

Application for Permit to Drill

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

Date Printed: 12/08/2025 02:37 PM

APD Package Report

APD ID: 10400106556 Well Status: AAPD

APD Received Date: 09/03/2025 12:31 PM Well Name: CASCADE 29 FEDERAL

Operator: CIMAREX ENERGY COMPANY Well Number: 201H

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: 5 file(s)

-- Other Facets: 3 file(s)

-- Other Variances: 1 file(s)

- SUPO Report

- SUPO Attachments

-- Existing Road Map: 1 file(s)

-- Attach Well map: 1 file(s)

-- Production Facilities map: 6 file(s)

-- Water source and transportation map: 1 file(s)

-- Well Site Layout Diagram: 2 file(s)

-- Recontouring attachment: 1 file(s)

- PWD Report

- PWD Attachments

-- None

- Bond Report

- Bond Attachments

-- None

Form 3160-3 FORM APPROVED OMB No. 1004-0137 (October 2024) Expires: October 31, 2027 **UNITED STATES** 5. Lease Serial No. DEPARTMENT OF THE INTERIOR NMNM43562 BUREAU OF LAND MANAGEMENT APPLICATION FOR PERMIT TO DRILL OR REENTER 6. If Indian, Allotee or Tribe Name 7. If Unit or CA Agreement, Name and No. ✓ DRILL REENTER 1a. Type of work: 1b. Type of Well: ✓ Oil Well Gas Well Other 8. Lease Name and Well No. 1c. Type of Completion: Hydraulic Fracturing ✓ Single Zone Multiple Zone CASCADE 29 FEDERAL 201H 2. Name of Operator 9. API Well No. CIMAREX ENERGY COMPANY 30-025-55578 10. Field and Pool, or Exploratory 3a. Address 3b. Phone No. (include area code) WC 025 G-06 S253329D/UPR BONE SPI 6001 DEAUVILLE BLVD STE 300N, MIDLAND, TX 79706 (432) 571-7800 4. Location of Well (Report location clearly and in accordance with any State requirements.*) 11. Sec., T. R. M. or Blk. and Survey or Area SEC 29/T25S/R33E/NMP At surface SWSW / 270 FSL / 410 FWL / LAT 32.095062 / LONG -103.601531 At proposed prod. zone SESW / 100 FSL / 2437 FWL / LAT 32.094591 / LONG -103.594987 12. County or Parish 14. Distance in miles and direction from nearest town or post office* 13 State LEA NM 23 miles 17. Spacing Unit dedicated to this well 15. Distance from proposed* 16. No of acres in lease 330 feet location to nearest 320.0 property or lease line, ft. (Also to nearest drig. unit line, if any) 18. Distance from proposed location* 19. Proposed Depth 20. BLM/BIA Bond No. in file to nearest well, drilling, completed, 20 feet 12335 feet / 17049 feet FED: NMB001188 applied for, on this lease, ft. 21. Elevations (Show whether DF, KDB, RT, GL, etc.) 22. Approximate date work will start* 23. Estimated duration 3402 feet 12/01/2025 30 days 24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable) 1. Well plat certified by a registered surveyor. 4. Bond to cover the operations unless covered by an existing bond on file (see 2. A Drilling Plan. Item 20 above). 3. A Surface Use Plan (if the location is on National Forest System Lands, the 5. Operator certification. SUPO must be filed with the appropriate Forest Service Office). 6. Such other site specific information and/or plans as may be requested by the 25. Signature Name (Printed/Typed) Date SHELLY BOWEN / Ph: (432) 620-1936 (Electronic Submission) 09/03/2025 Title Regulatory Analyst Approved by (Signature) Name (Printed/Typed) Date (Electronic Submission) CODY LAYTON / Ph: (575) 234-5959 12/08/2025 Title Office Assistant Field Manager Lands & Minerals Carlsbad Field Office Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

APPROVED WITH CONDITIONS

*(Instructions on page 2)

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

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

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

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

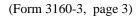
Additional Operator Remarks

Location of Well

 $0. \ SHL: SWSW / \ 270 \ FSL / \ 410 \ FWL / \ TWSP: \ 25S / \ RANGE: \ 33E / \ SECTION: \ 29 / \ LAT: \ 32.095062 / \ LONG: \ -103.601531 (\ TVD: \ 0 \ feet, \ MD: \ 0 \ feet)$ $PPP: \ SWSW / \ 100 \ FSL / \ 787 \ FWL / \ TWSP: \ 25S / \ RANGE: \ 33E / \ SECTION: \ 29 / \ LAT: \ 32.094595 / \ LONG: \ -103.600314 (\ TVD: \ 9769 \ feet, \ MD: \ 9779 \ feet)$ $BHL: \ SESW / \ 100 \ FSL / \ 2437 \ FWL / \ TWSP: \ 25S / \ RANGE: \ 33E / \ SECTION: \ 29 / \ LAT: \ 32.094591 / \ LONG: \ -103.594987 (\ TVD: \ 12335 \ feet, \ MD: \ 17049 \ feet)$

BLM Point of Contact

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



Cascade 29 FEDERAL 201H

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. 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 9000 ppm were recorded.

Questions? Contact Thomas Evans, BLM Geologist at 575-234-5965 or tvevans@blm.gov

Released to Imaging: 12/12/2025 10:05:06 AM Approval Date: 12/08/2025

PECOS DISTRICT SURFACE USE CONDITIONS OF APPROVAL

OPERATOR'S NAME: | CIMAREX ENERGY COMPANY

LEASE NO.: NMNM43562

COUNTY: Lea County, New Mexico

Wells:

CASCADE 29 FEDERAL 201H CASCADE 29 FEDERAL 211H CASCADE 29 FEDERAL 221H CASCADE 29 FEDERAL 301H

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1. GENERAL PROVISIONS

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

1.1. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

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

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

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

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

1.2. RANGELAND RESOURCES

1.2.1. Cattleguards

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

1.2.2. Fence Requirement

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

1.2.3. Livestock Watering Requirement

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

1.3. NOXIOUS WEEDS

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

1.3.1 African Rue (Peganum harmala)

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

Management Practices: In addition to spraying for African Rue, good management practices should be followed. All equipment should be washed off using a power washer in a designated containment area. The containment area shall be berned 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

2.3 WILDLIFE

2.3.1 Lesser Prairie Chicken

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

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

2.3.1.2 Timing Limitation Exceptions:

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

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

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

2.4 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 at least 3 working days prior to commencing construction of the access road and/or well pad.

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

3.2 TOPSOIL

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

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

3.3 CLOSED LOOP SYSTEM

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

3.4 FEDERAL MINERAL PIT

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

3.5 WELL PAD & SURFACING

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

3.6 EXCLOSURE FENCING (CELLARS & PITS)

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

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

3.7 ON LEASE 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

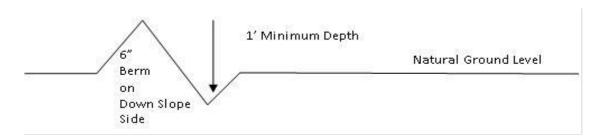
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

3.7.6 **Drainage**

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

400 foot road with 4% road slope: <u>400'</u> + 100' = 200' 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

- Salvage topsoil
- 3. Redistribute topsoil
- 2. Construct road
- 4. Revegetate slopes

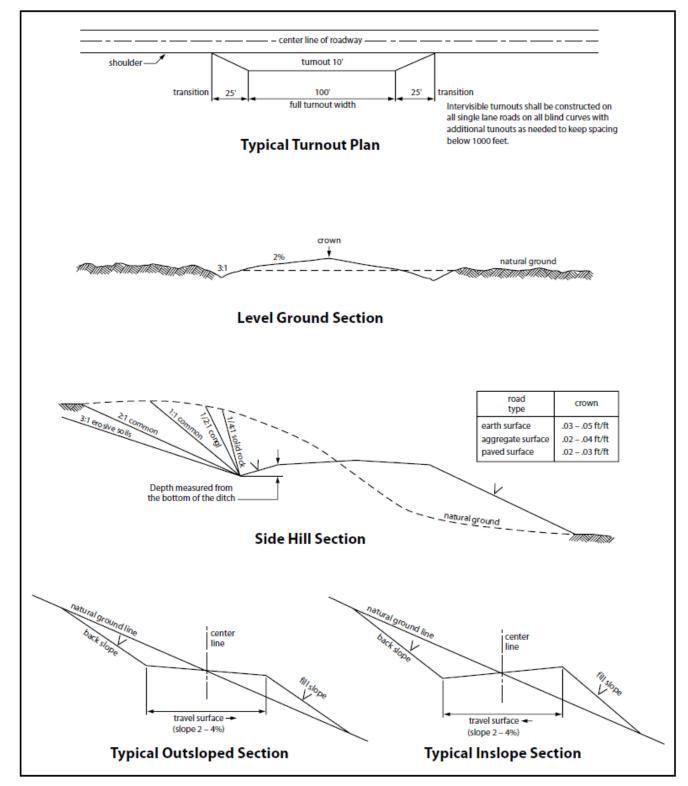


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

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 1½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

5.1.3. Chemical and Fuel Secondary Containment and Exclosure Screening

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

5.1.4. Open-Vent Exhaust Stack Exclosures

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

5.1.5. Containment Structures

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

6. RECLAMATION

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

6.1 ROAD AND SITE RECLAMATION

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

6.2 EROSION CONTROL

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

6.3 INTERIM RECLAMATION

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

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

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

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

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

6.4 FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

6.5 SEEDING TECHNIQUES

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

6.6 SOIL SPECIFIC SEED MIXTURE

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

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

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

Seed Mixture 2, for Sandy Site

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

Species

	l <u>b/acre</u>
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

^{*}Pounds of pure live seed:

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

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Coterra Energy Operating Co	_
	Section 29, T.25 S., R.33 E., NMPM	
COUNTY:	Lea County, New Mexico	•

WELL NAME & NO.: Cascade 29 Federal 201H
ATS/API ID: ATS-25-2309
APD ID: 10400106556
Sundry ID: N/a

COA

H2S	Yes		
Potash	None •	None	
Cave/Karst Potential	Low		
Cave/Karst Potential	Critical		
Variance	□ None	Flex Hose	Other
Wellhead	Conventional and Multibowl	V	
Other	□ 4 String □ 5 String	Capitan Reef None	□WIPP
Other	Pilot Hole None	☐ Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter None	Primary Cement Squeeze None
Special Requirements	☐ Water Disposal/Injection	□ СОМ	□ Unit
Special Requirements	☐ Batch Sundry	Waste Prevention Waste MP	
Special Requirements Variance	☐ BOPE Break Testing ☐ Offline BOPE Testing	☐ Offline Cementing	☐ Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) 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 1080 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.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

- 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. Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.
- 3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
 - Cement should tie-back at least 200 feet into previous casing string.
 Operator shall provide method of verification.
 Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.

C. PRESSURE CONTROL

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

2.

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.

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 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per **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. Acceptable Method of Cement Verifications:
 - a. Observing cement circulated to surface.
 - b. Cement bond log (CBL).
 - c. Temperature log within 8-10 hours after completing the cement job.
 - d. Echometer (if a second-stage bradenhead squeeze is being used).
- 5. 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.
- 6. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
- 7. 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.
- 8. 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.
- 9. 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) 12/4/2025



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

Operator Certification Data Report

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 BOWE	N	Signed on: 09/03/2025
Title: Regulatory Analyst	t	
Street Address: 6001 D	EAUVILLE BLVD STE 300N	
City: MIDLAND	State: TX	Zip: 79706
Phone: (432)620-1644		
Email address: DL_PBL	JREGULATORY@COTERRA.COM	
Field		
Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		



APD ID: 10400106556

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

Application Data

Submission Date: 09/03/2025

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CASCADE 29 FEDERAL Well Number: 201H Well Type: OIL WELL Well Work Type: Drill reflects the most recent changes

Highlighted data

Show Final Text

Section 1 - General

APD ID: 10400106556 Submission Date: 09/03/2025 Tie to previous NOS? Y

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: NMNM43562 Lease Acres:

Allotted? Reservation: Surface access agreement in place?

Agreement in place? NO Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO APD Operator: CIMAREX ENERGY COMPANY

Operator letter of

Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY

Operator Address: 6001 DEAUVILLE BLVD STE 300N

Operator PO Box:

Operator City: MIDLAND State: TX

Operator Phone: (303)295-3995

Operator Internet Address: hknauls@cimarex.com

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: CASCADE 29 FEDERAL Well Number: 201H

Field/Pool or Exploratory? Field and Pool Field Name: WC-025 G-06 Pool Name: UPR BONE

SPRING S253329D

Zip: 79706

Page 1 of 3

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CASCADE 29 FEDERAL Well Number: 201H

Is the proposed well in an area containing other mineral resources? USEABLE WATER, 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: Number: W2W2 Pad 1

Well Class: HORIZONTAL Cascade 29 Federal Number of Legs: 1

Well Work Type: Drill
Well Type: OIL WELL
Describe Well Type:
Well sub-Type: INFILL

Describe sub-type:

Distance to town: 23 Miles Distance to nearest well: 20 FT Distance to lease line: 330 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: CASCADE_29_FEDERAL_W2W2_PAD_1_201H_C102_10082025_20251008101122.pdf

Well work start Date: 12/01/2025 Duration: 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 Vertical Datum: NAVD88

Survey number: 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	DVT	Will this well produce from this
SHL	270	FSL	410	FW	25S	33E	29	Aliquot	32.09506		LEA	1	NEW	F	NMNM	340			Υ
Leg				L				SWS	2	103.6015		MEXI	l		43562	2			
#1								W		31		СО	СО						
KOP	100	FSL	787	FW	25S	33E	29	Aliquot	32.09459		LEA	1		F	NMNM	-	977	976	Υ
Leg				L				SWS	5	103.6003		MEXI	I		43562	636	9	9	
#1								W		14		СО	СО			/			
PPP	100	FSL	787	FW	25S	33E	29	Aliquot	32.09459	-	LEA	NEW	NEW	F	NMNM	-	977	976	Υ
Leg				L				sws	5	103.6003		1	MEXI		43562	636	9	9	
#1-1								W		14		СО	СО			/			

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CASCADE 29 FEDERAL Well Number: 201H

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
EXIT Leg #1	100	FSL	243 7	FW L	25S	33E		Aliquot SESW	32.09459 1	- 103.5949 87	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 43562	- 893 3	170 49	123 35	Y
BHL Leg #1	100	FSL	243 7	FW L	25S	33E	-~	Aliquot SESW	32.09459 1	- 103.5949 87	LEA	NEW MEXI CO	• • – • •	F	NMNM 43562	- 893 3	170 49	123 35	Υ

<u>C-10</u>	,	2/8/2025 4:		ergy, Mir	State of Nonerals & Natu		Mexico Resources Departm	ient	-	Revis	Page 33 sed July 9, 2024				
	Electronicall	у					ON DIVISION			57 Initial Culturit	4-1				
Via OCE) Permitting								Submitta	Initial Submit ☐ Amended Rep					
									Type:	☐ As Drilled	JOIL				
					WELL LOCA	ATI(ON INFORMATION								
API Nu	mber 30-0	25-55578	Pool Code	97994	97903			C 06 82533	29D; UPK	BONE SPRING LOWER BONE					
Property	~ .	981	Property Na	ıme	CASCA	ADE	E 29 FEDERAL	3-00 020	<u> </u>	Well Number 201					
OGRID	No. 21509	99	Operator Na	ame	Ground Level Ele										
Surface	Owner:	State Fee	Tribal ☑ Fed	eral			Mineral Owner: S	state	☐ Tribal 🛭] Federal					
					Su	rfac	e Location								
UL	Section	Township	Range	Lot	Ft. from N/S	iiac	Ft. from E/W	Latitude (N	AD 83) I	Longitude (NAD 83)	County				
M	29	25S	33E		270 SOUTH	I	410 WEST	32.0950	062°	-103.601531°	LEA				
<u> </u>		,		,	Botto	m F	I Iole Location		<u></u>		,				
UL	Section	Township	Range	Lot	Ft. from N/S		Ft. from E/W	Latitude (N	· 1	Longitude (NAD 83)	County				
N	29	25S	33E		100 SOUTE	I	2437 WEST	32.0945	591°	-103.594987°	LEA				
				•											
Dedicat 320	ted Acres	Infill or Defin	ning Well	1 ~	Well API	0111	Overlapping Spacing	Unit (Y/N)	Consolida	ation Code O					
	Jumbers.	Infill Pending		Cuse	ude 29 l'ederar 5	0111	Well setbacks are und	er Common (Ownershin:						
Older	tumbers.	rending					•								
	l a .:	I m 1:	1.	1.	T	Off Point (KOP)									
UL M	Section 29	Township 25S	Range 33E	Lot	Ft. from N/S 100 SOUTH	1	Ft. from E/W	1 ' 1		Longitude (NAD 83) -103.600314°	County LEA				
		200] 332					32.03 13		103.000311	221				
UL	Section	Township	Range	Lot	First 1	ľak	e Point (FTP) Ft. from E/W	Latitude (N	AD 83) I	Longitude (NAD 83)	County				
M	29	25S	33E	Lot	100 SOUTH	ŀ	787 WEST	32.0945	′ I	-103.600314°	LEA				
Ļ		, and the second			Last 7	Γake	e Point (LTP)		L.						
UL	Section	Township	Range	Lot	Ft. from N/S	un	Ft. from E/W	Latitude (N	AD 83) I	Longitude (NAD 83)	County				
N	29	25S	33E		100 SOUTH	I	2437 WEST	32.0945	591°	-103.594987°	LEA				
							1			7					
Unitized		ea of Uniform I Sect 29	nterest	Spacing	Unit Type 🛛 Hor	rizo	ntal Vertical	Grou	nd Floor Ele	evation: 3401.4					
·															
OPERA	TOR CERT	IFICATIONS					SURVEYOR CERTIFIC	CATIONS							
					plete to the best of		I hereby certify that the well	location show	on this plat	was plotted from the field	ld notes of actual				
organiza	tion either ow	ef , and, if the wel ns a working inter	est or unleased i	mineral inter	est in the land		surveys made by me or unde my belief.	r my supervisio		ne same is true and corre	ect to the best of				
location	pursuant to a		wner of a worki	ng interest or	r unleased mineral										
	or to a volunta by the division.		nent or a compu	lsory pooling	g order heretofore	re A Doorbon A									
If this we	ell is a horizon	tal well, I further	certify that this c	organization	has received the			Bul)	115 h	chel					
in each to	ract (in the tar	get pool or forma	tion) in which ar	y part of the	ed mineral interest well's completed			Tro	9-23-2	5/4/					
1 —		or obtained a con		-	the division.			000	ONAL	SUF					
	uccy t	Jowen	10	0/8/2025		MOS ZONAL SUP									

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.

23782

Certificate Number

August 26, 2025

Date of Survey

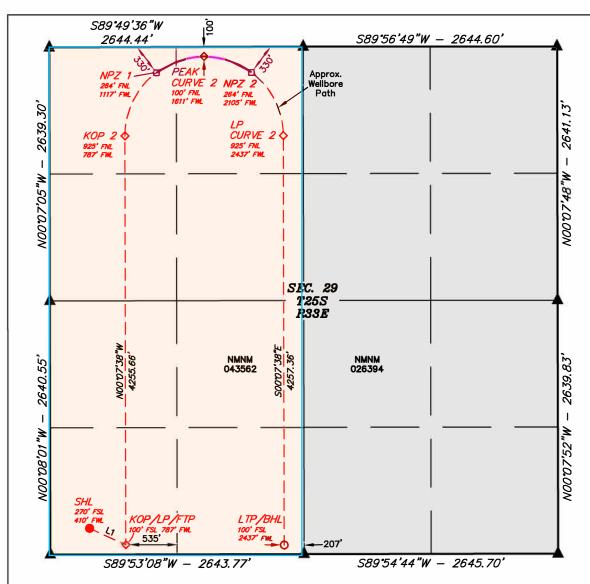
Shelly Bowen

Printed Name

Email Address

shelly.bowen@coterra.com

Property Name Well Number Drawn By Revised By REV: 1 L.T.T. 09-23-25 (SHL MOVE & WELLBORE CHANGES)



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 represent Federal oil and gas leases.

