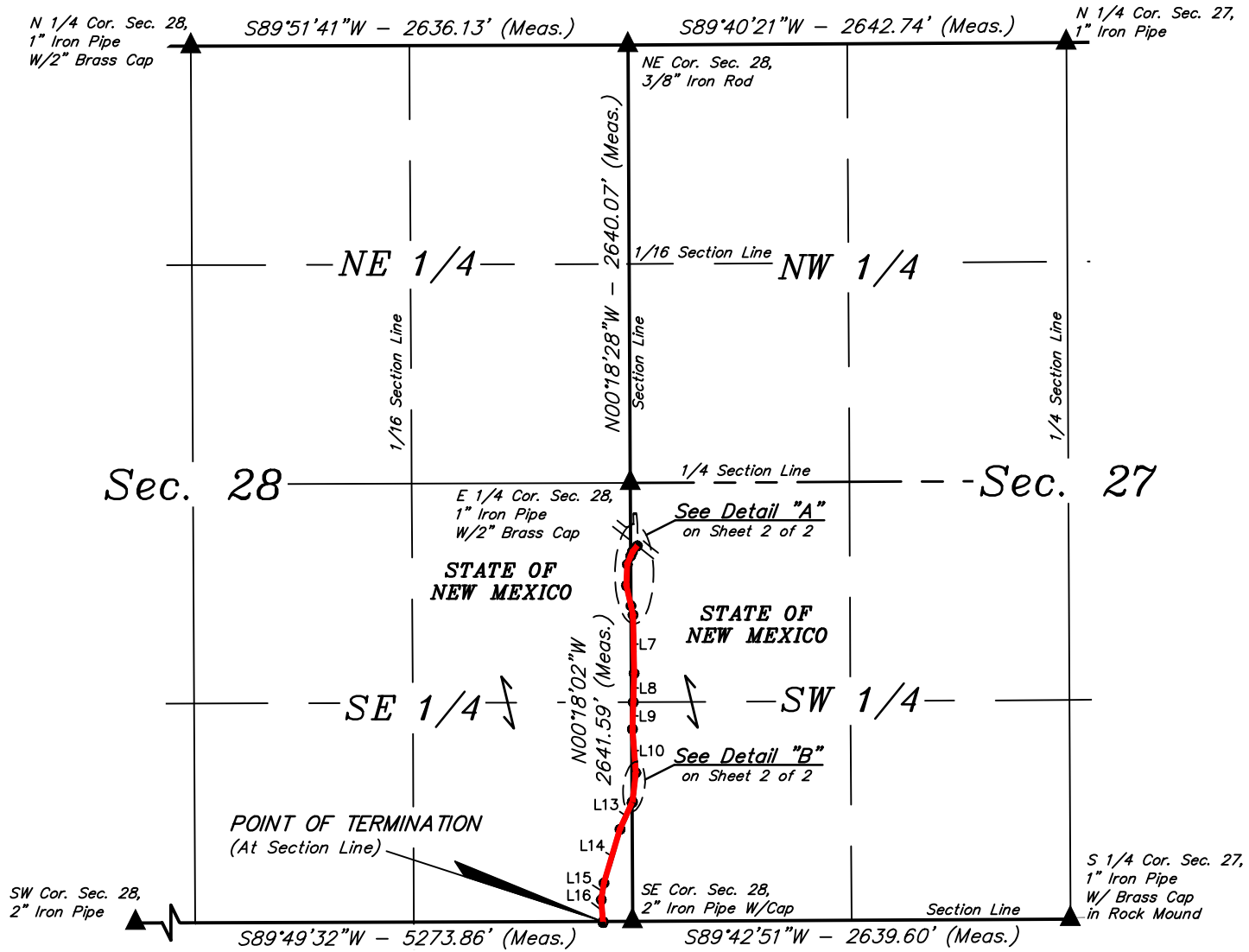
**CIMAREX ENERGY OF COLORADO**  
**BIG IRON 4-9 FED COM W2W2 EXISTING ROAD**  
**ON STATE OF NEW MEXICO LANDS IN**  
**SECTION 27, T18S, R34E, N.M.P.M.**  
**LEA COUNTY, NEW MEXICO**

<b>SURVEYED BY</b>	N.R., I.A.	06-13-23	<b>SCALE</b>
<b>DRAWN BY</b>	Z.L.	03-15-24	N/A
<b>FILE</b>	C-7691-A2		

**ACCESS ROAD R-O-W**      **EXHIBIT D**



**UELS, LLC**  
 Corporate Office \* 85 South 200 East  
 Vernal, UT 84078 \* (435) 789-1017



LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S38°58'36"W	46.68'
L2	S22°11'14"W	27.85'
L3	S22°11'14"W	53.95'
L4	S02°30'15"W	127.41'
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L9	S01°42'18"W	162.89'
L10	S04°34'22"E	263.47'
L11	S06°50'31"W	176.87'
L12	S24°27'27"W	6.48'
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L16	S04°27'36"E	131.04'

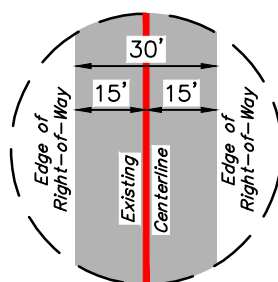
POINT OF BEGINNING BEARS S06°22'10"E 380.32' FROM THE WEST 1/4 CORNER OF SECTION 27, T18S, R34E, N.M.P.M.

P.O.S.L. #1 BEARS S00°18'02"E 440.06' FROM THE EAST 1/4 CORNER OF SECTION 28, T18S, R34E, N.M.P.M.

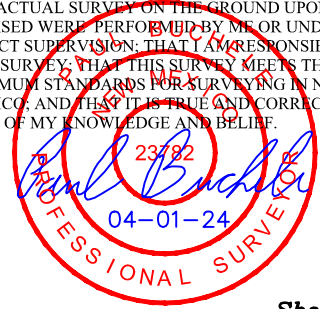
P.O.S.L. #2 BEARS S00°18'02"E 740.08' FROM THE EAST 1/4 CORNER OF SECTION 28, T18S, R34E, N.M.P.M.

P.O.S.L. #3 BEARS N00°18'02"W 713.88' FROM THE SOUTHEAST CORNER OF SECTION 28, T18S, R34E, N.M.P.M.

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ACREAGE / LENGTH TABLE			
LOCATION	FEET	RODS	ACRES
SEC. 28 (NE 1/4 SE 1/4)	307.17	18.62	0.224
SEC. 28 (SE 1/4 SE 1/4)	745.90	45.21	0.565
TOTAL	1053.07	63.83	0.789

▲ = SECTION CORNERS LOCATED.

**NOTES:**  
• Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of 103°53'00" (NAD 83)

**TYPICAL RIGHT-OF-WAY DETAIL**  
NO SCALE

REV: 1 04-01-24 C.S.C. (COMPANY NAME CHANGE)

Sheet 1 of 2

**CIMAREX ENERGY OF COLORADO**

**BIG IRON 4-9 FED COM W2W2 EXISTING ROAD ON STATE OF NEW MEXICO LANDS IN SECTION 28, T18S, R34E, N.M.P.M. LEA COUNTY, NEW MEXICO**

SURVEYED BY	N.R., I.A.	06-13-23	SCALE
DRAWN BY	Z.L.	03-15-24	1" = 1000'
FILE	C-7691-B1		

**ACCESS ROAD R-O-W EXHIBIT D**



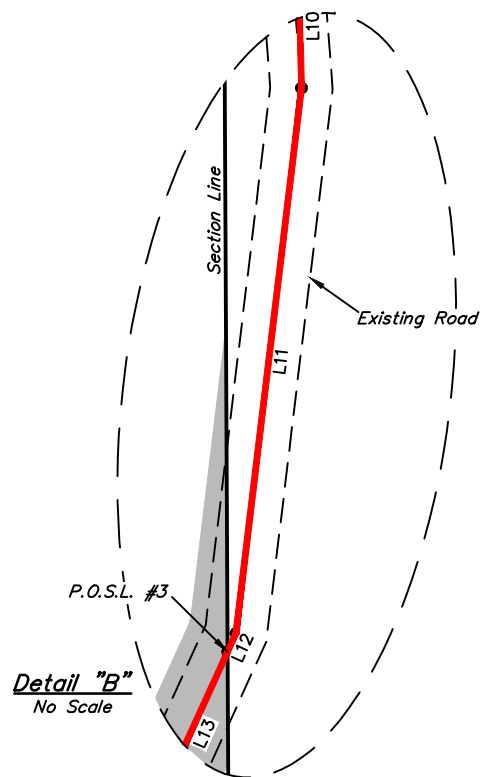
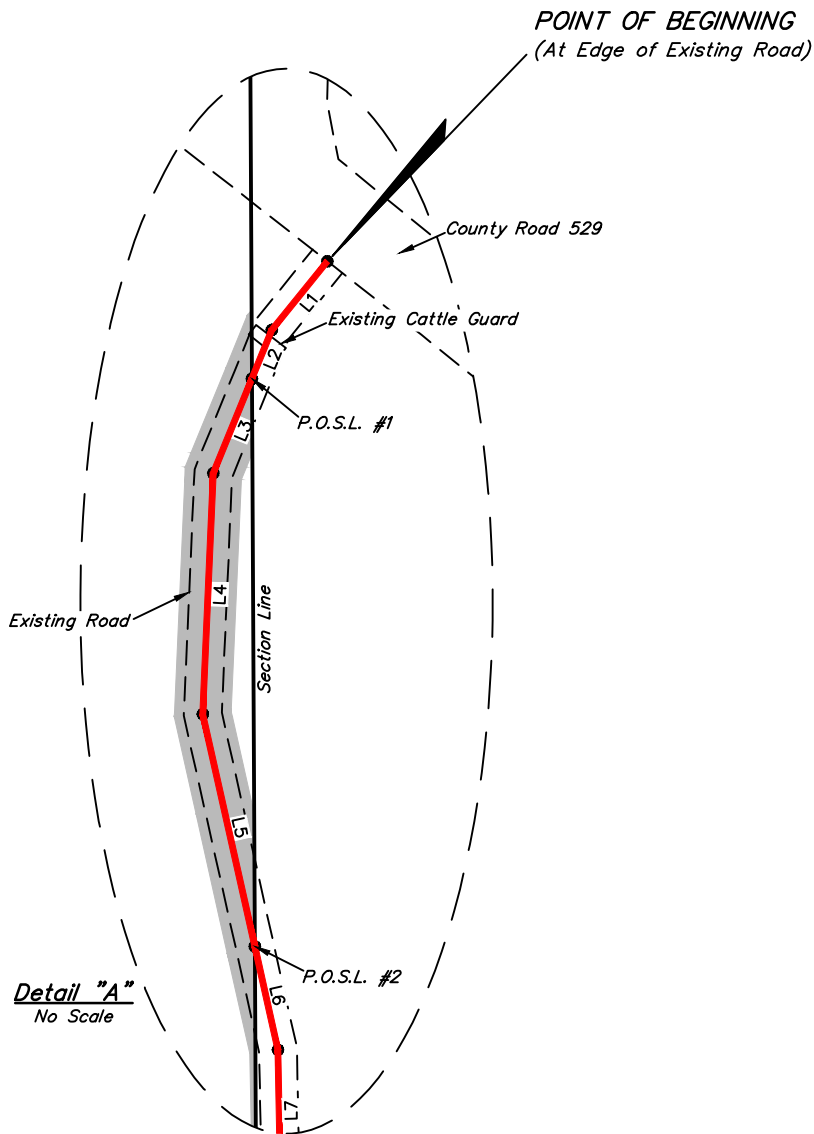
**UELS, LLC**  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017



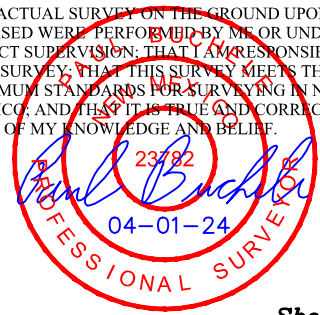
### EXISTING ROAD RIGHT-OF-WAY DESCRIPTION

THE PORTION OF THE FOLLOWING DESCRIBED 30' WIDE RIGHT-OF-WAY LYING IN SECTION 28, T18S, R34E, N.M.P.M. CONTAINS 0.789 ACRES MORE OR LESS, BEING 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

COMMENCING AT THE EAST 1/4 CORNER OF SAID SECTION 28, FROM WHICH THE SOUTHEAST CORNER OF SAID SECTION 28 BEARS  $S00^{\circ}18'02''E$  2641.59, THENCE  $S06^{\circ}22'10''E$  380.32' TO A POINT IN THE NW 1/4 SW 1/4 OF SECTION 27, T18S, R34E, N.M.P.M. AND THE POINT OF BEGINNING; THENCE  $S38^{\circ}58'36''W$  46.68'; THENCE  $S22^{\circ}11'14''W$  27.85' TO A POINT ON THE WEST LINE OF THE NW 1/4 SW 1/4 OF SAID SECTION 27, WHICH BEARS  $S00^{\circ}18'02''E$  440.06' FROM THE WEST 1/4 CORNER OF SAID SECTION 27; THENCE CONTINUING  $S22^{\circ}11'14''W$  53.95' INTO SAID SECTION 28; THENCE  $S02^{\circ}30'15''W$  127.41'; THENCE  $S12^{\circ}38'00''E$  125.81' TO A POINT ON THE EAST LINE OF THE NE 1/4 SE 1/4 OF SAID SECTION 28, WHICH BEARS  $S00^{\circ}18'02''E$  740.08' FROM THE EAST 1/4 CORNER OF SAID SECTION 28; THENCE CONTINUING  $S12^{\circ}38'00''E$  55.98' INTO SAID SECTION 27; THENCE  $S01^{\circ}05'34''E$  353.04'; THENCE  $S01^{\circ}42'18''W$  173.13' TO A POINT ON THE SOUTH LINE OF THE NW 1/4 SW 1/4 OF SAID SECTION 27; THENCE CONTINUING  $S01^{\circ}42'18''W$  162.89'; THENCE  $S04^{\circ}34'22''E$  263.47'; THENCE  $S06^{\circ}50'31''W$  176.87'; THENCE  $S24^{\circ}27'27''W$  6.48' TO A POINT ON THE WEST LINE OF THE SW 1/4 SW 1/4 OF SAID SECTION 27, WHICH BEARS  $N00^{\circ}18'02''W$  713.88' FROM THE SOUTHWEST CORNER OF SAID SECTION 27; THENCE CONTINUING  $S24^{\circ}27'27''W$  175.05' INTO SAID SECTION 28; THENCE  $S16^{\circ}35'06''W$  337.96'; THENCE  $S09^{\circ}14'36''W$  101.85'; THENCE  $S04^{\circ}27'36''E$  131.04' TO A POINT ON THE SOUTH LINE OF THE SE 1/4 SE 1/4 OF SAID SECTION 28 AND THE POINT OF TERMINATION, WHICH BEARS  $S89^{\circ}49'32''W$  178.86' FROM THE SOUTHEAST CORNER OF SAID SECTION 28. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES.



**CERTIFICATE**  
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Sheet 2 of 2

REV: 1 04-01-24 C.S.C. (COMPANY NAME CHANGE)

**NOTES:**  
• Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of  $103^{\circ}53'00''$  (NAD 83)



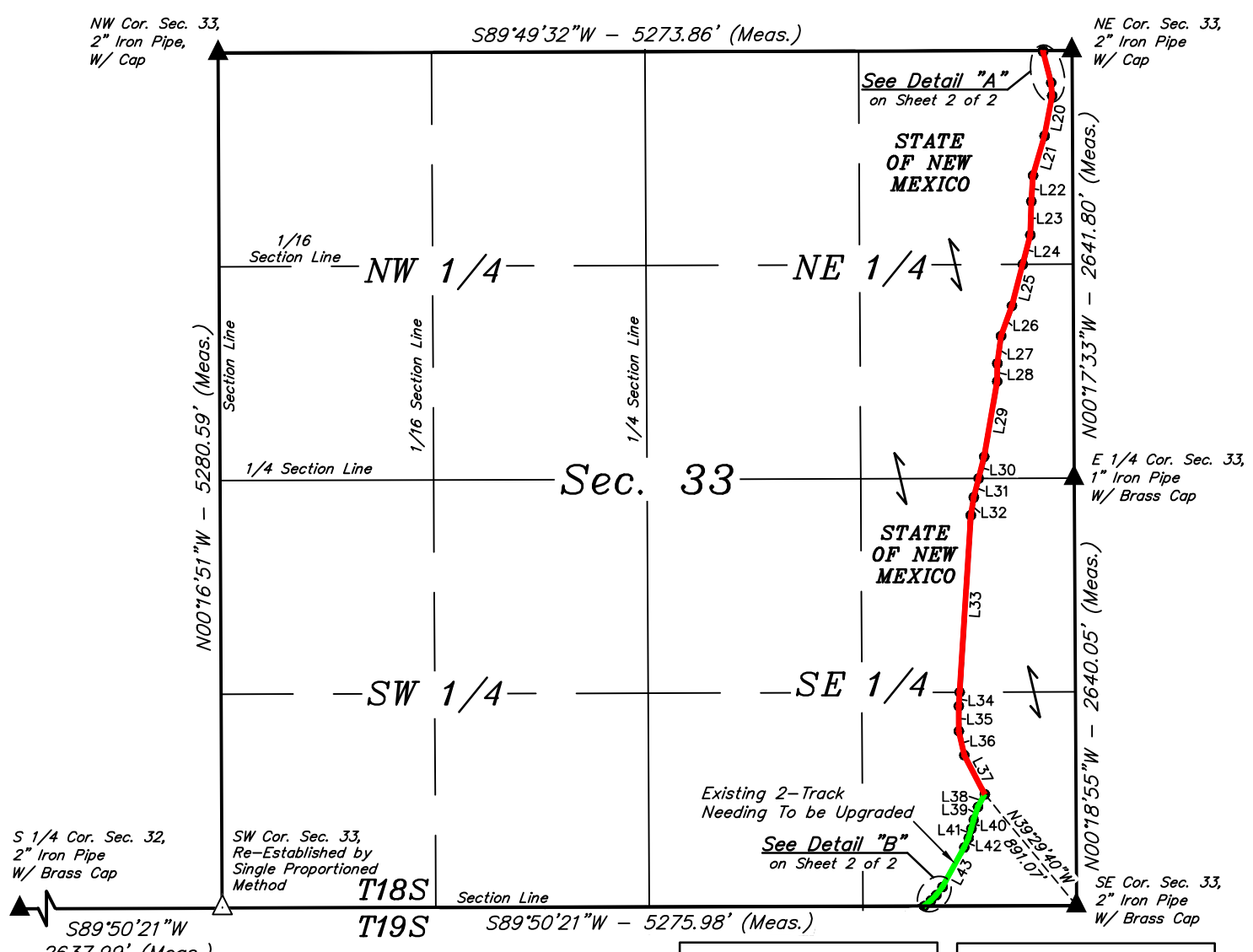
**CIMAREX ENERGY OF COLORADO**  
**BIG IRON 4-9 FED COM W2W2 EXISTING ROAD**  
**ON STATE OF NEW MEXICO LANDS IN**  
**SECTION 28, T18S, R34E, N.M.P.M.**  
**LEA COUNTY, NEW MEXICO**

<b>SURVEYED BY</b>	N.R., I.A.	06-13-23	<b>SCALE</b>
<b>DRAWN BY</b>	Z.L.	03-15-24	N/A
<b>FILE</b>	C-7691-B2		

**ACCESS ROAD R-O-W**      **EXHIBIT D**



**UELS, LLC**  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017



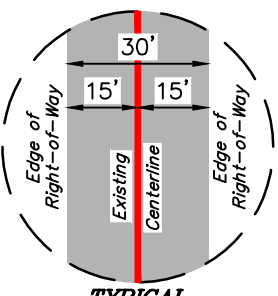
POINT OF BEGINNING BEARS S89°49'32"W 178.86' FROM THE NORTHEAST CORNER OF SECTION 33, T18S, R34E, N.M.P.M.

POINT OF TERMINATION BEARS S89°50'21"W 941.88' FROM THE SOUTHEAST CORNER OF SECTION 33, T18S, R34E, N.M.P.M.

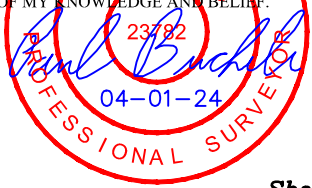
ACREAGE / LENGTH TABLE			
LOCATION	FEET	RODS	ACRES
SEC. 33 (NE 1/4 NE 1/4)	1348.75	81.74	0.929
SEC. 33 (SE 1/4 NE 1/4)	1354.67	82.10	0.933
SEC. 33 (NE 1/4 SE 1/4)	1327.77	80.47	0.914
SEC. 33 (SE 1/4 SE 1/4)	1462.34	88.63	1.007
TOTAL	5493.53	332.94	3.783

LINE TABLE		
LINE	DIRECTION	LENGTH
L17	S04°27'36"E	7.39'
L18	S14°27'16"E	198.29'
L19	S04°22'36"E	80.97'
L20	S10°42'16"W	252.54'
L21	S16°12'56"W	254.32'
L22	S03°49'01"W	160.17'
L23	S01°41'56"W	207.69'
L24	S14°32'36"W	187.38'
L25	S14°32'36"W	264.14'
L26	S19°49'41"W	198.32'
L27	S07°47'28"W	171.20'
L28	S00°24'21"W	110.94'
L29	S09°45'50"W	471.16'
L30	S14°30'19"W	138.91'
L31	S14°30'19"W	120.04'

LINE TABLE		
LINE	DIRECTION	LENGTH
L32	S09°03'23"W	112.86'
L33	S03°36'41"W	1094.87'
L34	S03°36'41"W	85.71'
L35	S00°06'24"E	154.41'
L36	S12°41'13"E	152.26'
L37	S27°35'53"E	272.95'
L38	S28°26'05"W	88.11'
L39	S18°27'47"W	83.59'
L40	S14°07'44"W	57.04'
L41	S16°14'06"W	59.67'
L42	S25°24'48"W	64.26'
L43	S28°47'31"W	278.98'
L44	S37°16'49"W	63.24'
L45	S44°14'20"W	48.00'
L46	S51°32'45"W	54.12'



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Sheet 1 of 2

REV: 1 04-01-24 C.S.C. (COMPANY NAME CHANGE)

NOTES:  
Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of 103°53'00" (NAD 83)

**CIMAREX ENERGY OF COLORADO**  
BIG IRON 4-9 FED COM W2W2 EXISTING ROAD  
ON STATE OF NEW MEXICO LANDS IN  
SECTION 33, T18S, R34E, N.M.P.M.  
LEA COUNTY, NEW MEXICO

SURVEYED BY	N.R., I.A.	06-13-23	SCALE
DRAWN BY	Z.L.	03-15-24	1" = 1000'
FILE	C-7691-C1		



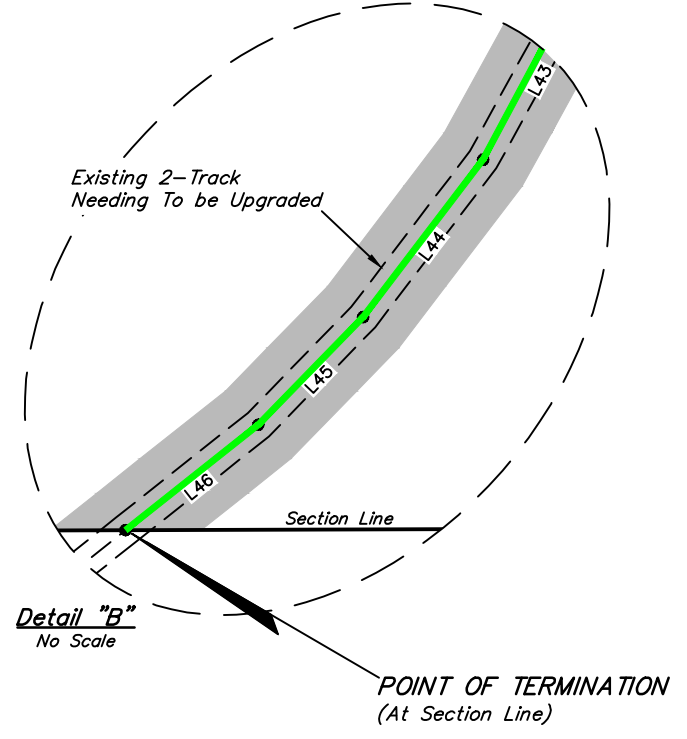
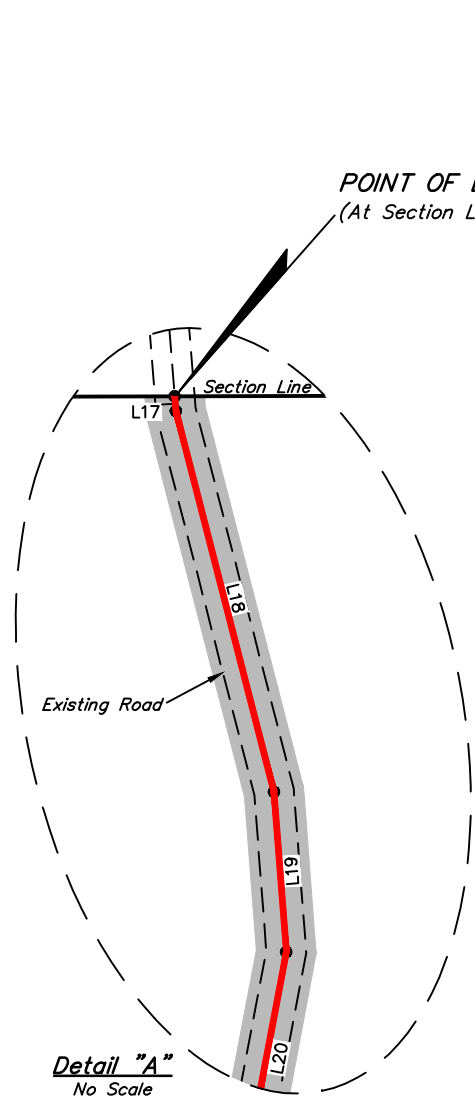
**UELS, LLC**  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017



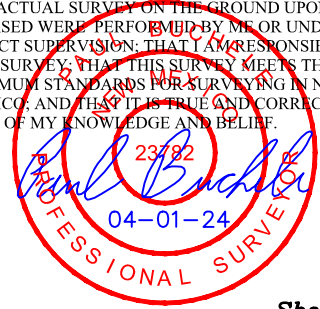
# EXISTING ROAD RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

COMMENCING AT THE NORTHEAST CORNER OF SECTION 33, T18S, R34E, N.M.P.M., FROM WHICH THE EAST 1/4 CORNER OF SAID SECTION 33 BEARS  $S00^{\circ}17'33''W$  2641.80, THENCE  $S89^{\circ}49'32''W$  178.86' ALONG THE NORTH LINE OF THE NE 1/4 NE 1/4 OF SAID SECTION 33 TO THE POINT OF BEGINNING; THENCE  $S04^{\circ}27'36''E$  7.39'; THENCE  $S14^{\circ}27'16''E$  198.29'; THENCE  $S04^{\circ}22'36''E$  80.97'; THENCE  $S10^{\circ}42'16''W$  252.54'; THENCE  $S16^{\circ}12'56''W$  254.32'; THENCE  $S03^{\circ}49'01''W$  160.17'; THENCE  $S01^{\circ}41'56''W$  207.69'; THENCE  $S14^{\circ}32'36''W$  187.38' TO A POINT ON THE SOUTH LINE OF THE NE 1/4 NE 1/4 OF SAID SECTION 33; THENCE CONTINUING  $S14^{\circ}32'36''W$  264.14'; THENCE  $S19^{\circ}49'41''W$  198.32'; THENCE  $S07^{\circ}47'28''W$  171.20'; THENCE  $S00^{\circ}24'21''W$  110.94'; THENCE  $S09^{\circ}45'50''W$  471.16'; THENCE  $S14^{\circ}30'19''W$  138.91' TO A POINT ON THE SOUTH LINE OF THE SE 1/4 NE 1/4 OF SAID SECTION 33; THENCE CONTINUING  $S14^{\circ}30'19''W$  120.04'; THENCE  $S09^{\circ}03'23''W$  112.86'; THENCE  $S03^{\circ}36'41''W$  1094.87' TO A POINT ON THE SOUTH LINE OF THE NE 1/4 SE 1/4 OF SAID SECTION 33; THENCE CONTINUING  $S03^{\circ}36'41''W$  85.71'; THENCE  $S00^{\circ}06'24''E$  154.41'; THENCE  $S12^{\circ}41'13''E$  152.26'; THENCE  $S27^{\circ}35'53''E$  272.95'; THENCE  $S28^{\circ}26'05''W$  88.11'; THENCE  $S18^{\circ}27'47''W$  83.59'; THENCE  $S14^{\circ}07'44''W$  57.04'; THENCE  $S16^{\circ}14'06''W$  59.67'; THENCE  $S25^{\circ}24'48''W$  64.26'; THENCE  $S28^{\circ}47'31''W$  278.98'; THENCE  $S37^{\circ}16'49''W$  63.24'; THENCE  $S44^{\circ}14'20''W$  48.00'; THENCE  $S51^{\circ}32'45''W$  54.12' TO A POINT ON THE SOUTH LINE OF THE SE 1/4 SE 1/4 OF SAID SECTION 33 AND THE POINT OF TERMINATION, WHICH BEARS  $S89^{\circ}50'21''W$  941.88' FROM THE SOUTHEAST CORNER OF SAID SECTION 33. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. CONTAINS 3.783 ACRES MORE OR LESS.



CERTIFICATE  
 THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.



Sheet 2 of 2

— = EXISTING 2-TRACK  
NEEDING TO BE UPGRADED

REV: 1 04-01-24 C.S.C. (COMPANY NAME CHANGE)

NOTES:  
 • Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of  $103^{\circ}53'00''$  (NAD 83)



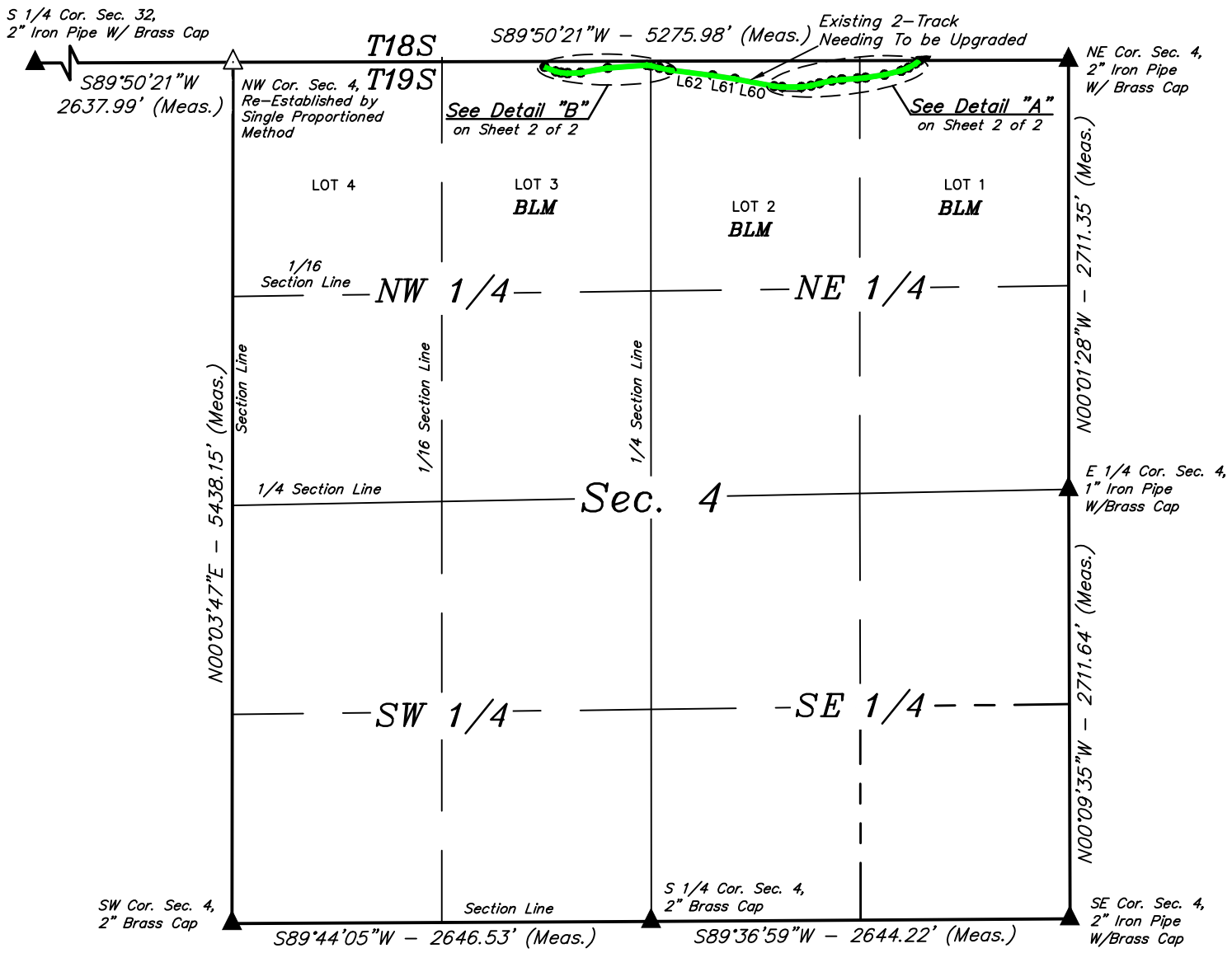
**CIMAREX ENERGY OF COLORADO**  
**BIG IRON 4-9 FED COM W2W2 EXISTING ROAD**  
**ON STATE OF NEW MEXICO LANDS IN**  
**SECTION 33, T18S, R34E, N.M.P.M.**  
**LEA COUNTY, NEW MEXICO**

SURVEYED BY	N.R., I.A.	06-13-23	SCALE
DRAWN BY	Z.L.	03-15-24	N/A
FILE	C-7691-C2		

**ACCESS ROAD R-O-W**      **EXHIBIT D**



**UELS, LLC**  
 Corporate Office \* 85 South 200 East  
 Vernal, UT 84078 \* (435) 789-1017



LINE TABLE			LINE TABLE			LINE TABLE		
LINE	DIRECTION	LENGTH	LINE	DIRECTION	LENGTH	LINE	DIRECTION	LENGTH
L47	S51°32'45"W	30.89'	L56	S74°32'10"W	55.54'	L65	N83°08'05"W	23.97'
L48	S59°33'44"W	51.96'	L57	S82°05'26"W	61.62'	L66	S85°48'13"W	248.61'
L49	S66°54'41"W	50.15'	L58	N89°45'22"W	121.77'	L67	S80°01'51"W	173.72'
L50	S77°01'57"W	108.65'	L59	N84°41'19"W	50.68'	L68	S88°00'12"W	82.69'
L51	S80°56'41"W	120.73'	L60	N79°27'35"W	252.27'	L69	N85°07'01"W	41.36'
L52	S85°02'41"W	50.59'	L61	N81°16'42"W	141.55'	L70	N77°51'04"W	35.21'
L53	S86°07'53"W	99.65'	L62	N82°40'43"W	274.99'	L71	N67°40'10"W	74.89'
L54	S83°17'17"W	63.22'	L63	N78°13'14"W	65.12'			
L55	S77°36'22"W	79.80'	L64	N74°45'52"W	56.06'			

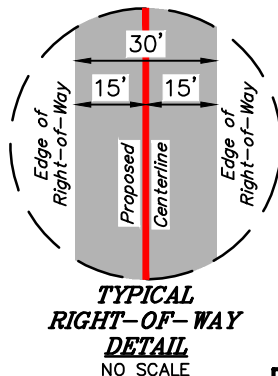
POINT OF BEGINNING BEARS  $S89^{\circ}50'21''W$  941.88' FROM THE NORTHEAST CORNER OF SECTION 4, T19S, R34E, N.M.P.M.

POINT OF TERMINATION BEARS  $S89^{\circ}15'11''W$  3308.64' FROM THE NORTHEAST CORNER OF SECTION 4, T19S, R34E, N.M.P.M.

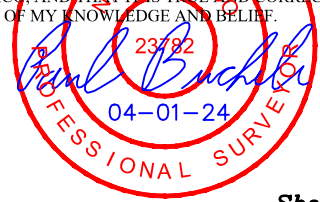
LOCATION	FEET	RODS	ACRES
SEC. 33 (NE 1/4)	1735.24	105.17	1.195
SEC. 33 (NW 1/4)	680.45	41.24	0.469
TOTAL	2415.69	146.41	1.664



- ▲ = SECTION CORNERS LOCATED.
- △ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground.)
- = EXISTING 2-TRACK NEEDING TO BE UPGRADED



**CERTIFICATE**  
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Sheet 1 of 2

REV: 1 04-01-24 C.S.C. (COMPANY NAME CHANGE)

**NOTES:**  
 Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of  $103^{\circ}53'00''$  (NAD 83)

**CIMAREX ENERGY OF COLORADO**  
**BIG IRON 4-9 FED COM W2W2**  
**EXISTING ROAD ON BLM LANDS IN**  
**SECTION 4, T19S, R34E, N.M.P.M.**  
**LEA COUNTY, NEW MEXICO**

SURVEYED BY	N.R., I.A.	06-13-23	SCALE
DRAWN BY	Z.L.	03-15-24	1" = 1000'
FILE	C-7691-D1		

**ACCESS ROAD R-O-W EXHIBIT D**



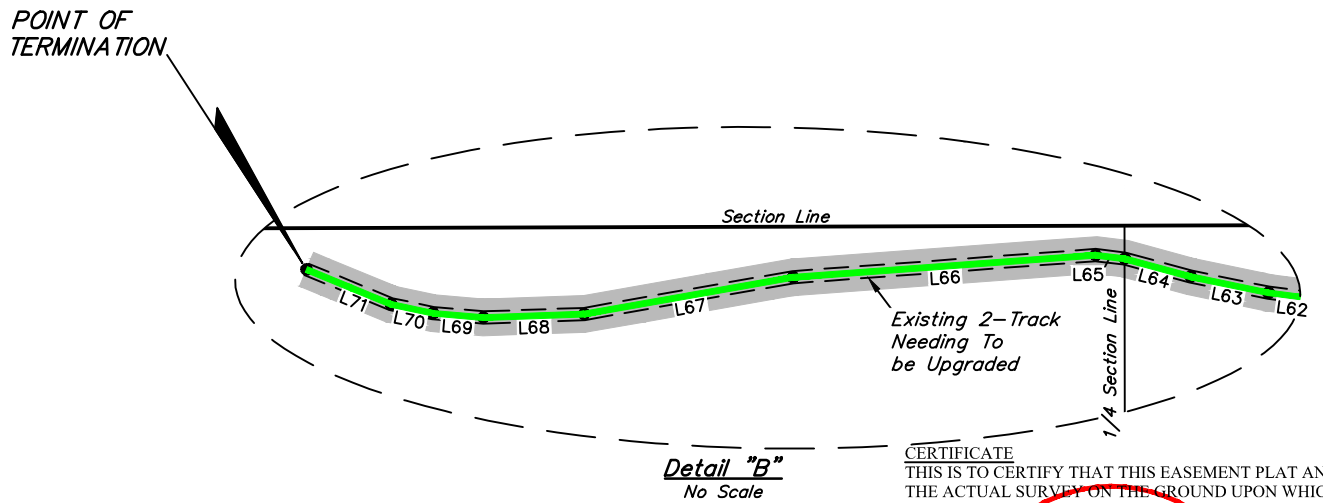
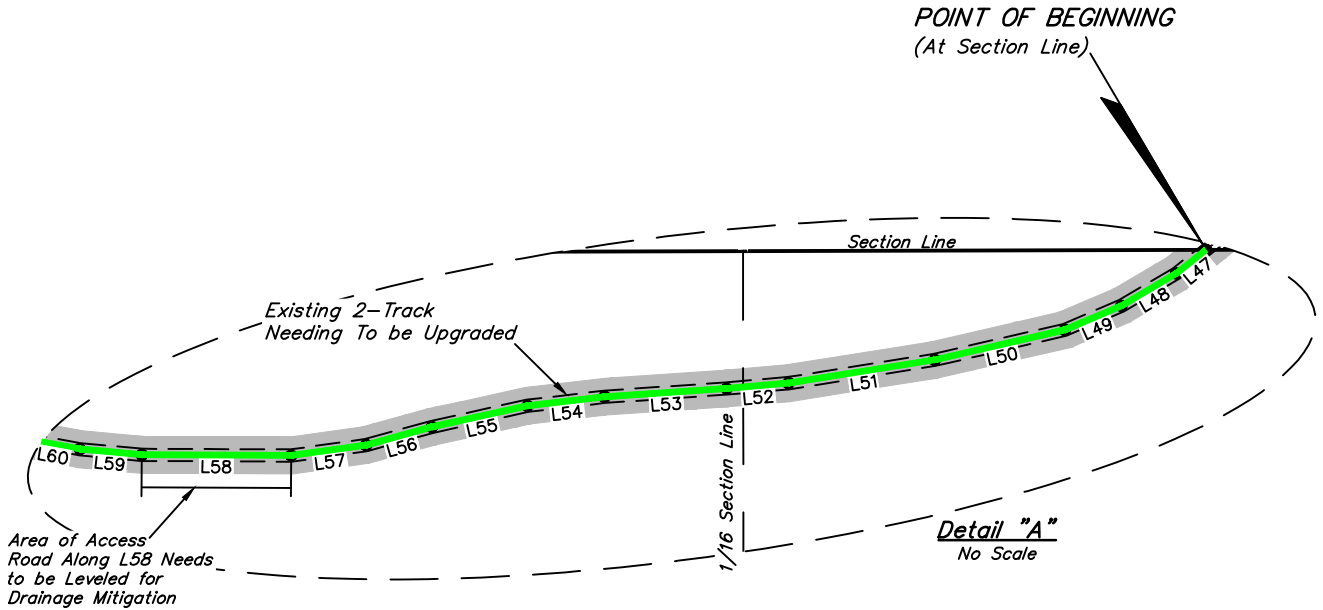
**UELS, LLC**  
 Corporate Office \* 85 South 200 East  
 Vernal, UT 84078 \* (435) 789-1017



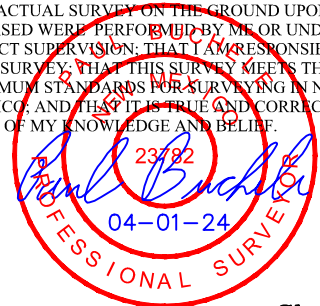
### EXISTING ROAD RIGHT-OF-WAY DESCRIPTION

A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

COMMENCING AT THE NORTHEAST CORNER OF SECTION 4, T19S, R34E, N.M.P.M., FROM WHICH THE EAST 1/4 CORNER OF SAID SECTION 4 BEARS S00°01'28"E 2711.35', THENCE S89°50'21"W 941.88' ALONG THE NORTH LINE OF LOT 1 OF SAID SECTION 4 TO THE POINT OF BEGINNING; THENCE S51°32'45"W 30.89'; THENCE S59°33'44"W 51.96'; THENCE S66°54'41"W 50.15'; THENCE S77°01'57"W 108.65'; THENCE S80°56'41"W 120.73'; THENCE S85°02'41"W 50.59'; THENCE S86°07'53"W 99.65'; THENCE S83°17'17"W 63.22'; THENCE S77°36'22"W 79.80'; THENCE S74°32'10"W 55.54'; THENCE S82°05'26"W 61.62'; THENCE N89°45'22"W 121.77'; THENCE N84°41'19"W 50.68'; THENCE N79°27'35"W 252.27'; THENCE N81°16'42"W 141.55'; THENCE N82°40'43"W 274.99'; THENCE N78°13'14"W 65.12'; THENCE N74°45'52"W 56.06' TO A POINT ON THE WEST LINE OF LOT 2 OF SAID SECTION 4; THENCE CONTINUING N83°08'05"W 23.97'; THENCE S85°48'13"W 248.61'; THENCE S80°01'51"W 173.72'; THENCE S88°00'12"W 82.69'; THENCE N85°07'01"W 41.36'; THENCE N77°51'04"W 35.21'; THENCE N67°40'10"W 74.89' TO A POINT IN LOT 3 OF SAID SECTION 4 AND THE POINT OF TERMINATION, WHICH BEARS S89°15'11"W 3308.64' FROM THE NORTHEAST CORNER OF SAID SECTION 4. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. CONTAINS 1.664 ACRES MORE OR LESS.



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— = EXISTING 2-TRACK  
NEEDING TO BE UPGRADED

Sheet 2 of 2

REV: 1 04-01-24 C.S.C. (COMPANY NAME CHANGE)

**NOTES:**  
• Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of 103°53'00" (NAD 83)

#### CIMAREX ENERGY OF COLORADO

**BIG IRON 4-9 FED COM W2W2  
EXISTING ROAD ON BLM LANDS IN  
SECTION 4, T19S, R34E, N.M.P.M.  
LEA COUNTY, NEW MEXICO**

<b>SURVEYED BY</b>	N.R., I.A.	06-13-23	<b>SCALE</b>
<b>DRAWN BY</b>	Z.L.	03-15-24	N/A
<b>FILE</b>	C-7691-D2		

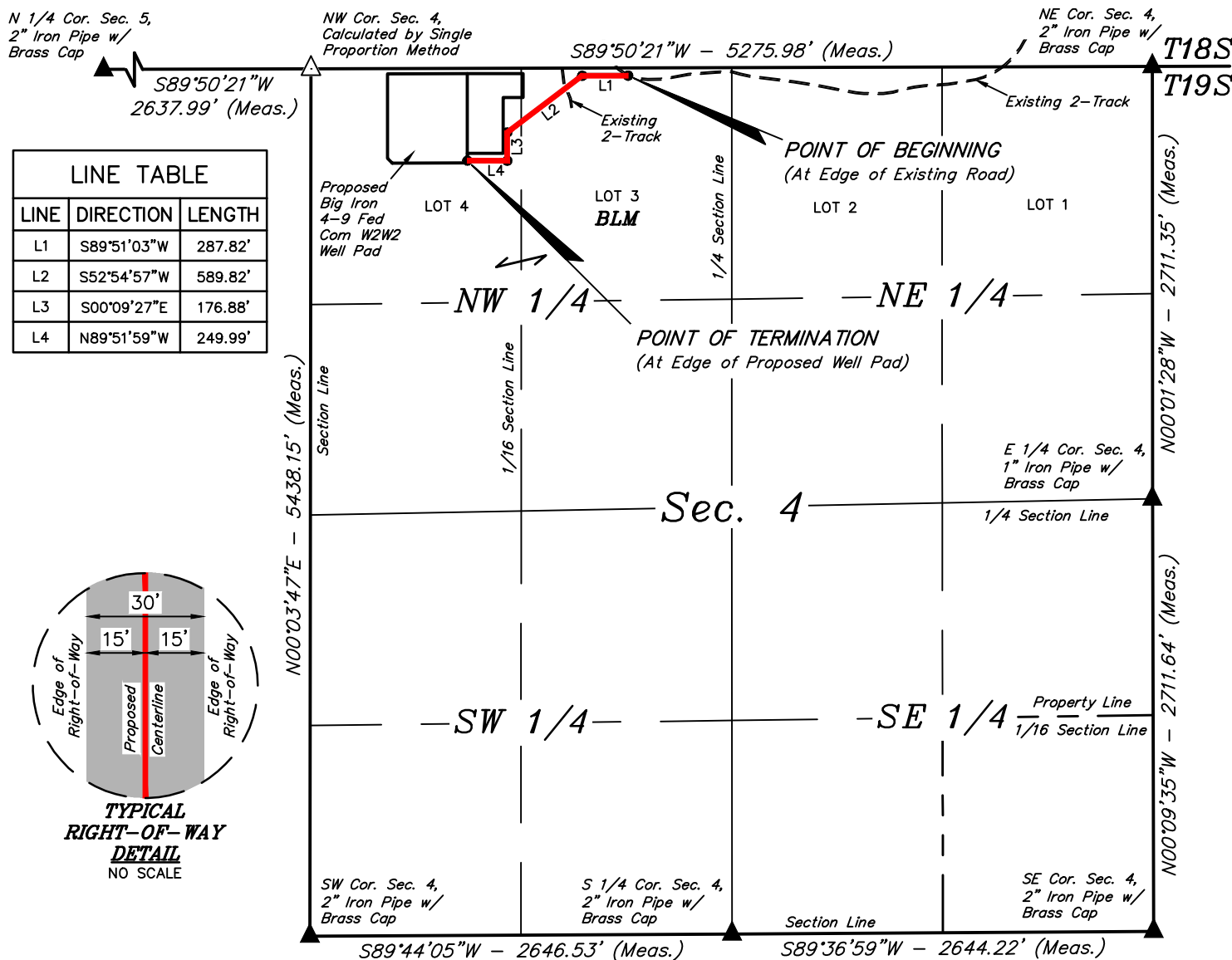
**ACCESS ROAD R-O-W**

**EXHIBIT D**



**UELS, LLC**  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017





**ROAD RIGHT-OF-WAY DESCRIPTION**

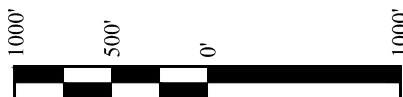
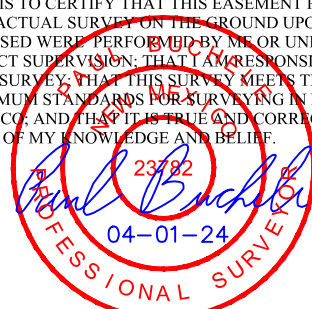
A 30' WIDE RIGHT-OF-WAY 15' ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE.