LINE TABLE											
LINE	DIRECTION	LENGTH									
L1	S65°50'40"E	413.61									

- = SURFACE HOLE LOCATION
- = KICK OFF POINT/LANDING POINT/FIRST TAKE POINT PEAK CURVE
- □ = NPZ POINT
- O = LAST TAKE POINT/ BOTTOM HOLE LOCATION
- ▲ = SECTION CORNER LOCATED
- = NON-PERFORATION ZONE

NAD 83 (SURFACE HOLE LOCATION) LATITUDE = 32°05'42.22" (32.095062°) LONGITUDE = -103°36'05.51" (-103.601531°) NAD 27 (SURFACE HOLE LOCATION) LATITUDE = 32°05'41.77" (32.094937°) LONGITUDE = -103°36'03.82" (-103.601060°) STATE PLANE NAD 83 (N.M. EAST) N: 399089.29' E: 767955.78 STATE PLANE NAD 27 (N.M. EAST) N: 399031.64' E: 726769.38' NAD 83 (KOP/LP/FTP) LATITUDE = 32°05'40.54" (32.094594°) LONGITUDE = -103°36'01.13" (-103.600314°) NAD 27 (KOP/LP/FTP) LATITUDE = 32°05'40.09" (32.094469°) LONGITUDE = -103°35'59.43" (-103.599843°) STATE PLANE NAD 83 (N.M. EAST) N: 398921.64' E: 768333.81 STATE PLANE NAD 27 (N.M. EAST) N: 398863.99' E: 727147.40' NAD 83 (KICK OFF POINT 2) LATITUDE = 32°06'22.64" (32.106290°) LONGITUDE = -103°36'01.11" (-103.600309° NAD 27 (KICK OFF POINT 2) LATITUDE = 32°06'22.20" (32.106165°) LONGITUDE = -103°35'59.41" (-103.599837°) STATE PLANE NAD 83 (N.M. EAST) N: 403176.48' E: 768306.59' STATE PLANE NAD 27 (N.M. EAST) N: 403118.73' E: 727120.38' NAD 83 (NPZ 1) LATITUDE = 32°06'29.18" (32.108106°) LONGITUDE = -103°35'57.27" (-103.599241°) NAD 27 (NPZ 1) LATITUDE = 32°06'28.73" (32.107982°) LONGITUDE = -103°35'55.57" (-103.598769°) STATE PLANE NAD 83 (N.M. EAST) N: 403839.45' E: 768632.73 STATE PLANE NAD 27 (N.M. EAST) N: 403781.67' E: 727446.54' NAD 83 (PEAK CURVE 2) LATITUDE = 32°06'30.81" (32.108558°) LONGITUDE = -103°35'51.52" (-103.597646°

NAD 27 (PEAK CURVE 2) LATITUDE = 32°06'30.36" (32.108434°) LONGITUDE = -103°35'49.83" (-103.597174°) STATE PLANE NAD 83 (N.M. EAST) N: 404007.26' E: 769125.49' STATE PLANE NAD 27 (N.M. EAST) N: 403949.48' E: 727939.31' NAD 83 (NPZ 2) LATITUDE = 32°06'29.19" (32.108107°) LONGITUDE = -103°35'45.78" (-103.596050°) NAD 27 (NPZ 2) LATITUDE = 32°06'28.74" (32.107983°) LONGITUDE = -103°35'44.08" (-103.595578°) STATE PLANE NAD 83 (N.M. EAST) N: 403846.56' E: 769620.62 STATE PLANE NAD 27 (N.M. EAST) N: 403788.79' E: 728434.43' NAD 83 (LANDING POINT CURVE 2) LATITUDE = 32°06'22.65" (32.106292°) LONGITUDE = -103°35'41.93" (-103.594981°) NAD 27 (LANDING POINT CURVE 2) LATITUDE = 32°06'22.20" (32.106167°) LONGITUDE = -103°35'40.23" (-103.594509°) STATE PLANE NAD 83 (N.M. EAST) N: 403188.36' E: 769956.27 STATE PLANE NAD 27 (N.M. EAST) N: 403130 61' E: 728770 04' NAD 83 (LTP/BHL) LATITUDE = 32°05'40.53" (32.094591°) LONGITUDE = -103°35'41.95" (-103.594987°) NAD 27 (LTP/BHL) LATITUDE = 32°05'40.08" (32.094466°) LONGITUDE = -103°35'40.26" (-103.594516°) STATE PLANE NAD 83 (N.M. EAST) N: 398931.82' E: 769983.49'

STATE PLANE NAD 27 (N.M. EAST)

N: 398874.18' E: 728797.07



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

Well Name: CASCADE 29 FEDERAL

Drilling Plan Data Report

12/08/2025

APD ID: 10400106556

Submission Date: 09/03/2025

Highlighted data reflects the most recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Number: 201H

Well Type: OIL WELL

Well Work Type: Drill

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
16950337	RUSTLER	3398	890	890	ANHYDRITE, SANDSTONE	USEABLE WATER	N
16950338	TOP SALT	2168	1230	1230	ANHYDRITE	NONE	N
16950339	LAMAR	-1497	4895	4895	SANDSTONE	NONE	N
16950340	BELL CANYON	-1592	4990	4990	SANDSTONE	NATURAL GAS, OIL	N
16950341	CHERRY CANYON	-2937	6335	6335	SANDSTONE	NATURAL GAS, OIL	N
16950342	BRUSHY CANYON	-4102	7500	7500	SANDSTONE	NATURAL GAS, OIL	N
16950343	BONE SPRING LIME	-5637	9035	9035	LIMESTONE	NATURAL GAS, OIL	N
16950344	BONE SPRING 1ST	-6612	10010	10010	SANDSTONE	NATURAL GAS, OIL	N
16950345	BONE SPRING 2ND	-6834	10232	10232	SANDSTONE	NATURAL GAS, OIL	N

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M Rating Depth: 21036

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: 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.

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CASCADE 29 FEDERAL Well Number: 201H

Choke Diagram Attachment:

10M_BOP_DIAGRAM_20250903092357.pdf

COTERRA_10M_MBU_3T_CFL_13.38_X_9.58_X_5.5_HBE1215DQ_20250903092357.pdf

CHOKE_HOSE_M15486_20250903092357.pdf

COTERRA_10K_PROD_TREE_20250903092357.pdf

BOP Diagram Attachment:

10M_BOPE_BLM_SUBMISSION_REV.0_20250903092427.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1050	0	1050	3402	2352	1050	H-40	48	ST&C	1.63	3.82	BUOY	6.39	BUOY	6.39
		12.2 5	9.625	NEW	API	N	0	4915	0	4915	3398	-1513	4915	J-55	40	BUTT	1.39	1.5	BUOY	3.2	BUOY	3.2
-	PRODUCTI ON	8.75	5.5	NEW	API	N	0	21036	0	10362	3398	-6960	21036	P- 110	20	BUTT	2.29	2.55	BUOY	54.9 7	BUOY	54.9 7

Casing Attachments

Casing ID: 1 String SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Well Name: CASCADE 29 FEDERAL Well Number: 201H

Casing Attachments

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):

201H_Casing_Assumptions_20251009074014.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	750	509	1.72	13.5	875	45	Class C	Bentonite
SURFACE	Tail		750	1105 0	136	1.34	14.8	182	45	Class C	LCM
INTERMEDIATE	Lead	4920	0	4615	931	1.88	12.9	1750	50	35:65 (POZ C)	Salt Bentonite
INTERMEDIATE	Tail		4615	4915	287	1.34	14.8	384	50	Class C	LCM
PRODUCTION	Lead		4715	2003 6	521	3.64	10.3	1896	25	Tuned Light	LCM

Well Name: CASCADE 29 FEDERAL Well Number: 201H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		2003 6	2103 6	3282	1.3	14.2	4266	25	50:50 (POZ H)	Salt Bentonite Fluid Loss Dispersant SMS

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

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	1050	OTHER : Fresh Water	7.8	8.3							
1050	4915	OTHER : Brine Water	9.8	10.3							
4915	2103 6	OIL-BASED MUD	8.5	9							

Well Name: CASCADE 29 FEDERAL Well Number: 201H

Section 6 - Test, Logging, Coring

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

Logs were run on the 19H.

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

DIRECTIONAL SURVEY,

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4849 Anticipated Surface Pressure: 2135

Anticipated Bottom Hole Temperature(F): 173

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

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

H2S PLAN REV.0 20250903120323.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

WELL CONTROL PLAN REV.0 20250903120433.pdf 201H_Drilling_Plan_New_Mexico_20251009074118.pdf

3D_ACSummary_10____Coterra_Cascade_29_Federal_201U_Rev1_kFc_07Oct25_20251118150555.pdf

Proposal 100 Coterra Cascade 29 Federal 201U Rev1 kFc 07Oct25 20251124094918.pdf

WP___Coterra_Cascade_29_Federal_201U_Rev1_kFc_07Oct25_20251124094918.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

CASCADE_29_FEDERAL_W2W2_PAD_1_typical_rig_layout_plat_20250903121004.pdf

CASCADE_29_FEDERAL_W2W2_PAD_1_location_layout_plat_20250903121004.pdf

Cascade_201H_NGMP_20250903122751.pdf

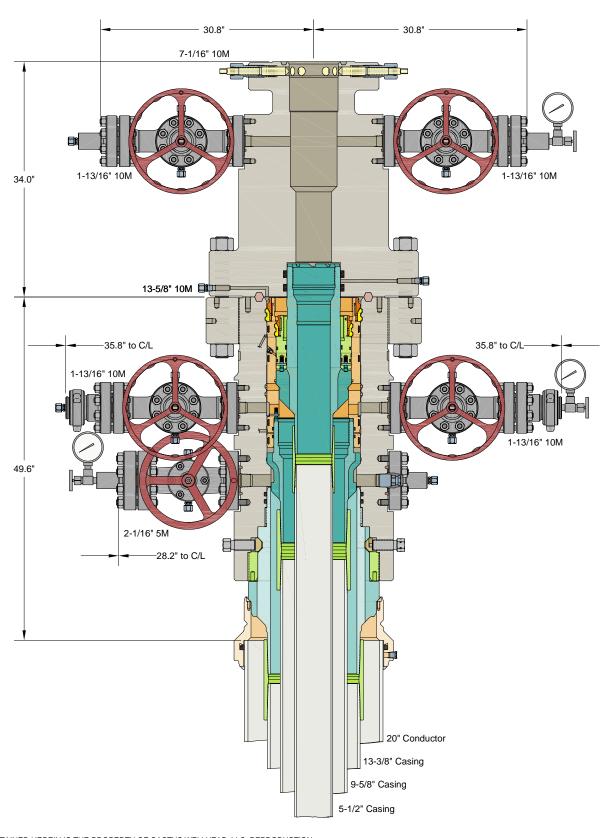
Other Variance request(s)?:

Other Variance attachment:

Well Name: CASCADE 29 FEDERAL Well Number: 201H

CHOKE_HOSE_M15486_20250903121018.pdf

3		BOP EQUIPM	1EN	T IN	IFORMATION		
N	DESCRIPTION	MODEL	QTY	ITEM	DESCRIPTION	MODEL	Qī
8	ANNULAR BOP	13 %" 5M	-1	G	STUDDED BLOCK	4 1/16" 10M	1
ĕ	DOUBLE RAM BOP	13 %" 10M TYPE-U	-1	Н	GATE VALE	2 1/16 10M FC MANUAL	-
erve	MUD CROSS	13 %" 10M	-1	-1	CHECK VALVE	2 ½ ₁₈ " 10M	1
0	SINGLE RAM BOP	13 %" 10M TYPE-U	-1	J	CHOKE HOSE	4 1/ ₁₆ " 10M	7
ž.	GATE VALVE	4 1/16" 10M FC MANUAL	-1	К	KILL HOSE	2 ½ ₁₆ " 10M	
	HOD LANDE	4.17 # 404411000					



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ALL DIMENSIONS APPROXIMAT

CACTUS WELLHEAD LLC		CIMAREX HOBBS, NM	
20" x 13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL Wellhead Sys.	DRAWN	VJK	01MAY24
With 13-5/8" 10M x 7-1/16" 10M CTH-DBLHPS Tubing Head	APPRV		
And 9-5/8" & 5-1/2" Fluted Mandrel Casing Hangers	DRAWING N	o. HBE00 0	1215



CERTIFICATE OF QUALITY

LTYY/QR-5.7.1-19B

Customer Name

№: LT2024-156-001

Product Name Choke And Kill Hose Product Specification 3"*10000psi*35fi (10.67m) Quantity 1PCS Serial Number VTC-7660257 FSL FSL3 customer number P0890145-001 Standard API Spec 16C 3rd edition Temperature Range -29°C~+121°C Inspection date 2024.09.03 Inspection Items Inspection results Appearance Checking In accordance with API Spec 16C 3rd edition Size and Lengths In accordance with API Spec 16C 3rd edition Dimensions and Tolerances In accordance with API Spec 16C 3rd edition End Connections: 4-1/16"*10000psi Integral flange for sour gas service In accordance with API Spec 6A 21rd edition End Connections: 4-1/16"*10000psi Integral flange for sour gas service In accordance with API Spec 16C 3rd edition Ilydrostatic Testing In accordance with API Spec 16C 3rd edition In accordance with API Spec 16C 3rd edition The inspected items meet standard requirements of API Spec 16C 3rd edition Remarks Approver Jane C Auditor Alice D Inspector Leo W LUOHE LETONE HYDRAULICS TECHNOLOGY CO, LTD											
Serial Number VTC-7660257 FSL FSL3 customer number PO890145-001 Standard API Spec 16C 3 rd edition Temperature Range -29°C~+121°C Inspection date 2024.09.03 Inspection Items Inspection results Appearance Checking In accordance with API Spec 16C 3 rd edition Size and Lengths In accordance with API Spec 16C 3 rd edition Dimensions and Tolerances In accordance with API Spec 16C 3 rd edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 6A 21 rd edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 17D 3 rd edition Hydrostatic Testing In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition The inspected items meet standard requirements of API Spec 16C 3 rd edition Inspection conclusion The inspected items meet standard requirements of API Spec 16C 3 rd edition Remarks Approver Janc C Auditor Nace D Inspector Leo W	Product Na	me			C	Choke And	Kill Hose				
customer number PO890145-001 Standard API Spec 16C 3rd edition Temperature Range -29°C ~+121°C Inspection date 2024.09.03 Inspection Items Inspection results Appearance Checking In accordance with API Spec 16C 3rd edition Size and Lengths In accordance with API Spec 16C 3rd edition Dimensions and Tolerances In accordance with API Spec 16C 3rd edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 6A 21st edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 17D 3rd edition Hydrostatic Testing In accordance with API Spec 16C 3rd edition In accordance with API Spec 16C 3rd edition The inspected items meet standard requirements of API Spec 16C 3rd edition Remarks 16C-0403 Approver Jane C Auditor Nace D Inspector Leo W	Product Specif	ication	3"×100	00psi×35ft (10.	67m)		Quantity		1PCS		
Temperature Range -29°C~+121°C Inspection date 2024.09.03 Inspection Items Inspection results Appearance Checking In accordance with API Spec 16C 3 rd edition Size and Lengths In accordance with API Spec 16C 3 rd edition Dimensions and Tolerances In accordance with API Spec 16C 3 rd edition End Connections: 4-1/16°×10000psi Integral flange for sour gas service In accordance with API Spec 6A 21 rd edition End Connections: 4-1/16°×10000psi Integral flange for sour gas service In accordance with API Spec 17D 3 rd edition Hydrostatic Testing In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition The inspected items meet standard requirements of API Spec 16C 3 rd edition Remarks Approver Jack C Auditor Aprover Inspector Leo W	Serial Num	ber		VTC-7660257		FSL			FSL3		
Inspection Items Appearance Checking In accordance with API Spec 16C 3 rd edition Size and Lengths In accordance with API Spec 16C 3 rd edition Dimensions and Tolerances In accordance with API Spec 16C 3 rd edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 6A 21 st edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 17D 3 rd edition Hydrostatic Testing In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition The inspected items meet standard requirements of API Spec 16C 3 rd edition Remarks Approver Jack C Auditor Aprox D Inspector Leo W	customer nu	mber		PO890145-001	-		Standard	AP	I Spec 16C 3 rd edition		
Appearance Checking In accordance with API Spec 16C 3rd edition Bize and Lengths In accordance with API Spec 16C 3rd edition Dimensions and Tolerances In accordance with API Spec 16C 3rd edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 6A 21st edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 17D 3rd edition Hydrostatic Testing In accordance with API Spec 16C 3rd edition In accordance with API Spec 16C 3rd edition In accordance with API Spec 16C 3rd edition The inspected items meet standard requirements of API Spec 16C 3rd edition Remarks Approver Jame C Auditor Auditor Inspector Inspector Inspector	Temperature I	Range		-29℃~+121℃	2	I	nspection date		2024.09.03		
Size and Lengths In accordance with API Spec 16C 3 rd edition Dimensions and Tolerances In accordance with API Spec 16C 3 rd edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 6A 21 st edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 17D 3 rd edition Hydrostatic Testing In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition The inspected items meet standard requirements of API Spec 16C 3 rd edition Remarks 16C-0403 Approver Jance Auditor Approver Inspector Leo W		Inspec	ction Items		Inspect	ion resu	lts				
Dimensions and Tolerances In accordance with API Spec 16C 3 rd edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 6A 21 st edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 17D 3 rd edition Hydrostatic Testing In accordance with API Spec 16C 3 rd edition product Marking In accordance with API Spec 16C 3 rd edition Inspection conclusion The inspected items meet standard requirements of API Spec 16C 3 rd edition Remarks 16C-0403 Approver Jan C Auditor Auditor Auditor Inspector Inspector Inspector Inspector		Appearanc	e Checking	Ţ,		In acc	cordance with A	PI Spec	16C 3 rd edition		
End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 6A 21st edition End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 17D 3rd edition Hydrostatic Testing In accordance with API Spec 16C 3rd edition product Marking In accordance with API Spec 16C 3rd edition Inspection conclusion The inspected items meet standard requirements of API Spec 16C 3rd edition Remarks 16C-0403 Approver Jan C Auditor Auditor In accordance with API Spec 16C 3rd edition		Size and	l Lengths			In accordance with API Spec 16C 3 rd edition					
End Connections: 4-1/16"×10000psi Integral flange for sour gas service In accordance with API Spec 17D 3 rd edition Hydrostatic Testing In accordance with API Spec 16C 3 rd edition product Marking In accordance with API Spec 16C 3 rd edition Inspection conclusion The inspected items meet standard requirements of API Spec 16C 3 rd edition Remarks 16C-0403 Approver Jan C Auditor Adace D Inspector Leo W		Dimensions a	and Toleran	ces		In acc	cordance with A	PI Spec	16C 3 rd edition		
Hydrostatic Testing In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition The inspected items meet standard requirements of API Spec 16C 3 rd edition Remarks 16C-0403 Approver Janl C Auditor Aprover Auditor In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition In accordance with API Spec 16C 3 rd edition	End Connections: 4	-1/16"×10000ps	si Integral fla	nge for sour gas ser	vice	In acc	cordance with A	PI Spec	e 6A 21 st edition		
In accordance with API Spec 16C 3 rd edition Inspection conclusion The inspected items meet standard requirements of API Spec 16C 3 rd edition Remarks 16C-0403 Approver Janl C Auditor Abace D Inspector Leo W	End Connections: 4	-1/16"×10000ps	si Integral fla	nge for sour gas ser	vice	In acc	cordance with A	PI Spec	17D 3 rd edition		
Inspection conclusion The inspected items meet standard requirements of API Spec 16C 3 rd edition Remarks 16C-0403 Approver Jance D Inspector Leo W		Hydrosta	tic Testing			In acc	cordance with A	PI Spec	2 16C 3 rd edition		
Remarks 16C-0403 Approver Jane C Auditor Abace D Inspector Leo W		product	Marking			In acc	ordance with A	PI Spec	: 16C 3 rd edition		
Approver Jane C Auditor Africe D Inspector Leo W	Inspection co	onclusion	7	The inspected iter	ms meet	standard red	quirements of A	PI Spec	2 16C 3 rd edition		
7000-20	Remai	·ks				16C-0403					
LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD	Approver	Jane	C	Auditor		Vice [Inspe	ctor	Leo W		
	LUOHE	LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD									



HYDROSTATIC TESTING REPORT

LTYY/QR-5.7.1-28

№: <u>24090301</u>

E1117QK-3.7.1-20				J\≌. <u>Z+07030</u>	<u>'-</u>	
Product Name	Choke And K	ll Hose	Standard	API Spec 16C	3 rd editio	
Product Specification	3"×10000psi×35ft	(10.67m)	Serial Number	NTC-7660257		
Inspection Equipment	MTU-BS-1600	-3200-E	Test medium	Water	r	
customer number	PO89014	5-001	Inspection Date	2024.08	.30	
		Rate of length chan	ge			
Standard requirements	At working pressure ,the	rate of length chan	ge should not more th	nan ±2%		
Testing result	10000psi (69.0MPa) ,Ra	te of length change	0.6%			
		Hydrostatic testing	3			
Standard requirements	At 1.5 times working pre the second pressure-hold				ee minute	
Testing result	15000psi (103.5MPa), 3	min for the first tin	ne, 60 min for the sec	ond time, no leakage	e	
Graph of pressure testing:						
19/28/15 19/29/05 19/29/55 19/30/45 19/31/35 19/3	25 1933/15 193405 193455 193545 193635 193722 inspected items meet stance	19:38:15 19:39 19:39:33 19:44:33 15	f API Spec 16C 3 rd ec	14:33 20:19:33 20:24:33 20:29:33 20:34:33	20:39:33 20:47:	
					0 W	



CERTIFICATE OF CONFORMANCE

№:LT24090307

Product Name: Choke And Kill Hose

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

Serial Number: VTC-7660257

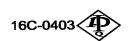
customer number: PO890145-001

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 3rd 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 3rd edition.

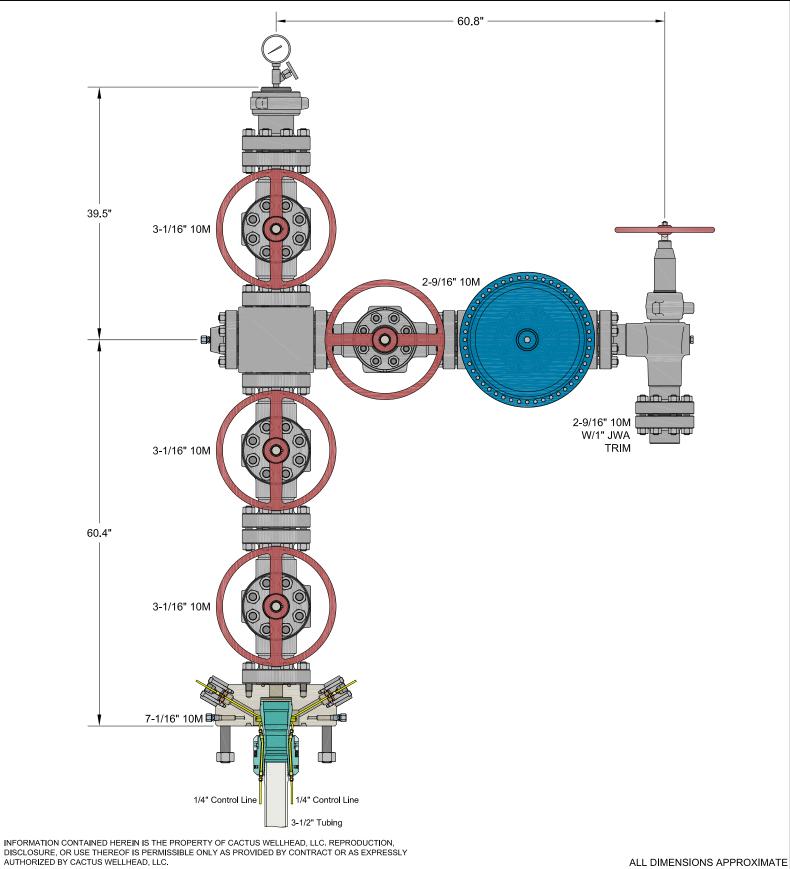
OC Manager:

Date:Sep 3, 2024

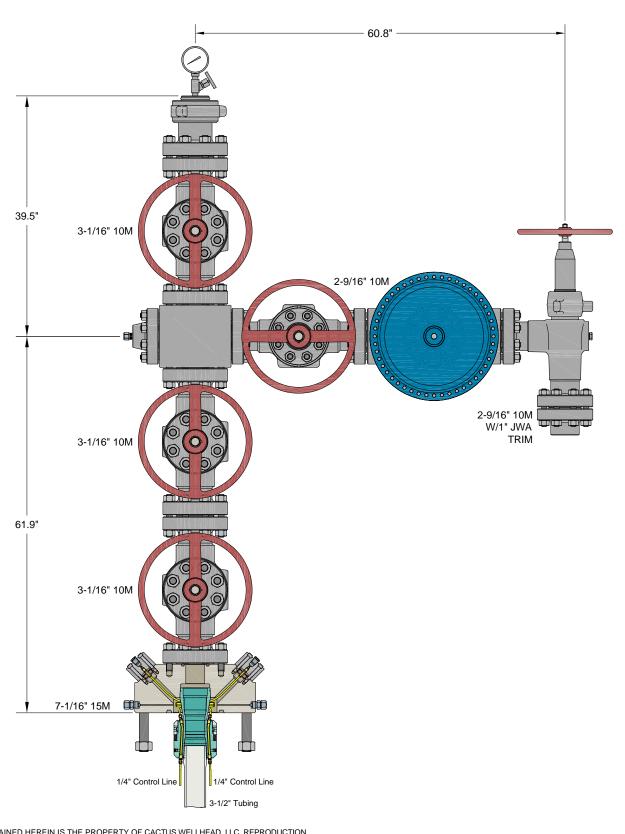


LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

B LETONE



CACTUS WELLHEAD LLC		CIMAREX HOBBS, NM	
7-1/16" 10M x 3-1/16" x 2-9/16" 10M Production Tree Assembly	DRAWN	VJK	05SEP23
•	APPRV		
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	DRAWING NO	D. HBE000	1018

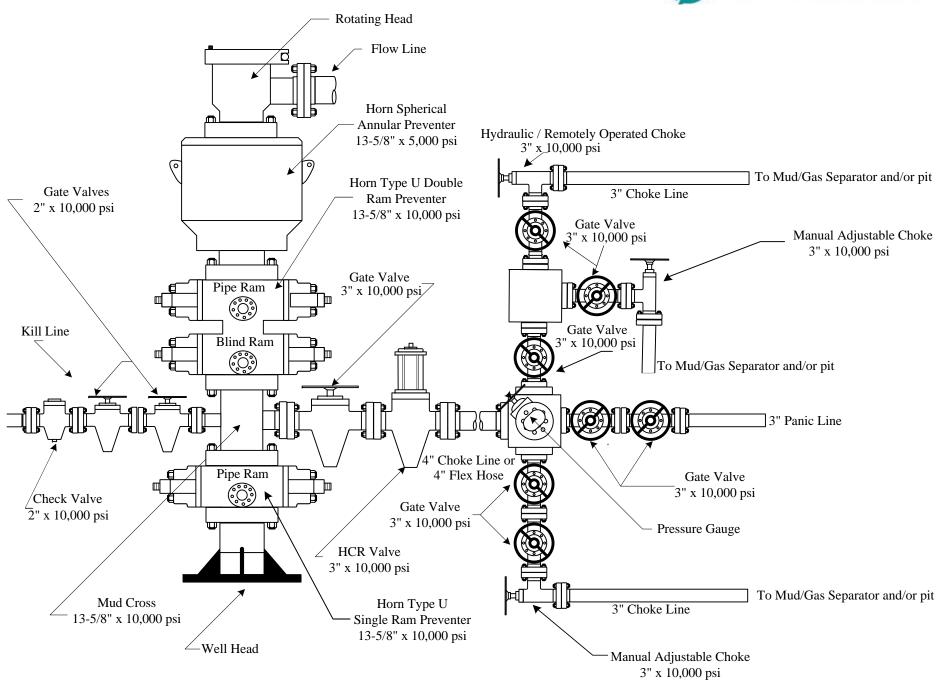


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ALL DIMENSIONS APPROXIMAT

CACTUS WELLHEAD LLC		CIMAREX HOBBS, NM	
7-1/16" 15M x 3-1/16" x 2-9/16" 10M Production Tree Assembly	DRAWN	VJK	13DEC23
·	APPRV		
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	DRAWING NO	D. HBE00 0)1018





1. Geological Formations

TVD of target 10,362 Pilot Hole TD N/A

MD at TD 21,036 Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	890	N/A	
Top of Salt	1230	N/A	
Base of Salt/Lamar	4895	N/A	
Top Delaware Sands/Bell Canyon	4990	N/A	
Cherry Canyon	6335	N/A	
Brushy Canyon	7500	N/A	
Basal Brushy Canyon	9010	N/A	
Bone Spring Lime	9035	N/A	
Leonard	9100	N/A	
Avalon Shale	9320	N/A	
1st Bone Spring Sand	10010	Hydrocarbons	
2nd Bone Spring Shale	10232	Hydrocarbons	
2nd Bone Spring Shale - Target	10362	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	1050	1050	13-3/8"	48.00	H-40	ST&C	1.63	3.82	6.39
12 1/4	0	4915	4915	9-5/8"	40.00	J-55	BT&C	1.39	1.50	3.20
8 3/4	0	9779								
8 3/4	9779	21036	10362	5-1/2"	20.00	P-110	BT&C	2.29	2.55	54.97
					BLM	Minimum Sa	afety 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



H2S Drilling Operations Plan

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

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 tmie
- 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.

H2S Contingency Plan

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 (SO₂). 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).

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 Ambulan	ce Services											
	Reeves County Med			432-447-3551								
	Aero Care - Midland	,		800-627-2376								
	Tri State Care Flight			800-800-0900								
	Air Methods - Hobbs	, NM		800-242-6199								
Fire / Police	/ Medical Care											
	Sheriff's Office		Fire Departi		<u>Hospital / Medical Care Facilities</u>							
	Andrews County	432-523-5545		432-523-3111	Permian Regional Med.	432-523-2200						
	Reagan County	325-884-2929	·	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	Kermit	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	Mertzon									
	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 Aml	bulance Services											
	Reeves County Med	lical			Pecos, TX	432-447-3551						
					•							



Well Control Plan

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.

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.

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

- 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).

- 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.

1. Geological Formations

TVD of target 10,362 Pilot Hole TD N/A

MD at TD 21,036 Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	890	N/A	
Top of Salt	1230	N/A	
Base of Salt/Lamar	4895	N/A	
Top Delaware Sands/Bell Canyon	4990	N/A	
Cherry Canyon	6335	N/A	
Brushy Canyon	7500	N/A	
Basal Brushy Canyon	9010	N/A	
Bone Spring Lime	9035	N/A	
Leonard	9100	N/A	
Avalon Shale	9320	N/A	
1st Bone Spring Sand	10010	Hydrocarbons	
2nd Bone Spring Shale	10232	Hydrocarbons	
2nd Bone Spring Shale - Target	10362	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	1050	1050	13-3/8"	48.00	H-40	ST&C	1.63	3.82	6.39
12 1/4	0	4915	4915	9-5/8"	40.00	J-55	BT&C	1.39	1.50	3.20
8 3/4	0	9779								
8 3/4	9779	21036	10362	5-1/2"	20.00	P-110	BT&C	2.29	2.55	54.97
					BLM	Minimum Sa	afety 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., Cascade 29 Federal Com 201H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Υ
Does casing meet API specifications? If no, attach casing specification sheet.	Υ
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).	Υ
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Υ
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	509	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	136	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	931	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	287	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	521	10.30	3.64	22.18	12	Lead: Tuned Light + LCM
	3282	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	тос	% Excess
Surface	0	45
Intermediate	0	50
Production	4715	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	Туре		Tested To
12 1/4	13 5/8	10M	Annular	5M	50% of working pressure
			Blind Ram		
			Pipe Ram	Х	10M
			Double Ram		
			Other		
8 3/4	13 5/8	10M	Annular	5M	50% of working pressure
			Blind Ram		
			Pipe Ram	Х	10M
			Double Ram	Х	
			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.
Х	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	Туре	Weight (ppg)	Viscosity	Water Loss
0' to 1050'	Fresh Water	7.80 - 8.30	28	N/C
1050' to 4915'	Brine Water	9.80 - 10.30	30-32	N/C
4915' to 21036'	ОВМ	8.50 - 9.00	50-70	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

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

Additional Logs Planned	Interval
riadicional Logs i lannea	interval

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	4849 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

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.

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Coterra Cascade 29 Federal 201U Rev1 kFc 07Oct25 Anti-Collision Summary Report

Analysis Date-24hr Time: October 07, 2025 - 09:43 PM (UTC 0)

COTERRA Client:

NM Lea County (NAD 83) Field: Structure: Coterra - Cascade 29 Federal Pad Lot M

Cascade 29 Federal 201U Slot:

Well: Cascade 29 Federal 201U Borehole: Cascade 29 Federal 201U

Scan MD Range: 0.00ft ~ 21118.44ft **Analysis Method:** 3D Least Distance

Reference Trajectory: Plan)

Depth Interval:

Every 10.00 Measured Depth (ft)

MinPts

MinPt-SF

NAL Procedure: D&M AntiCollision Standard S002 Rule Set:

Absolute minima indicated. Min Pts:

Engine Version: 2025.1.0.1

Database \ Project: Cascade 29 Federal 201U-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

195.02

195.05

212.7

212.78

148.0

2.64

OSF 5.00

OSF 5.00

15220.00

15230.00

10362.00

10362.00

Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans

- 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 75 are selected

Offset Trajectory		Separation	1	Allow	Sep.	Breaking	Reference	Trajectory		Risk Level		Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	
Results highlighted in red: Sep-	-Factor <= 1.5											
Result highlighted in boxed, red	d and bold: all l	ocal minima	indicated.									
Coterra Cascade 29 Federal 3	01U Rev1 kFc	07Oct25 (De	efinitivePlan) :	- Fail Minor								
23.5 23.53440 20 1 340141 0	20.00	16 40	,	3.60	9.36	CtCt 15 00m	0.00	0.00	CtCt<=15.00m			Enter Aler

Coterra Cascade 29 Federal 301U Rev1 kFc 0	7Oct25 (Defi	nitivePlan) - F	ail Minor							
20.00	16.40	16.71	3.60	9.36	CtCt 15.00m	0.00	0.00	CtCt<=15.00m		Enter Alert
20.00	16.40	16.71	3.60	9.36	CtCt 15.00m	23.00	23.00			WRP
20.00	16.40	9.20	3.60	1.97	CtCt 15.00m	990.00	990.00			MinPts
20.00	20.14	6.25	-0.14	1.49	OSF 1.50	1320.00	1320.00		OSF<=1.50	Enter Minor
20.00	24.31	3.47	-4.30	1.22	OSF 1.50	1600.00	1600.00			MinPt-CtCt
20.16	24.75	3.33	-4.59	1.21	OSF 1.50	1630.00	1630.00			MinPts
20.28	24.89	3.35	-4.62	1.21	OSF 1.50	1640.00	1640.00			MinPt-ADP
26.89	27.23	8.41	-0.34	1.48	OSF 1.50	1800.00	1799.84		OSF>1.50	Exit Minor
66.98	40.96	39.34	26.02	2.48	OSF 5.00	2750.00	2746.26			MinPt-SF
169.62	145.66	72.19	23.96	1.75	OSF 5.00	9790.00	9773.71			MinPts
499.01	150.57	398.30	348.44	4.99	OSF 5.00	10490.00	10309.33	OSF>5.00		Exit Alert
1152.54	172.24	1037.38	980.29	10.09		14271.96	10362.00			MinPt-CtCt
1152.88	173.25	1037.06	979.64	10.03		14310.00	10362.00			MinPt-EOU
1153.35	173.79	1037.16	979.55	10.00		14330.00	10362.00			MinPt-ADP
1058.11 1058.16	199.08 199.40	925.06 924.91	859.02 858.77	8.00 7.99		15220.00 15240.00	10362.00 10362.00			MinPt-CtCt MinPt-EOU
1058.16	199.40	924.91	858.73	7.99 7.99		15250.00	10362.00			MinPt-ADP
1038.28	201.11	924.92	861.94	7.96		15360.00	10362.00			MinPt-SF
1323.47	322.06	1108.44	1001.41	6.18		21118.44	10362.00			MinPt-SF MinPts
1323.47	322.00	1100.44	1001.41	0.10		21110.44	10302.00			IVIIIIFtS
Coterra Cascade 29 Federal 221U Rev1 kFc 0	7Oct25 (Defi	nitivePlan) - F	ail Minor							
20.00	16.40	16.71	3.60	9.36	CtCt 15.00m	0.00	0.00	CtCt<=15.00m		Enter Alert
20.00	16.40	16.71	3.60	9.36	CtCt 15.00m	23.00	23.00			WRP
20.00	16.40	9.20	3.60	1.97	CtCt 15.00m	990.00	990.00			MinPts
20.00	20.14	6.25	-0.14	1.49	OSF 1.50	1320.00	1320.00		OSF<=1.50	Enter Minor
20.00	21.33	5.45	-1.33	1.40	OSF 1.50	1400.00	1400.00			MinPt-CtCt
20.16	21.77	5.32	-1.61	1.38	OSF 1.50	1430.00	1430.00			MinPt-EOU
20.28	21.91	5.34	-1.63	1.38	OSF 1.50	1440.00	1440.00			MinPts
22.92	23.21	7.12	-0.29	1.48	OSF 1.50	1530.00	1530.00		OSF>1.50	Exit Minor
177.38	87.51	118.71	89.87	3.06	OSF 5.00	5820.00	5804.58			MinPt-ADP
180.51	90.17	120.06	90.33	3.02	OSF 5.00	6000.00	5983.91			MinPt-SF
310.20	145.15	213.10	165.05	3.22	OSF 5.00	9790.00	9773.71			MinPt-EOU
310.25	145.22	213.10	165.02	3.22	OSF 5.00	9800.00	9783.70			MinPt-ADP
310.51	145.37	213.27	165.14	3.22	OSF 5.00	9820.00	9803.69	005>5.00		MinPt-SF
499.89	150.82	399.01	349.07	4.99	OSF 5.00	10410.00	10277.36	OSF>5.00		Exit Alert
636.25 605.58	99.45 182.53	569.62 483.57	536.80 423.05	9.68 5.00	OSF 5.00	11150.00 15100.00	10362.00 10362.00	OSF<=5.00		MinPt-CtCt Enter Alert
603.00	197.25	403.57 471.17	423.05 405.75	4.60	OSF 5.00 OSF 5.00	15580.00	10362.00	05F<-5.00		MinPt-CtCt
603.00	207.63	464.26	395.38	4.37	OSF 5.00	15930.00	10362.00			MinPt-CtCt
606.38	222.43	457.76	383.94	4.10	OSF 5.00	16450.00	10362.00			MinPt-EOU
609.38	226.06	458.34	383.32	4.05	OSF 5.00	16580.00	10362.00			MinPt-ADP
616.22	363.20	373.76	253.02	2.55	OSF 5.00	21118.44	10362.00			MinPts
0.0.22	000.20	0.0	200.02	2.00	00.00	21110.11	10002.00			Willia to
Coterra Cascade 29 Federal 211U Rev1 kFc 0	7Oct25 (Defi	nitivePlan) - \	Warning Alert							
39.99	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	29.19	7.60	4.07	CtCt 15.00m	990.00	990.00			MinPt-EOU
39.99	32.39	23.46	7.60	2.51	OSF 5.00	1600.00	1600.00			MinPts
40.15	32.39	23.32	7.75	2.47	OSF 5.00	1630.00	1630.00			MinPt-EOU
40.83	32.39	23.61	8.44	2.45	OSF 5.00	1670.00	1669.99			MinPt-SF
142.75	43.57	113.38	99.18	4.99	OSF 5.00	2910.00	2905.65	OSF>5.00		Exit Alert
165.15	50.28	131.30	114.87	5.00	OSF 5.00	3370.00	3363.90	OSF<=5.00		Enter Alert
199.30	71.97	150.99	127.33	4.19	OSF 5.00	4820.00	4808.38			MinPt-SF
299.57	145.05	202.54	154.52	3.11	OSF 5.00	9810.00	9793.70			MinPt-EOU
299.70	145.21	202.56	154.49	3.11	OSF 5.00	9830.00	9813.66			MinPt-ADP
300.21	145.53	202.86	154.68	3.11	OSF 5.00	9870.00	9853.40			MinPt-SF
463.62	140.20	369.83	323.42	4.98	OSF 5.00	10500.00	10312.60	OSF>5.00		Exit Alert
575.38	173.48	459.40	401.90	4.99	OSF 5.00	13640.00	10362.00	OSF<=5.00		Enter Alert
572.19	187.55	446.83	384.64	4.59	OSF 5.00	14280.00	10362.00			MinPt-CtCt
572.27	187.79	446.75	384.48	4.59	OSF 5.00	14290.00	10362.00			MinPt-EOU
572.44	188.03	446.76	384.41	4.58	OSF 5.00	14300.00	10362.00			MinPt-ADP
575.52	189.56	448.82	385.97	4.57	OSF 5.00	14360.00	10362.00			MinPt-SF
587.10 243.41	192.93	458.15	394.17	4.58	OSF 5.00	14460.00	10362.00			MinPt-SF