COMMENCING AT THE NORTHEAST CORNER OF SECTION 4, T19S, R34E, N.M.P.M., FROM WHICH THE EAST 1/4 CORNER OF SAID SECTION 4 BEARS S00°01'28"E 2711.35', THENCE S88°59'12"W 3287.53' TO A POINT IN LOT 3 OF SAID SECTION 4 AND THE POINT OF BEGINNING; THENCE S89°51'03"W 287.82'; THENCE S52°54'57"W 589.82'; THENCE S00°09'27"E 176.88'; THENCE N89°51'59"W 249.99' TO A POINT IN LOT 4 OF SAID SECTION 4 AND THE POINT OF TERMINATION, WHICH BEARS S82°10'01"W 4335.31' FROM THE NORTHEAST CORNER OF SAID SECTION 4. THE SIDE LINES OF SAID DESCRIBED RIGHT-OF-WAY BEING SHORTENED OR ELONGATED TO MEET THE GRANTOR'S PROPERTY LINES. CONTAINS 0.898 ACRES MORE OR LESS.

POINT OF BEGINNING BEARS S88°59'12"W 3287.53' FROM THE NORTHEAST CORNER OF SECTION 4, T19S, R34E, N.M.P.M.

POINT OF TERMINATION BEARS S82°10'01"W 4335.31' FROM THE NORTHEAST CORNER OF SECTION 4, T19S, R34E, N.M.P.M.

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**ACREAGE / LENGTH TABLE**

LOCATION	FEET	RODS	ACRES
SEC. 4 (NW 1/4)	1,304.51	79.06	0.898

- ▲ = SECTION CORNERS LOCATED.
- △ = SECTION CORNERS RE-ESTABLISHED. (Not Set on Ground.)

REV: 3 04-01-24 C.S.C. (COMPANY NAME CHANGE)

**NOTES:**  
 • Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of 103°53'00" (NAD 83)



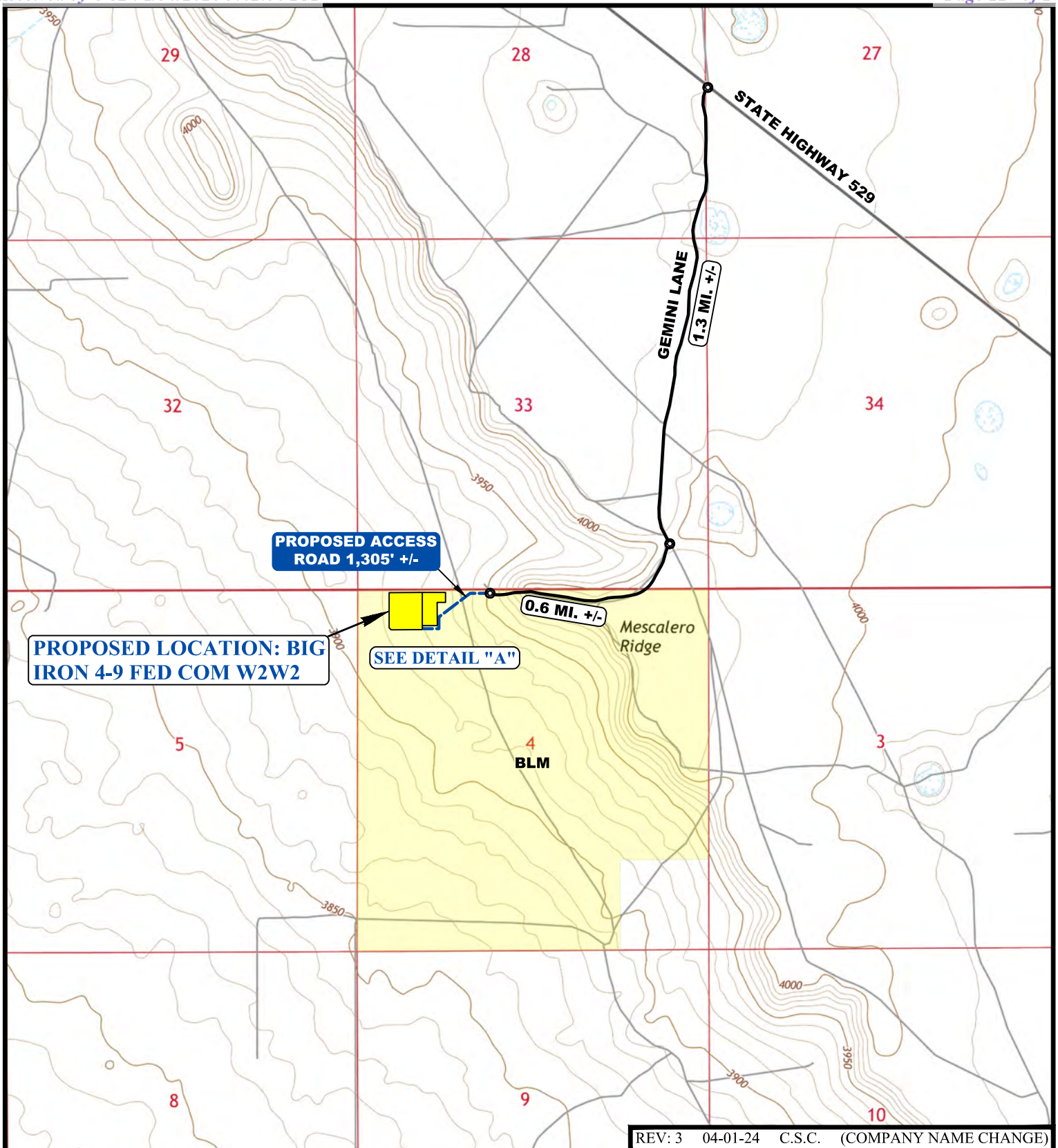
**CIMAREX ENERGY OF COLORADO**  
**BIG IRON 4-9 FED COM W2W2**  
**ON BLM LANDS IN**  
**SECTION 4, T19S, R34E, N.M.P.M.**  
**LEA COUNTY, NEW MEXICO**

<b>SURVEYED BY</b>	R.C., H.R.	02-28-24	<b>SCALE</b>
<b>DRAWN BY</b>	T.J.S.	06-27-23	1" = 1000'
<b>FILE</b>	C-7691-A		

**ACCESS ROAD R-O-W** | **EXHIBIT D**



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 Vernal, UT 84078 \* (435) 789-1017



REV: 3 04-01-24 C.S.C. (COMPANY NAME CHANGE)

NOTE: PARCEL DATA SHOWN HAS BEEN OBTAINED FROM VARIOUS SOURCES AND SHOULD BE USED FOR MAPPING, GRAPHIC AND PLANNING PURPOSES ONLY. NO WARRANTY IS MADE BY UINTAH ENGINEERING AND LAND SURVEYING (UELS) FOR ACCURACY OF THE PARCEL DATA.

**LEGEND:**

-  EXISTING ROAD
-  PROPOSED ROAD



**CIMAREX ENERGY OF COLORADO**

**BIG IRON 4-9 FED COM W2W2**  
**314' FNL 731' FWL (APPROX. CENTER OF PAD)**  
**LOT 4, SECTION 4, T19S, R34E, N.M.P.M.**  
**LEA COUNTY, NEW MEXICO**

SURVEYED BY	R.C., H.R.	02-28-24	SCALE
DRAWN BY	D.M.C.	06-26-23	1 : 24,000

**NEW ROAD MAP** **EXHIBIT D**



**UELS, LLC**  
 Corporate Office \* 85 South 200 East  
 Vernal, UT 84078 \* (435) 789-1017

BEGINNING AT THE INTERSECTION OF STATE HIGHWAY 529 AND GEMINI LANE TO THE SOUTH (LOCATED AT NAD 83 LATITUDE 32.7177° AND LONGITUDE -103.5566°) PROCEED IN A SOUTHERLY, THEN SOUTHEASTERLY DIRECTION ALONG GEMINI LANE APPROXIMATELY 1.3 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE SOUTHWEST; TURN RIGHT AND PROCEED IN A SOUTHWESTERLY, THEN WESTERLY DIRECTION APPROXIMATELY 0.6 MILES TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY, THEN SOUTHWESTERLY, THEN SOUTHERLY, THEN WESTERLY DIRECTION APPROXIMATELY 1,305' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF STATE HIGHWAY 529 AND GEMINI LANE TO THE SOUTH (LOCATED AT NAD 83 LATITUDE 32.7177° AND LONGITUDE -103.5566°) TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 2.1 MILES.

REV: 3 04-01-24 C.S.C. (COMPANY NAME CHANGE)

**CIMAREX ENERGY OF COLORADO**

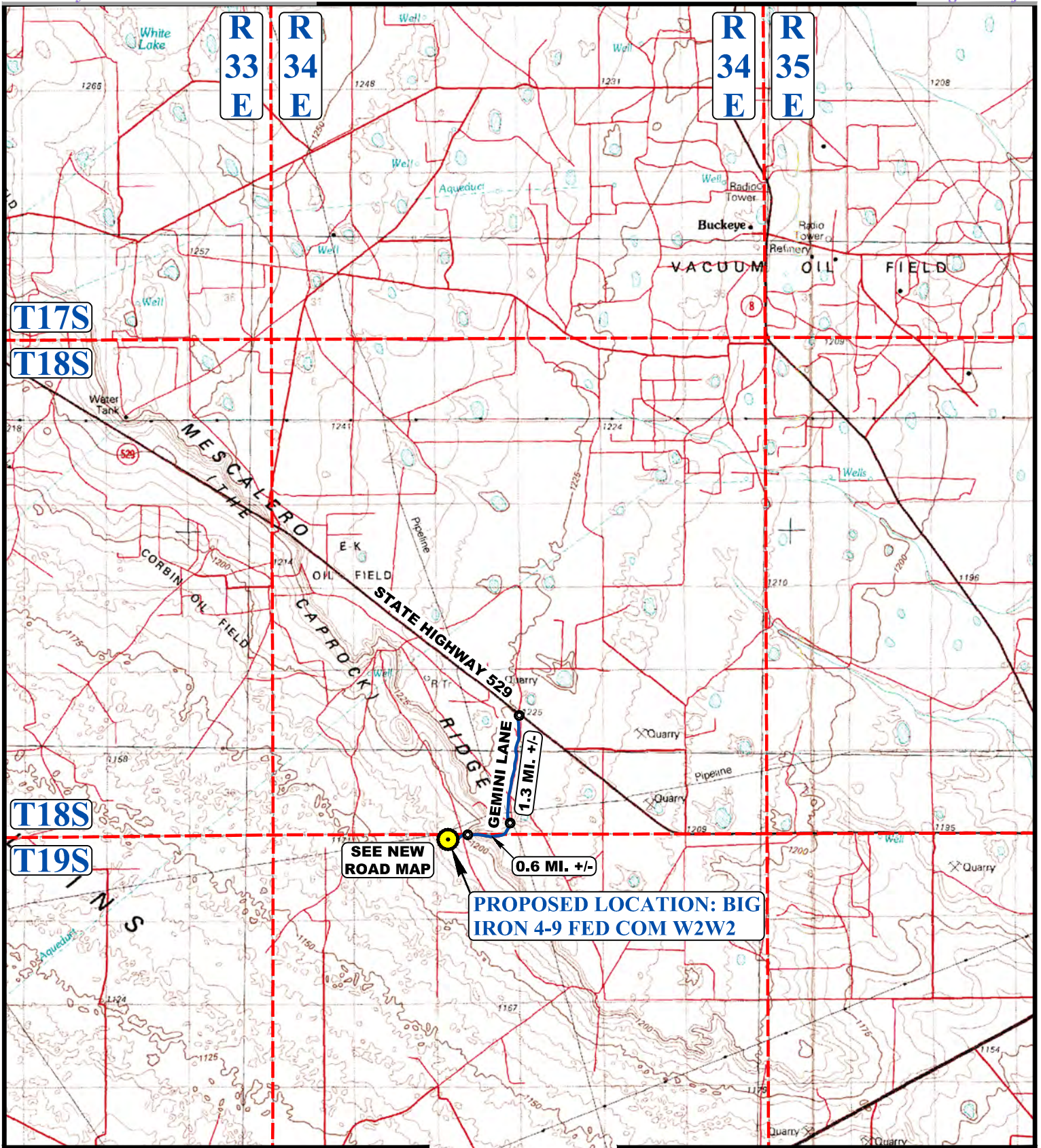
**BIG IRON 4-9 FED COM W2W2  
314' FNL 731' FWL (APPROX. CENTER OF PAD)  
LOT 4, SECTION 4, T19S, R34E, N.M.P.M.  
LEA COUNTY, NEW MEXICO**

<b>SURVEYED BY</b>	R.C., H.R.	02-28-24	
<b>DRAWN BY</b>	D.M.C.	06-26-23	
<b>ROAD DESCRIPTION</b>			<b>EXHIBIT A</b>

**UELS, LLC**

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Vernal, UT 84078 \* (435) 789-1017





MALJAMAR, NEW MEXICO IS +/- 15.7 MILES NORTHWEST

REV: 2 04-01-24 C.S.C. (COMPANY NAME CHANGE)

**LEGEND:**

 PROPOSED LOCATION



**CIMAREX ENERGY OF COLORADO**

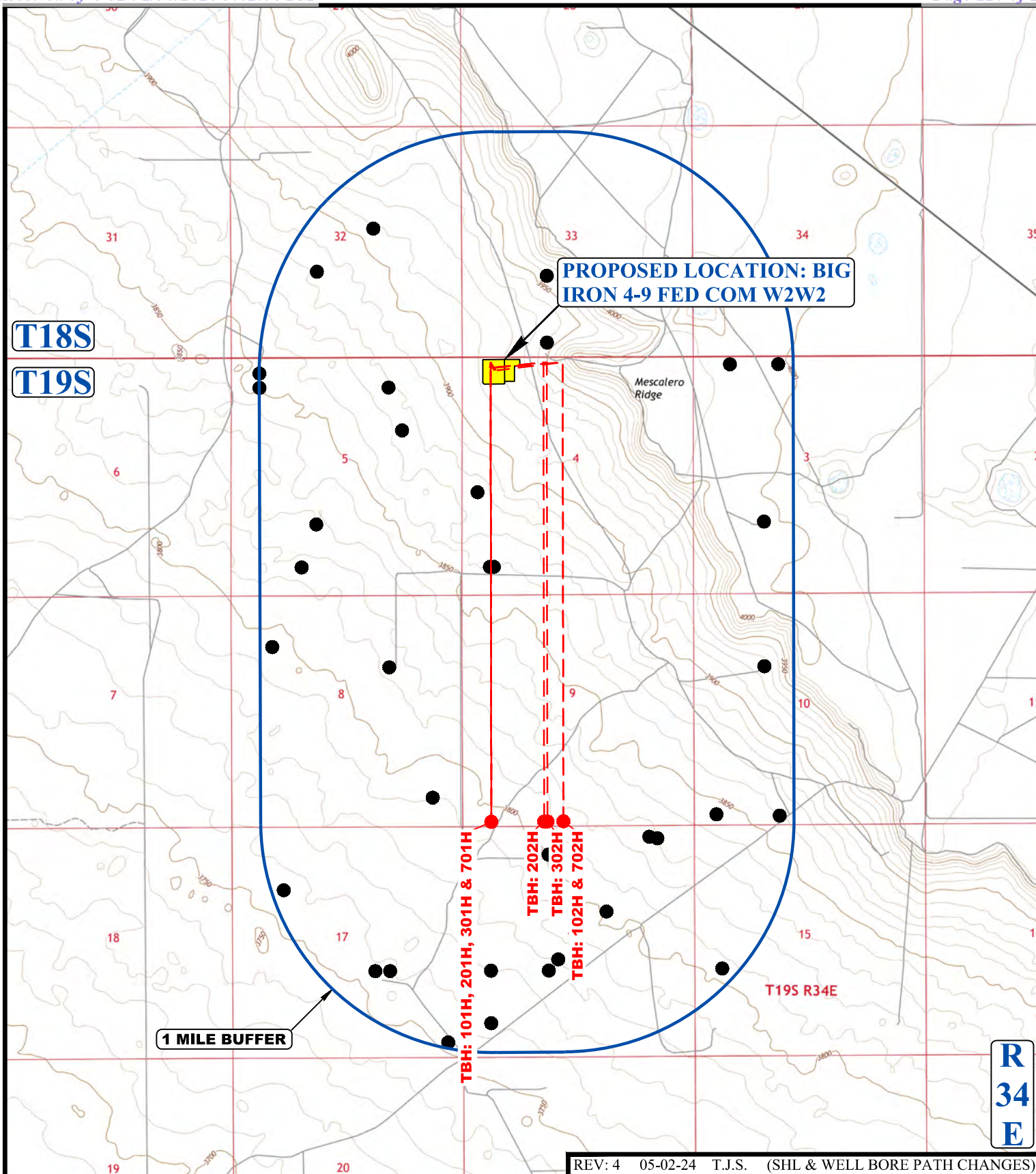
**BIG IRON 4-9 FED COM W2W2**  
314' FNL 731' FWL (APPROX. CENTER OF PAD)  
LOT 4, SECTION 4, T19S, R34E, N.M.P.M.  
LEA COUNTY, NEW MEXICO

SURVEYED BY	R.C., H.R.	02-28-24	SCALE
DRAWN BY	D.M.C.	06-26-23	1 : 100,000

**PUBLIC ACCESS ROAD MAP EXHIBIT B**



**UELS, LLC**  
Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017



REV: 4 05-02-24 T.J.S. (SHL & WELL BORE PATH CHANGES)

**LEGEND:**

- EXISTING WELLS



**CIMAREX ENERGY OF COLORADO**

**BIG IRON 4-9 FED COM W2W2**  
**314' FNL 731' FWL (APPROX. CENTER OF PAD)**  
**LOT 4, SECTION 4, T19S, R34E, N.M.P.M.**  
**LEA COUNTY, NEW MEXICO**

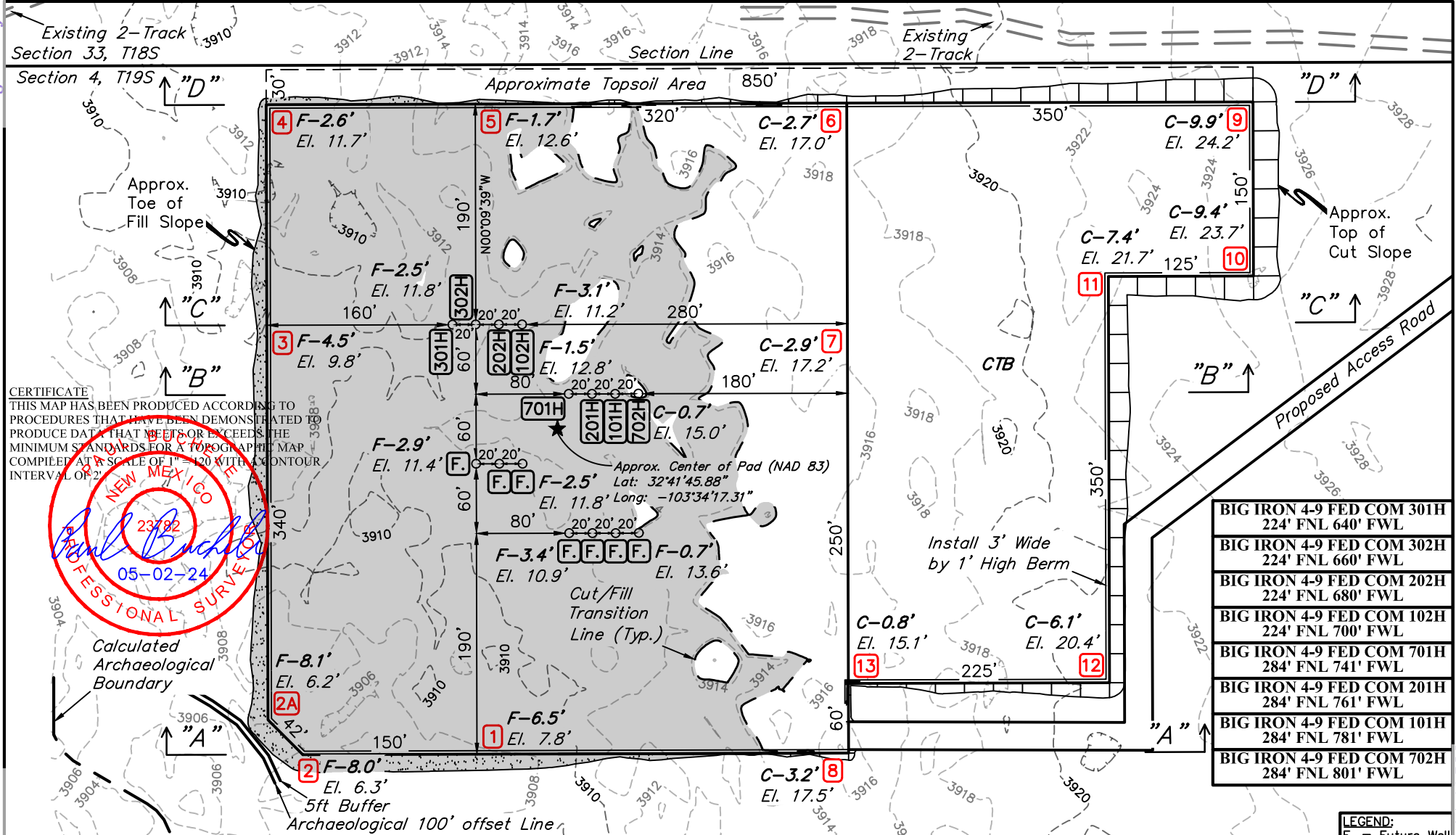
SURVEYED BY	R.C., H.R.	02-28-24	SCALE
DRAWN BY	D.M.C.	06-26-23	1 : 36,000

**ONE MILE RADIUS**

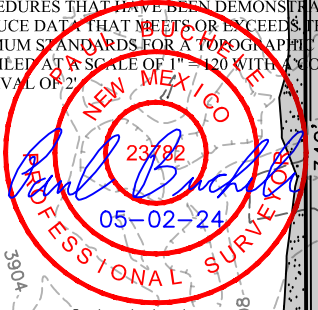
**EXHIBIT E**



**UELS, LLC**  
 Corporate Office \* 85 South 200 East  
 Vernal, UT 84078 \* (435) 789-1017



**CERTIFICATE**  
THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO PRODUCE DATA THAT MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR A TOPOGRAPHIC MAP COMPILED AT A SCALE OF 1" = 120' WITH A CONTOUR INTERVAL OF 2'



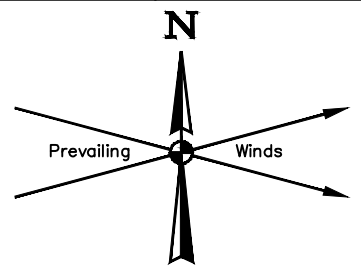
BIG IRON 4-9 FED COM 301H 224' FNL 640' FWL
BIG IRON 4-9 FED COM 302H 224' FNL 660' FWL
BIG IRON 4-9 FED COM 202H 224' FNL 680' FWL
BIG IRON 4-9 FED COM 102H 224' FNL 700' FWL
BIG IRON 4-9 FED COM 701H 284' FNL 741' FWL
BIG IRON 4-9 FED COM 201H 284' FNL 761' FWL
BIG IRON 4-9 FED COM 101H 284' FNL 781' FWL
BIG IRON 4-9 FED COM 702H 284' FNL 801' FWL

**NOTE:** Earthwork Calculations Require a Fill @ some Location Stakes For Balance. All Fill is to be Compacted to a Minimum of 95% of the Maximum Dry Density Obtained by AASHTO Method t-99.

REV: 4 05-02-24 T.J.S. (SHL CHANGES)

**FINISHED GRADE ELEVATION = 3914.3'**

- NOTES:**
- Flare pit is to be located a min. of 100' from the wellhead.
  - Contours shown at 2' intervals.
  - Cut/Fill slopes 2:1 (Typ. except where noted)
  - Underground utilities shown on this sheet are for visualization purposes only, actual locations to be determined prior to construction.
  - Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)



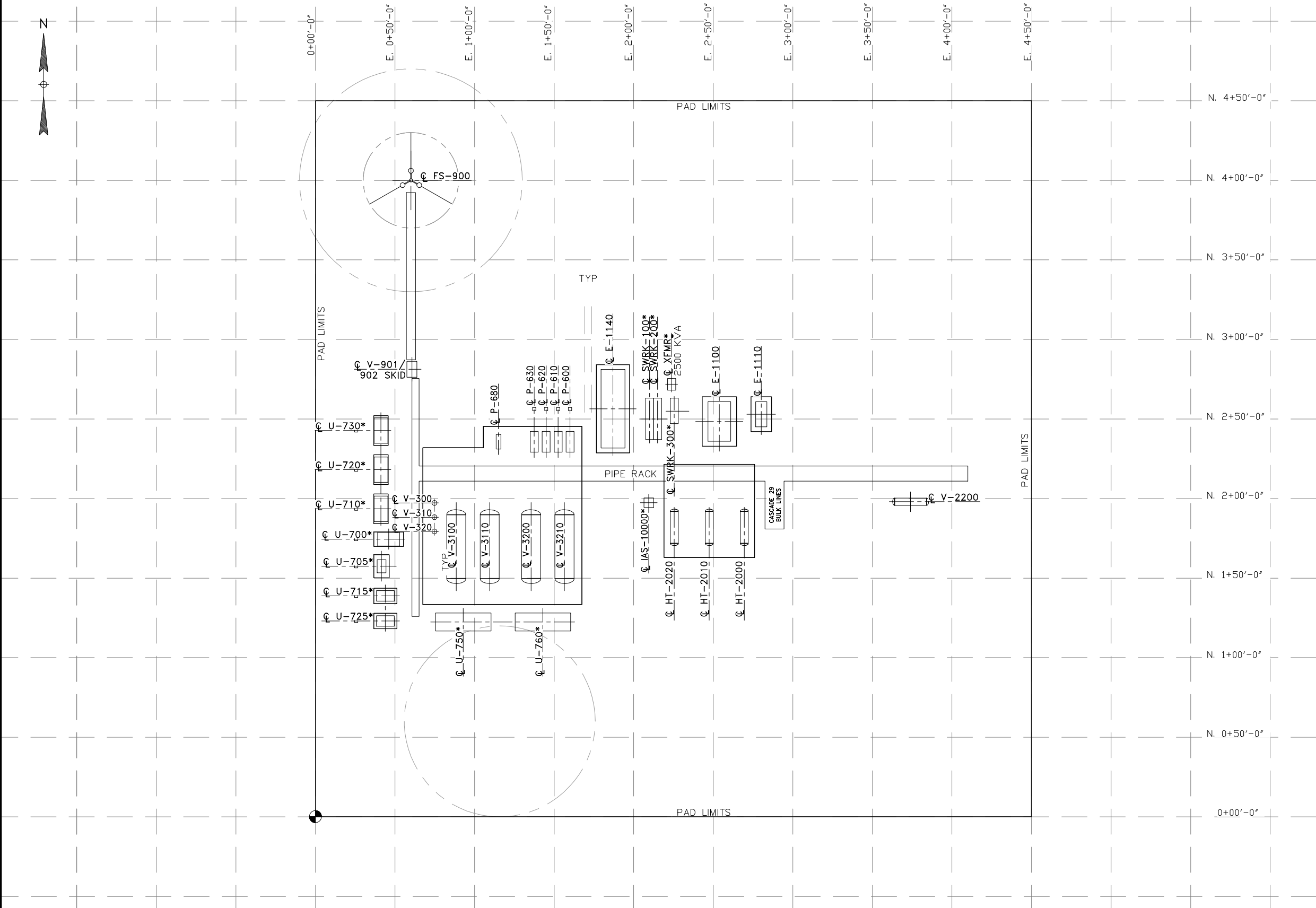
**CIMAREX ENERGY OF COLORADO**

**BIG IRON 4-9 FED COM W2W2  
314' FNL 731' FWL (APPROX. CENTER OF PAD)  
LOT 4, SECTION 4, T19S, R34E, N.M.P.M.  
LEA COUNTY, NEW MEXICO**

<b>SURVEYED BY</b>	R.C., H.R.	02-28-24	<b>SCALE</b>
<b>DRAWN BY</b>	N.D.T.	06-21-23	1" = 120'
<b>LOCATION LAYOUT</b>		<b>EXHIBIT J</b>	



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Corporate Office \* 85 South 200 East  
Vernal, UT 84078 \* (435) 789-1017



EQUIPMENT		
TAG	DESCRIPTION	HP
V-2200	2PH HZ LP GAS SCRUBBER 54' DD x 20' S/S	
HT-2000	HZ HEATER TREATER 60' DD x 20' S/S	
HT-2010	HZ HEATER TREATER 60' DD x 20' S/S	
HT-2020	HZ HEATER TREATER 60' DD x 20' S/S	
V-300	VAPOR RECOVERY TOWER 36' DD x 40' S/S	
V-310	VAPOR RECOVERY TOWER 36' DD x 40' S/S	
V-320	VAPOR RECOVERY TOWER 36' DD x 40' S/S	
U-700	G17	160
U-705	NK100	30
U-710	FX17V150 (FLOGISTIX RENTAL)	160
U-715	FX10V75 (FLOGISTIX RENTAL)	75
U-720	FX17V150 (FLOGISTIX RENTAL)	160
U-725	FX10V75 (FLOGISTIX RENTAL)	75
U-730	FX17V150 (FLOGISTIX RENTAL)	160
V-3100	750 BBL OIL VESSEL 12' DD x 40' S/S	
V-3110	750 BBL OIL VESSEL 12' DD x 40' S/S	
V-3200	750 BBL WATER VESSEL 12' DD x 40' S/S	
V-3210	750 BBL WATER VESSEL 12' DD x 40' S/S	
U-750	ETP PIPELINE W/ BOOSTER	210
U-760	ETP PIPELINE W/ BOOSTER	210
E-1100	H-13-24 OIL COOLER	40
E-1110	108 VVF OIL COOLER	30
E-1140	H-13-2-48 WATER COOLER	(2) 40
FS-900	TRIPPOD 3.0/1.5 MMCFD DUAL FLARE STACK	18
V-911/912	FS-910 DUAL SCUBBER SKID	3
IAS-10000	AIR COMPRESSOR	(2) 7.5
P-600	SKIDDED TRANSFER PUMP	100
P-610	SKIDDED TRANSFER PUMP	100
P-620	SKIDDED TRANSFER PUMP	100
P-630	SKIDDED TRANSFER PUMP	100
P-680	PCP RECIRCULATION PUMP	2

NOTE:  
 LP 2 SAT BOP3; SWEET;  
 \* FIELD VERIFY LOCATION PRIOR TO CONSTRUCTION

REFERENCE DRAWINGS		REVISIONS					
NO.	TITLE	NO.	DATE	DESCRIPTION	BY	CHK.	APP.
		-	-	-	-	-	-

**3S**  
 ENGINEERING & DESIGN

Midland, Texas 79705  
 Ph: 432-687-5611 Arlington, Texas 76011  
 Katy, Texas 77449  
 WWW.3SENGINEERINGDESIGN.COM  
 TBPE FIRM REG. #13809  
 NM FIRM REG. #4545320

**NOTICE**  
 THIS DRAWING HAS NOT BEEN PUBLISHED BUT RATHER HAS BEEN PREPARED BY 3S ENGINEERING & DESIGN. FOR USE BY THE CLIENT NAMED IN THE TITLE BLOCK SOLELY IN RESPECT OF THE CONSTRUCTION, OPERATION AND MAINTENANCE OF FACILITY NAMED IN THE TITLE BLOCK AND SHALL NOT BE USED FOR ANY OTHER PURPOSE, OR FURNISHED TO ANY OTHER PARTY, WITHOUT THE EXPRESS WRITTEN PERMISSION OF 3S ENGINEERING & DESIGN.

ENGINEERING RECORD	
BY	DATE
DRN:	-
DES:	-
CHK:	-
APP:	-
AFE No.	-
FACILITY ENGR.	-
PROJ. ENGR:	-
SCALE:	NONE

**COTERRA**

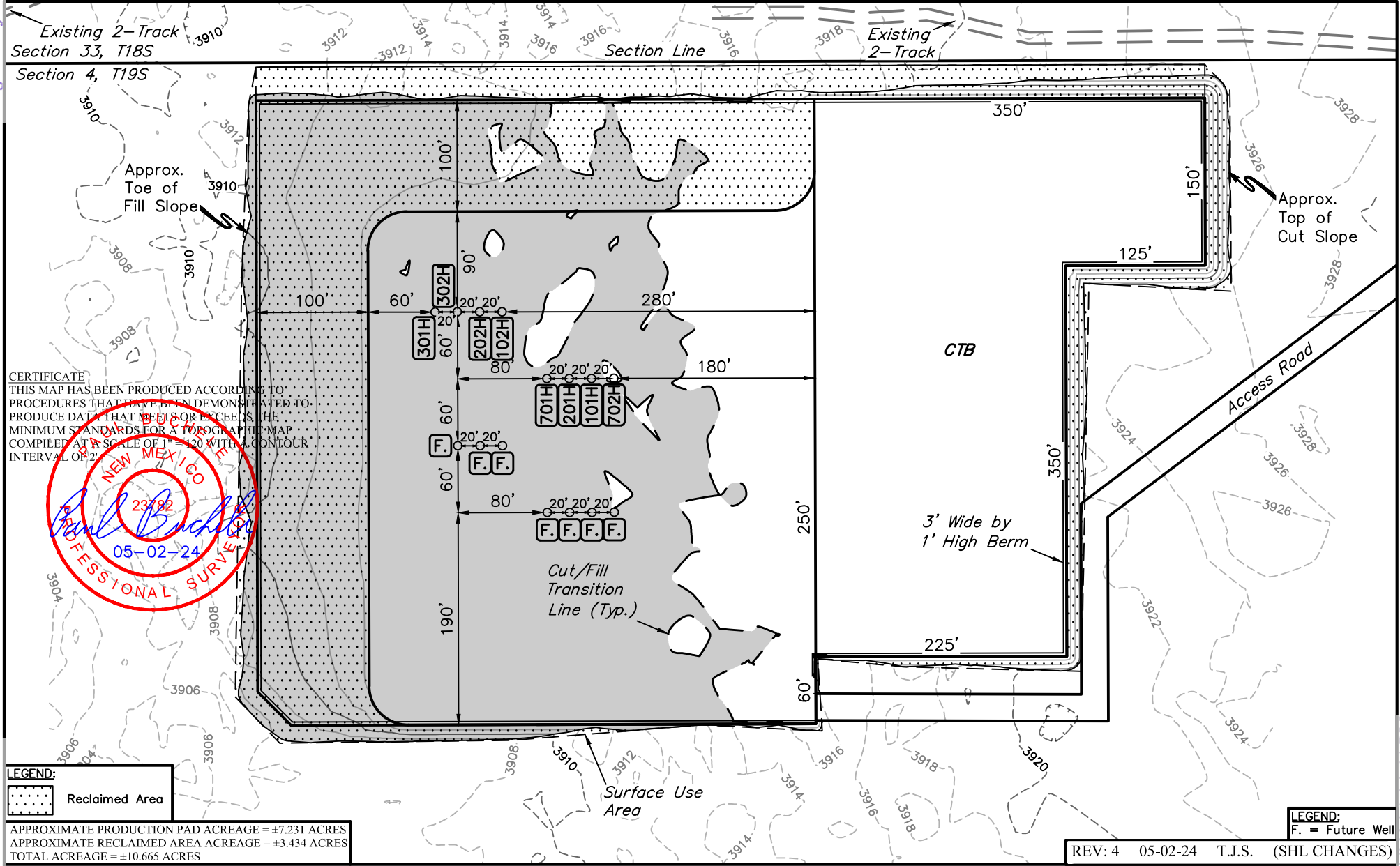
GENERAL ARRANGEMENT PLOT PLAN

PLOT SCALE	NONE	DWG. NO.	D-XXXXX-20-100	REV	0
CAD NO.	-				

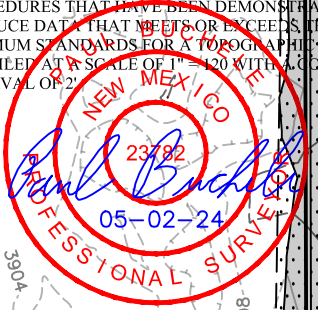


# Big Iron 4-9 Caliche Source Section 6, Township 19S, Range 34E





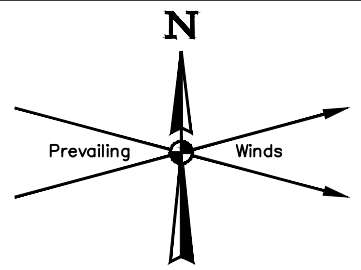
CERTIFICATE  
 THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO PRODUCE DATA THAT MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR A TOPOGRAPHIC MAP COMPILED AT A SCALE OF 1" = 120' WITH A CONTOUR INTERVAL OF 2'



LEGEND:  
 Reclaimed Area

APPROXIMATE PRODUCTION PAD ACREAGE = ±7.231 ACRES  
 APPROXIMATE RECLAIMED AREA ACREAGE = ±3.434 ACRES  
 TOTAL ACREAGE = ±10.665 ACRES

NOTES:  
 • Contours shown at 2' intervals.

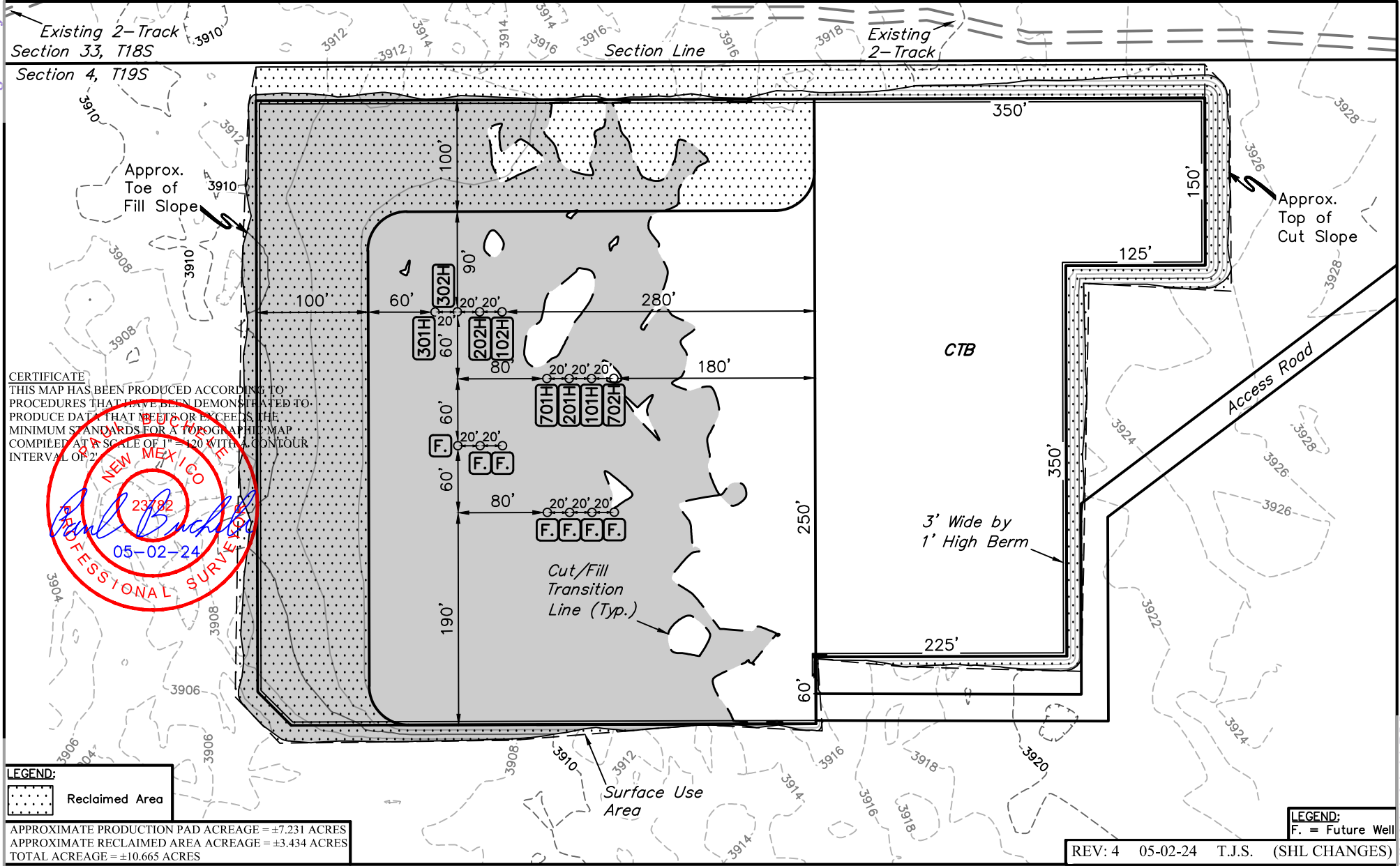


**CIMAREX ENERGY OF COLORADO**  
**BIG IRON 4-9 FED COM W2W2**  
**314' FNL 731' FWL (APPROX. CENTER OF PAD)**  
**LOT 4, SECTION 4, T19S, R34E, N.M.P.M.**  
**LEA COUNTY, NEW MEXICO**

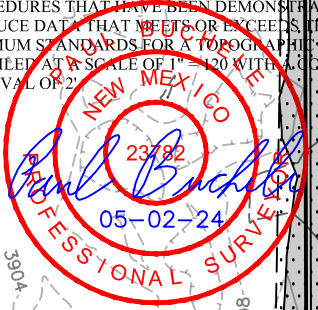
SURVEYED BY	R.C., H.R.	02-28-24	SCALE
DRAWN BY	N.D.T.	06-21-23	1" = 120'
<b>RECLAMATION DIAGRAM</b>		<b>EXHIBIT P</b>	



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**CERTIFICATE**  
 THIS MAP HAS BEEN PRODUCED ACCORDING TO PROCEDURES THAT HAVE BEEN DEMONSTRATED TO PRODUCE DATA THAT MEETS OR EXCEEDS THE MINIMUM STANDARDS FOR A TOPOGRAPHIC MAP COMPILED AT A SCALE OF 1" = 120' WITH A CONTOUR INTERVAL OF 2'



**LEGEND:**  
 [Dotted pattern] Reclaimed Area

APPROXIMATE PRODUCTION PAD ACREAGE = ±7.231 ACRES  
 APPROXIMATE RECLAIMED AREA ACREAGE = ±3.434 ACRES  
 TOTAL ACREAGE = ±10.665 ACRES

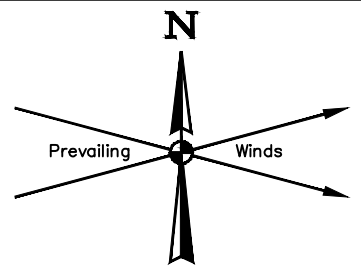
**NOTES:**  
 • Contours shown at 2' intervals.

**LEGEND:**  
 F. = Future Well

REV: 4 05-02-24 T.J.S. (SHL CHANGES)



**UELS, LLC**  
 Corporate Office \* 85 South 200 East  
 Vernal, UT 84078 \* (435) 789-1017



**CIMAREX ENERGY OF COLORADO**

**BIG IRON 4-9 FED COM W2W2**  
**314' FNL 731' FWL (APPROX. CENTER OF PAD)**  
**LOT 4, SECTION 4, T19S, R34E, N.M.P.M.**  
**LEA COUNTY, NEW MEXICO**

<b>SURVEYED BY</b>	R.C., H.R.	02-28-24	<b>SCALE</b>
<b>DRAWN BY</b>	N.D.T.	06-21-23	1" = 120'

**RECLAMATION DIAGRAM      EXHIBIT P**



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

# PWD Data Report

06/18/2025

**APD ID:** 10400099016

**Submission Date:** 06/12/2024

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**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:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**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:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**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:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**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

06/18/2025

**APD ID:** 10400099016

**Submission Date:** 06/12/2024

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** BIG IRON 4-9 FED COM

**Well Number:** 302H

**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:** NMB001187

**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:**

<b>Well Name:</b> BIG IRON 4-9 FED COM	<b>Well Location:</b> T19S / R34E / SEC 4 / LOT 4 / 32.696326 / -103.571378	<b>County or Parish/State:</b> LEA / NM
<b>Well Number:</b> 302H	<b>Type of Well:</b> OIL WELL	<b>Allottee or Tribe Name:</b>
<b>Lease Number:</b> NMNM04591	<b>Unit or CA Name:</b>	<b>Unit or CA Number:</b>
<b>US Well Number:</b>	<b>Operator:</b> CIMAREX ENERGY COMPANY OF COLORADO	

**Notice of Intent**

**Sundry ID:** 2884693

**Type of Submission:** Notice of Intent

**Type of Action:** APD Change

**Date Sundry Submitted:** 12/02/2025

**Time Sundry Submitted:** 11:30

**Date proposed operation will begin:** 01/15/2026

**Procedure Description:** Cimarex Energy of Colorado requests the following changes to the Big Iron 4-9 Fed Com 302H, APD ID 10400099016: SHL change from 224 FNL 760 FWL to 284 FNL 901 FWL Casing design change from 13 3/8" x 9 5/8" x 5 1/2" to 13 3/8" x 9 5/8" x 7" x 5 1/2" (Long string tapered design) TVD from 10700 to 10775 Update formation from 2nd Bone Spring Sand to Wolfcamp; update pool to La Rica; Wolfcamp (37316) update dedicated acres to 649.37 See attached for updated C102,directional and drill plan.

**NOI Attachments**

**Procedure Description**

Big\_Iron\_4\_9\_302H\_Sundry\_Submittal\_01062026\_20260127153244.pdf

Well Name: BIG IRON 4-9 FED COM

Well Location: T19S / R34E / SEC 4 / LOT 4 / 32.696326 / -103.571378

County or Parish/State: LEA / NM

Well Number: 302H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM04591

Unit or CA Name:

Unit or CA Number:

US Well Number:

Operator: CIMAREX ENERGY COMPANY OF COLORADO

### Conditions of Approval

#### Additional

4\_19\_34\_4\_Sundry\_ID\_2884693\_Big\_Iron\_4\_9\_Fed\_Com\_302H\_Lea\_NM04591\_Cimarex\_Energy\_Company\_13\_22h\_11\_14\_2024\_LV\_20260129093401.pdf  
Big\_Iron\_4\_9\_Fed\_Com\_302H\_Dr\_COA\_20260129093400.pdf

### Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: SHELLY BOWEN

Signed on: JAN 27, 2026 03:45 PM

Name: CIMAREX ENERGY COMPANY OF COLORADO

Title: Regulatory Analyst

Street Address: 6001 DEAUVILLE BLVD STE 300N

City: MIDLAND

State: TX

Phone: (432) 620-1644

Email address: DL\_PBUREGULATORY@COTERRA.COM

### Field

Representative Name:

Street Address:

City:

State:

Zip:

Phone:

Email address:

### BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS

BLM POC Title: Petroleum Engineer

BLM POC Phone: 5752342234

BLM POC Email Address: CWALLS@BLM.GOV

Disposition: Approved

Disposition Date: 01/29/2026

Signature: Chris Walls



## GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law 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, are either shown below, will be issued by or may be obtained from the local Federal office.