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Officet Trade at a ma	Τ	0	1	Allann	0	Dun alviu u	Defense 7			Diale Level		Alout
Offset Trajectory	Ct-Ct (ft)	Separation MAS (ft)	EOU (ft)	Allow Dev. (ft)	Sep. Fact.	Breaking Rule	Reference T MD (ft)	TVD (ft)	Alert	Risk Level Minor	Major	Alert
L	668.88	201.63	534.13	467.25	4.99	OSF 5.00	16120.00	10362.00	OSF>5.00	o.	major	Exit Alert
	858.44	243.37	695.86	615.07	5.31		21118.44	10362.00				MinPts
30-025-46355 - Coterra Casca	de 29 Federal	15H - Correct	ted MWD to	17358ft (Defi	nitiveSurvey)	- Warning Alert						
	84.84	32.81	82.25	52.03	59.15		0.00	0.00				MinPts
	84.86 89.93	32.81 32.81	82.26 82.46	52.05 57.12	59.16 14.11		23.00 700.00	23.00 700.00				WRP MinPt-EOU
	86.94	32.81	68.65	54.13	4.97	OSF 5.00	1820.00	1819.78	OSF<=5.00			Enter Alert
	69.37	34.92	45.76	34.45	3.02	OSF 5.00	2361.90	2359.64				MinPt-CtCt
	69.55 69.79	35.49 35.78	45.56 45.60	34.06 34.01	2.98 2.97	OSF 5.00 OSF 5.00	2400.00 2420.00	2397.59 2417.51				MinPt-EOU MinPt-ADP
	71.68	36.97	46.70	34.70	2.95	OSF 5.00	2500.00	2497.21				MinPt-SF
	185.41	56.37	147.50	129.04	4.99	OSF 5.00	3800.00	3792.26	OSF>5.00			Exit Alert
	454.72 457.91	132.86 138.18	365.82 365.46	321.86 319.73	5.16 5.00	OSF 5.00	8940.00 9300.00	8923.71 9283.71	OSF<=5.00			MinPt-EOU Enter Alert
	458.60	142.86	363.03	315.73	4.84	OSF 5.00	9620.00	9603.71	OOI 4-0.00			MinPt-EOU
	459.59	144.03	363.25	315.56	4.81	OSF 5.00	9700.00	9683.71				MinPt-ADP
	461.34 486.95	145.17 147.24	364.23 388.46	316.17 339.71	4.79 4.98	OSF 5.00 OSF 5.00	9810.00 10080.00	9793.70 10050.95	OSF>5.00			MinPt-SF Exit Alert
	2266.21	129.14	2179.79	2137.07	26.51	001 0.00	12470.00	10362.00	331 7 0.00			MinPt-EOU
	2266.85	129.89	2179.92	2136.95	26.37		12520.00	10362.00				MinPt-ADP
	2274.52 2276.23	135.67 137.68	2183.74 2184.12	2138.84 2138.56	25.32 24.97		12810.00 12910.00	10362.00 10362.00				MinPt-EOU MinPt-ADP
	2271.33	153.02	2168.99	2118.31	22.40		13560.00	10362.00				MinPt-CtCt
	2276.28	171.36	2161.72	2104.93	20.03		14310.00	10362.00				MinPt-EOU
	2277.49 2280.00	172.81 175.72	2161.95 2162.52	2104.68 2104.27	19.87 19.56		14360.00 14440.00	10362.00 10362.00				MinPt-ADP MinPt-ADP
	2406.32	196.16_	2162.52	2210.17	18.49		15170.00	10362.00				MinPt-SF
	3054.15	211.18	2913.03	2842.97	21.79		17040.00	10362.00				MinPts
	3052.34 3050.21	210.45 210.36	2911.71 2909.64	2841.89 2839.85	21.85 21.85		17200.00 17390.00	10362.00 10362.00				MinPt-SF MinPt-SF
	3047.89	210.30	2907.09	2837.18	21.79		17610.00	10362.00				MinPt-CtCt
	3047.95	210.86	2907.05	2837.09	21.78		17640.00	10362.00				MinPt-EOU
	3048.00 3049.57	210.91 211.53	2907.06 2908.23	2837.09 2838.04	21.77 21.72	1	17650.00 17770.00	10362.00 10362.00				MinPt-ADP MinPt-SF
	3054.88	212.11	2908.25	2842.77	21.72		18120.00	10362.00				MinPt-SF
	3051.91	212.17		2839.73	21.67		18340.00	10362.00				MinPts
	3046.76 3046.88	213.95 214.33	2903.80 2903.67	2832.81 2832.55	21.45 21.42		18680.00 18730.00	10362.00 10362.00				MinPt-CtCt MinPt-EOU
	3047.07	214.56	2903.71	2832.51	21.42		18760.00	10362.00				MinPt-ADP
	3047.89	215.38		2832.51	21.32		18920.00	10362.00				MinPts
	2110.79	184.36	1987.55	1926.43	17.26		21118.44	10362.00				MinPts
30-025-46305 - Coterra Casca	de 29 Federal	16H - Correct	ted MWD to	17201ft (Defi	nitiveSurvey)	- Warning Alert						
	99.99	32.81	97.40	67.18	69.86	•	0.00	0.00				Surface
	99.98 98.42	32.81 32.81	97.39 93.71	67.17 65.62	69.85 27.53		23.00 410.00	23.00 410.00				WRP MinPts
	98.72	32.81		65.91	23.90		470.00	470.00				MinPt-EOU
	100.92	32.81	79.82	68.11	4.97	OSF 5.00	2120.00	2118.66	OSF<=5.00			Enter Alert
	97.88 98.50	34.60 38.19	74.49 72.71	63.28 60.31	4.32 3.93	OSF 5.00 OSF 5.00	2356.40 2600.00	2354.15 2596.83				MinPt-CtCt MinPt-EOU
	99.40	39.22	72.71	60.19	3.86	OSF 5.00	2670.00	2666.56				MinPt-ADP
	115.65	49.49	82.32	66.16	3.55	OSF 5.00	3360.00	3353.94				MinPt-SF
	127.63 128.12	57.73 58.32	88.82 88.92	69.90 69.80	3.35 3.33	OSF 5.00	3900.00 3940.00	3891.88 3931.73				MinPt-EOU MinPt-ADP
	131.19	62.30	89.33	68.89	3.19	OSF 5.00 OSF 5.00	4200.00	4190.74				MinPt-EOU
	132.36	63.66	89.59	68.70	3.14	OSF 5.00	4290.00	4280.40				MinPt-ADP
	133.71	66.60	88.98	67.11	3.03	OSF 5.00	4480.00	4469.68				MinPt-CtCt
	134.12 134.49	67.80 68.24	88.59 88.67	66.32 66.25	2.99 2.98	OSF 5.00 OSF 5.00	4560.00 4590.00	4549.37 4579.26				MinPt-EOU MinPt-ADP
	128.48	84.45	71.85	44.03	2.29	OSF 5.00	5650.00	5635.22				MinPt-CtCt
	128.86	89.54 90.15	68.84 68.64	39.33	2.17	OSF 5.00	5980.00	5963.97				MinPt-CtCt
	129.07 129.46	90.15 90.61	68.64 68.72	38.92 38.85	2.15 2.15	OSF 5.00 OSF 5.00	6020.00 6050.00	6003.86 6033.80				MinPt-EOU MinPt-ADP
	130.39	91.37	69.15	39.02	2.15	OSF 5.00	6100.00	6083.74				MinPt-SF
	186.88	118.23	107.73	68.65	2.38	OSF 5.00	7940.00	7923.71				MinPt-EOU
	171.46 489.30	144.42 149.17	74.86 389.53	27.04 340.13	1.78 4.94	OSF 5.00 OSF 5.00	9800.00 10460.00	9783.70 10298.55	OSF>5.00			MinPts Exit Alert
	1969.09	116.55	1891.07	1852.55	25.55	2.2.0.00	11980.00	10362.00	2 = 1 0.00			MinPt-EOU
	1969.39	116.90	1891.13	1852.49	25.47		12010.00	10362.00				MinPt-ADP
	1966.78 1966.97	120.79 121.31	1885.92 1885.77	1845.99 1845.66	24.61 24.51		12210.00 12250.00	10362.00 10362.00				MinPt-CtCt MinPt-EOU
	1967.18	121.57	1885.81	1845.62	24.46		12270.00	10362.00				MinPt-ADP
	1974.46	128.10	1888.74	1846.37	23.29		12580.00	10362.00				MinPt-CtCt
	1974.75 1976.11	132.10 136.78	1886.35 1884.60	1842.65 1839.34	22.58 21.82		12770.00 13000.00	10362.00 10362.00				MinPt-CtCt MinPt-EOU
	1976.87	137.67	1884.76	1839.20	21.68		13050.00	10362.00				MinPt-ADP
	1975.69	143.87	1879.45	1831.83	20.73		13290.00	10362.00				MinPt-CtCt
	1976.45 1975.37	149.45 165.45	1876.49 1864.74	1827.01 1809.92	19.96 18.01		13520.00 14150.00	10362.00 10362.00				MinPt-CtCt MinPt-CtCt
	1975.39	168.10	1863.00	1807.29	17.72		14250.00	10362.00				MinPt-CtCt
	1975.53	168.51		1807.02	17.68		14280.00	10362.00				MinPt-EOU
	1975.74 1977.94	168.79 183.08	1862.89 1855.56	1806.96 1794.86	17.65 16.29		14300.00 14790.00	10362.00 10362.00				MinPt-ADP MinPt-CtCt
	1977.54	185.28	1854.82	1794.80	16.10		14870.00	10362.00				MinPt-EOU
	1979.61	186.43	1855.00	1793.18	16.00	1	14910.00	10362.00				MinPt-ADP
	2055.62 2488.05	201.36	1921.05 2344.80	1854.26 2273.66	15.38		15450.00 16863.08	10362.00				MinPt-SF MinPt-CtCt
	2488.05 2488.14	214.39 214.67	2344.80 2344.70	2273.66 2273.48	17.48 17.46		16863.08 16890.00	10362.00 10362.00				MinPt-CtCt MinPt-EOU
	2488.23	214.77	2344.73	2273.47	17.45	•	16900.00	10362.00				MinPt-ADP
	2488.89 2492.36	215.16 214.94	2345.12 2348.74	2273.72 2277.43	17.42 17.47		16940.00 17130.00	10362.00 10362.00				MinPt-SF MinPt-SF
	Z + 3Z.30	۷ ۱4.34	∠J 4 0./4	<u> </u>	17.47	I	17 130.00	10302.00				WIIIIF (-SF

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Offset Trajectory	Ct-Ct (ft)	Separation MAS (ft) EOU (ft)	Allow Dev. (ft)	Sep. Fact.	Breaking Rule	Reference MD (ft)	TVD (ft)	Alert	Risk Level Minor	Major	Alert
	2489.71	213.96 2346.74		17.53	Rule	17700.00	10362.00	Aleit	WIIIOI	Iviajoi	MinPt-SF
	2487.48	214.77 2343.97	2272.71	17.45		17870.00	10362.00				MinPt-CtCt
	2487.57	215.04 2343.89		17.42		17900.00	10362.00				MinPt-EOU
	2487.65	215.13 2343.90		17.42		17910.00	10362.00				MinPt-ADP
	2488.52 2489.45	215.64 2344.43 215.85 2345.22	L	17.38 17.37		17970.00 18170.00	10362.00 10362.00				MinPt-SF MinPt-CtCt
	2489.55	216.13 2345.14		17.35		18210.00	10362.00				MinPts
	2489.57	217.11 2344.50		17.27		18430.00	10362.00				MinPt-CtCt
	2489.75	217.67 2344.30		17.23		18510.00	10362.00				MinPt-EOU
	2489.95	217.92 2344.35		17.21		18540.00	10362.00				MinPt-ADP
	2492.41 2480.53	219.14 2345.98 221.09 2332.81	<u>.</u>	17.13 16.90		18690.00 19010.00	10362.00 10362.00				MinPt-SF MinPt-CtCt
	2480.67	221.47 2332.70	-	16.87		19040.00	10362.00				MinPt-EOU
	2480.77	221.59 2332.72		16.86		19050.00	10362.00				MinPt-ADP
	2481.25	221.96 2332.96	2259.30	16.84		19080.00	10362.00				MinPt-SF
	2479.96	222.68 2331.18		16.77		19190.00	10362.00				MinPts
	1537.61	183.73 1414.79	1353.88	12.61		21118.44	10362.00				MinPts
30-025-50787 - Coterra Casca	ade 29 Federal	18H - Corrected MWD to	17355ft (Defi	nitiveSurvev)	- Warning Alert						
00 020 00101 0000114 04000	134.15	32.81 131.55	•	94.01	Truiting Audit	0.00	0.00				Surface
	134.14	32.81 131.55	101.33	94.00		23.00	23.00				WRP
	133.16	32.81 128.78		41.18		374.24	374.24				MinPts
	133.56	32.81 128.22	-	31.80		480.00	480.00				MinPt-EOU
	138.66 139.09	32.81 128.91 32.81 128.98	105.85 106.28	16.04 15.23		940.00 990.00	940.00 990.00				MinPt-EOU MinPt-EOU
	141.72	32.81 127.42		10.57		1420.00	1420.00				MinPt-EOU
	167.93	32.81 149.02		9.31		1920.00	1919.42				MinPt-SF
	541.10	62.42 499.16	478.69	13.19		4200.00	4190.74				MinPt-SF
	1303.10	124.22 1219.96		15.85		8090.00	8073.71				MinPt-CtCt
	1307.65	147.64 1208.89	-	13.36		9770.00	9753.71				MinPt-CtCt
	1307.70 1307.75	147.91 1208.76 147.99 1208.77		13.34 13.33		9800.00 9810.00	9783.70 9793.70				MinPt-EOU MinPt-ADP
	1314.04	149.39 1214.12		13.27		10010.00	9988.03				MinPt-SF
	2355.92	128.48 2269.93		27.71		11970.00	10362.00				MinPt-CtCt
	2357.39	139.37 2264.15	2218.02	25.54		12660.00	10362.00				MinPt-CtCt
	2357.44	142.64 2262.02	7	24.95		12840.00	10362.00				MinPt-CtCt
	2360.25	153.58 2257.53		23.19		13400.00	10362.00				MinPt-EOU
	2360.68 2364.22	154.08 2257.63 159.50 2257.56		23.12 22.36		13430.00 13650.00	10362.00 10362.00				MinPt-ADP MinPt-CtCt
	2364.69	160.94 2257.07	-	22.17		13730.00	10362.00				MinPt-EOU
	1987.64	209.03 1847.95		14.32		16080.00	10362.00				MinPt-CtCt
	1987.92	209.86 1847.6 8	1778.06	14.27		16120.00	10362.00				MinPt-EOU
	1988.26	210.27 1847.75		14.24		16140.00	10362.00				MinPt-ADP
	2007.16	220.81 1859.63		13.69		17480.00	10362.00				MinPt-CtCt
	2007.33 2007.86	221.30 1859.47 222.16 1859.43		13.66 13.61		17520.00 17640.00	10362.00 10362.00				MinPts MinPt-EOU
	2008.14	222.51 1859.47		13.59		17670.00	10362.00				MinPt-ADP
	2011.76	224.32 1861.89		13.51		17840.00	10362.00				MinPt-SF
	2010.88	226.52 1859.54		13.37		18150.00	10362.00				MinPt-CtCt
	2009.64	230.12 1855.90		13.15		18490.00	10362.00				MinPt-CtCt
	2007.72 2007.82	237.09 1849.33 238.72 1848.34		12.75 12.66		19050.00 19170.00	10362.00 10362.00				MinPt-CtCt MinPts
	571.39	172.46 456.09	<u> </u>	4.99	OSF 5.00	20700.00	10362.00	OSF<=5.00			Enter Alert
	350.87	186.99 225.88		2.82	OSF 5.00	21118.44	10362.00				MinPts
		<u></u>									
30-025-50784 - Coterra Casca			•	- /	- Warning Alert	2.22	0.00				0. 1
	3739.29 3739.28	32.81 3736.70 32.81 3736.68		2642.79 2642.65		0.00 23.00	0.00 23.00				Surface WRP
	3733.63	32.81 3736.55		632.89		660.00	660.00				MinPts
	3734.38	32.81 3724.46		427.03		970.00	970.00				MinPt-EOU
	1854.45	118.35 1775.22	1736.10	23.69		7680.00	7663.71				MinPt-CtCt
	1854.53	118.64 1775.11		23.63		7710.00	7693.71				MinPt-EOU
	1854.68 1855.40	118.83 1775.13		23.60		7730.00	7713.71 7033.71				MinPt-ADP
	1855.40 1855.81	122.03 1773.72 127.33 1770.60		22.98 22.02		7950.00 8330.00	7933.71 8313.71				MinPt-CtCt MinPt-CtCt
	1854.80	136.63 1763.38		20.50		8990.00	8973.71				MinPt-CtCt
	1855.22	140.40 1761.29		19.95		9260.00	9243.71				MinPt-CtCt
	1852.38	147.93 1753.43		18.90		9820.00	9803.69				MinPt-CtCt
	1852.42	148.03 1753.41		18.89		9840.00	9823.63				MinPts
	1855.55 1871.75	148.61 1756.15 150.40 1771.16	I -	18.84 18.78		9980.00 10210.00	9960.01 10156.00				MinPt-SF MinPt-SF
	18/1./5 2905.59	165.11 2795.19	L	18.78 26.55		10210.00	10156.00				MinPt-SF MinPt-CtCt
	2907.37	175.02 2790.36		25.05		12940.00	10362.00				MinPt-CtCt
	2911.35	189.97 2784.38		23.10		13650.00	10362.00				MinPt-CtCt
	2254.43	220.54 2107.08		15.40		17530.00	10362.00				MinPt-CtCt
	2254.48	220.95 2106.86		15.37		17570.00	10362.00				MinPts
	2241.29 536.23	235.71 2083.83 163.99 426.57	2005.59 372.24	14.32 4.93	OSF 5.00	18910.00 20650.00	10362.00 10362.00	OSF<=5.00			MinPts Enter Alert
	200.96	185.25 77.13		4.93 1.63	OSF 5.00 OSF 5.00	20650.00	10362.00	03->-5.00			Enter Alert MinPts
	200.00		.0.71	1.00	231 0.00		.0002.00				Will to
30-025-40346 - CASCADE 29	FEDERAL 1H			- ,) - Warning Alert						
	4680.52	32.81 4677.13		3307.66		0.00	0.00				MinPts
	4680.55	32.81 4677.16		3305.50		23.00	23.00				WRP
	4759.80 4830.98	40.17 4732.44 65.85 4786.50		185.80 113.03		2710.00 4340.00	2706.41 4330.21				MinPt-ADP MinPt-ADP
	4830.98 4830.95	71.61 4782.62		103.70		4340.00	4330.21 4658.95				MinPt-ADP MinPt-CtCt
	4831.24	74.95 4780.68		98.98		4890.00	4878.12				MinPt-CtCt
	635.25	191.90 506.78	443.35	4.99	OSF 5.00	9360.00	9343.71	OSF<=5.00			Enter Alert
	403.09	257.27 231.03		2.36	OSF 5.00	9870.00	9853.40				MinPts
	403.09	257.27 231.04		2.36	OSF 5.00	9871.94	9855.32	005-500			MinPt-CtCt
	617.94 653.05	186.80 492.89 168.85 539.97		4.99 5.84	OSF 5.00	10540.00 11120.00	10324.02 10362.00	OSF>5.00			Exit Alert MinPt-CtCt
	000.00	100.00 009.97	704 .∠0	5.04		11120.00	10002.00				will t-OtOt