## SPECIFIC INSTRUCTIONS

*Item 4* - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

*Item 13*: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. 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 the 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., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

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

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

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 Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

## Additional Information

### Location of Well

0. SHL: LOT 4 / 224 FNL / 760 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.696326 / LONG: -103.571378 ( TVD: 0 feet, MD: 0 feet )

PPP: SENW / 2766 FNL / 1952 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.689339 / LONG: -103.567537 ( TVD: 9370 feet, MD: 11957 feet )

PPP: LOT 4 / 100 FNL / 1945 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.696666 / LONG: -103.567526 ( TVD: 10099 feet, MD: 10236 feet )

PPP: NESW / 1319 FNL / 1956 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.678381 / LONG: -103.567554 ( TVD: 10700 feet, MD: 17240 feet )

PPP: SENW / 1334 FSL / 1956 FWL / TWSP: 19S / RANGE: 34E / SECTION: 4 / LAT: 32.685673 / LONG: -103.567543 ( TVD: 10700 feet, MD: 13253 feet )

BHL: SESW / 100 FSL / 1945 FWL / TWSP: 19S / RANGE: 34E / SECTION: 9 / LAT: 32.667777 / LONG: -103.567571 ( TVD: 10700 feet, MD: 21098 feet )

CONFIDENTIAL

Big Iron 4-9 Fed Com 302H

13 3/8		surface csg in a		17 1/2		inch hole.		Design Factors				Surface	
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	54.50		j 55	btc	8.80	1.19	1.63	1,780	4	2.79	2.01	97,010	
"B"				btc				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,134								Totals:	1,780			97,010	
<p>Comparison of Proposed to Minimum Required Cement Volumes</p> <p>Tail Cmt does not circ to sfc.</p>													
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE				Min Dist Hole-Cplg	
17 1/2	0.6946	1038	1702	1236	38	10.30	978	2M				1.56	

The plot (table) for E or F as per D.3.1.10.D.4.1. not found

9 5/8		casing inside the		13 3/8		Design Factors				Int 1		
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00		hck 55	lrc	4.99	2.53	0.71	3,157	2	1.25	4.32	126,280
"B"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,387								Totals:	3,157			126,280
<p>The cement volume(s) are intended to achieve a top of 0 ft from surface or a 1780 overlap.</p>												
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE				Min Dist Hole-Cplg
12 1/4	0.3132	721	1256	1077	17	10.20	3171	5M				0.81
r D V Tool(s):								sum of sx	Σ CuFt			Σ%excess
t by stage % :									721 1256			17
Class 'H' tail cmt yld > 1.20												
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 1.25, b, c, d All > 0.70, OK.												

7		casing inside the		9 5/8		Design Factors				Prod 1		
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	29.00		p 110	btc	3.01	1.61	2.02	10,318	2	3.54	2.81	299,222
"B"	20.00		p 110	btc	70.14	2.00	2.28	10,840	2	3.99	3.49	216,800
"C"								0				0
"D"								0				0
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,270								Totals:	21,158			516,022
<p>The cement volume(s) are intended to achieve a top of 2957 ft from surface or a 200 overlap.</p>												
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE				Min Dist Hole-Cplg
8 3/4	0.1503	3632	5961	2738	118	9.90						0.55
Class 'C' tail cmt yld > 1.35												

#N/A		0		7		Design Factors				<Choose Casing>		
Segment	#/ft	Grade		Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"				0.00				0				0
"B"				0.00				0				0
w/8.4#/g mud, 30min Sfc Csg Test psig:								Totals:	0			0
<p>Cmt vol calc below includes this csg, TOC intended #N/A ft from surface or a #N/A overlap.</p>												
Hole Size	Annular Volume	1 Stage Cmt Sx	1 Stage CuFt Cmt	Min Cu Ft	1 Stage % Excess	Drilling Mud Wt	Calc MASP	Req'd BOPE				Min Dist Hole-Cplg
0		#N/A	#N/A	0	#N/A							
#N/A Capitan Reef est top XXXX.												

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	Cimarex Energy Company
<b>LOCATION:</b>	Section 4, T.19 S., R.34 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Big Iron 4-9 Fed Com 302H
<b>ATS/API ID:</b>	ATS-24-1861
<b>APD ID:</b>	10400099016
<b>Sundry ID:</b>	2884693

COA

H2S	Yes		
Potash	None	None	
Cave/Karst Potential	Low		
Cave/Karst Potential	<input type="checkbox"/> Critical		
Variance	<input checked="" type="checkbox"/> None	<input checked="" type="checkbox"/> Flex Hose	<input checked="" type="checkbox"/> Other
Wellhead	Conventional and Multibowl		
Other	<input type="checkbox"/> 4 String <input type="checkbox"/> 5 String	Capitan Reef None	<input type="checkbox"/> WIPP
Other	Pilot Hole None	<input type="checkbox"/> Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter None	Primary Cement Squeeze None
Special Requirements	<input type="checkbox"/> Water Disposal/Injection	<input checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit
Special Requirements	<input type="checkbox"/> Batch Sundry	Waste Prevention Waste MP	
Special Requirements Variance	<input type="checkbox"/> BOPE Break Testing <input type="checkbox"/> Offline BOPE Testing	<input type="checkbox"/> Offline Cementing	<input type="checkbox"/> Casing Clearance

## A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H<sub>2</sub>S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

## B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1780 feet** (a minimum of 70 feet into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
  - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
  - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**
3. The minimum required fill of cement behind the **7** inch production casing is:
  - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

### C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

#### Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

#### Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** 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.

- a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

### D. SPECIAL REQUIREMENT (S)

#### Communitization Agreement

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to

the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

## GENERAL REQUIREMENTS

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

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

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
    - Notify the BLM when moving in and removing the Spudder Rig.
    - Notify the BLM when moving in the 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 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.

### 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-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke

manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead 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).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the 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.)

- c. 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 part 3170 Subpart 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).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 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.

Long Vo (LVO) 1/29/2026

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

**WELL LOCATION INFORMATION**

API Number <b>30-025-55913</b>	Pool Code 37316	Pool Name La Rica; Wolfcamp
Property Code <b>337720</b>	Property Name BIG IRON 4-9 FED COM	
OGRID No. 215099	Operator Name CIMAREX ENERGY OF COLORADO	Well Number 302H
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Ground Level Elevation 3914.8'
Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
4	4	19S	34E		284 NORTH	901 WEST	32.696161°	-103.570923°	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
N	9	19S	34E		100 SOUTH	1945 WEST	32.667777°	-103.567571°	LEA

Dedicated Acres 649.37	Infill or Defining Well Infill	Defining Well API 301H - Pending	Overlapping Spacing Unit (Y/N) N	Consolidation Code C
Order Numbers. pending		Well setbacks are under Common Ownership: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
3	4	19S	34E		100 NORTH	1945 WEST	32.696666°	-103.567526°	LEA


First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
3	4	19S	34E		100 NORTH	1945 WEST	32.696666°	-103.567526°	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
N	9	19S	34E		100 SOUTH	1945 WEST	32.667777°	-103.567571°	LEA

Unitized Area or Area of Uniform Interest W2 Section 4-9	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation: 3914.8
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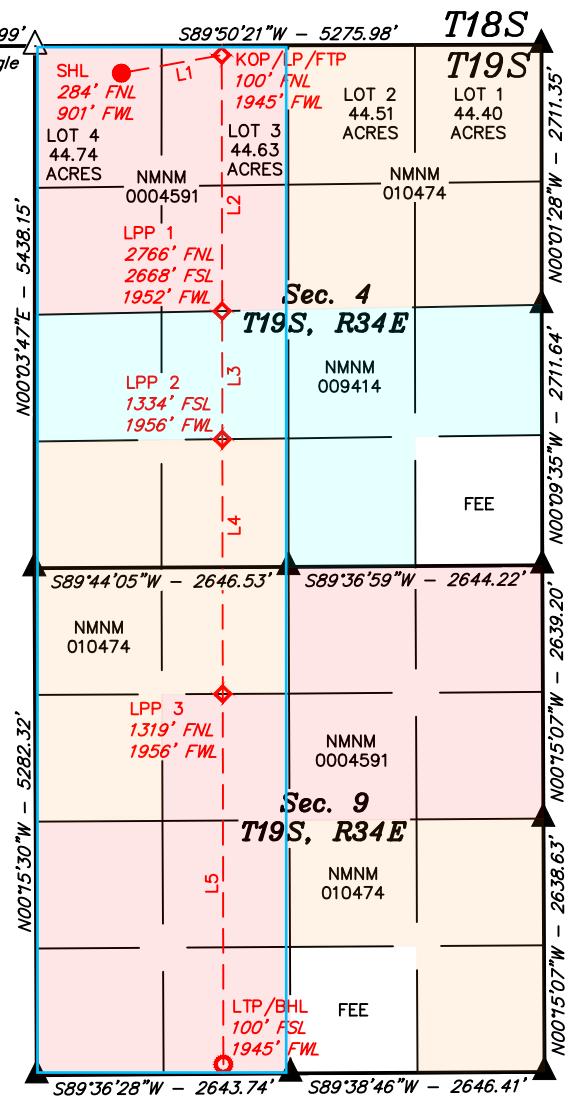
<p><b>OPERATOR CERTIFICATIONS</b></p> <p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the 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></p> <p><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></p> <p><i>Shelly Bowen</i> <span style="float: right;">12/1/2025</span></p>	<p><b>SURVEYOR CERTIFICATIONS</b></p> <p><i>I hereby certify that the well location shown on this plot was plotted from the 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></p> <div style="text-align: center;">  </div>
Signature _____ Date _____	Signature and Seal of Professional Surveyor _____
Shelly Bowen	23782 <span style="float: right;">January 8, 2025</span>
Printed Name _____	Certificate Number _____ Date of Survey _____
shelly.bowen@coterra.com	
Email Address _____	

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

Property Name BIG IRON 4-9 FED COM	Well Number 302H	Drawn By N.D.T. 06-21-23	Revised By REV. 5 T.I.R. 08-11-25 (SHL MOVE)
---------------------------------------	---------------------	-----------------------------	---

<b>NAD 83 (SURFACE HOLE LOCATION)</b>
LATITUDE = 32°41'46.18" (32.696161°)
LONGITUDE = -103°34'15.32" (-103.570923°)
<b>NAD 27 (SURFACE HOLE LOCATION)</b>
LATITUDE = 32°41'45.74" (32.696038°)
LONGITUDE = -103°34'13.54" (-103.570427°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 617837.71' E: 775875.51'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 617773.76' E: 734695.86'
<b>NAD 83 (KOP/LP/FTP)</b>
LATITUDE = 32°41'48.00" (32.696666°)
LONGITUDE = -103°34'03.09" (-103.567526°)
<b>NAD 27 (KOP/LP/FTP)</b>
LATITUDE = 32°41'47.55" (32.696543°)
LONGITUDE = -103°34'01.31" (-103.567030°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 618028.83' E: 776919.15'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 617964.86' E: 735739.50'
<b>NAD 83 (LPP 1)</b>
LATITUDE = 32°41'21.62" (32.689339°)
LONGITUDE = -103°34'03.13" (-103.567537°)
<b>NAD 27 (LPP 1)</b>
LATITUDE = 32°41'21.18" (32.689216°)
LONGITUDE = -103°34'01.35" (-103.567042°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 615363.21' E: 776934.89'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 615299.33' E: 735755.16'
<b>NAD 83 (LPP 2)</b>
LATITUDE = 32°41'08.42" (32.685673°)
LONGITUDE = -103°34'03.15" (-103.567543°)
<b>NAD 27 (LPP 2)</b>
LATITUDE = 32°41'07.98" (32.685550°)
LONGITUDE = -103°34'01.37" (-103.567048°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 614029.27' E: 776942.76'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 613965.43' E: 735762.99'
<b>NAD 83 (LPP 3)</b>
LATITUDE = 32°40'42.17" (32.678381°)
LONGITUDE = -103°34'03.20" (-103.567554°)
<b>NAD 27 (LPP 3)</b>
LATITUDE = 32°40'41.73" (32.678258°)
LONGITUDE = -103°34'01.41" (-103.567060°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 611376.33' E: 776958.42'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 611312.57' E: 735778.57'
<b>NAD 83 (LTP/BHL)</b>
LATITUDE = 32°40'04.00" (32.667777°)
LONGITUDE = -103°34'03.25" (-103.567571°)
<b>NAD 27 (LTP/BHL)</b>
LATITUDE = 32°40'03.55" (32.667653°)
LONGITUDE = -103°34'01.48" (-103.567077°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 607518.23' E: 776981.18'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 607454.59' E: 735801.22'

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N79°51'57"E	1061.18'
L2	S00°05'42"E	2660.11'
L3	S00°05'42"E	1334.19'
L4	S00°05'42"E	2653.44'
L5	S00°05'42"E	3858.82'



- NOTE:**
- Distances referenced on plat to section lines are perpendicular.
  - Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)
  - Colored areas within section lines represent Federal oil & gas leases.



- = SURFACE HOLE LOCATION
- ◆ = KICK OFF POINT/LANDING POINT/FIRST TAKE POINT/LPP
- = LAST TAKE POINT/BOTTOM HOLE LOCATION
- ▲ = SECTION CORNER LOCATED
- △ = SECTION CORNER RE-ESTABLISHED. (Not Set on Ground.)

**1. Geological Formations**

TVD of target 10,775  
MD at TD 21,099

Pilot Hole TD N/A  
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1640	N/A	
Top of Salt	1718	N/A	
Base of Salt/Lamar	3117	N/A	
Top Delaware Sands/Bell Canyon	3581	N/A	
Cherry Canyon	5928	N/A	
Brushy Canyon	6442	N/A	
Bone Spring Lime	7919	N/A	
Leonard	8002	N/A	
Avalon	8474	N/A	
1st Bone Spring Sand	9185	Hydrocarbons	
2nd Bone Spring Shale	9442	Hydrocarbons	
2nd Bone Spring Sand	9727	Hydrocarbons	
3rd Bone Spring Carb	10199	Hydrocarbons	
3rd Bone Spring Sand	10512	Hydrocarbons	
Wolfcamp Sand	10775	Hydrocarbons	

**2. Casing Program**

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1690	1690	13-3/8"	54.50	J-55	BT&C	1.55	3.76	9.26
12 1/4	0	3157	3157	9-5/8"	40.00	HCK-55	LT&C	2.28	2.36	4.44
8 3/4	0	10318	10318	7"	29.00	P-110	BT&C	1.61	2.11	4.31
8 3/4	10318	21158	10775	5-1/2"	20.00	P-110	BT&C	2.00	2.23	70.13
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.  
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

## Cimarex Energy Co., Big Iron 4-9 Fed Com 302H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N
Is AC Report included?	Y

**3. Cementing Program**

Casing	# Sk	Wt. lb/gal	Yld ft <sup>3</sup> /sack	H <sub>2</sub> O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	819	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	219	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	536	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	185	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	448	10.30	3.64	22.18		Lead: Tuned Light + LCM
	3184	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface		45
Intermediate		58
Production	2957	25

Cimarex request the ability to perform casing integrity tests after plug bump of cement job.

**4. Pressure Control Equipment**

A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	10M	Annular	5M	100% of working pressure
			Blind Ram		10M
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	10M	Annular	5M	100% of working pressure
			Blind Ram		10M
			Pipe Ram	X	
			Double Ram	X	
			Other		

X	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
X	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?

**5. Mud Program**

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1690'	Fresh Water	7.80 - 8.30	28	N/C
1690' to 3157'	Brine Water	9.70 - 10.20	30-32	N/C
3157' to 21158'	Water Based Mud	9.40 - 9.90	40-80	N/C

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

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

**6. Logging and Testing Procedures**

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

Additional Logs Planned	Interval

**7. Drilling Conditions**

Condition	
BH Pressure at deepest TVD	5546 psi
Abnormal Temperature	No

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
X	H2S is present
X	H2S plan is attached

**8. Other Facets of Operation**

**9. Wellhead**

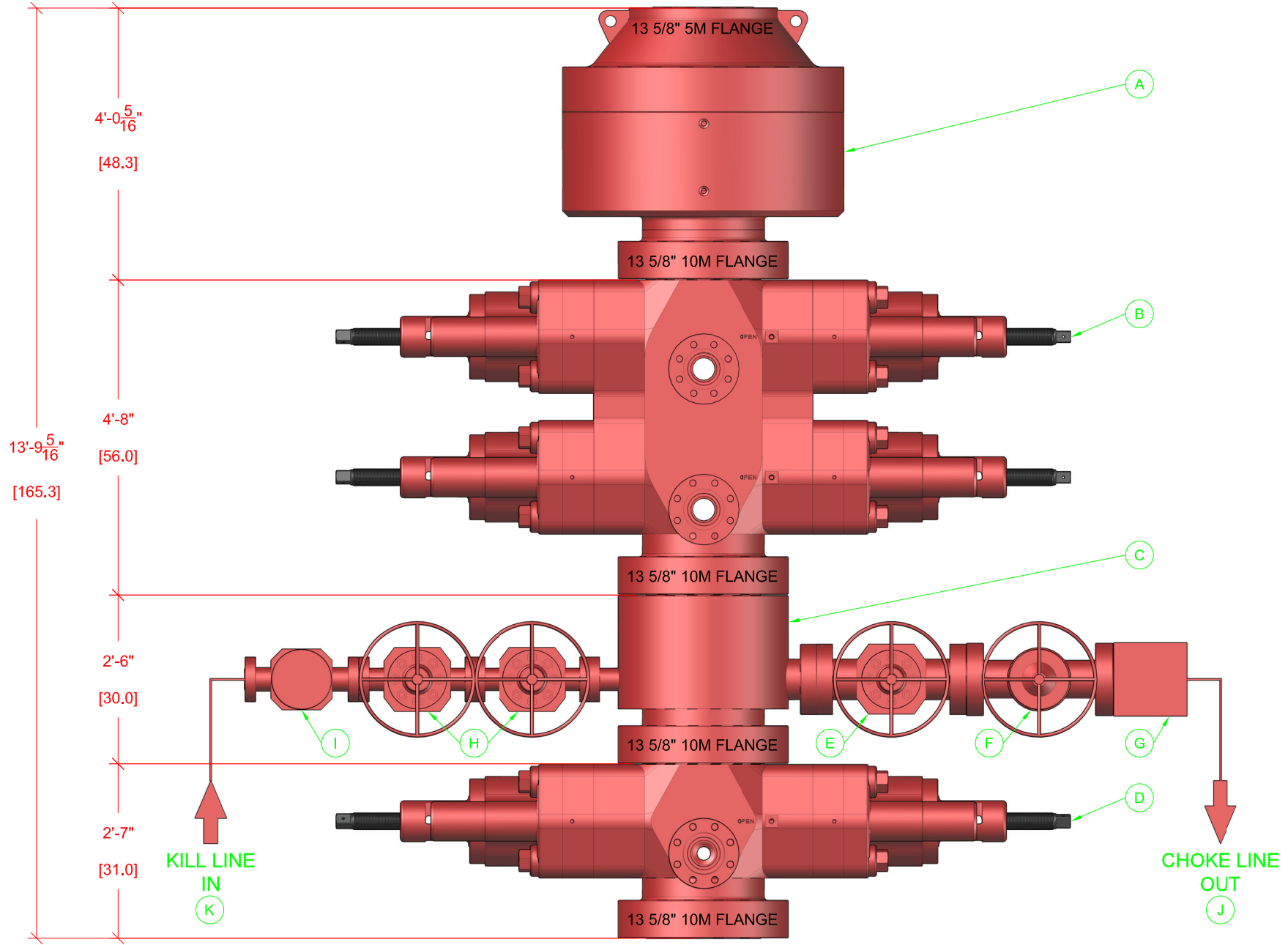
1. The multi-bowl wellhead will be installed by a vendor representative. A copy of the installation instructions has been sent to the BLM field office.
2. A packoff will be installed after running and cementing the production casing. This packoff will be tested to 10K psi.

**BOPE Additional Information & Testing**

1. After running the first string of casing, a 10M BOP/BOPE system with 5M annular will be installed. BOPs will be tested according to Onshore Order #2. BOPE will be tested to full rated pressure (10K for all BOPE except the annular, which is tested to 5K). For the low test, the system will be tested to 250 psi.
2. All BOP equipment will be tested utilizing a conventional test plug.
3. A remote kill line is included in the BOPE system
4. All casing strings will be tested per Onshore Order #2, to 0.22 psi/ft or 1,500 psi, whichever is greater, not to exceed 70% of casing burst.
5. If well conditions dictate, conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

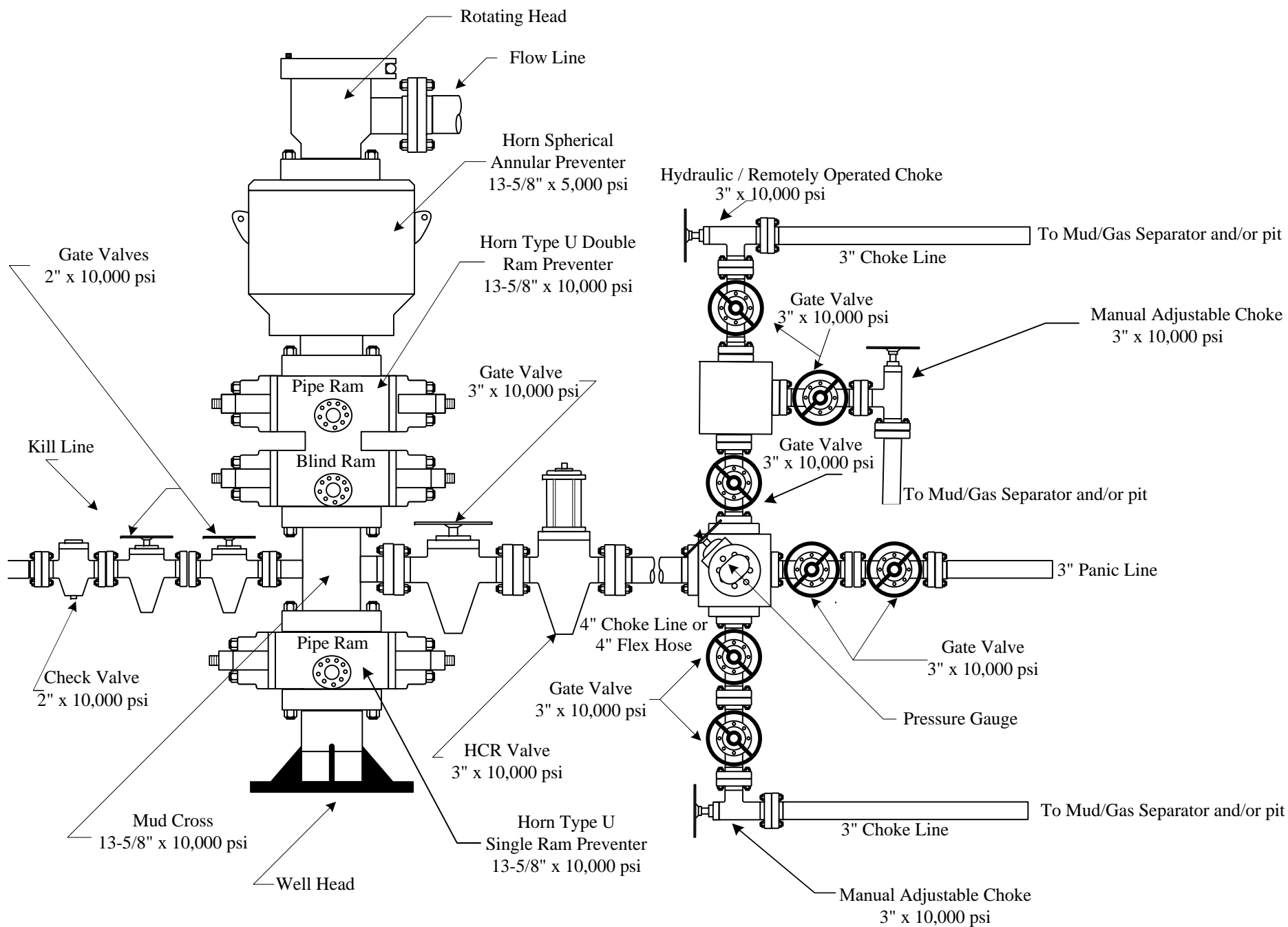
**Additional Well Control Notes**

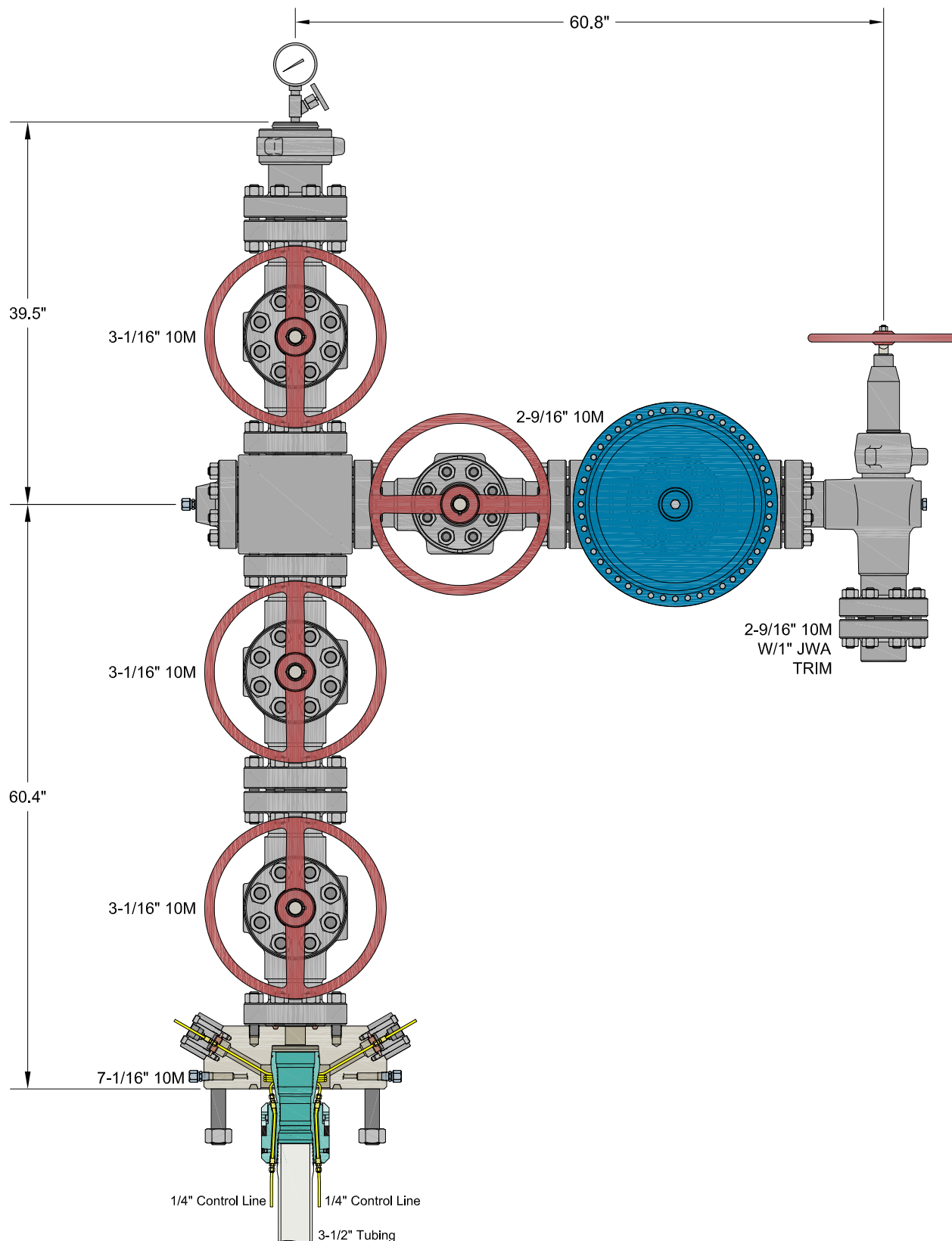
1. In the event wellbore pressure encroaches to the maximum rated pressure of the annular, primary pressure control will be switched to the higher rated components (i.e., switch from annular to pipe rams) – upper pipe rams will be closed, and the annular opened in order to not exceed maximum rated pressures.