Offset Trajectory		Separation	1	Allow	Sep.	Breaking	Reference	Trajectory		Risk Level		Alert
, ,	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	
	670.27 676.14	151.68 144.82	568.64 579.08		6.68 7.06		12030.00 12470.00	10362.00 10362.00				MinPt-CtCt MinPt-CtCt
	664.79	140.81	570.41		7.14		12950.00	10362.00				MinPt-SF
	663.12	140.27			7.15		13090.00	10362.00				MinPts
	665.46 647.07	139.16 140.41	572.17 552.96		7.24 6.97		13280.00 14330.00	10362.00 10362.00				MinPt-CtCt MinPt-CtCt
	647.07	140.41			6.97		14340.00	10362.00				MinPts
	647.57	140.63	553.30		6.97		14360.00	10362.00				MinPt-SF
	2106.61	179.56	1986.40		17.74		17150.00	10362.00				MinPt-ADP
	2116.83 2117.68	187.66 190.00	1991.21 1990.51	1929.17 1927.68	17.05 16.84		17720.00 17870.00	10362.00 10362.00				MinPt-CtCt MinPt-EOU
	2118.40	193.29	1989.03		16.56		18020.00	10362.00				MinPt-CtCt
	2118.73	197.90	1986.29		16.17		18230.00	10362.00				MinPt-CtCt
	2118.81	200.28	1984.78		15.98		18330.00	10362.00				MinPt-CtCt
	2119.26 2120.24	201.51 202.70	1984.41 1984.59		15.88 15.80		18400.00 18460.00	10362.00 10362.00				MinPt-EOU MinPt-ADP
	2125.40	214.06	1982.19		14.99		18840.00	10362.00				MinPt-CtCt
	2122.49	222.90	1973.38		14.37		19130.00	10362.00				MinPt-CtCt
	2101.90 2095.56	258.72 276.89	1928.91 1910.46	1843.18 1818.67	12.25 11.41		20140.00 20600.00	10362.00 10362.00				MinPt-CtCt MinPt-CtCt
	2095.15	287.80	1902.77		10.97		20870.00	10362.00				MinPt-CtCt
	2095.20	287.87		<u> </u>	10.97		20880.00	10362.00				MinPts
	2096.13	288.17	1903.51	1807.96	10.96		20930.00	10362.00				MinPt-SF TD
	2110.34	288.23	1917.67	1822.10	11.03		21118.44	10362.00				ID
30-025-41243 - CASCADE 29 F	EDERAL 5H					lert						
	4683.10	32.81			3309.48		0.00	0.00				MinPts
	4683.12 4685.26	32.81 32.81	4679.73 4678.53	4650.31 4652.45	3307.35 986.06		23.00 510.00	23.00 510.00				WRP MinPt-EOU
	4688.12	32.81			491.56		990.00	990.00				MinPt-EOU
	4688.32		4676.79		479.68		1020.00	1020.00				MinPt-EOU
	4691.82			4659.01	360.49		1350.00	1350.00				MinPt-EOU
	4699.68 4726.18	32.81 42.75		4666.87 4683.43	250.88 172.90		1900.00 2770.00	1899.49 2766.18				MinPt-EOU MinPt-EOU
	4729.23	46.36		4682.87	158.98		3010.00	3005.27				MinPt-ADP
	4756.40	66.02		4690.38	110.99		4290.00	4280.40				MinPt-EOU
	652.42 422.58	198.47 270.37	519.57 241.80	453.95 152.22	4.96 2.35	OSF 5.00 OSF 5.00	9380.00 9900.20	9363.71 9883.15	OSF<=5.00			Enter Alert MinPts
	644.26	195.10			4.98	OSF 5.00	10670.00	10350.02	OSF>5.00			Exit Alert
	643.99	157.23	538.66		6.19		12280.00	10362.00				MinPt-ADP
	643.69	156.87 156.05	538.60 538.85		6.20		12300.00	10362.00				MinPt-EOU MinPt-CtCt
	643.39 653.57	150.05	552.92		6.23 6.58		12350.00 14060.00	10362.00 10362.00				MinPt-CtCt
	653.59	150.26			6.58		14070.00	10362.00				MinPt-EOU
	653.68	150.37	552.92		6.57		14090.00	10362.00				MinPt-ADP
	654.68 649.82	150.76 145.65			6.57 6.75		14170.00 14580.00	10362.00 10362.00				MinPt-SF MinPt-ADP
	649.21	144.91			6.78		14620.00	10362.00				MinPt-EOU
	649.21	144.81	552.15		6.78		14630.00	10362.00				MinPt-CtCt
	1309.09 1309.32	188.30 189.05			10.50 10.46		17620.00 17680.00	10362.00 10362.00				MinPt-CtCt MinPt-EOU
	1309.64	189.42		1120.22	10.44		17710.00	10362.00				MinPt-ADP
	1317.89	241.14			8.24		19630.00	10362.00				MinPt-CtCt
	1321.97 1323.91	250.84 253.16			7.94 7.88		19940.00 20020.00	10362.00 10362.00				MinPt-EOU MinPt-ADP
	1335.46	269.67		1065.79	7.46		20450.00	10362.00				MinPt-EOU
	1339.57	275.51		1064.06	7.33		20610.00	10362.00				MinPt-EOU
	1346.38 1365.54	288.18 283.37		1058.20 1082.17	7.04 7.26		20910.00 21118.44	10362.00 10362.00				MinPts TD
	1303.54	203.37	1170.12	1002.17	7.20		21110.44	10302.00				10
Coterra Cascade 29 Federal 20			_									
	3659.16 3659.16	32.81 32.81	3655.88 3655.88		1828.62 1828.62		0.00	0.00				Surface WRP
	3659.16 3659.16	32.81 32.81	3655.88 3649.24	3626.35 3626.35	1828.62 423.70		23.00 900.00	23.00 900.00				WRP MinPt-EOU
	3659.16			3626.35	384.53		990.00	990.00				MinPt-EOU
	2237.59				18.51		9950.00	9931.47				MinPt-SF
	2192.15 2192.08	177.14 177.06		2015.01 2015.02	18.66 18.67		10730.00 10760.00	10357.11 10359.49				MinPt-ADP MinPt-EOU
	689.49		550.36		4.98	OSF 5.00	16410.00	10362.00	OSF<=5.00			Enter Alert
	542.38	205.98	404.73		3.96	OSF 5.00	16840.00	10362.00				MinPt-SF
	542.17 542.07	205.88 205.79			3.96 3.96	OSF 5.00 OSF 5.00	16850.00 16860.00	10362.00 10362.00				MinPt-ADP MinPt-EOU
	542.07	205.79		336.28	3.96	OSF 5.00	16862.98	10362.00				MinPt-CtCt
	542.56	210.47			3.88	OSF 5.00	21118.44	10362.00				MinPts
20 005 44040 CASCADE 20 5		1 NAVA/D to 1	4040# A (D	afinitis sa Commune	\ \Marring A	la mi						
30-025-41240 - CASCADE 29 F	4914.35		424611 - A (D 4910.96	•	3472.97	iert	0.00	0.00				Surface
	4914.34	32.81	4910.95	4881.53	3468.94		23.00	23.00				WRP
	4912.26	32.81			529.75		990.00	990.00				MinPt-EOU
	4905.79 4908.07	37.66 43.38		4868.13 4864.69	204.91 176.84		2520.00 2920.00	2517.13 2915.61				MinPt-CtCt MinPt-EOU
	4909.31	44.88			170.73		3030.00	3025.19				MinPt-ADP
	4907.08	56.46			134.52		3760.00	3752.42				MinPt-CtCt
	4907.43 4907.93	57.54 58.15			131.91 130.52		3850.00 3900.00	3842.07 3891.88				MinPt-EOU MinPt-ADP
	4907.93 4909.90	65.94			130.52		4380.00	4370.06				MinPt-ADP
	1323.60	266.50	1145.39	1057.10	7.49		9910.00	9892.74				MinPts
	1323.60	266.50 171.40			7.49		9920.00	9902.48				MinPt-SF
	1432.90 1432.68	171.49 171.21		1261.41 1261.46	12.63 12.65		13210.00 13240.00	10362.00 10362.00				MinPt-ADP MinPt-EOU
	1431.99	169.81	1318.27	1262.18	12.75		13380.00	10362.00				MinPt-EOU
	1431.91	169.63	1318.31	1262.27	12.76		13410.00	10362.00				MinPt-CtCt

Offset Trajectory		Separation		Allow	Sep.	Breaking	Reference	Traiectory		Risk Level		Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	1
	1446.71 1446.75	168.04 168.17	1334.17 1334.13	1278.67 1278.59	13.02		14240.00	10362.00 10362.00				MinPt-CtCt MinPt-EOU
	1446.75 1446.59	168.17 168.42	1334.13	1278.59 1278.17	13.01 12.99		14260.00 14300.00	10362.00				MinPt-EOU MinPt-SF
	1433.49	168.83			12.84		14430.00	10362.00				MinPts
1	577.44	174.37	460.68		5.00	OSF 5.00		10362.00	OSF<=5.00			Enter Alert
	577.33 577.88	174.81 176.18	460.28 459.91	402.51 401.70	4.98 4.95	OSF 5.00 OSF 5.00		10362.00 10362.00				MinPt-CtCt MinPt-EOU
	578.46	170.18		401.70	4.93	OSF 5.00		10362.00				MinPt-EOU
	579.07	177.92	459.95		4.91	OSF 5.00		10362.00				MinPt-ADP
	583.37	181.32	461.99		4.85	OSF 5.00		10362.00				MinPt-ADP MinPt-CtCt
	591.34 556.10	195.26 231.65	460.66 401.16		4.57 3.61	OSF 5.00 OSF 5.00		10362.00 10362.00				MinPt-CtCt
	546.13	252.70	377.15		3.25	OSF 5.00		10362.00				MinPt-CtCt
	547.58	258.62		288.96	3.19	OSF 5.00		10362.00				MinPt-EOU
	548.79 559.34	260.02 266.89	374.93 380.91	288.76 292.46	3.18 3.15	OSF 5.00 OSF 5.00		10362.00 10362.00				MinPt-ADP MinPt-SF
	569.16	271.39	387.72	-	3.16	OSF 5.00		10362.00				MinPt-SF
	646.14	272.96	463.65	<u> </u>	3.56	OSF 5.00		10362.00				TD
20 025 41241 CASCADE 20 E	EDEDAL 2L	J MMMD to 1.	1241ft A /D	ofinitivo Sun (o)) Marning A	lant						
30-025-41241 - CASCADE 29 F	5340.33	32.81	5336.93	•	3774.13	iert	0.00	0.00				Surface
	5340.33	32.81	5336.93	5307.52	3774.13		10.00	10.00				MinPts
	5340.33	32.81	5336.93		3773.12		23.00	23.00				WRP
	5340.48 5340.79	32.81 32.81	5335.16 5329.49	5307.67 5307.98	1596.73 572.81		370.00 990.00	370.00 990.00				MinPts MinPt-EOU
	5340.58	32.81	5327.21	5307.77	459.95		1230.00	1230.00				MinPts
	5340.67	32.81	5325.62		401.86		1400.00	1400.00				MinPts
	5304.36 2245.43	58.34 269.95	5264.88 2064.92	5246.02 1975.48	140.58 12.54		3910.00 9910.00	3901.84 9892.74				MinPt-CtCt MinPts
	2245.43 2245.44	269.95 269.95	2064.92		12.54 12.54		9910.00	9892.74 9902.48				MinPts MinPt-SF
	2333.71	217.83	2187.99	2115.89	16.17		11500.00	10362.00				MinPt-ADP
	2328.44	212.52	2186.25		16.54		11680.00	10362.00				MinPt-ADP
	2325.76 2311.49	209.20 195.79	2185.78 2180.45	2116.56 2115.69	16.79 17.84		11790.00 12260.00	10362.00 10362.00				MinPt-EOU MinPt-ADP
	2306.24	191.85	2177.83		18.16		12470.00	10362.00				MinPt-ADP
·	2306.08	191.64		2114.44	18.18		12490.00	10362.00				MinPt-EOU
	2305.95	190.71	2178.30		18.27		12550.00	10362.00				MinPt-CtCt
	2305.76 2315.10	183.67 175.76	2182.80 2197.42	2122.09 2139.35	18.98 19.92		12910.00 13520.00	10362.00 10362.00				MinPt-CtCt MinPt-EOU
	2314.56	174.92		2139.64	20.01		13640.00	10362.00				MinPt-EOU
	2294.59	173.05	2178.71	2121.54	20.05		14140.00	10362.00				MinPt-SF
	763.74 763.79	177.63 177.69	644.81 644.82	586.11 586.10	6.49 6.49		16840.44 16850.00	10362.00 10362.00				MinPts MinPt-ADP
	764.05	177.69	645.03		6.49		16863.08	10362.00				MinPt-SF
	784.26	188.21			6.29		17570.00	10362.00				MinPt-EOU
	777.19	202.18	641.89		5.80		18220.00	10362.00				MinPt-CtCt
	778.20 782.25	207.90 225.93	639.09 631.12		5.65 5.22		18450.00 19100.00	10362.00 10362.00				MinPt-CtCt MinPt-CtCt
l	783.36	229.89			5.14		19240.00	10362.00				MinPt-EOU
	784.74	231.58	629.85		5.11		19300.00	10362.00				MinPt-ADP
	796.00 771.53	240.05 286.83	635.46 579.79		5.00 4.05	OSF 5.00 OSF 5.00		10362.00 10362.00	OSF<=5.00			Enter Alert MinPt-CtCt
	771.64	287.02			4.05	OSF 5.00		10362.00				MinPts
	771.88	287.17	579.92	<u> </u>	4.05	OSF 5.00		10362.00				MinPt-SF
	805.68	283.15	616.41	522.53	4.28	OSF 5.00	21118.44	10362.00				TD
Coterra Cascade 29 Federal 222	2U plan0 (De	efinitivePlan) -	Warning Ale	ert								
	3679.16		3675.88		1838.62		0.00	0.00				Surface
	3679.16 3679.16		3675.88 3669.24	3646.35 3646.35	1838.62 426.01		23.00 900.00	23.00 900.00				WRP MinPt-EOU
	3679.16		3668.47	3646.35	386.63		990.00	990.00				MinPt-EOU
	2336.92		2208.52		18.33		10220.00	10163.32				MinPt-SF
	2273.84 2273.81	185.24 185.17	2150.01 2150.03		18.50 18.51		10820.00 10835.89	10361.89 10362.00				MinPts MinPt-CtCt
	811.92	244.37	648.68		5.00	OSF 5.00		10362.00	OSF<=5.00			Enter Alert
	811.90	307.93			3.96	OSF 5.00		10362.00				MinPts
30 005 46006 October 0		1174 0	ated MAAD to	1740E# /D - f'	nitivo Sum res	Daca						
30-025-46306 - Coterra Cascado	e 29 Federal 116.60	17H - Correc 32.81	ted MWD to 114.01	•	nitiveSurvey) - 81.60	ra55	0.00	0.00				Surface
	116.59	32.81	114.00	83.78	81.59		23.00	23.00				WRP
	113.67	32.81	107.97	-	24.87		518.06	518.06				MinPts
	114.27 114.96	32.81 32.81	104.51 101.34	81.46 82.15	13.17 9.02		940.00 1350.00	940.00 1350.00				MinPt-EOU MinPt-EOU
	148.83		127.30	116.03	7.19		2190.00	2188.39				MinPt-SF
	325.15		284.69		8.21		4070.00	4061.24				MinPt-SF
	334.92 393.75		293.01 345.42	272.55 321.75	8.16 8.30		4210.00 4840.00	4200.70 4828.31				MinPt-SF MinPt-SF
	410.23		359.96		8.30		5030.00	5017.58				MinPt-SF
	711.04	118.12			9.09		7850.00	7833.71				MinPt-EOU
	713.40		632.00	591.79	8.86		8090.00	8073.71				MinPt-EOU
	715.25 717.27	124.38 127.45		590.87 589.82	8.68 8.50		8280.00 8490.00	8263.71 8473.71				MinPt-EOU MinPt-EOU
	714.35	145.97	616.71	568.39	7.38		9850.00	9833.57				MinPt-CtCt
'	714.39	146.10		568.29	7.37		9870.00	9853.40				MinPt-EOU
	714.44 715.89	146.16 146.69	616.67 617.77	568.27 569.20	7.37 7.36		9880.00 9960.00	9863.28 9941.03				MinPt-ADP MinPt-SF
	2333.13	128.13	2247.38	J-	27.51		12380.00	10362.00				MinPt-CtCt
	2334.36	133.79	2244.84	2200.57	26.35		12680.00	10362.00				MinPt-CtCt
	2336.98	143.18	2241.19		24.64		13130.00	10362.00				MinPt-CtCt
	2337.09 2337.70	152.50 154.10	2235.10 2234.64	2184.59 2183.60	23.13 22.89		13540.00 13630.00	10362.00 10362.00				MinPt-CtCt MinPt-EOU
	2338.68	155.28	2234.84		22.73		13690.00	10362.00				MinPt-ADP

Coct March	Offset Trajectory		Separation		Allow	Sep.	Breaking	Reference T	raiectory		Risk Level		Alert
196.20 196.20 296.17 216.17 22.61 1770.00 1002.00 MinPoCC						_	_			Alert	1	Maior	1
2811.01 1806.02 2833.05 2186.05 229.07 1890.00 1926.00 1926.00 1894.00 1896.00									. , ,				MinPt-CtCt
2011-12 195-10 203-108 791-06 191-07		2340.44	159.69	2233.66	2180.75	22.11		13860.00	10362.00				MinPt-EOU
247.73 196.07 2114.74 2016.71 17.51 198.00 1982.00		2341.04	160.42	2233.76	2180.62	22.02		13900.00	10362.00				MinPt-ADP
244.15 200.05 2114.01 204.01 10.50 1550.00 10962.00		2341.42	160.81	2233.89	2180.62	21.97		13920.00	10362.00				MinPt-ADP
1982 1982		2247.78	199.07	2114.74	2048.71	17.01		15460.00	10362.00				MinPt-CtCt
2014 4 2015 2017 30 2016 15 14-40 2016 16-42 17000 00 10000 00 10000 00 10000 00 10000 00		2248.15	200.05	2114.46	2048.10	16.93		15500.00	10362.00				MinPt-EOU
A-Pice 18		2248.60	200.54	2114.58	2048.06	16.89		15520.00	10362.00				MinPt-ADP
2002 2003 2015 2015 2015 18.65 1750 1082		2304.41	210.53	2163.73	2093.88	16.49		15990.00	10362.00				MinPt-SF
A 1981 19		2426.81	217.32	2281.61	2209.50	16.82		17060.00	10362.00				MinPt-SF
Marie Mari		2420.84		2274.60	2201.97			17360.00	10362.00				
2418.64 22.56 22.11 22.21 2786.81 16.60 1760.00 10082.00 10								17540.00					
241945 24114 22145 27746 219656 16.45 17890 10962 0		2418.22	220.08			16.55		17570.00	10362.00				MinPt-EOU
		2418.46						17600.00					
			i e		<u> </u>	-							
1951.23 194.75 1927.75 796.46 7.78 21110.00 10382.00													
Section Sect													
37-92-93 32-1 - Coterra Cascada 29 Federal 72H Corrected MWD to 172-08ft (NefmittveSurvey) - Pass 379-28 32-1 375-68 372-47 2656 92 0.0 0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0													
3759.28 32.81 3759.88 3728.47 2656.92 1.00 0.00 0.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 MinPs-EQU 10.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 MinPs-EQU 10.00 1.00 Mi		951.25	184.76	827.75	766.49	7.76		21118.44	10362.00				MinPt-SF
3759.28 32.81 3759.88 3728.47 2656.92 1.00 0.00 0.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 MinPs-EQU 10.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 MinPs-EQU 10.00 1.00 MinPs-EQU 10.00 MinPs-EQU 10.00 1.00 Mi													
3759.28 38.81 3756.69 3726.47 2669.92 10.00 10.00 MinPs 3759.93 38.81 3756.69 3769.47 2669.92 23.00 23.00 WWR 2420.99 137.26 2329.77 2283.34 26.83 9150.00 9133.71 MinPs 2420.79 147.78 2321.97 2273.05 247.73 9980.00 9980.55 MinPs 2420.79 147.78 2321.97 2273.05 247.73 9980.00 9980.55 MinPs 2420.79 147.74 2321.97 2273.05 247.73 9980.00 9980.01 MinPs 2420.79 147.74 2321.97 2273.05 24.73 9980.00 9980.01 MinPs 2420.79 147.74 2321.97 2273.05 247.73 9980.00 9980.01 MinPs 2420.79 147.74 2321.97 2273.05 247.73 9980.00 9980.01 MinPs 2420.79 149.80 2325.97 2273.05 247.73 9980.00 9980.01 MinPs 2420.79 149.80 2325.97 2273.05 247.73 9980.00 9980.01 MinPs 2420.79 149.80 2325.97 2273.05 247.73 1420.00 10188.10 MinPs 2420.79 149.80 2325.97 2283.18 247.79 149.80 20 149.80 20 MinPs 2420.79 149.80 2325.97 2325.97 2325.97 1420.00 10188.10 MinPs 2420.00 MinPs 2420.00 1447.80 149.27 2472.99 144.80 2325.97 2478.43 28.77 1220.00 13082.00 MinPs 2420.00 MinPs 2420.00 1477.80 149.27 2333.89 2477.79 28.64 12270.00 13082.00 MinPs 2420.00 MinPs 2420.00 1347.00 149.27 2472.99 1333.89 2477.79 28.64 12270.00 13082.00 MinPs 2420.00 MinPs 2420.00 1342.00 MinPs 2420.00 MinP	30-025-50291 - Coterra Casca				,	• ,	Pass						
3759.28 32.81 3768.69 3726.47 2056.62 23.00 23.00 WRPC													
2400 et al. 137.26 2288.77 2283.34 26.51 5340.00 9133.71 MinPh-CiCI 2420.79 147.74 2321.99 2273.09 24.74 9970.00 9950.55 MinPh-CiCI 2420.79 147.74 2321.97 2273.09 24.73 9980.00 9960.01 MinPh-CiCI 2420.79 147.74 2321.97 2273.09 24.73 9980.00 9960.01 MinPh-CiCI 2420.79 147.74 2321.97 2273.09 24.73 9990.00 9969.01 MinPh-CiCI 2420.79 2432.62 149.43 2332.67 2273.04 24.72 9990.00 9969.01 MinPh-CiCI 2432.62 149.43 2332.67 2283.18 24.57 10270.00 10199.10 MinPh-CiCI 3143.25 164.82 3033.04 2978.43 28.77 12280.00 10362.00 MinPh-CiCI 3143.55 164.82 3033.04 2978.43 28.77 12280.00 10362.00 MinPh-CiCI 3146.00 167.85 3033.11 2278.39 28.04 12570.00 10362.00 MinPh-CiCI 3140.85 165.00 3033.80 2277.79 28.04 12570.00 10362.00 MinPh-CiCI 3140.86 180.87 3006.55 2977.19 28.04 12570.00 10362.00 MinPh-CiCI 3140.86 199.46 3007.96 2412.40 23.73 1410.00 10362.00 MinPh-CiCI 3140.86 199.46 3007.86 2941.34 23.73 1410.00 10362.00 MinPh-CiCI 3140.86 199.46 3007.86 2941.34 23.73 1410.00 10362.00 MinPh-CiCI 2133.47 217.75 1898.04 1915.95 241.47 23.08 14130.00 10362.00 MinPh-CiCI 2133.47 217.75 1898.97 1915.75 241.47 1725.00 10362.00 MinPh-CiCI 2134.42 213.86 199.86 1915.86 14.77 1725.00 10362.00 MinPh-CiCI 2134.42 2134.89 1988.91 1915.85 14.74 1720.00 10362.00 MinPh-CiCI 2134.42 2134.91 1988.91 1915.85 14.74 1720.00 10362.00 MinPh-CiCI 2134.42 2134.80 1988.91 1915.85 14.74 1720.00 10362.00 MinPh-CiCI 2134.00 2228 1988.91 1915.85 14.74 1720.00 10362.00 MinP													
2421.16			l										
2420.79					i e								
2420.79 147.74 2321.97 2273.05 24.73 9880.00 9860.01 MinPt-COU 2420.83 147.80 2321.97 2273.04 24.72 999.00 9969.41 MinPt-ADP 2432.62 149.43 2332.67 2283.18 24.77 10270.00 10196.10 10362.00 MinPt-CIC 3143.25 149.43 2332.67 2379.33 28.95 12190.00 10362.00 MinPt-CIC 3143.55 165.16 3033.11 2978.33 28.71 12210.00 10362.00 MinPt-CIC 3144.00 1379.55 3033.71 2978.05 28.25 12480.00 10362.00 MinPt-CIC 3140.00 10362.00 MinPt-CIC 3133.21 217.27 1980.00 123.73 1410.00 10362.00 MinPt-CIC 3133.81 217.55 1987.97 1915.72 14.77 17260.00 10362.00 MinPt-CIC 3133.81 217.55 1987.97 1915.72 14.76 17280.00 10362.00 MinPt-CIC 313.82 217.54 1987.97 1915.72 14.76 17280.00 10362.00 MinPt-CIC 313.82 217.54 1987.97 1915.72 14.76 17280.00 10362.00 MinPt-CIC 313.82 218.91 1915.75 14.77 17260.00 10362.00 MinPt-CIC 313.82 218.91 1915.75 14.77 17260.00 10362.00 MinPt-CIC 313.60 128.00 1988.19 1915.66 14.71 1745.00 10362.00 MinPt-CIC 313.60 128.00 1988.19 1915.66 14.71 1745.00 10362.00 MinPt-CIC 313.60 128.00 1988.19 1915.66 14.71 1745.00 10362.00 MinPt-CIC 313.00 1988.00 1988.00 1988.00 MinPt-CIC 313.00 1988.00 1988.00 1988.00 MinPt-CIC 313.00 1988.00 1988.00													
2420.83 147.80 2321.97 2273.04 24.72 9990.00 9969.41 MinPt-ADP 2432.62 149.43 2332.67 2283.18 24.57 10270.00 10198.10 MinPt-CICC 3442.94 163.72 3033.47 2979.23 28.95 1219.00 10362.00 MinPt-CICC 3442.95 164.82 3033.04 2978.43 28.77 12280.00 10362.00 MinPt-CICC 3443.95 164.82 3033.04 2978.43 28.77 12280.00 10362.00 MinPt-CICC 3443.95 165.16 3033.17 2978.05 28.25 12480.00 10362.00 MinPt-CICC 3445.65 16.90 333.77 2978.05 28.25 12480.00 10362.00 MinPt-CICC 3456.84 18.95 199.45 3035.95 2977.79 28.04 12570.00 10362.00 MinPt-CICC 3456.86 180.87 3035.95 2977.79 28.04 12570.00 10362.00 MinPt-CICC 3456.86 180.87 3035.95 2942.08 23.85 1430.00 10362.00 MinPt-CICC 3456.86 180.87 3035.95 2942.08 23.85 1430.00 10362.00 MinPt-CICC 3440.86 199.46 3007.55 2941.40 23.73 14100.00 10362.00 MinPt-CICC 2433.29 217.64 1987.94 1915.95 14.77 17250.00 10362.00 MinPt-CICC 2433.27 217.27 1988.04 1915.95 14.77 17250.00 10362.00 MinPt-CICC 2433.97 217.27 1988.04 1915.95 14.76 17250.00 10362.00 MinPt-CICC 2434.03 218.11 1988.29 1915.55 14.77 17250.00 10362.00 MinPt-CICC 2434.03 218.11 1988.29 1915.65 14.77 17250.00 10362.00 MinPt-CICC 2434.03 218.11 1988.29 1915.65 14.77 17250.00 10362.00 MinPt-CICC 2434.03 218.11 1988.29 1915.65 14.77 17250.00 10362.00 MinPt-CICC 2434.03 218.41 1915.65 14.77 17250.00 10362.00 MinPt-CICC 2434.03 218.41 1915.65 14.77 17250.00 10362.00 MinPt-CICC 2434.03 218.41 1915.65 14.71 17450.00 10362.00 MinPt-CICC 2440.23 22.55 1992.48 1916.56 14.71 17450.00 10362.00 MinPt-CICC 2441.02 22.25 1992.48 1916.56 14.71 17450.00 10362.00 MinPt-CICC 2441.03 22.25 1992.48 1995.57 1995.													
2432.02 149.43 2332.67 2283.18 24.57 10270.00 10198.10 MinPt-SCI 3142.34 163.72 3033.47 2979.23 28.96 12190.00 10362.00 MinPt-CICL 3143.25 164.62 3033.41 2978.39 28.77 12280.00 10362.00 MinPt-EOU 3143.55 166.16 3033.11 2978.39 28.71 12210.00 10362.00 MinPt-EOU 3146.00 167.95 3033.71 2978.05 28.25 12480.00 10362.00 MinPt-EOU 3147.06 169.27 3033.89 2977.79 28.04 12570.00 10362.00 MinPt-EOU 3156.32 31.71 1791.77 3035.55 2977.15 26.56 13900.00 10362.00 MinPt-EOU 3156.80 180.87 3035.95 2975.99 26.32 13200.00 10362.00 MinPt-EOU 3140.60 199.45 3007.60 2941.00 23.35 14030.00 10362.00 MinPt-EOU 3141.25 199.91 3007.65 2941.34 23.68 14130.00 10362.00 MinPt-EOU 2133.21 272 798.04 1155.75 14.77 17250.00 10362.00 MinPt-EOU 2133.47 217.55 1987.94 1915.75 14.77 17250.00 10362.00 MinPt-EOU 2133.47 217.56 1987.94 1915.75 14.77 17250.00 10362.00 MinPt-EOU 2134.16 218.49 198.81 1915.55 14.74 1740.00 10362.00 MinPt-EOU 2134.16 218.49 198.81 1915.65 14.74 1740.00 10362.00 MinPt-EOU 2134.16 218.50 1988.81 1915.65 14.74 1740.00 10362.00 MinPt-EOU 2134.16 218.50 1988.81 1915.65 14.74 1740.00 10362.00 MinPt-EOU 3141.00 222.50 1982.36 1918.61 14.49 18060.00 10362.00 MinPt-EOU 3141.00 222.50 1982.36 1918.61 14.49 18060.00 10362.00 MinPt-EOU 3130.00 10362.00 MinP			L										
1831/2 3033.47 2979.23 28.95 12190.00 10362.00 10362.00 MinPt-CICT 13143.55 168.48 3033.40 2978.43 28.77 1228.00 10362.00 MinPt-ADP 3146.00 167.95 3033.71 2978.03 28.71 12310.00 10362.00 MinPt-ADP 3146.00 167.95 3033.77 298.04 12670.00 10362.00 MinPt-ADP 3156.32 179.17 3036.55 2977.15 26.56 13090.00 10362.00 MinPt-CICT 3156.66 180.87 3033.93 2977.99 29.42 29.53 13200.00 10362.00 MinPt-CICT 3140.60 199.46 3007.56 2941.40 2373 14100.00 10362.00 MinPt-CICT 3140.60 199.46 3007.56 2941.40 2373 14100.00 10362.00 MinPt-CICT 3141.25 3199.91 307.56 2941.40 2373 14100.00 10362.00 MinPt-CICT 313.21 217.27 1988.04 1915.91 14.79 17210.00 10362.00 MinPt-CICT 313.22 217.57 1987.94 1915.75 14.76 17280.00 10362.00 MinPt-CICT 313.47 3138.5 218.00 1888.19 1915.75 14.76 17280.00 10362.00 MinPt-CICT 313.47 3138.5 218.00 1888.19 1915.85 14.74 17320.00 10362.00 MinPt-ADP 2133.47 218.91 1888.19 1915.67 14.71 1745.00 10362.00 MinPt-ADP 2140.23 22.56 1982.36 1918.57 14.71 1745.00 10362.00 MinPt-ADP 2140.23 22.51 1992.48 1918.75 14.71 1745.00 10362.00 MinPt-ADP 2140.23 22.51 1992.48 1918.75 14.71 1745.00 10362.00 MinPt-ADP 2140.23 22.51 1992.86 1918.75 14.71 1745.00 10362.00 MinPt-ADP 2140.23 22.51 1992.36 1918.57 14.49 1806.00 10362.00 MinPt-CICT 313.10 22.25 3198.157.85 1888.01 319.25 14.49 1806.00 10362.00 MinPt-CICT 313.10 22.25 3198.157.85 1888.01 319.25 1899.00 10362.00 MinPt-CICT 313.10 22.25 3198.157.85 1888.01 319.25 1899.00 10362.00 MinPt-CICT 313.10 22.25 3198.157.85 3188.85 318.8													
3143.25			j		_								
3143.55 165.16 3033.11 2978.39 28.71 12310.00 10362.00 MinPt-ADP 3146.00 167.95 3033.71 2978.05 28.25 1240.00 10362.00 MinPt-ADP 3156.32 179.17 3038.55 2977.15 28.04 12570.00 10362.00 MinPt-ADP 3156.32 179.17 3038.55 2977.15 28.56 13090.00 10362.00 MinPt-COL 3140.86 180.87 3035.93 2975.99 26.32 1320.00 10362.00 MinPt-COL 3140.86 199.46 3007.90 2942.08 23.85 14030.00 10362.00 MinPt-COL 3140.86 199.49 3007.66 2941.40 23.73 14100.00 10362.00 MinPt-COL 2133.29 127.75 198.91 307.66 2941.40 23.73 14100.00 10362.00 MinPt-COL 2133.29 217.84 1915.94 14.79 17210.00 10362.00 MinPt-COL 2133.29 217.75 1987.97 1915.72 14.76 17260.00 10362.00 MinPt-COL 2134.03 218.14 1988.29 1915.68 14.74 17400.00 10362.00 MinPt-COL 2134.03 218.14 1988.29 1915.68 14.74 17400.00 10362.00 MinPt-COL 2134.03 218.14 1988.29 1915.67 14.71 17400.00 10362.00 MinPt-COL 2134.03 220.57 1992.86 1919.67 14.71 1740.00 10362.00 MinPt-COL 2134.03 220.57 1992.86 1918.50 14.49 1806.00 10362.00 MinPt-COL 2134.10 222.60 1992.37 1918.50 14.49 1806.00 10362.00 MinPt-COL 2134.10 222.60 1992.38 1918.52 14.49 1806.00 10362.00 MinPt-COL 2134.10 222.60 1992.38 1918.52 14.49 1806.00 10362.00 MinPt-COL 2134.11 222.60 1992.38 1898.84 13.84 1901.00 10362.00 MinPt-COL 2134.11 222.60 1992.38 1898.84 13.84 1901.00 10362.00 MinPt-COL 2134.14 23.36 1375.84 1898.84 13.77 1909.00 10362.00													
3146.00 167.95 3033.77 2978.05 28.25 12480.00 10362.00 MinPt-EOU 1365.00 MinPt-EOU 1													
3147.06 169.27 3033.89 2977.79 28.04 12570.00 10362.00 MinPt-CICL 3156.32 179.17 3036.55 2977.15 26.56 13090.00 10362.00 MinPt-CICL 3156.86 180.87 3036.95 2977.99 28.04 13090.00 10362.00 MinPt-CICL 3140.86 199.46 3007.56 2941.40 23.73 14100.00 10362.00 MinPt-CICL 3140.86 199.46 3007.56 2941.40 23.73 14100.00 10362.00 MinPt-CICL 3140.86 199.46 3007.56 2941.34 23.88 14130.00 10362.00 MinPt-CICL 2133.21 217.27 1988.04 1915.94 14.79 17210.00 10362.00 MinPt-CICL 2133.29 217.54 1987.94 1915.75 14.77 17250.00 10362.00 MinPt-CICL 2133.85 218.00 1988.19 1915.85 14.76 17250.00 10362.00 MinPt-CICL 2133.85 218.00 1988.19 1915.85 14.74 1730.00 10362.00 MinPt-CICL 2134.03 218.11 1988.29 1915.92 14.74 17400.00 10362.00 MinPt-CICL 2134.04 218.59 1988.19 1915.66 14.71 17450.00 10362.00 MinPt-CICL 2134.04 218.59 1988.19 1915.66 14.71 17450.00 10362.00 MinPt-CICL 2141.02 22.50 1992.86 1919.67 14.61 17670.00 10362.00 MinPt-SP 2140.23 20.57 1992.86 1919.87 14.61 1800.00 10362.00 MinPt-SP 2141.02 22.25 1992.86 1919.87 14.61 1800.00 10362.00 MinPt-CICL 2141.02 22.50 1992.36 1918.52 14.49 18060.00 10362.00 MinPt-SP 2141.01 222.60 1992.37 1918.50 14.49 18060.00 10362.00 MinPt-CICL 2131.08 23.96 1876.89 1900.19 13.92 18890.00 10362.00 MinPt-CICL 2131.08 23.96 1876.89 1898.12 13.77 19090.00 10362.00 MinPt-CICL 2131.08 23.96 1875.81 1898.82 13.84 19010.00 10362.00 MinPt-CICL 2131.08 23.36 1875.51 1898.07 13.74 1910.00 10362.00 MinPt-SP 2131.41 233.36 1875.51 1898.07 13.74 1910.00 10362.00 MinPt-CICL 2131.41 233.36 1875.51 1898.07 13.74 1910.00 10362.00 MinPt-SP													
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Coterra Cascade 29 Federal 201U Rev1 kFc 07Oct25 Proposal Geodetic Report

Report Date:
Client:
Field:
Structure / Blot:
Well:
Borehole:
UBHI / APIR:
Survey Name:
Survey Date:
Tort / AHD / DDI / ERD Ratio:
Coordinate Reference System:
Location Lat / Long:
Location Grid NE / YX:
CRS Grid Convergence Angle:
Grid Scale Factor:
Version / Patch:

November 19, 2025 - 02.28 PM (UTC 0)
COTERRA
NM Lao County (NAD 83)
Coterra - Cascade 29 Federal 201U
Cascade 29 Federal 201U
Cascade 29 Federal 201U
Unknown / Unknown
Coterra (Cascade 29 Federal 201U
Unknown / Unknown
Coterra (Cascade 29 Federal 201U Rev1 kFc 07Oct25
November 19, 2025
280.008 / 13184 378 ft / 6.813 / 1.099
NAD83 New Mexico State Plane, Eastern Zone, US Feet
32754 222367, 1037365 51267
N 990980 200 RUS , E 767955.780 ftUS
0.389"
0.99996791(Applied)
2025.1.0.1

Survey / DLS Computation: Vertical Section Azimuth: Vertical Section Origin: TVD Reference Datum: TVD Reference Elevation: Seabed / Ground Elevation: Magnetic Declination: Total Gravity Field Strength: Gravity Model: Minimum Curvature / Lubinski 0.000 "(GRID North) 0.000 ft, 0.000 ft RKB 3424.400 ft above MSL 3401.400 ft above MSL 6.064" magnetic Declination:
Total Gravity Field Strength:
Gravity Model:
Total Magnetic Field Strength:
Gravity Model:
Total Magnetic Field Strength:
Magnetic Dip Angle:
Declination Date:
Crocker 07, 2025
North Reference:
Grid Convergence Used:
Total Corr Mag North-Grid North:
Local Coord Referenced To:

Well Head

Page	Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
1966 1966	SHL [270'FSL, 410'FWL]													0.00	0.00	0.00
1898 1898		200.00	0.00	100.60	200.00	-3,224.40	0.00	0.00	0.00	399,089.29	767,955.78	32.09506202	-103.60153116	0.00	0.00	0.00
Part		300.00 400.00														
Part		500.00	0.00	100.60	500.00	-2,924.40	0.00	0.00	0.00	399,089.29	767,955.78	32.09506202	-103.60153116	0.00	0.00	0.00
May																
March Marc	B # -					-2,624.40			0.00							
ASSECTION 100 00 00 00 00 00 00 00 00 00 00 00 00	Rustler□															
Adams. 1938	*** -	1,000.00	0.00	100.60	1,000.00	-2,424.40	0.00	0.00	0.00	399,089.29	767,955.78	32.09506202	-103.60153116	0.00	0.00	0.00
March 1908 100 1																
Same 1. 1920																
1600 1600	Salado□											32.09506202	-103.60153116			
March 1968																
1,000		1,500.00	0.00	100.60	1,500.00	-1,924.40	0.00	0.00	0.00	399,089.29	767,955.78	32.09506202	-103.60153116	0.00	0.00	0.00
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Nudge, Build 2°/100ft															
1,000		1,800.00	4.00	100.60	1,799.84	-1,624.56	-1.28	-1.28	6.86	399,088.01	767,962.64	32.09505836	-103.60150904	2.00	2.00	0.00
2,000 60 1000 1	Hold															
2,000 4.00 50.00		2,000.00	5.00	100.60	1,999.11	-1,425.29	-4.41	-4.41	23.56	399,084.88	767,979.34	32.09504945	-103.60145517	0.00	0.00	0.00
1																
2,000 10 10 10 10 10 10 10		2,300.00			2,297.97	-1,126.43		-9.22	49.26	399,080.07	768,005.04	32.09503575	-103.60137230		0.00	
2600 100 100 2500 100 100 2500 1																
1		2,600.00	5.00	100.60	2,596.83	-827.57	-14.03	-14.03	74.96	399,075.26	768,030.74	32.09502205	-103.60128942	0.00	0.00	0.00
1,000 1,00		2,800.00					-17.24	-17.24	92.09		768,047.87					
1, 100.00		2,900.00	5.00	100.60	2,895.69	-528.71	-18.84	-18.84	100.66	399,070.45	768,056.44	32.09500835	-103.60120655	0.00	0.00	0.00
1,300.00																
1,400 1,00																
ABOOLOGI 100		3,400.00						-26.86	143.49							
1,700.00 1												32.09498095	-103.60104080			
1,000 1,00		3,700.00	5.00	100.60	3,692.64	268.24	-31.67	-31.67	169.19	399,057.62	768,124.96	32.09497182	-103.60098556		0.00	0.00
1,000 1,00		4,000.00					-36.48	-36.48	194.89		768,150.66	32.09495812	-103.60090268	0.00		0.00
1,000 10																
4,500		4,300.00	5.00	100.60	4,290.36	865.96	-41.29	-41.29	220.59	399,048.00	768,176.36	32.09494442	-103.60081981	0.00	0.00	0.00
4,000 5.00 10.00 4,596 20.00 10.00 4,596 20.00 10.00																
4,000.00 5.00 10.00 1,788.66 1,786.06 1,49.30 1,49.30 1,49.30 1,59.1		4,600.00	5.00	100.60	4,589.22	1,164.82	-46.10	-46.10	246.29	399,043.20	768,202.06			0.00	0.00	0.00
Lamarci (4,000) 5.0 (10,000 4,																
Ber Carryon		4,900.00	5.00	100.60	4,888.08	1,463.68		-50.91	271.99	399,038.39	768,227.76	32.09491702	-103.60065407			
Bell Carryon: 5,002.251 5,00 10,00 4,996.30 1,566.50 -22.55 -22.55 20.78 396.003.74 7082.356 32.0846728 103.000508527 0.00	Lamar□															
\$2,000 \$0.0 \$0.0 \$0.00	Bell Canyon□	5,002.61	5.00	100.60	4,990.30	1,565.90		-52.55	280.78	399,036.74	768,236.55	32.09491233	-103.60062572		0.00	0.00
\$4,000 \$0.0																
Part																
5,700.00																
Second S																
Dep 2"100ft		5,800.00	5.00	100.60	5,784.65	2,360.25	-65.34	-65.34	349.08	399,023.96	768,304.85	32.09487591	-103.60040545	0.00	0.00	0.00
6,000	Drop 2°/100ft															
Held 6,200,00 0.2	D10p 2 710010	6,000.00	4.32	100.60	5,983.91	2,559.51	-68.51	-68.51	366.01	399,020.79	768,321.78	32.09486689	-103.60035084	2.00	-2.00	0.00
Hold 6218.80 0.0 100.80 6,199.51 2,775.11 7.0 7.0 7.0 374.00 399.019.29 768.32.977 32.0948628 103.80032509 0.0 0																
Chemy Canyon: Chemy Canyon	Hold	6,215.80	0.00	100.60	6,199.51	2,775.11	-70.00	-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509	2.00	-2.00	0.00
6,400.0	Cherry Canyon□															
6,800.00	ondry dailyon	6,400.00	0.00	100.60	6,383.71	2,959.31	-70.00	-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509	0.00	0.00	0.00
Fig.																
Fig.		6,700.00	0.00	100.60	6,683.71	3,259.31	-70.00	-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509	0.00	0.00	0.00
Product Prod																
T.200.00		7,000.00	0.00	100.60	6,983.71	3,559.31	-70.00	-70.00	374.00	399,019.29	768,329.77					0.00
Part																
Part		7,300.00	0.00	100.60	7,283.71	3,859.31	-70.00	-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509	0.00	0.00	0.00
Brushy Canyon																
7,700.00 0.00 100.60 7,683.71 4,259.31 -70.00 -70.00 374.00 399.019.29 768.329.77 32.09468263 1.03.60032569 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	Brushy Canyon□	7,516.59	0.00	100.60	7,500.30	4,075.90	-70.00	-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509	0.00	0.00	0.00
7,800.00 0.00 100.60 7,883.71 4,359.31 -70.00 -70.00 374.00 399.019.29 768.329.77 32.09468263 103.60032509 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0		7,700.00										32.09486263	-103.60032509			
8,000.00 0.00 100.60 7,983.71 4,559.31 -70.00 -70.00 374.00 399.019.29 768.329.77 32.09486263 1.03.60032509 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0		7,800.00	0.00	100.60	7,783.71			-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509			
8,200.00 0.00 100.60 8,183.71 4,759.31 -70.00 -70.00 374.00 399,019.29 768,329.77 32,09468263 -103,80032509 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0		8,000.00	0.00	100.60	7,983.71	4,559.31	-70.00	-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509	0.00	0.00	0.00
8,300.00 0.00 100.60 8,283.71 4,895.31 -70.00 -70.00 374.00 399,019.29 768,329.77 32,09486263 -103,60032509 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0		8,100.00					-70.00	-70.00				32.09486263	-103.60032509			
8.400.00 0.00 100.60 8.383.71 4.959.31 -70.00 -70.00 374.00 399.019.29 768.329.77 32.09468263 -103.60032509 0.00 0.00 0.00 0.00 0.00 8.500.00 0.00		8,300.00	0.00	100.60	8,283.71	4,859.31	-70.00	-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509	0.00	0.00	0.00
8,800.00 0.00 100.60 8,583.71 5,159.31 -70.00 -70.00 374.00 399,019.29 768,329.77 32,09468263 -103,80032509 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0		8,400.00	0.00	100.60	8,383.71	4,959.31	-70.00	-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509	0.00	0.00	0.00
8,700.00 0.00 100.60 8,683.71 5,259.31 -70.00 -70.00 374.00 399.019.29 768.329.77 32.09488263 1.03.60032509 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0							-70.00					32.09486263	-103.60032509			
$8,900.00 \\ 0.00 \\ 100.60 \\ 8,883.71 \\ 5,459.31 \\ -70.00 \\ -70.00 \\ -70.00 \\ 374.00 \\ 399.019.29 \\ 768.29.77 \\ 32.0486263 \\ -103.60032509 \\ 0.00 \\ 0$		8,700.00	0.00	100.60	8,683.71		-70.00	-70.00	374.00	399,019.29		32.09486263	-103.60032509		0.00	0.00
		8,900.00	0.00	100.60	8,883.71	5,459.31	-70.00	-70.00	374.00	399,019.29	768,329.77	32.09486263	-103.60032509	0.00	0.00	0.00
	Basal Brushy Canyon□	9,000.00 9,026.59	0.00 0.00	100.60 100.60	8,983.71 9.010.30	5,559.31 5,585.90	-70.00 -70.00	-70.00 -70.00	374.00 374.00	399,019.29 399,019.29	768,329.77 768,329.77	32.09486263	-103.60032509	0.00 0.00	0.00	0.00