**BOP EQUIPMENT INFORMATION**

DESCRIPTION	MODEL	QTY	ITEM	DESCRIPTION	MODEL	QTY
ANNULAR BOP	13 5/8\" 5M	1	G	STUDDED BLOCK	4 1/2\" 10M	1
DOUBLE RAM BOP	13 5/8\" 10M TYPE-U	1	H	GATE VALE	2 1/2\" 10M FC MANUAL	2
MUD CROSS	13 5/8\" 10M	1	I	CHECK VALVE	2 1/2\" 10M	1
SINGLE RAM BOP	13 5/8\" 10M TYPE-U	1	J	CHOKE HOSE	4 1/2\" 10M	1
GATE VALVE	4 1/2\" 10M FC MANUAL	1	K	KILL HOSE	2 1/2\" 10M	1
HCR VALVE	4 1/2\" 10M HCR	1	L			





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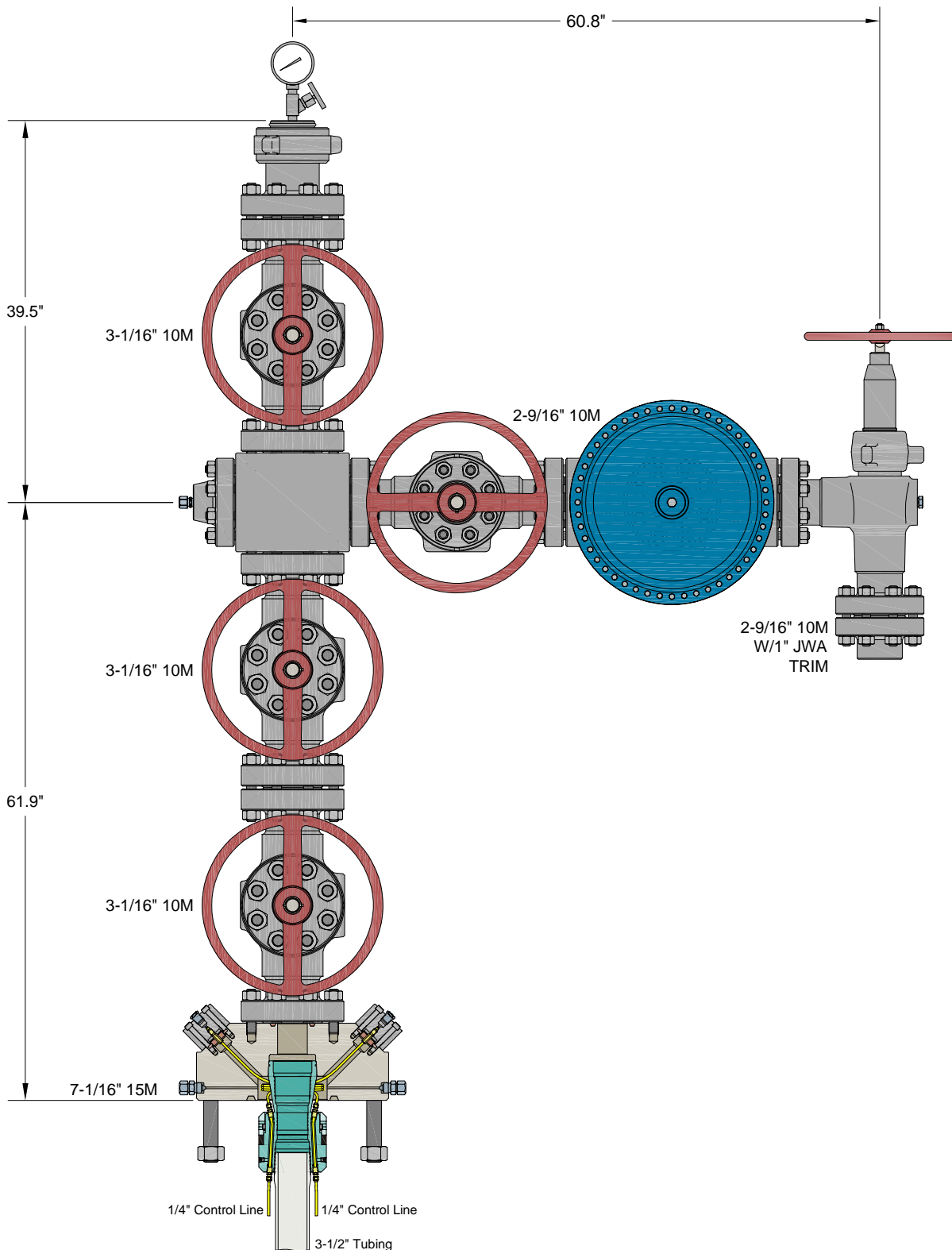
ALL DIMENSIONS APPROXIMATE

# CACTUS WELLHEAD LLC

CIMAREX  
HOBBS, NM

7-1/16" 10M x 3-1/16" x 2-9/16" 10M Production Tree Assembly  
With 7-1/16" 10M x 3-1/16" 10M T40-CCL Tubing Head Adapter  
And 7-1/16" 3-1/2" T40-CCL Tubing Hanger

DRAWN	VJK	05SEP23
APPRV		
DRAWING NO.	HBE0001018	



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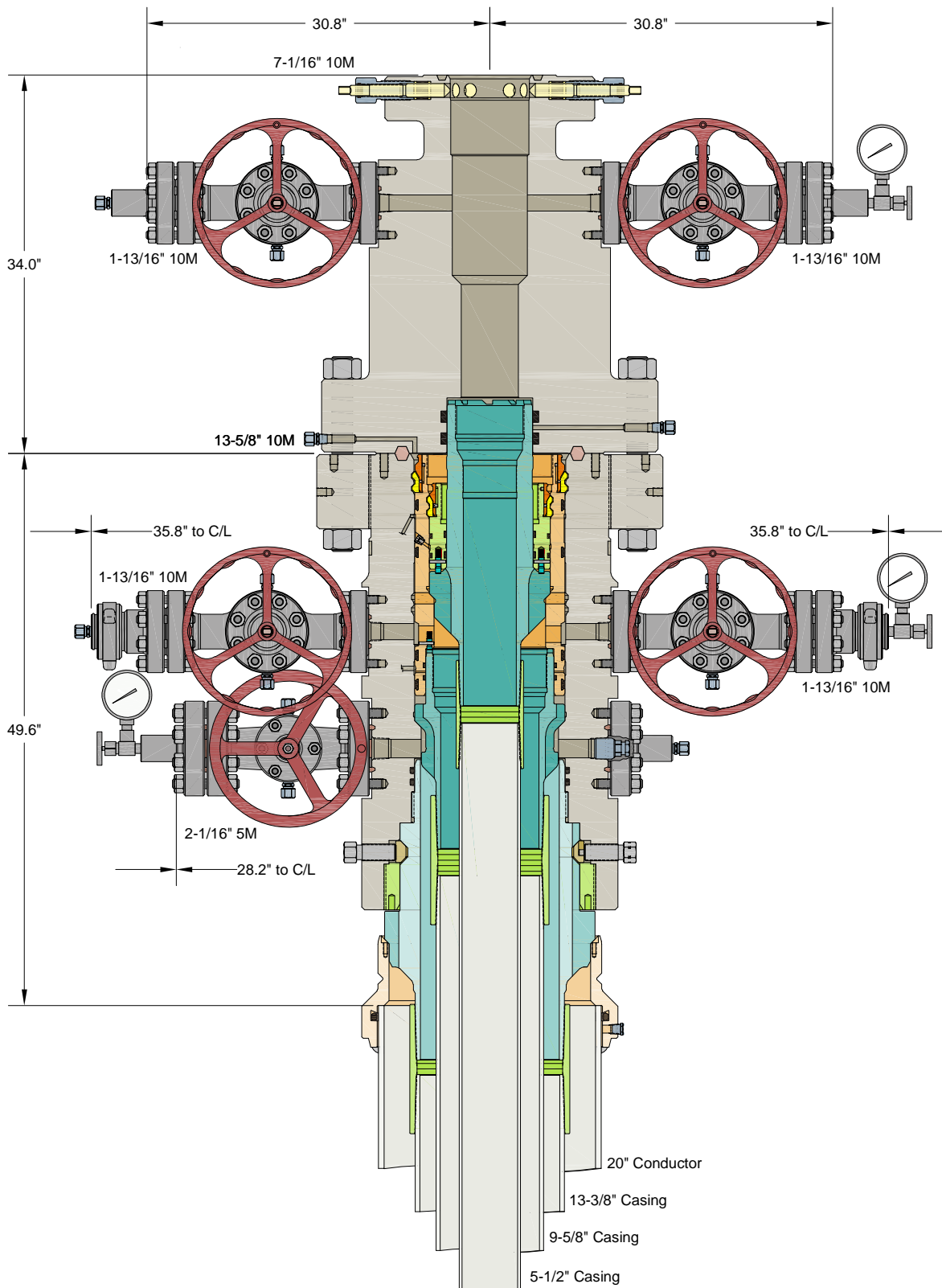
ALL DIMENSIONS APPROXIMATE

# CACTUS WELLHEAD LLC

CIMAREX  
HOBBS, NM

7-1/16" 15M x 3-1/16" x 2-9/16" 10M Production Tree Assembly  
With 7-1/16" 15M x 3-1/16" 10M T40-CCL Tubing Head Adapter  
And 7-1/16" 3-1/2" T40-CCL Tubing Hanger

DRAWN	VJK	13DEC23
APPRV		
DRAWING NO.	HBE0001018	



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ALL DIMENSIONS APPROXIMATE

# CACTUS WELLHEAD LLC

CIMAREX  
HOBBS, NM

20" x 13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL Wellhead Sys.  
With 13-5/8" 10M x 7-1/16" 10M CTH-DBLHPS Tubing Head  
And 9-5/8" & 5-1/2" Fluted Mandrel Casing Hangers

DRAWN	VJK	01MAY24
APPRV		
DRAWING NO.	HBE0001215	

Coterra: Well Control Plan



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# Well Control Plan

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## Warning Signs of a Kick

If a kick is ever suspected, perform flow check.

While Drilling:

1. Drilling break or increase in penetration rate
2. Increase of flow
3. Pit gain
4. Flow without pumping
5. Circulating pressure decrease and/or spm increase
6. Increase in gas cutting at the shakers
7. Decrease in cuttings at shakers

While Tripping:

1. Hole not taking the proper fill on trip out of hole
2. Hole returns too much mud on trip in hole
3. Flow without pumping

While Out of the Hole:

1. Flow
2. Pit gain

## Well Control Procedures with Diverter

A TIW valve in the open position must be on the rig floor at all times.

If rotating head is installed:

1. Perform flow check.
2. If well is flowing, divert flow down flow line and through separator, before returning across shakers.
3. Swap to 10 ppg brine and circulate around. Notify superintendent.

## Coterra: Well Control Plan

4. If well becomes uncontrollable, close annular, which will open HCR to divert flow away from rig.

If rotating head is not installed:

1. Perform flow check.
2. If well is flowing uncontrollably, close annular, which will open HCR to divert flow away from rig.
3. Swap to 10 ppg brine and circulate around. Notify superintendent.
4. After 10 ppg is circulated around shut pumps off and perform flow check.

## Well Control Procedures

Coterra follows a hard shut-in procedure. Choke will be in the closed position.

### *General Well Control*

1. If in doubt, secure the well first, then inform your supervisor.
2. Never wait for approval to shut in the well.
3. Verify that the mud pump is off before you close the BOP.
4. Always check and verify the well is properly secured after shut in.
5. Always install TIW valve in the open position.
6. If TIW valve is installed and then closed, apply estimated DP shut-in pressure above valve before opening.
7. The weak link in the mud system and mud lines is the pressure relief valve or pop off valve on the mud pump.
8. Keep the TIW valve wrench in a designated location on the rig floor and in the open position.
9. Use a drill string float above the bit. Don't perforate or disable the float.
10. In the event wellbore pressure encroaches to the maximum rated pressure of the annular, primary pressure control will be switched to the higher rated components (i.e., switch from annular to pipe rams) – upper pipe rams will be closed, and the annular opened in order to not exceed maximum rated pressures.

### *Hard Shut-In*

1. Remote choke is closed.
2. Stop pumping and space out.
3. Check for flow.
4. To shut in, close annular or pipe ram if no annular is present.
5. Open the HCR valve.
6. Check systems, bump float. Record Initial Shut in Drill pipe pressure and Initial shut in casing pressure.

## Coterra: Well Control Plan

### *Flow Check when on Bottom*

1. Alert crew & stop rotating
2. Pick up and space out
3. Shut down pumps
4. Observe well for flow
5. Shut-in if flowing

### *Shutting in while Drilling*

1. After flow has been detected via flow check, kill pumps, shut in well and open HCR
2. Verify well is shut-in and flow has stopped
3. Notify supervisory personnel
4. Record data
5. Begin go forward planning

### *Flow Check while Tripping*

1. Alert crew & pick up / space out
2. Stop pipe movement. Set slips with tool joint accessible at rotary table
3. Install open TIW safety valve and close valve
4. Observe well for flow
5. Shut-in if flowing

### *Shutting in while Tripping*

1. Install open TIW safety valve and close valve
2. Shut-in the well
3. Verify well is shut-in and flow has stopped
4. Install IBOP
5. Notify supervisory personnel
6. Record data; SICP, shut-in time, kick depth, and pit gain
7. Begin go forward planning

### *Shutting in while Out of Hole*

1. Sound alarm
2. Shut-in well: close blind rams.
3. Verify well is shut-in and monitor pressures.
4. Notify supervisory personnel
5. Record data; SICP, shut-in time, kick depth, and pit gain
6. Begin go forward planning

### *Information to Record while Shut-In*

1. Shut in drill pipe pressure every 5 minutes

## Coterra: Well Control Plan

2. Shut in casing pressure every 5 minutes
3. Pit gain
4. Total volume in pit system
5. Mud weight in suction pit
6. Current depth
7. Total depth
8. Time the well is shut in

*H2S with Annular Diverter:*

1. Kill Pumps, close annular, which will open HCR, to divert flow away from rig.
2. Muster and take head count.
3. Call ASSI to check location for H2S. Call Coterra superintendent.
4. After ASSI has checked for H2S the path forward will be decided from Coterra superintendent.

*H2S with BOP's:*

1. Kill pumps
2. Shut in annular with HCR open and chokes closed.
3. Muster and take head count.
4. Call ASSI to check location for H2S. Call Coterra superintendent.
5. After ASSI has checked for H2S. discuss path forward with Coterra superintendent

*Procedure for Closing Blind Rams*

- Open HCR valve (visually check that the HCR valve is open – stem in the valve is open, stem out the valve is closed).
- Verify all circulating pumps are off (mud pumps, trip tank pump, etc.)
- Ensure that the hydraulic choke is in the closed position.
- Close the blind rams and place the “blind rams closed, bleed pressure and remove hole cover before opening” sign on the console.
- Monitor the shut in casing pressure gauge periodically while the blinds are closed to ensure that wellbore pressure isn't building. If pressure build up is observed, monitor the shut in casing pressure more frequently & document. Notify rig management and Coterra representative of the pressure build up.
- Ensure that the inner bushings are locked into the master bushings if applicable.
- Install hole cover.

*Procedure for Opening Blind Rams*

- Make sure choke manifold is aligned correctly.
- Open the hydraulic choke to bleed any trapped pressure that may be under the blind rams. (Even if the casing pressure gauge is reading zero).

## Coterra: Well Control Plan

- Confirm that no flow is discharging into the trip tank or possum bellies of the shale shaker (wherever the separator is discharging into).
- Remove hole cover.
- Confirm that the inner bushing are locked into the master bushings if applicable.
- Clear all personnel from the rig floor.
- Remove sign and open blind rams.
- Return the BOPE to its original operating alignment.

### *BOP Drills*

- Drilling crews should conduct BOP drills weekly from BOP nipple up to TD for reaction time to properly simulate securing the well. Record BOP drills on that day's report.
- Standard precautions such as checking the accumulator for proper working pressure, function testing rams, and recording slow pump rates are performed on a daily basis or on trips..
- All supervisory personnel onsite need to be properly trained and currently hold certification from an approved blowout prevention school. Any deviation from this needs to be discussed prior to spud.
- Drillers should always notify the tool pusher and the drilling foreman before performing a blowout drill.

### *Choke Manifold Freeze Prevention*

- When possible, blow out the choke & kill lines as well as the choke manifold with rig air to remove water based fluids.
- When clear water is being placed into the choke & kill line as well as the choke manifold, make sure that the water has a mixture of 30% methanol added.
- When applicable, choke & kill lines as well as choke manifold needs to be pumped through with the rig pump by the driller to ensure that the lines aren't plugged with settling barite or solids.



### Coterra Big Iron 4-9 Fed Com 302H Rev2 kFc 15Dec25 Anti-Collision Summary Report

**Analysis Date-24hr Time:** December 15, 2025 - 09:04 PM ( UTC 0 )  
**Client:** COTERRA  
**Field:** NM Lea County (NAD 83)  
**Structure:** Coterra - Big Iron 4-9 Fed Com Pad (Lot 4)  
**Slot:** Big Iron 4-9 Fed Com 302H  
**Well:** Big Iron 4-9 Fed Com 302H  
**Borehole:** Big Iron 4-9 Fed Com 302H  
**Scan MD Range:** 0.00ft ~ 21157.88ft

**Analysis Method:** 3D Least Distance  
**Reference Trajectory:** Coterra Big Iron 4-9 Fed Com 302H Rev2 kFc 15Dec25 (Def Every 10.00 Measured Depth (ft))  
**Depth Interval:**  
**Rule Set:** NAL Procedure: D&M AntiCollision Standard S002  
**Min Pts:** Absolute minima indicated.  
**Engine Version:** 2025.1.0.1  
**Database \ Project:** Big Iron 4-9 Fed Com 302H-COTERRA

**Trajectory Error Model:** ISCWSA Rev 4 \*\*\* 3-D 95 % Confidence 2.7955 sigma

#### Offset Trajectories Summary

**Offset Selection Criteria**

Bounding box scan: minimum Ct-Ct separation <= 2000ft  
 Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans  
 Selection filters: - All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

12 out of 20 are selected

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Breaking Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	

Results highlighted in red: Sep-Factor <= 1.5

Result highlighted in boxed, red and bold: all local minima indicated.

Coterra Big Iron 4-9 Fed Com 202H Rev2 kFc 25Nov25 (DefinitivePlan) - **Fail Minor**

19.99	16.39	16.70	3.60	9.35	CtCt 15.00m	0.00	0.00	CtCt<=15.00m			Enter Alert
19.99	16.39	16.70	3.60	9.35	CtCt 15.00m	23.00	23.00				WRP
19.99	16.39	<b>11.14</b>	3.60	2.47	CtCt 15.00m	790.00	790.00				MinPt-EOU
<b>19.99</b>	20.14	6.24	-0.15	1.49	OSF 1.50	1320.00	1320.00	OSF<=1.50			Enter Minor
<b>19.99</b>	21.33	5.44	-1.34	1.40	OSF 1.50	1400.00	1400.00				MinPt-CtCt
20.15	21.77	<b>5.31</b>	-1.62	1.38	OSF 1.50	1430.00	1430.00				MinPt-EOU
20.27	21.92	5.33	-1.65	1.38	OSF 1.50	1440.00	1440.00				MinPts
<b>23.37</b>	23.38	7.45	-0.02	1.50	OSF 1.50	1540.00	1539.94	OSF>1.50			Exit Minor
<b>165.10</b>	139.90	<b>71.51</b>	<b>25.21</b>	<b>1.77</b>	OSF 5.00	9460.00	9325.00				MinPts
375.16	115.90	297.56	259.26	4.88	OSF 5.00	10040.00	9905.00	OSF>5.00			Exit Alert
<b>997.71</b>	88.78	938.19	908.93	17.03		11567.44	10775.00				MinPt-CtCt
997.72	300.19	797.27	697.53	5.00	OSF 5.00	19500.00	10775.00	OSF<=5.00			Enter Alert
997.72	352.88	<b>762.14</b>	<b>644.84</b>	<b>4.25</b>	OSF 5.00	21157.88	10775.00				MinPts

30-025-20609 - MARATHON-STATE 1 - INC Only to 12670ft - P (DefinitiveSurvey) - **Fail Minor**

1228.67	32.81	1225.28	1195.86	866.90		0.00	0.00				Surface
1228.67	32.81	1225.21	1195.86	824.67		23.00	23.00				WRP
748.82	225.97	597.59	522.85	5.00	OSF 5.00	3860.00	3793.19	OSF<=5.00			Enter Alert
<b>440.64</b>	441.23	145.95	-0.59	1.50	OSF 1.50	7620.00	7485.00	OSF<=1.50			Enter Minor
<b>440.64</b>	609.74	33.65	-169.09	1.08	OSF 1.50	10317.52	10182.52				MinPt-CtCt
441.08	611.18	<b>33.13</b>	-170.09	<b>1.08</b>	OSF 1.50	10340.00	10205.00				MinPts
441.56	611.82	33.18	-170.26	1.08	OSF 1.50	10350.00	10214.99				MinPt-ADP
631.70	635.08	207.81	-3.38	1.49	OSF 1.50	10800.00	10609.97	OSF>1.50			Exit Minor
2143.55	644.88	1713.13	1498.68	4.99	OSF 5.00	12350.00	10775.00	OSF>5.00			Exit Alert
10951.40	647.83	10519.01	10303.57	25.41		21157.88	10775.00				TD

Coterra Big Iron 4-9 Fed Com 102H Rev2 kFc 25Nov25 (DefinitivePlan) - **Warning Alert**

40.00	32.39	36.71	7.60	19.35	CtCt 15.00m	0.00	0.00	CtCt<=15.00m			Enter Alert
39.99	32.39	36.71	7.60	19.35	CtCt 15.00m	23.00	23.00				WRP
39.99	32.39	<b>31.14</b>	7.60	5.11	CtCt 15.00m	790.00	790.00				MinPt-EOU
<b>39.99</b>	32.39	25.45	<b>7.60</b>	2.88	OSF 5.00	1400.00	1400.00				MinPts
40.15	32.39	<b>25.31</b>	7.75	2.83	OSF 5.00	1430.00	1430.00				MinPt-EOU
41.09	32.39	25.76	8.70	<b>2.80</b>	OSF 5.00	1480.00	1479.99				MinPt-SF
96.18	32.39	76.06	63.78	4.98	OSF 5.00	1970.00	1966.25	OSF>5.00			Exit Alert
1144.05	138.86	<b>1051.15</b>	<b>1005.19</b>	12.44		9330.00	9195.00				MinPts
1145.92	139.33	<b>1052.70</b>	<b>1006.59</b>	<b>12.41</b>		9430.00	9295.00				MinPt-SF
<b>1624.74</b>	363.00	<b>1382.41</b>	<b>1261.74</b>	<b>6.73</b>		21157.88	10775.00				MinPts

Coterra Big Iron 4-9 Fed Com 103H Rev0 kFc DDMmmYY (DefinitivePlan) - **Warning Alert**

116.62	32.81	113.33	83.81	57.66		0.00	0.00				Surface
116.60	32.81	113.32	83.79	57.65		23.00	23.00				WRP
60.45	32.81	47.43	27.64	4.94	OSF 5.00	1230.00	1230.00	OSF<=5.00			Enter Alert
<b>52.79</b>	32.81	37.53	<b>19.98</b>	3.63	OSF 5.00	1438.35	1438.35				MinPts
52.89	32.81	<b>37.39</b>	20.08	3.58	OSF 5.00	1460.00	1460.00				MinPt-EOU
54.44	32.81	38.23	21.63	<b>3.51</b>	OSF 5.00	1530.00	1529.96				MinPt-SF
160.73	101.36	92.83	<b>59.37</b>	2.39	OSF 5.00	5290.00	5174.46				MinPt-ADP
161.19	101.82	92.98	<b>59.37</b>	2.38	OSF 5.00	5310.00	5193.78				MinPt-ADP
170.10	110.29	96.24	59.81	<b>2.32</b>	OSF 5.00	5680.00	5551.38				MinPt-SF
210.97	148.37	<b>111.73</b>	62.60	2.14	OSF 5.00	8920.00	8785.00				MinPt-EOU
211.09	148.53	111.74	<b>62.56</b>	<b>2.14</b>	OSF 5.00	8930.00	8795.00				MinPts
437.36	133.71	347.89	303.65	4.93	OSF 5.00	9570.00	9435.00	OSF>5.00			Exit Alert
<b>1434.68</b>	95.49	1370.69	1339.19	22.76		11450.00	10775.00				MinPt-CtCt
1434.76	95.69	<b>1370.64</b>	1339.07	22.71		11467.52	10775.00				MinPt-EOU
1434.88	95.85	1370.66	<b>1339.04</b>	22.67		11480.00	10775.00				MinPt-ADP
<b>1449.98</b>	353.59	1213.92	1096.39	6.16		21150.00	10775.00				MinPt-CtCt
1449.98	353.82	<b>1213.77</b>	<b>1096.16</b>	<b>6.16</b>		21157.88	10775.00				MinPts

Coterra Big Iron 4-9 Fed Com 301H Rev3 kFc 15Dec25 (DefinitivePlan) - **Warning Alert**

60.01	32.81	56.72	27.20	29.36		0.00	0.00				Surface
59.99	32.81	56.71	27.18	29.35		23.00	23.00				WRP
59.99	32.81	<b>51.14</b>	27.18	7.76		790.00	790.00				MinPt-EOU
59.99	32.81	47.14	27.18	4.97	OSF 5.00	1230.00	1230.00	OSF<=5.00			Enter Alert
<b>59.99</b>	32.81	45.45	<b>27.18</b>	4.35	OSF 5.00	1400.00	1400.00				MinPts
60.15	32.81	<b>45.31</b>	27.34	4.27	OSF 5.00	1430.00	1430.00				MinPt-EOU

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Breaking Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
62.47	32.81	46.76	29.66	4.17	OSF 5.00	1520.00	1519.96				MinPt-SF	
87.60	32.81	69.15	54.79	4.96	OSF 5.00	1800.00	1798.70	OSF>5.00			Exit Alert	
973.10	70.44	925.81	902.65	20.99		4640.00	4546.61				MinPt-SF	
1284.75	156.15	1180.32	1128.59	12.41		11567.44	10775.00				MinPt-CiCt	
1284.81	373.70	1035.35	911.11	5.17		21157.88	10775.00				MinPts	
Coterra Big Iron 4-9 Fed Com 702H Rev2 kFc DDMmmYY (DefinitivePlan) - Warning Alert												
116.61	32.81	113.32	83.80	57.65		0.00	0.00				Surface	
116.60	32.81	113.31	83.79	57.65		23.00	23.00				WRP	
67.96	32.81	53.63	35.15	5.02		1346.88	1346.88				MinPts	
68.00	32.81	53.53	35.20	4.97	OSF 5.00	1360.00	1360.00	OSF<=5.00			Enter Alert	
68.11	32.81	53.53	35.30	4.94	OSF 5.00	1370.00	1370.00				MinPt-EOU	
70.02	32.81	54.80	37.21	4.85	OSF 5.00	1430.00	1430.00				MinPt-SF	
76.57	32.81	60.46	43.76	5.00	OSF 5.00	1520.00	1519.96	OSF>5.00			Exit Alert	
118.52	36.43	93.91	82.09	4.97	OSF 5.00	2350.00	2334.65	OSF<=5.00			Enter Alert	
107.14	72.18	58.69	34.96	2.24	OSF 5.00	4590.00	4498.32				MinPt-CiCt	
109.75	90.46	49.11	19.29	1.82	OSF 5.00	5630.00	5502.89				MinPt-EOU	
110.04	90.84	49.16	19.21	1.82	OSF 5.00	5650.00	5522.26				MinPt-ADP	
110.24	91.02	49.23	19.22	1.82	OSF 5.00	5660.00	5531.96				MinPt-SF	
334.73	155.52	230.72	179.21	3.24	OSF 5.00	10370.00	10234.93				MinPt-EOU	
334.83	155.64	230.74	179.19	3.24	OSF 5.00	10390.00	10254.81				MinPt-ADP	
335.09	155.81	230.89	179.28	3.24	OSF 5.00	10420.00	10284.46				MinPt-SF	
567.52	172.10	452.46	395.42	4.97	OSF 5.00	11090.00	10741.56	OSF>5.00			Exit Alert	
1136.49	341.86	908.25	794.63	5.00	OSF 5.00	20680.00	10775.00	OSF<=5.00			Enter Alert	
1136.49	356.64	898.40	779.85	4.79	OSF 5.00	21150.00	10775.00				MinPt-CiCt	
1136.49	356.83	898.28	779.66	4.79	OSF 5.00	21157.88	10775.00				MinPts	
Coterra Big Iron 4-9 Fed Com 801H Rev0 kFc DDMmmYY (DefinitivePlan) - Warning Alert												
134.15	32.81	130.86	101.34	66.42		0.00	0.00				Surface	
134.14	32.81	130.86	101.34	66.42		23.00	23.00				WRP	
134.14	32.81	125.29	101.34	17.56		790.00	790.00				MinPt-EOU	
134.14	32.81	119.60	101.34	9.82		1400.00	1400.00				MinPts	
134.27	32.81	119.43	101.46	9.62		1430.00	1430.00				MinPt-EOU	
159.53	32.88	137.28	126.64	7.46		2190.00	2180.10				MinPt-SF	
161.04	33.19	138.59	127.85	7.46		2210.00	2199.42				MinPt-SF	
469.42	141.62	374.67	327.79	5.00	OSF 5.00	9500.00	9365.00	OSF<=5.00			Enter Alert	
469.11	154.21	365.98	314.90	4.58	OSF 5.00	10460.00	10323.54				MinPt-CiCt	
469.26	154.61	365.86	314.65	4.57	OSF 5.00	10500.00	10361.93				MinPt-EOU	
469.35	154.71	365.88	314.64	4.57	OSF 5.00	10510.00	10371.40				MinPt-ADP	
471.00	155.54	366.97	315.45	4.56	OSF 5.00	10580.00	10435.92				MinPt-SF	
533.69	161.49	425.70	372.20	4.98	OSF 5.00	10900.00	10669.73	OSF>5.00			Exit Alert	
1648.81	362.89	1406.55	1285.92	6.83		21157.88	10775.00				MinPts	
Coterra Big Iron 4-9 Fed Com 601H Rev0 kFc DDMmmYY (DefinitivePlan) - Warning Alert												
152.29	32.81	149.00	119.48	75.49		0.00	0.00				Surface	
152.29	32.81	149.00	119.48	75.49		23.00	23.00				WRP	
152.29	32.81	143.43	119.48	19.94		790.00	790.00				MinPt-EOU	
152.29	32.81	137.74	119.48	11.15		1400.00	1400.00				MinPts	
152.42	32.81	137.57	119.61	10.93		1430.00	1430.00				MinPt-EOU	
167.56	32.81	149.88	134.75	9.98		1720.00	1719.33				MinPt-SF	
654.82	154.18	551.71	500.64	6.40		10480.00	10342.83				MinPt-CiCt	
654.93	154.55	551.57	500.38	6.39		10520.00	10380.81				MinPt-EOU	
655.10	154.74	551.61	500.36	6.38		10540.00	10399.45				MinPt-ADP	
657.52	155.69	553.40	501.83	6.37		10630.00	10479.74				MinPt-SF	
755.18	148.09	656.13	607.09	7.69		11567.44	10775.00				MinPt-CiCt	
755.20	227.43	603.25	527.77	5.00	OSF 5.00	16040.00	10775.00	OSF<=5.00			Enter Alert	
755.23	371.19	507.44	384.04	3.06	OSF 5.00	21157.88	10775.00				MinPts	
30-025-22359 - DON-STATE 1 - INC Only to 10260ft - P (DefinitiveSurvey) - Warning Alert												
11137.43	32.81	11134.04	11104.63	7873.12		0.00	0.00				Surface	
11137.19	32.81	11133.80	11104.38	7869.12		23.00	23.00				WRP	
11136.69	65.91	11092.16	11070.78	260.36		1400.00	1400.00				MinPt-CiCt	
11226.12	286.38	11034.61	10939.74	59.15		4890.00	4788.09				MinPt-EOU	
11249.06	324.36	11032.29	10924.70	52.27		5470.00	5348.33				MinPt-EOU	
2074.72	625.78	1657.04	1448.94	4.98	OSF 5.00	19890.00	10775.00	OSF<=5.00			Enter Alert	
877.24	568.69	497.61	308.55	2.32	OSF 5.00	21157.88	10775.00				MinPts	
30-025-23475 - PIPELINE-FEDERAL 1 - INC Only to 14870ft - P (DefinitiveSurvey) - Warning Alert												
4494.72	32.81	4491.32	4461.91	3176.55		0.00	0.00				Surface	
4494.48	32.81	4491.09	4461.68	3175.30		23.00	23.00				WRP	
4494.36	68.76	4447.93	4425.59	100.58		1400.00	1400.00				MinPt-CiCt	
4503.60	96.79	4438.49	4406.81	71.06		1900.00	1897.47				MinPt-EOU	
4513.36	108.63	4440.35	4404.73	63.32		2110.00	2102.75				MinPt-ADP	
2218.19	667.91	1772.42	1550.29	4.99	OSF 5.00	13470.00	10775.00	OSF<=5.00			Enter Alert	
1219.81	674.31	769.77	545.50	2.72	OSF 5.00	15322.68	10775.00				MinPts	
1219.83	674.34	769.77	545.49	2.72	OSF 5.00	15330.00	10775.00				MinPts	
2238.81	673.36	1789.40	1565.44	5.00	OSF 5.00	17200.00	10775.00	OSF>5.00			Exit Alert	
5961.33	672.49	5512.50	5288.84	13.32		21157.88	10775.00				TD	
Coterra Big Iron 4-9 Fed Com 101H Rev2 kFc DDMmmYY (DefinitivePlan) - Pass												
134.14	32.81	130.86	101.33	66.42		0.00	0.00				Surface	
134.14	32.81	130.85	101.33	66.42		23.00	23.00				WRP	
134.14	32.81	125.29	101.33	17.56		790.00	790.00				MinPt-EOU	
134.14	32.81	119.60	101.33	9.82		1400.00	1400.00				MinPts	
134.29	32.81	119.45	101.48	9.62		1430.00	1430.00				MinPt-EOU	
145.46	32.81	128.38	112.65	8.97		1660.00	1659.64				MinPt-SF	
1325.38	132.55	1236.69	1192.83	15.10		8940.00	8805.00				MinPt-EOU	
1325.43	132.61	1236.70	1192.82	15.09		8950.00	8815.00				MinPt-ADP	
1330.72	133.78	1241.21	1196.94	15.02		9160.00	9025.00				MinPt-SF	
1903.36	356.36	1665.46	1547.00	8.03		21157.88	10775.00				MinPts	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Breaking Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
Coterra Big Iron 4-9 Fed Com 701H Rev2 kFc DDMmmYY (DefinitivePlan) - Pass												
170.85	32.81	167.57	138.05	84.77			0.00	0.00				Surface
170.85	32.81	167.57	138.05	84.77			23.00	23.00				WRP
170.85	32.81	162.00	138.05	22.40			790.00	790.00				MinPt-EOU
170.85	32.81	156.31	138.05	12.52			1400.00	1400.00				MinPts
170.99	32.81	156.15	138.18	12.27			1430.00	1430.00				MinPt-EOU
189.61	32.81	171.63	156.80	11.10			1750.00	1749.13				MinPt-SF
1309.79	80.03	1256.11	1229.76	24.84			5290.00	5174.46				MinPt-SF
1486.47	154.83	1382.92	1331.64	14.48			10570.00	10426.91				MinPt-CtCt
1486.54	155.06	1382.83	1331.48	14.46			10600.00	10453.70				MinPt-EOU
1486.67	155.22	1382.86	1331.44	14.45			10620.00	10471.15				MinPt-ADP
1494.31	156.81	1389.44	1337.50	14.37			10820.00	10623.02				MinPt-SF
1675.09	370.80	1427.56	1304.29	6.79			21157.88	10775.00				MinPts



**Coterra Big Iron 4-9 Fed Com 302H Rev2 kFc 15Dec25 Proposal Geodetic Report**

**Def Plan**

<b>Report Date:</b>	December 15, 2025 - 09:09 PM ( UTC 0 )	<b>Survey / DLS Computation:</b>	Minimum Curvature / Lubinski
<b>Client:</b>	COTERRA	<b>Vertical Section Azimuth:</b>	179.860 (North)
<b>Field:</b>	NM Lea County (NAD 83)	<b>Vertical Section Origin:</b>	0.000 ft, 0.000 ft
<b>Structure / Slot:</b>	Coterra - Big Iron 4-9 Fed Com Pad (Lot 4) / Big Iron 4-9 Fed Com 302H	<b>TVD Reference Datum:</b>	RKB
<b>Well:</b>	Big Iron 4-9 Fed Com 302H	<b>TVD Reference Elevation:</b>	3937.800 ft above MSL
<b>Borehole:</b>	Big Iron 4-9 Fed Com 302H	<b>Seated / Ground Elevation:</b>	3914.800 ft above MSL
<b>UBHI / API#:</b>	Unknown / Unknown	<b>Magnetic Declination:</b>	6.023°
<b>Survey Name:</b>	Coterra Big Iron 4-9 Fed Com 302H Rev2 kFc 15Dec25	<b>Total Gravity Field Strength:</b>	998.5045mgm (9.80665 Based)
<b>Survey Date:</b>	December 15, 2025	<b>Gravity Model:</b>	GARM
<b>Test / AHD / DOI / ERD Ratio:</b>	121.999 / 1.11602.516 ft / 6.444 / 1.077	<b>Total Magnetic Field Strength:</b>	47370.894 nT
<b>Coordinate Reference System:</b>	NAD83 New Mexico State Plane, Eastern Zone, US Feet	<b>Magnetic Dip Angle:</b>	60.431°
<b>Location Lat / Long:</b>	32°41'46.18069"N , 103°34'15.32135"W	<b>Declination Date:</b>	December 15, 2025
<b>Location Grid N/E Y/X:</b>	N 617837.710 RUS , E 775875.510 RUS	<b>Magnetic Declination Model:</b>	HDM 2025
<b>CRS Grid Convergence Angle:</b>	0.412°	<b>North Reference:</b>	Grid North
<b>Grid Scale Factor:</b>	0.99997209(Applied)	<b>Grid Convergence Used:</b>	0.412°
<b>Version / Patch:</b>	2025.1.0.1	<b>Total Corr Mag North-&gt;Grid North:</b>	5.612°
		<b>Local Coord Referenced To:</b>	Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ft)	Easting (ft)	Latitude (°)	Longitude (°)	DLS (1/100ft)	BR (1/100ft)	TR (1/100ft)
SHL [284°FNL, 901°FWL]	0.00	0.00	0.00	0.00	-3,937.80	0.00	0.00	0.00	617.837.71	775.875.51	32.69616130	-103.57092260			
Nudge, Build 2"/100R	1,400.00	0.00	79.90	1,400.00	-2,837.80	0.00	0.00	0.00	617.837.71	775.875.51	32.69616130	-103.57092260	0.00	0.00	0.00
Hold	2,150.02	15.00	79.90	2,141.48	-1,796.32	-16.55	17.12	96.11	617.854.83	775.971.62	32.69620645	-103.57060981	2.00	2.00	0.00
Drop 2"/100R	5,610.50	15.00	79.90	5,484.04	1,546.24	-168.38	174.18	977.89	618,011.89	776,853.37	32.69662066	-103.56774003	0.00	0.00	0.00
Hold	6,360.52	0.00	79.90	6,225.52	2,287.72	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666590	-103.56742724	2.00	-2.00	0.00
KOP, Build 10"/100R	10,317.52	0.00	79.90	10,182.52	6,244.72	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666590	-103.56742724	0.00	0.00	0.00
Build 5"/100R	11,067.52	75.00	181.66	10,735.95	6,798.15	239.48	-233.19	1,061.70	617,604.53	776,937.18	32.69549940	-103.56747719	10.00	10.00	0.00
Landing Point	11,367.52	90.00	181.66	10,775.00	6,837.20	535.89	-529.65	1,053.11	617,308.08	776,928.59	32.69468478	-103.56751207	5.00	5.00	0.00
Turn 2"/100R	11,467.52	90.00	181.66	10,775.00	6,837.20	635.83	-629.61	1,050.21	617,208.12	776,925.69	32.69441012	-103.56752383	0.00	0.00	0.00
Hold	11,567.44	90.00	179.66	10,775.00	6,837.20	735.73	-729.51	1,049.06	617,108.22	776,924.54	32.69413555	-103.56752992	2.00	0.00	-2.00
Big Iron 4-9 Fed Com 302H - PBHL [100°FSL, 1945°FWL]	21,157.88	90.00	179.66	10,775.00	6,837.20	10,325.17	-10,319.79	1,105.70	607,518.23	776,981.18	32.68777672	-103.56757077	0.00	0.00	0.00

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 4 \*\*\* 3-D 95 % Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	10,200.000	1/100.000	12.25 - 8.75 - 6	- 9.625 - 7 - 4.5		A001Mb_MWD		Big Iron 4-9 Fed Com 302H / Coterra Big Iron 4-9 F
	1	10,200.000	21,082.879	1/100.000	6	4.5		A008Mb_MWD+IFR1+MS		Big Iron 4-9 Fed Com 302H / Coterra Big Iron 4-9 F

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
898.700	17.500	13.375	
4,900.981	12.250	9.625	
9,033.697	8.750	7.000	
21,157.879	6.000	4.500	



Coterra Big Iron 4-9 Fed Com 302H Rev2 kFC 15Dec25 Proposal Geodetic

Report  
Def Plan

Report Date: December 15, 2025 - 09:03 PM (UTC 0)  
Client: COTERRA  
Field: NM Lea County (NAD 83)  
Structure / Slost: Coterra - Big Iron 4-9 Fed Com Pad (Lot 4) / Big Iron 4-9 Fed Com 302H  
Well: Big Iron 4-9 Fed Com 302H  
Borehole: Big Iron 4-9 Fed Com 302H  
UBH1 / API#: Unknown / Unknown  
Survey Name: Coterra Big Iron 4-9 Fed Com 302H Rev2 kFC 15Dec25  
Survey Date: December 15, 2025  
Tort / AHD / DDI / ERD Ratio: 121.999' / 11602.516 ft / 6.444 / 1.077  
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet  
Location Lat / Long: 32°14'46.18089"N, 103°34'15.32135"W  
Location Grid NE Y/X: N 817837.710 RUS, E 775875.510 RUS  
CRS Grid Conversion: 0.412"  
Grid Scale Factor: 0.99997209(Applied)  
Version / Patch: 2025.1.0.1

Survey / DLS Computation: Minimum Curvature / Lubinski  
Vertical Section Azimuth: 179.660 (GRID North)  
Vertical Section Origin: 0.000 ft, 0.000 ft  
TVD Reference Datum: RKB  
TVD Reference Elevation: 3937.800 ft above MSL  
Seated / Ground Elevation: 3914.900 ft above MSL  
Magnetic Declination: 6.023"  
Total Gravity Field Strength: 998.5045mgm (9.80665 Baised)  
Gravity Model: GARM  
Total Magnetic Field Strength: 47370.894 nT  
Magnetic Dip Angle: 60.431°  
Declination Date: December 15, 2025  
Magnetic Declination Model: HDGM 2025  
North Reference: Grid North  
Grid Convergence Used:  
Total Corr Mag North->Grid North: 5.612"  
Local Coord Reference To: Well Head

Table with columns: Comments, MD (ft), Incl (°), Azim (°), TVD (ft), TVDSS (ft), VSECC (ft), NS (ft), EW (ft), Northing (RUS), Easting (RUS), Latitude (°), Longitude (°), DLS (\*/100ft), BR (\*/100ft), TR (\*/100ft). Rows include SHL [284FNL, 901FWL], Nudge, Build 2"/100ft, Rustler, Top Salt, Hold, Lamar, Bell Canyon, Drop 2"/100ft, Cherry Canyon, Brushy Canyon, Bone Spring Lime, Leonard, and Avalon.