	MD	Incl	Azim	TVD	TVDSS	VSEC	NS	EW	Northing	Easting	Latitude	Longitude	DLS	BR	TR
Comments	(ft)	(°)	(°)	(ft)	(ft)	(ft)	(ft)	(ft)	(ftUS)	(ftUS)	(°)	(°)	(°/100ft)	(°/100ft)	(°/100ft)
Bone Spring Lime□	9,051.59 9,100.00	0.00 0.00	100.60 100.60	9,035.30 9,083.71	5,610.90 5,659.31	-70.00 -70.00	-70.00 -70.00	374.00 374.00	399,019.29 399,019.29	768,329.77 768,329.77	32.09486263	-103.60032509 -103.60032509	0.00 0.00	0.00 0.00	0.00 0.00
Leonard□	9,116.59 9,200.00	0.00 0.00	100.60 100.60	9,100.30 9,183.71	5,675.90 5,759.31	-70.00 -70.00	-70.00 -70.00	374.00 374.00	399,019.29 399,019.29	768,329.77 768,329.77	32.09486263	-103.60032509 -103.60032509	0.00	0.00 0.00	0.00 0.00
Avalon□	9,300.00 9,336.59	0.00 0.00	100.60 100.60	9,283.71 9,320.30	5,859.31 5,895.90	-70.00 -70.00	-70.00 -70.00	374.00 374.00	399,019.29 399,019.29	768,329.77 768,329.77	32.09486263	-103.60032509 -103.60032509	0.00	0.00 0.00	0.00 0.00
	9,400.00 9,500.00	0.00 0.00	100.60 100.60	9,383.71 9,483.71	5,959.31 6,059.31	-70.00 -70.00	-70.00 -70.00	374.00 374.00	399,019.29 399,019.29	768,329.77 768,329.77	32.09486263	-103.60032509 -103.60032509	0.00	0.00 0.00	0.00 0.00
	9,600.00 9,700.00	0.00 0.00	100.60 100.60	9,583.71 9,683.71	6,159.31 6,259.31	-70.00 -70.00	-70.00 -70.00	374.00 374.00	399,019.29 399,019.29	768,329.77 768,329.77	32.09486263	-103.60032509 -103.60032509	0.00 0.00	0.00 0.00	0.00 0.00
KOP, Build 10°/100ft	9,785.80 9,800.00	0.00 1.42	100.60 0.00	9,769.51 9,783.70	6,345.11 6,359.30	-70.00 -69.82	-70.00 -69.82	374.00 374.00	399,019.29 399,019.47	768,329.77 768,329.77	32.09486311	-103.60032509 -103.60032509	0.00 10.00	0.00 10.00	0.00
	9,900.00 10,000.00	11.42 21.42	0.00 0.00	9,882.95 9,978.75	6,458.55 6,554.35	-58.66 -30.43	-58.66 -30.43	374.00 374.00	399,030.63 399,058.86	768,329.77 768,329.77	32.09497140	-103.60032484 -103.60032422	10.00 10.00	10.00 10.00	0.00 0.00
1st BS Sand□	10,034.31 10,100.00	24.85 31.42	0.00 0.00	10,010.30 10,068.19	6,585.90 6,643.79	-16.95 14.01	-16.95 14.01	374.00 374.00	399,072.34 399,103.30	768,329.77 768,329.77		-103.60032393 -103.60032325	10.00 10.00	10.00 10.00	0.00
	10,200.00 10,300.00	41.42 51.42	0.00 0.00	10,148.56 10,217.41	6,724.16 6,793.01	73.31 145.65	73.31 145.65	374.00 374.00	399,162.59 399,234.94	768,329.77 768,329.77	32.09525652 32.09545538	-103.60032195 -103.60032036	10.00 10.00	10.00 10.00	0.00
2nd BS Shale□	10,324.54 10,400.00	53.87 61.42	0.00 0.00	10,232.30 10,272.65	6,807.90 6,848.25	165.16 228.86	165.16 228.86	374.00 374.00	399,254.45 399,318.14	768,329.77 768,329.77	32.09550900 32.09568409	-103.60031993 -103.60031853	10.00 10.00	10.00 10.00	0.00
Build & Turn 5°/100ft	10,500.00 10,535.80	71.42 75.00	0.00 0.00	10,312.60 10,322.94	6,888.20 6,898.54	320.39 354.67	320.39 354.67	374.00 374.00	399,409.67 399,443.94	768,329.77 768,329.77	32.09593568 32.09602988	-103.60031652 -103.60031577	10.00 10.00	10.00 10.00	0.00
	10,600.00 10,700.00	78.21 83.21	359.92 359.79	10,337.82 10,353.96	6,913.42 6,929.56	417.11 515.76	417.11 515.76	373.96 373.71	399,506.38 399,605.04	768,329.72 768,329.47	32.09620151	-103.60031454 -103.60031318	5.00 5.00	5.00 5.00	-0.13 -0.12
Landing Point	10,800.00 10,835.89	88.21 90.00	359.67 359.63	10,361.44 10,362.00	6,937.04 6.937.60	615.45 651.34	615.45 651.34	373.24 373.03	399,704.72 399,740.60	768,329.01 768,328.79		-103.60031249 -103.60031240	5.00 5.00	5.00 5.00	-0.12 -0.12
Editality Form	10,900.00 10,935.89	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6,937.60	715.44 751.33	715.44 751.33	372.61 372.38	399,804.71 399,840.60	768,328.38 768,328.15	32.09702155	-103.60031233 -103.60031229	0.00	0.00	0.00
	10,935.91 11,000.00	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6,937.60	751.35 815.44	751.35 815.44	372.38 371.97	399,840.61 399,904.70	768,328.15 768,327.73	32.09712025	-103.60031229 -103.60031222	2.00 0.00	0.35 0.00	-1.97 0.00
	11,100.00 11,200.00	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6,937.60	915.44 1,015.44	915.44 1,015.44	371.32 370.67	400,004.70 400,104.69	768,327.09 768,326.44	32.09757129	-103.60031212 -103.60031201	0.00	0.00	0.00
	11,300.00 11,400.00	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6.937.60	1,115.43 1,215.43	1,115.43	370.03 369.38	400,204.69 400,304.68	768,325.79 768,325.15	32.09812104	-103.60031201 -103.60031190 -103.60031179	0.00	0.00	0.00
	11,500.00 11,600.00	90.00 90.00	359.63 359.63	10,362.00 10,362.00 10,362.00	6,937.60 6,937.60	1,315.43 1,415.43	1,315.43 1,415.43	368.73 368.09	400,404.67 400,504.67	768,324.50 768,323.86	32.09867078	-103.60031179 -103.60031168 -103.60031157	0.00 0.00 0.00	0.00	0.00
	11,700.00 11,800.00	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6,937.60	1,515.42 1,615.42	1,515.42 1,615.42	367.44 366.80	400,604.66 400.704.66	768,323.21 768,322.56	32.09922052	-103.60031136 -103.60031136	0.00	0.00	0.00
	11,900.00	90.00 90.00	359.63	10,362.00	6,937.60	1,715.42	1,715.42	366.15	400,804.65	768,321.92	32.09977026	-103.60031125	0.00	0.00	0.00
	12,000.00 12,100.00	90.00	359.63 359.63	10,362.00 10,362.00 10,362.00	6,937.60 6,937.60 6,937.60	1,815.42 1,915.42	1,815.42 1,915.42	365.50 364.86 364.21	400,904.65 401,004.64	768,321.27 768,320.62 768,310.08	32.10032000	-103.60031114 -103.60031103 -103.60031092	0.00	0.00	0.00
	12,200.00 12,300.00 12,400.00	90.00 90.00 90.00	359.63 359.63 359.63	10,362.00 10,362.00 10,362.00	6,937.60 6,937.60 6,937.60	2,015.41 2,115.41 2,215.41	2,015.41 2,115.41 2,215.41	364.21 363.56 362.92	401,104.64 401,204.63 401,304.62	768,319.98 768,319.33 768,318.69	32.10086974	-103.60031092 -103.60031081 -103.60031070	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
	12,400.00 12,500.00 12,600.00	90.00 90.00 90.00	359.63 359.63	10,362.00 10,362.00 10,362.00	6,937.60 6,937.60 6,937.60	2,215.41 2,315.41 2,415.41	2,215.41 2,315.41 2,415.41	362.92 362.27 361.63	401,404.62 401,404.62 401,504.61	768,318.04 768,317.39	32.10141948	-103.60031070 -103.60031059 -103.60031049	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
	12,700.00	90.00 90.00 90.00	359.63	10,362.00	6,937.60 6,937.60 6.937.60	2,515.40	2,515.40	360.98	401,604.61 401,704.60	768,316.75	32.10196922	-103.60031038	0.00	0.00	0.00 0.00 0.00
	12,800.00 12,900.00	90.00	359.63 359.63 359.63	10,362.00 10,362.00	6,937.60	2,615.40 2,715.40	2,615.40 2,715.40 2.815.40	360.33 359.69 359.04	401,804.60 401,904.59	768,316.10 768,315.46	32.10251896	-103.60031027 -103.60031016	0.00	0.00	0.00
	13,000.00 13,100.00 13,200.00	90.00 90.00 90.00	359.63 359.63	10,362.00 10,362.00 10,362.00	6,937.60 6,937.60 6.937.60	2,815.40 2,915.40 3.015.39	2,915.40 2,915.40 3.015.39	358.40 357.75	402,004.59 402,104.58	768,314.81 768,314.16 768,313.52	32.10306870	-103.60031005 -103.60030994 -103.60030983	0.00 0.00 0.00	0.00	0.00 0.00 0.00
	13,300.00	90.00	359.63	10,362.00	6,937.60	3,115.39	3,115.39	357.10	402,204.58	768,312.87	32.10361844	-103.60030972	0.00	0.00	0.00
	13,400.00 13,500.00	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6,937.60	3,215.39 3,315.39	3,215.39 3,315.39	356.46 355.81	402,304.57 402,404.56	768,312.22 768,311.58	32.10416818	-103.60030961 -103.60030951	0.00	0.00	0.00
	13,600.00 13,700.00	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6,937.60	3,415.39 3,515.38	3,415.39 3,515.38	355.16 354.52	402,504.56 402,604.55	768,310.93 768,310.29	32.10471793	-103.60030940 -103.60030929	0.00	0.00	0.00
	13,800.00 13,900.00	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6,937.60	3,615.38 3,715.38	3,615.38 3,715.38	353.87 353.23	402,704.55 402,804.54	768,309.64 768,308.99	32.10526767	-103.60030918 -103.60030907	0.00	0.00	0.00
	14,000.00 14,100.00	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6,937.60	3,815.38 3,915.37	3,815.38 3,915.37	352.58 351.93	402,904.54 403,004.53	768,308.35 768,307.70	32.10581741	-103.60030896 -103.60030885	0.00	0.00	0.00
TP1, Turn 6.95°/100ft	14,200.00 14,271.96	90.00 90.00	359.63 359.63	10,362.00 10,362.00	6,937.60 6,937.60	4,015.37 4,087.33	4,015.37 4,087.33	351.29 350.82	403,104.53 403,176.48	768,307.05 768,306.59	32.10629007	-103.60030874 -103.60030866	0.00	0.00	0.00
	14,300.00 14,400.00 14,500.00	90.00 90.00 90.00	1.58 8.53 15.48	10,362.00 10,362.00	6,937.60 6,937.60	4,115.37 4,214.92	4,115.37 4,214.92	351.12 359.92	403,204.52 403,304.06	768,306.89 768,315.69 768,336.47	32.10664059	-103.60030709 -103.60027648 -103.60020721	6.95 6.95 6.95	0.00 0.00 0.00	6.95 6.95 6.95
	14,500.00 14,600.00 14,700.00	90.00 90.00 90.00	22.43 29.38	10,362.00 10,362.00 10.362.00	6,937.60 6,937.60 6,937.60	4,312.67 4,407.19 4 497.09	4,312.67 4,407.19 4.497.09	380.71 413.17 456.83	403,401.81 403,496.33 403.586.23	768,368.93 768,412.59	32.10716809	-103.60020721 -103.60010031 -103.59995735	6.95 6.95	0.00	6.95 6.95
	14,800.00 14,800.00 14,900.00	90.00 90.00	36.33 43.28	10,362.00 10,362.00 10,362.00	6,937.60 6,937.60	4,581.04 4,657.82	4,581.04 4,657.82	511.04 575.02	403,670.18 403,746.95	768,466.80 768,530.78	32.10764412	-103.5995735 -103.59978042 -103.59957213	6.95 6.95	0.00	6.95 6.95
Enter - NPZ	15,000.00 15,032.00	90.00 90.00	50.23 52.45	10,362.00 10,362.00	6,937.60 6,937.60	4,726.29 4,746.28	4,726.29 4,746.28	647.82 672.80	403,815.42 403,835.41	768,603.57 768,628.56	32.10804079	-103.59933554 -103.59925441	6.95 6.95	0.00	6.95 6.95
Litter - IVI Z	15,100.00 15,200.00	90.00 90.00	57.18 64.13	10,362.00 10,362.00	6,937.60 6,937.60	4,785.45 4,834.43	4,785.45 4,834.43	728.36 815.48	403,874.58 403,923.56	768,684.12 768,771.23	32.10820189	-103.59907412 -103.59879172	6.95 6.95	0.00	6.95 6.95
	15,300.00 15,400.00	90.00 90.00	71.08 78.03	10,362.00 10,362.00	6,937.60 6.937.60	4,872.51 4,899.13	4,872.51 4.899.13	907.88 1,004.21	403,961.63 403.988.25	768,863.63 768,959.95	32.10843782	-103.59849249 -103.59818082	6.95 6.95	0.00	6.95 6.95
Hold	15,500.00 15,566.93	90.00 90.00	84.98 89.63	10,362.00 10,362.00	6,937.60 6,937.60	4,913.89 4,917.04	4,913.89 4,917.04	1,103.05 1,169.88	404,003.01 404,006.16	769,058.79 769,125.62	32.10854791	-103.59786130 -103.59764540	6.95 6.95	0.00	6.95 6.95
TP2, Turn 6.95°/100ft	15,567.93 15,600.00	90.00 90.00	89.63 91.86	10,362.00 10,362.00	6,937.60 6,937.60	4,917.05 4,916.63	4,917.05 4,916.63	1,170.88 1,202.95	404,006.17 404,005.75	769,126.62 769,158.69	32.10855530	-103.59764217 -103.59753862	0.00 6.95	0.00	0.00 6.95
	15,700.00 15,800.00	90.00 90.00	98.81 105.76	10,362.00 10,362.00	6,937.60 6.937.60	4,907.34 4.886.08	4,907.34 4.886.08	1,302.46 1,400.11	403,996.46 403,975.20	769,258.19 769,355.84	32.10852615	-103.59721748 -103.59690260	6.95 6.95	0.00	6.95 6.95
	15,900.00 16,000.00	90.00 90.00	112.71 119.66	10,362.00 10,362.00	6,937.60 6.937.60	4,853.15 4.809.05	4,853.15 4.809.05	1,494.47 1,584.15	403,942.28 403,898.18	769,450.20 769,539.88	32.10837361	-103.59659861 -103.59630996	6.95 6.95	0.00	6.95 6.95
Exit - NPZ	16,100.00 16,105.00	90.00 90.00	126.61 126.96	10,362.00 10,362.00	6,937.60 6,937.60	4,754.43 4,751.43	4,754.43 4,751.43	1,667.84	403,843.55 403.840.56	769,623.56 769,627.57	32.10809899	-103.59604091 -103.59602804	6.95 6.95	0.00	6.95 6.95
LAK THE	16,200.00 16,300.00	90.00 90.00	133.56 140.51	10,362.00 10,362.00	6,937.60 6,937.60	4,690.08 4,616.94	4,690.08 4,616.94	1,744.30 1,812.42	403,779.21 403.706.08	769,700.02 769,768.13	32.10792067	-103.59579541 -103.59557706	6.95 6.95	0.00	6.95 6.95
	16,400.00 16,500.00	90.00 90.00	147.46 154.41	10,362.00 10,362.00	6,937.60 6,937.60	4,536.11 4,448.76	4,536.11 4,448.76	1,871.18 1,919.73	403,625.24 403,537.89	769,826.90 769,875.45	32.10749509	-103.59538907 -103.59523422	6.95 6.95	0.00	6.95 6.95
	16,600.00 16,700.00	90.00 90.00	161.36 168.31	10,362.00 10,362.00	6,937.60 6,937.60	4,356.17 4,259.71	4,356.17 4,259.71	1,957.36 1,983.50	403,445.31 403,348.86	769,913.07 769,939.21	32.10699888	-103.59511476 -103.59503246	6.95 6.95	0.00	6.95 6.95
Hold	16,800.00 16,862.89	90.00 90.00	175.26 179.63	10,362.00 10,362.00 10,362.00	6,937.60 6,937.60 6,937.60	4,259.71 4,160.80 4,097.99	4,160.80 4,097.99	1,983.50 1,997.78 2,000.59	403,249.95 403,187.14	769,953.50 769,956.30	32.10646111	-103.59498853 -103.59498087	6.95 6.95	0.00 0.00	6.95 6.95
	16,863.08 16,900.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	4,097.79 4,060.88	4,097.79 4,060.88	2,000.59 2,000.82	403,186.94 403,150.03	769,956.30 769,956.54	32.10628788	-103.59498087 -103.59498092	2.00	0.00	2.00
	17,000.00 17,100.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	3,960.88 3,860.88	3,960.88 3,860.88	2,001.46 2,002.10	403,050.03 402,950.04	769,957.17 769,957.81	32.10591154	-103.59498107 -103.59498122	0.00	0.00	0.00
	17,200.00 17,300.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	3,760.88 3,660.89	3,760.88 3,660.89	2,002.74 2,003.38	402,850.05 402,750.05	769,958.45 769,959.09	32.10536180	-103.59498137 -103.59498152	0.00	0.00	0.00
	17,400.00 17,500.00	90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6.937.60	3,560.89 3.460.89	3,560.89 3.460.89	2,004.02 2.004.66	402,650.06 402,550.06	769,959.73 769,960.37	32.10481206	-103.59498166 -103.59498181	0.00	0.00	0.00
	17,600.00 17,700.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	3,360.89 3,260.89	3,360.89 3,260.89	2,005.30 2,005.94	402,450.07 402,350.07	769,961.01 769,961.65		-103.59498196 -103.59498211	0.00	0.00 0.00	0.00
	17,800.00 17,900.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	3,160.90 3,060.90	3,160.90 3,060.90	2,006.57 2,007.21	402,250.08 402,150.08	769,962.29 769,962.93	32.10371258	-103.59498226 -103.59498241	0.00 0.00	0.00 0.00	0.00
	18,000.00 18,100.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	2,960.90 2,860.90	2,960.90 2,860.90	2,007.85 2,008.49	402,050.09 401,950.09	769,963.56 769,964.20	32.10316284	-103.59498255 -103.59498270	0.00	0.00 0.00	0.00
	18,200.00 18,300.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	2,760.90 2,660.91	2,760.90 2,660.91	2,009.13 2,009.77	401,850.10 401,750.11	769,964.84 769,965.48	32.10261310 32.10233823	-103.59498285 -103.59498300	0.00 0.00	0.00	0.00 0.00
	18,400.00 18,500.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	2,560.91 2,460.91	2,560.91 2,460.91	2,010.41 2,011.05	401,650.11 401,550.12	769,966.12 769,966.76	32.10178849	-103.59498315 -103.59498329	0.00 0.00	0.00 0.00	0.00 0.00
	18,600.00 18,700.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	2,360.91 2,260.91	2,360.91 2,260.91	2,011.69 2,012.33	401,450.12 401,350.13	769,967.40 769,968.04	32.10123875	-103.59498344 -103.59498359	0.00 0.00	0.00 0.00	0.00 0.00
	18,800.00 18,900.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	2,160.92 2,060.92	2,160.92 2,060.92	2,012.96 2,013.60	401,250.13 401,150.14	769,968.68 769,969.32	32.10068901	-103.59498374 -103.59498389	0.00 0.00	0.00 0.00	0.00 0.00
	19,000.00 19,100.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	1,960.92 1,860.92	1,960.92 1,860.92	2,014.24 2,014.88	401,050.14 400,950.15	769,969.95 769,970.59	32.10013927	-103.59498404 -103.59498418	0.00 0.00	0.00 0.00	0.00 0.00
	19,200.00 19,300.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	1,760.92 1,660.93	1,760.92 1,660.93	2,015.52 2,016.16	400,850.15 400,750.16	769,971.23 769,971.87	32.09958953	-103.59498433 -103.59498448	0.00 0.00	0.00 0.00	0.00 0.00
	19,400.00 19,500.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	1,560.93 1,460.93	1,560.93 1,460.93	2,016.80 2,017.44	400,650.17 400,550.17	769,972.51 769,973.15	32.09903979	-103.59498463 -103.59498478	0.00 0.00	0.00 0.00	0.00 0.00
	19,600.00 19,700.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	1,360.93 1,260.93	1,360.93 1,260.93	2,018.08 2,018.72	400,450.18 400,350.18	769,973.79 769,974.43	32.09849005	-103.59498492 -103.59498507	0.00 0.00	0.00 0.00	0.00 0.00
	19,800.00 19,900.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	1,160.94 1,060.94	1,160.94 1,060.94	2,019.35 2,019.99	400,250.19 400,150.19	769,975.07 769,975.70	32.09821517 32.09794030	-103.59498522 -103.59498537	0.00 0.00	0.00	0.00 0.00
	20,000.00 20,100.00	90.00 90.00	179.63 179.63	10,362.00 10,362.00	6,937.60 6,937.60	960.94 860.94	960.94 860.94	2,020.63 2,021.27	400,050.20 399,950.20	769,976.34 769,976.98	32.09739056	-103.59498551 -103.59498566	0.00 0.00	0.00 0.00	0.00 0.00
	20,200.00	90.00	179.63	10,362.00	6,937.60	760.94	760.94	2,021.91	399,850.21	769,977.62	32.09711569	-103.59498581	0.00	0.00	0.00