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)	DLS (ft/100ft)	BR (ft/100ft)	TR (ft/100ft)
	9,100.00	0.00	79.90	8,965.00	5,027.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	9,200.00	0.00	79.90	9,065.00	5,127.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	9,300.00	0.00	79.90	9,165.00	5,227.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
1st BS SS □	9,320.00	0.00	79.90	9,185.00	5,247.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	9,400.00	0.00	79.90	9,265.00	5,327.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	9,500.00	0.00	79.90	9,365.00	5,427.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
2nd BS Carb □	9,577.00	0.00	79.90	9,442.00	5,507.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	9,600.00	0.00	79.90	9,465.00	5,527.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	9,700.00	0.00	79.90	9,565.00	5,627.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	9,800.00	0.00	79.90	9,665.00	5,727.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
2nd BS SS □	9,862.00	0.00	79.90	9,727.00	5,789.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	9,900.00	0.00	79.90	9,765.00	5,827.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	10,000.00	0.00	79.90	9,865.00	5,927.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	10,000.00	0.00	79.90	9,865.00	5,927.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	10,200.00	0.00	79.90	10,065.00	6,127.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
	10,300.00	0.00	79.90	10,165.00	6,227.20	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
KOP, Build 10"/100ft	10,317.52	0.00	79.90	10,182.52	6,244.72	-184.92	191.30	1,074.00	618,029.00	776,949.48	32.69666580	-103.56742724	0.00	0.00	0.00
3rd BS Carb □	10,334.00	1.65	181.66	10,199.00	6,261.20	-184.69	191.06	1,073.99	618,028.77	776,949.47	32.69666515	-103.56742727	10.00	10.00	0.00
	10,400.00	8.25	181.66	10,264.72	6,326.92	-179.00	185.38	1,073.83	618,023.08	776,949.31	32.69664952	-103.56742793	10.00	10.00	0.00
	10,500.00	18.25	181.66	10,361.93	6,424.13	-156.13	162.50	1,073.17	618,000.20	776,948.64	32.69658666	-103.56743063	10.00	10.00	0.00
	10,600.00	28.25	181.66	10,453.70	6,515.96	-116.73	123.30	1,072.02	617,973.50	776,947.56	32.69647038	-103.56743326	10.00	10.00	0.00
3rd BS SS □	10,668.55	35.10	181.66	10,512.00	6,574.20	-80.78	87.13	1,070.84	617,924.84	776,946.46	32.69637957	-103.56743949	10.00	10.00	0.00
	10,700.00	38.25	181.66	10,537.22	6,599.42	-62.00	68.36	1,070.44	617,906.07	776,945.92	32.69632798	-103.56744170	10.00	10.00	0.00
	10,800.00	48.25	181.66	10,609.97	6,722.17	6.38	-0.04	1,068.45	617,837.67	776,943.93	32.69614003	-103.56744975	10.00	10.00	0.00
	10,900.00	58.25	181.66	10,669.73	6,731.93	86.36	-80.03	1,066.14	617,757.68	776,941.61	32.69592024	-103.56745916	10.00	10.00	0.00
Build 5"/100ft	11,000.00	68.25	181.66	10,714.68	6,776.88	175.48	-169.18	1,063.55	617,668.54	776,939.03	32.69567528	-103.56746965	10.00	10.00	0.00
	11,067.52	75.00	181.66	10,735.95	6,798.15	239.48	-233.19	1,061.70	617,604.53	776,937.18	32.69549940	-103.56747719	10.00	10.00	0.00
	11,200.00	76.62	181.66	10,743.92	6,806.12	270.95	-204.66	1,060.79	617,573.26	776,936.26	32.69541290	-103.56748086	5.00	5.00	0.00
	11,200.00	81.62	181.66	10,762.78	6,824.98	359.07	-162.88	1,059.25	617,524.92	776,934.66	32.69514327	-103.56749284	5.00	5.00	0.00
	11,300.00	86.62	181.66	10,773.01	6,835.21	468.45	-142.20	1,055.06	617,475.53	776,930.54	32.69487012	-103.56750413	5.00	5.00	0.00
Landing Point	11,367.52	90.00	181.66	10,775.00	6,837.20	535.89	-529.65	1,053.11	617,308.08	776,928.59	32.69468478	-103.56751207	5.00	5.00	0.00
Turn 2"/100ft	11,400.00	90.00	181.66	10,775.00	6,837.20	568.35	-562.12	1,052.17	617,275.61	776,927.64	32.69459556	-103.56751589	0.00	0.00	0.00
	11,467.52	90.00	181.66	10,775.00	6,837.20	635.83	-629.61	1,050.21	617,208.12	776,925.69	32.69441012	-103.56752383	0.00	0.00	0.00
Hold	11,500.00	90.00	181.01	10,775.00	6,837.20	668.30	-662.08	1,049.45	617,175.65	776,924.93	32.69432088	-103.56752705	2.00	0.00	-2.00
	11,567.44	90.00	179.66	10,775.00	6,837.20	735.73	-729.37	1,048.06	617,108.22	776,924.54	32.69415555	-103.56752992	2.00	0.00	0.00
	11,600.00	90.00	179.66	10,775.00	6,837.20	768.29	-762.08	1,047.25	617,075.66	776,923.65	32.69404606	-103.56753266	0.00	0.00	0.00
	11,700.00	90.00	179.66	10,775.00	6,837.20	868.29	-862.07	1,049.84	616,975.66	776,925.32	32.69377121	-103.56753049	0.00	0.00	0.00
	11,800.00	90.00	179.66	10,775.00	6,837.20	968.29	-962.07	1,050.43	616,875.67	776,925.91	32.69349637	-103.56753091	0.00	0.00	0.00
	11,900.00	90.00	179.66	10,775.00	6,837.20	1,068.29	-1,062.07	1,051.02	616,775.67	776,926.50	32.69322153	-103.56753134	0.00	0.00	0.00
	12,000.00	90.00	179.66	10,775.00	6,837.20	1,168.29	-1,162.07	1,051.61	616,675.68	776,927.09	32.69294668	-103.56753177	0.00	0.00	0.00
	12,100.00	90.00	179.66	10,775.00	6,837.20	1,268.29	-1,262.07	1,052.20	616,575.68	776,927.68	32.69267184	-103.56753219	0.00	0.00	0.00
	12,200.00	90.00	179.66	10,775.00	6,837.20	1,368.29	-1,362.07	1,052.79	616,475.69	776,928.27	32.69239699	-103.56753262	0.00	0.00	0.00
	12,300.00	90.00	179.66	10,775.00	6,837.20	1,468.29	-1,462.06	1,053.38	616,375.70	776,928.86	32.69212215	-103.56753305	0.00	0.00	0.00
	12,400.00	90.00	179.66	10,775.00	6,837.20	1,568.29	-1,562.06	1,053.97	616,275.71	776,929.45	32.69184730	-103.56753347	0.00	0.00	0.00
	12,500.00	90.00	179.66	10,775.00	6,837.20	1,668.29	-1,662.06	1,054.57	616,175.70	776,930.04	32.69157246	-103.56753390	0.00	0.00	0.00
	12,600.00	90.00	179.66	10,775.00	6,837.20	1,768.29	-1,762.06	1,055.16	616,075.70	776,930.63	32.69129762	-103.56753433	0.00	0.00	0.00
	12,700.00	90.00	179.66	10,775.00	6,837.20	1,868.29	-1,862.06	1,055.75	615,975.71	776,931.23	32.69102277	-103.56753475	0.00	0.00	0.00
	12,800.00	90.00	179.66	10,775.00	6,837.20	1,968.29	-1,962.06	1,056.34	615,875.71	776,931.82	32.69074793	-103.56753518	0.00	0.00	0.00
	12,900.00	90.00	179.66	10,775.00	6,837.20	2,068.29	-2,062.05	1,056.93	615,775.72	776,932.41	32.69047308	-103.56753561	0.00	0.00	0.00
	13,000.00	90.00	179.66	10,775.00	6,837.20	2,168.29	-2,162.05	1,057.52	615,675.73	776,933.00	32.69019823	-103.56753604	0.00	0.00	0.00
	13,100.00	90.00	179.66	10,775.00	6,837.20	2,268.29	-2,262.05	1,058.11	615,575.73	776,933.59	32.68992339	-103.56753646	0.00	0.00	0.00
	13,200.00	90.00	179.66	10,775.00	6,837.20	2,368.29	-2,362.05	1,058.70	615,475.73	776,934.18	32.68964855	-103.56753689	0.00	0.00	0.00
Pool NMN0004591 exit to NMN	13,300.00	90.00	179.66	10,775.00	6,837.20	2,468.29	-2,462.05	1,059.29	615,375.74	776,934.77	32.68937371	-103.56753731	0.00	0.00	0.00
	13,313.00	90.00	179.66	10,775.00	6,837.20	2,481.29	-2,475.05	1,059.37	615,362.74	776,934.85	32.68933798	-103.56753737	0.00	0.00	0.00
	13,400.00	90.00	179.66	10,775.00	6,837.20	2,581.29	-2,572.04	1,059.88	615,275.74	776,935.44	32.68909866	-103.56753774	0.00	0.00	0.00
	13,500.00	90.00	179.66	10,775.00	6,837.20	2,681.29	-2,662.04	1,060.47	615,175.75	776,936.03	32.68882402	-103.56753817	0.00	0.00	0.00
	13,600.00	90.00	179.66	10,775.00	6,837.20	2,781.29	-2,762.04	1,061.06	615,075.75	776,936.62	32.68854917	-103.56753859	0.00	0.00	0.00
	13,700.00	90.00	179.66	10,775.00	6,837.20	2,881.29	-2,862.04	1,061.65	614,975.76	776,937.21	32.68827433	-103.56753902	0.00	0.00	0.00
	13,800.00	90.00	179.66	10,775.00	6,837.20	2,981.29	-2,962.04	1,062.24	614,875.76	776,937.80	32.68800000	-103.56753945	0.00	0.00	0.00
	13,900.00	90.00	179.66	10,775.00	6,837.20	3,081.29	-3,062.04	1,062.83	614,775.77	776,938.39	32.68772564	-103.56753987	0.00	0.00	0.00
	14,000.00	90.00	179.66	10,775.00	6,837.20	3,181.29	-3,162.03	1,063.43	614,675.77	776,938.98	32.68745129	-103.56754030	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
	20,600.00	90.00	179.66	10,775.00	6,837.20	9,768.29	-9,761.92	1,102.41	608,076.08	776,977.88	32.66931003	-103.56756840	0.00	0.00	0.00
	20,700.00	90.00	179.66	10,775.00	6,837.20	9,868.29	-9,861.92	1,103.00	607,976.09	776,978.48	32.66903519	-103.56756882	0.00	0.00	0.00
	20,800.00	90.00	179.66	10,775.00	6,837.20	9,968.29	-9,961.92	1,103.59	607,876.09	776,979.07	32.66848034	-103.56756925	0.00	0.00	0.00
	20,900.00	90.00	179.66	10,775.00	6,837.20	10,068.29	-10,061.91	1,104.18	607,776.10	776,979.66	32.66848549	-103.56756967	0.00	0.00	0.00
	21,000.00	90.00	179.66	10,775.00	6,837.20	10,168.29	-10,161.91	1,104.77	607,676.10	776,980.25	32.66821065	-103.56757010	0.00	0.00	0.00
	21,100.00	90.00	179.66	10,775.00	6,837.20	10,268.29	-10,261.91	1,105.36	607,576.11	776,980.84	32.66793580	-103.56757052	0.00	0.00	0.00
Big Iron 4-9 Fed Com 302H - PBI	21,157.88	90.00	179.66	10,775.00	6,837.20	10,326.17	-10,319.79	1,105.70	607,516.23	776,981.18	32.66777672	-103.56757077	0.00	0.00	0.00

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 4 \*\*\* 3-D 95 % Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	10,200.000	1/100.000 - 12.25 - 8.75 - 6 - 9.625 - 7 - 4.5				A001Mb_MWD		Big Iron 4-9 Fed Com 302H / Coterra Big Iron 4-9 F
	1	10,200.000	21,082.879	1/100.000	6	4.5		A008Mb_MWD+IFR1+MS		Big Iron 4-9 Fed Com 302H / Coterra Big Iron 4-9 F

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
898.700	17.500	13.375	
4,900.981	12.250	9.625	
9,033.697	8.750	7.000	
21,157.879	6.000	4.500	



<b>Borehole:</b> Big Iron 4-9 Fed Com 302H	<b>Well:</b> Big Iron 4-9 Fed Com 302H	<b>Field:</b> NM Lea County (NAD 83)	<b>Structure:</b> Coterra - Big Iron 4-9 Fed Com Pad (Lot 4)
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<b>Gravity &amp; Magnetic Parameters</b>				<b>Surface Location</b>				<b>NAD83 New Mexico State Plane, Eastern Zone, US Feet</b>				<b>Miscellaneous</b>			
Model:	HDGM 2025	Dip:	60.431°	Date:	15-Dec-2025	Lat:	N 32 41 46.18	Northing:	617837.71ftUS	Grid Conv:	0.4119°	Slot:	Big Iron 4-9 Fed Com 302H	TVD Ref:	RKB (3937.800 ft above MSL)
MagDec:	6.023°	FS:	47370.894nT	Gravity FS:	998.504mgn (9.80665 Based)	Lon:	W 103 34 15.32	Easting:	775875.51ftUS	Scale Fact:	0.99997209	Plan:	Coterra Big Iron 4-9 Fed Com 302H Rev2 kFc 15Dec25		

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [284°FNL, 901°FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nudge, Build 2"/100ft	1400.00	0.00	79.90	1400.00	0.00	0.00	0.00	0.00
Rustler	1640.28	4.81	79.90	1640.00	-1.71	1.77	9.91	2.00
Top Salt	1718.66	6.37	79.90	1718.00	-3.00	3.10	17.43	2.00
Hold	2150.02	15.00	79.90	2141.48	-16.55	17.12	96.11	2.00
Lamar	3159.95	15.00	79.90	3117.00	-60.86	62.96	353.45	0.00
Bell Canyon	3640.32	15.00	79.90	3581.00	-81.93	84.76	475.86	0.00
Drop 2"/100ft	5610.50	15.00	79.90	5484.04	-168.38	174.18	977.89	0.00
Cherry Canyon	6062.46	5.96	79.90	5928.00	-182.30	188.58	1058.75	2.00
Hold	6360.52	0.00	79.90	6225.52	-184.92	191.30	1074.00	2.00
Brushy Canyon	6577.00	0.00	79.90	6442.00	-184.92	191.30	1074.00	0.00
Bone Spring Lime	8054.00	0.00	79.90	7919.00	-184.92	191.30	1074.00	0.00
Leonard	8137.00	0.00	79.90	8002.00	-184.92	191.30	1074.00	0.00
Avalon	8609.00	0.00	79.90	8474.00	-184.92	191.30	1074.00	0.00
1st BS SS	9320.00	0.00	79.90	9185.00	-184.92	191.30	1074.00	0.00
2nd BS Carb	9577.00	0.00	79.90	9442.00	-184.92	191.30	1074.00	0.00
2nd BS SS	9862.00	0.00	79.90	9727.00	-184.92	191.30	1074.00	0.00
KOP, Build 10"/100ft	10317.52	0.00	79.90	10182.52	-184.92	191.30	1074.00	0.00
3rd BS Carb	10334.00	1.65	181.66	10199.00	-184.69	191.06	1073.99	10.00
3rd BS SS	10668.55	35.10	181.66	10512.00	-80.78	87.13	1070.98	10.00
Build 5"/100ft	11067.52	75.00	181.66	10735.95	239.48	-233.19	1061.70	10.00
Landing Point	11367.52	90.00	181.66	10775.00	535.89	-529.65	1053.11	5.00
Turn 2"/100ft	11467.52	90.00	181.66	10775.00	635.83	-629.61	1050.21	0.00
Hold	11567.44	90.00	179.66	10775.00	735.73	-729.51	1049.06	2.00
Pool NMNM0004591 exit to NMNM009414 enter	13313.00	90.00	179.66	10775.00	2481.29	-2475.05	1059.37	0.00
Pool NMNM009414 exit to NMNM010474 enter	14647.00	90.00	179.66	10775.00	3815.29	-3809.02	1067.25	0.00
Section 4-9 Line Cross	15980.50	90.00	179.66	10775.00	5148.79	-5142.50	1075.12	0.00
Pool NMNM010474 exit to NMNM0004591 enter	17300.00	90.00	179.66	10775.00	6468.29	-6461.98	1082.92	0.00
Big Iron 4-9 Fed Com 302H - PBHL [100°FSL, 1945°FWL]	21157.88	90.00	179.66	10775.00	10326.17	-10319.79	1105.70	0.00

Grid North  
Tot Corr (M->G 5.612°)  
Mag Dec (6.023°)  
Grid Conv (0.412°)

CONTROLLED

Plan ref: Coterra Big Iron 4-9 Fed Com 302H kFc 15Dec25

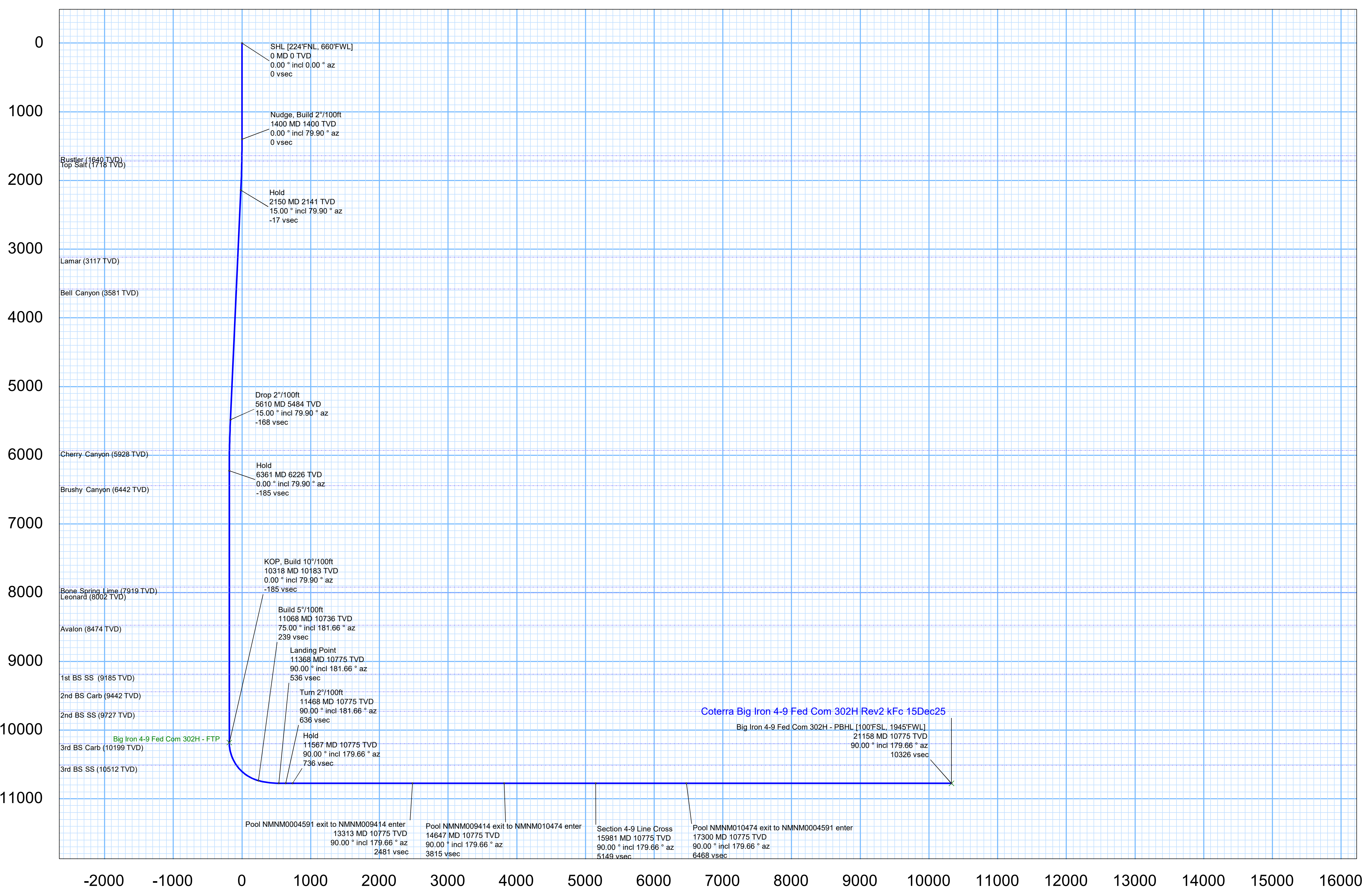
Drawing ref: \_\_\_\_\_

Copy number: \_\_\_\_\_ of 3

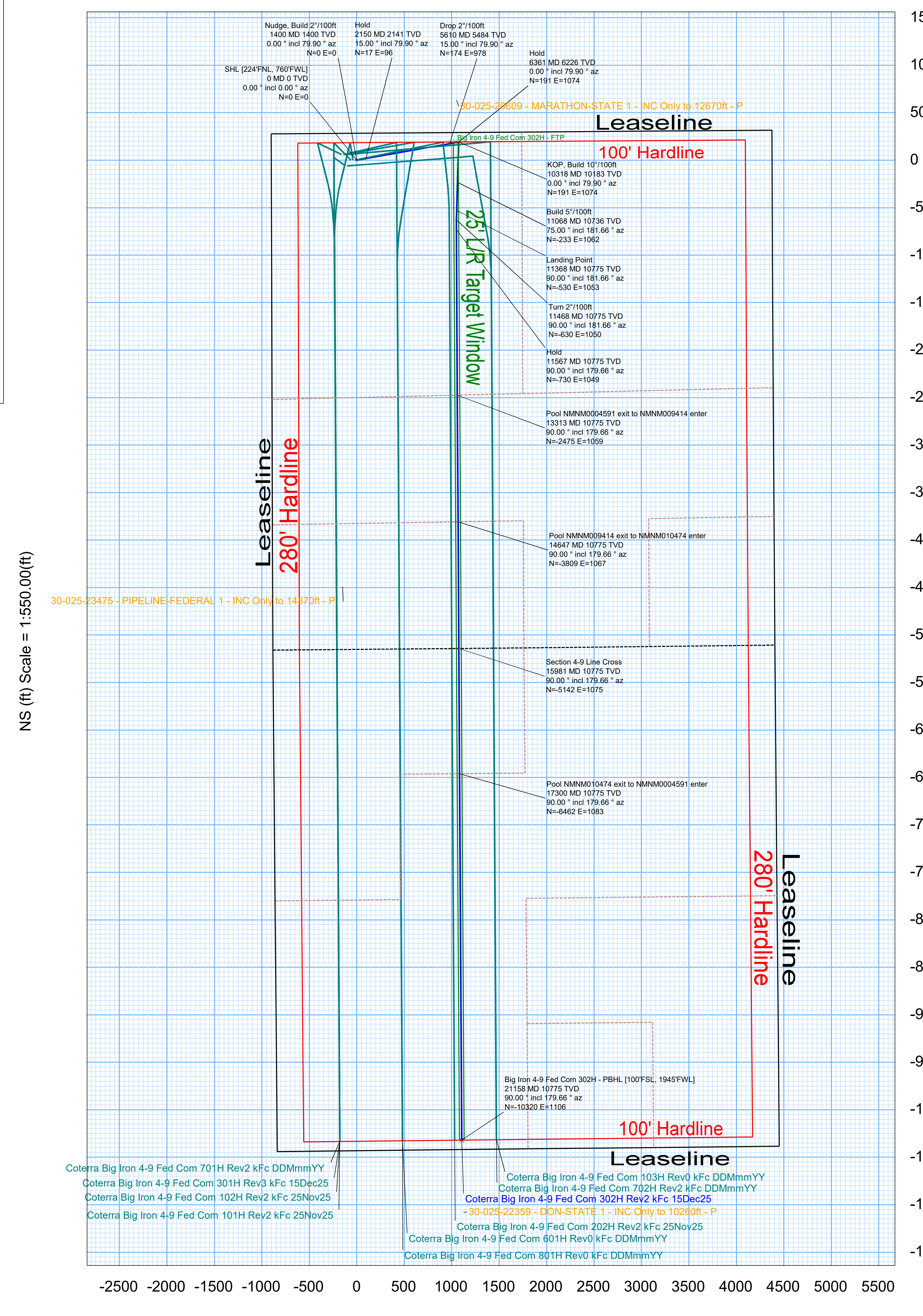
Date: 15-Dec-2025

1	Client	
2	Client	
3	Office	
4	Office	

Copy number \_\_\_\_\_ for \_\_\_\_\_



Vertical Section (ft) Azim = 179.66° Scale = 1:755.19(ft) Origin = 0N/-S, 0E/-W



EW (ft) Scale = 1:550.00(ft)

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

General Information  
Phone: (505) 629-6116

Online Phone Directory  
<https://www.emnrd.nm.gov/oecd/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 548689

**ACKNOWLEDGMENTS**

Operator: CIMAREX ENERGY CO. OF COLORADO 6001 Deauville Blvd Midland, TX 79706	OGRID: 162683
	Action Number: 548689
	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 548689

**CONDITIONS**

Operator: CIMAREX ENERGY CO. OF COLORADO 6001 Deauville Blvd Midland, TX 79706	OGRID: 162683
	Action Number: 548689
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

**CONDITIONS**

Created By	Condition	Condition Date
amydoebele2024	Cement is required to circulate on both surface and intermediate1 strings of casing.	1/30/2026
amydoebele2024	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	1/30/2026
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.	2/10/2026
jeffrey.harrison	Cement must be in place for at least 8 hours and achieve a minimum compressive strength of 500 psi before performing further operations on the well.	2/10/2026
jeffrey.harrison	Any string of casing or liner that is not circulated to surface must have a minimum of 200' of cement tie-back into the previous string of casing.	2/10/2026
jeffrey.harrison	File As Drilled C-102 and a directional Survey with C-104 completion packet.	2/10/2026
jeffrey.harrison	Notify the OCD 24 hours prior to casing & cement.	2/10/2026
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.	2/10/2026
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.	2/10/2026