8.750

6.750

7.625

5.000

10,000.200

21,118.439

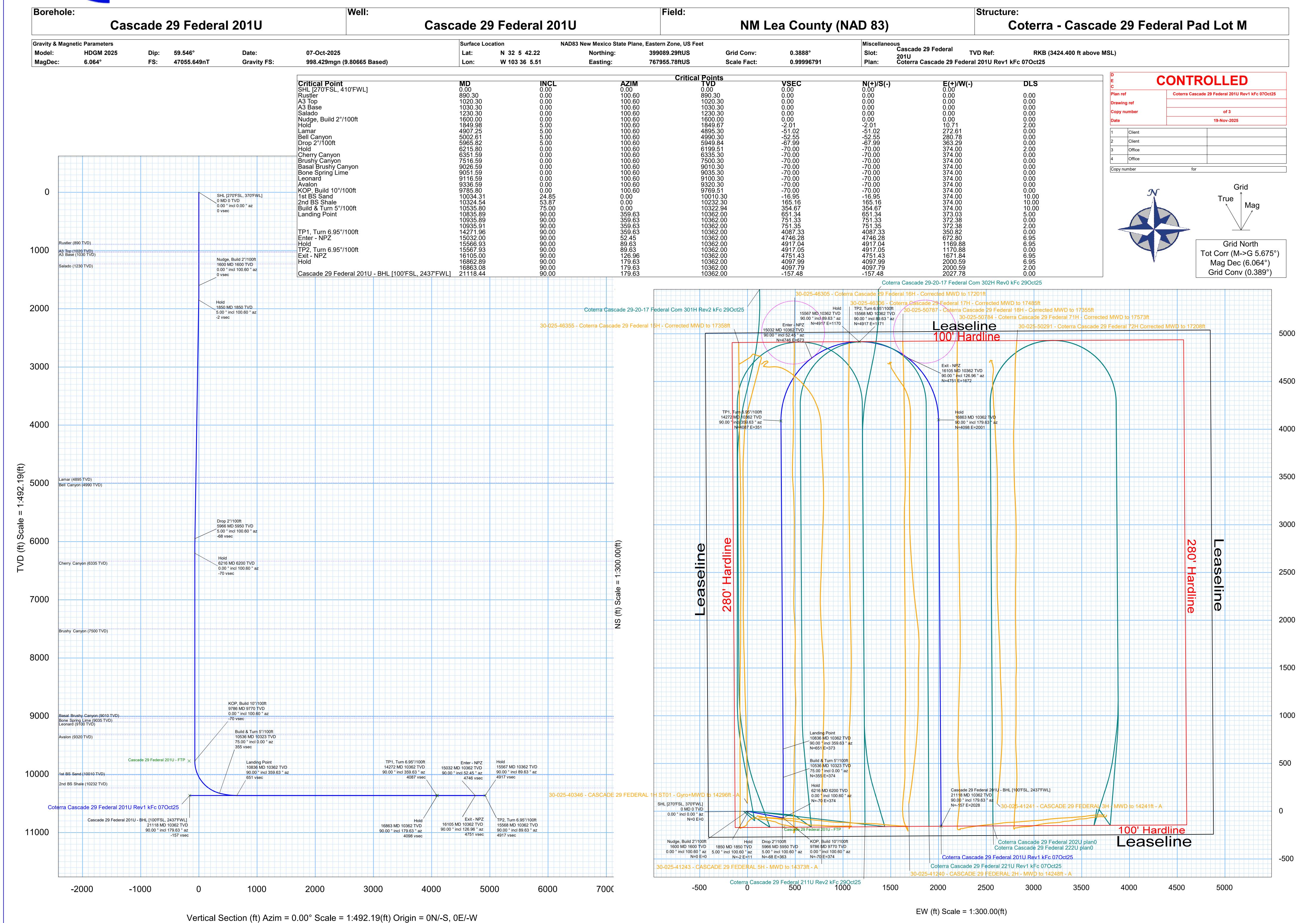
Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
-	20.300.00	90.00	179.63	10.362.00	6.937.60	660.95	660.95	2.022.55	399.750.21	769.978.26	32.09684082		0.00	0.00	0.00
	20,400.00	90.00	179.63	10,362.00	6.937.60	560.95	560.95	2.023.19	399,650.22	769,978.90		-103.59498611	0.00	0.00	0.00
	20,500.00	90.00	179.63	10,362.00	6,937.60	460.95	460.95	2,023.83	399,550.23	769,979.54	32.09629108	-103.59498625	0.00	0.00	0.00
	20,600.00	90.00	179.63	10,362.00	6,937.60	360.95	360.95	2,024.47	399,450.23	769,980.18		-103.59498640	0.00	0.00	0.00
	20,700.00	90.00	179.63	10,362.00	6,937.60	260.95	260.95	2,025.11	399,350.24	769,980.82		-103.59498655	0.00	0.00	0.00
	20,800.00	90.00	179.63	10,362.00	6,937.60	160.96	160.96	2,025.74	399,250.24	769,981.46		-103.59498670	0.00	0.00	0.00
	20,900.00	90.00 90.00	179.63 179.63	10,362.00 10.362.00	6,937.60	60.96 -39.04	60.96 -39.04	2,026.38 2.027.02	399,150.25 399.050.25	769,982.09 769,982.73		-103.59498684 -103.59498699	0.00	0.00	0.00
	21,000.00 21.100.00	90.00	179.63	10,362.00	6,937.60 6.937.60	-39.04	-39.04 -139.04	2,027.02	399,050.25 398.950.26	769,982.73		-103.59498699	0.00	0.00	0.00
Cascade 29 Federal 201U - BHL	21,100.00	90.00	179.63	10,362.00	6,937.60	-157.48	-157.48	2,027.78	398,931.82	769,983.49		-103.59498717	0.00	0.00	0.00
Survey Type:	Def	Plan													
Survey Error Model: Survey Program:	ISCI	WSA Rev 4 *** 3	I-D 95 % Confider	ce 2.7955 sigma											
Description		Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool C	ode	Vendo	r / Tool	Borehole / Su	rvey	
		1	0.000	9,700.000	1/100.000 7.5	- 12.25 - 8.75 5	5 – 10.75 – 7.625	,	A001Mb_MWD				Cascade 29 Federal 2	201U / Coterra C	ascade 29 F€
		1	9,700.000	21,118.439	1/100.000	8.75 – 6.75	7.625 – 5	,	A008Mb_MWD+IFR1+M	s			Cascade 29 Federal 2	201U / Coterra C	ascade 29 F€
EOU Geometry:															
End MD (ft)		Hole Size	(in)	Casing Si	ze (in)		Name								
1,000.200		17.50	10	13.37	75										
6,000.200		12.25	i0	10.75	50										

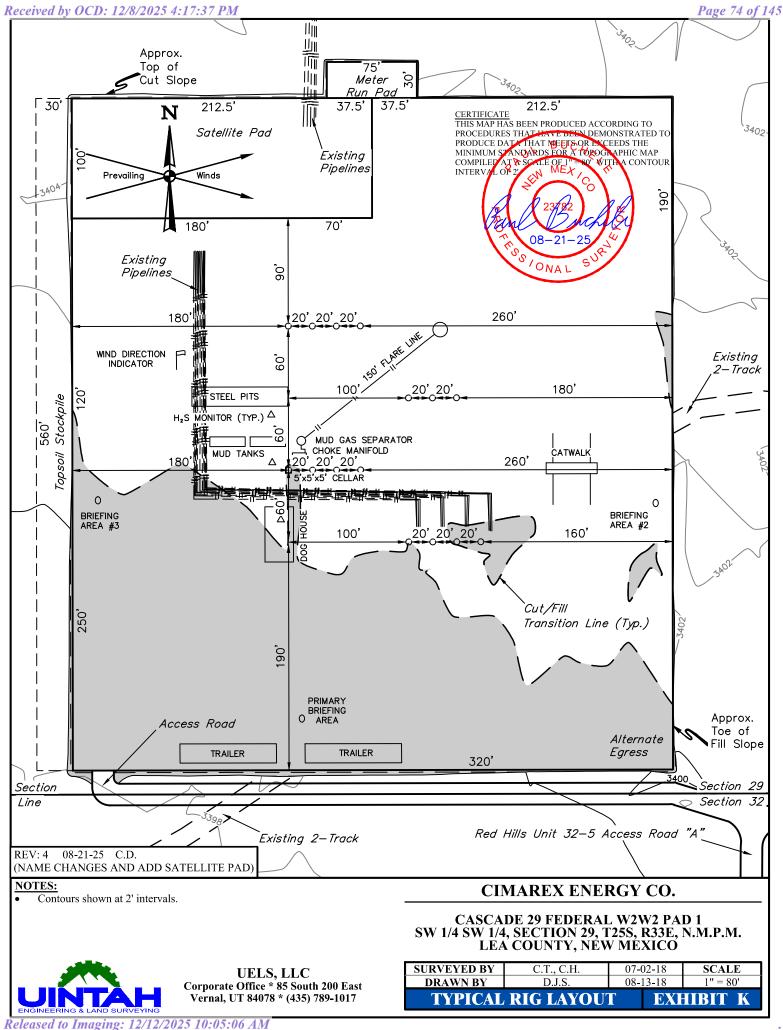


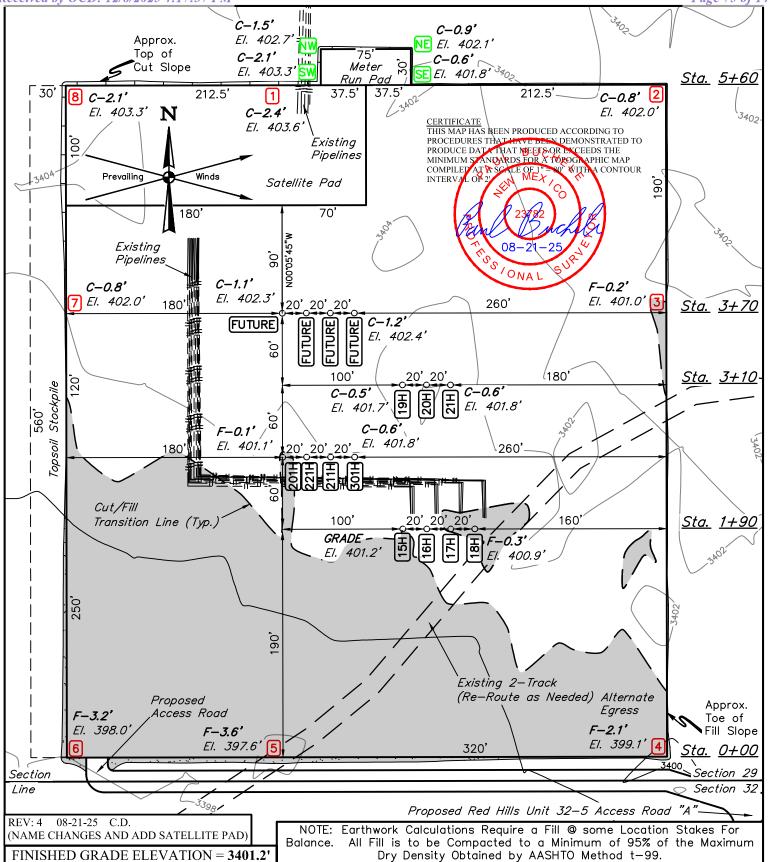
COTERRA

Rev1









Flare pit is to be located a min. of 100' from the wellhead

- Contours shown at 2' intervals.
- Cut/Fill slopes 1 1/2:1 (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 CO.

CASCADE 29 FEDERAL W2W2 PAD 1 SW 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO





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

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:	Coterra En	ergy Operating C	0	_OGRID:	215099	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		
Cascade 29 Federal Com	201F	I swsw	Sec 29 T25S, R33E	270 FSL/410 FW	L 1247	2355	5613		
or proposed to be i			igle well pad or co			Initial F			
Cascade 29 Federal Con	n 201H]	12/25/25	3/22/26	5/8/26	6/17/26	6/17/26		
VII. Operational Subsection A throu	Practices gh F of 1 ement P	s: ☑ Attach a 9.15.27.8 NM ractices: ☑ A	a complete descrip	otion of the act	ions Operator will	take to comply	t to optimize gas capture. with the requirements of ices to minimize venting		

Section 2 – Enhanced Plan

	EFFECTIVE APRIL 1, 2022						
Beginning April 1, 2 reporting area must c			with its statewide natural g	as capture requirement for the appli	cable		
Operator certifies capture requirement	-	-	tion because Operator is in	compliance with its statewide natura	ıl gas		
IX. Anticipated Nat	ural Gas Producti	on:					
We	ell	API	Anticipated Average Natural Gas Rate MCF/E	Anticipated Volume of Natu Gas for the First Year MCl			
X. Natural Gas Gat	hering System (NC	GGS):					
Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacit of System Segment Tie-in			
production operations the segment or portion XII. Line Capacity.	s to the existing or point of the natural gas. The natural gas ga	planned interconnect of the gathering system(s) to v	he natural gas gathering systewhich the well(s) will be conditionally will not have capacity to g	ticipated pipeline route(s) connectinem(s), and the maximum daily capachected. ather 100% of the anticipated natural	ity of		
				ed to the same segment, or portion, or line pressure caused by the new we			
☐ Attach Operator's	plan to manage pro	oduction in response to the	ne increased line pressure.				
Section 2 as provided	l in Paragraph (2) o		27.9 NMAC, and attaches a f	SA 1978 for the information providual description of the specific inform			

Section 3 - Certifications Effective May 25, 2021

Operator certifies that, a	fter reasonable inquiry and based on the available information at the time of submittal:
one hundred percent of	to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering
hundred percent of the a into account the current	able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one nticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system. box, Operator will select one of the following:
Well Shut-In. ☐ Operat D of 19.15.27.9 NMAC	or will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection or
alternative beneficial use (a) (b) (c) (d)	an. □ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential es for the natural gas until a natural gas gathering system is available, including: power generation on lease; power generation for grid; compression on lease; liquids removal on lease;
(a)	reinjection for underground storage:

- (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: Shelly Bowen
Printed Name: Shelly Bowen
Title: Sr. Regulatory Analyst
E-mail Address: shelly.bowen@coterra.com
Date: 9/3/25
Phone: 432/620-1644
OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

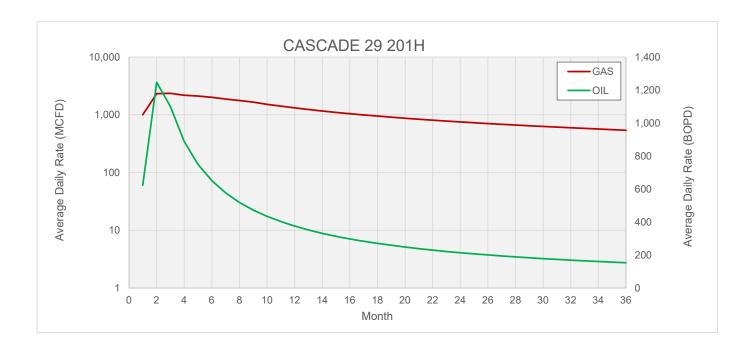
From State of New Mexico, Natural Gas Management Plan

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.

	CASCADE 29 201H	CASCADE 29 201H
Labels	GAS MCFD	OIL BOPD
1	1,005	624
2	2,322	1,247
3	2,355	1,101
4	2,176	888
5	2,101	749
6	2,003	651
7	1,869	577
8	1,771	519
9	1,655	473
10	1,523	435
11	1,411	403
12	1,316	376
13	1,234	352
14	1,163	332
15	1,100	314
16	1,044	298
17	994	284
18	949	271
19	909	259
20	872	248
21	838	239
22	807	230
23	778	222
24	752	214
25	727	207
26	704	200
27	683	194
28	663	189
29	644	183
30	627	178
31	610	174
32	595	169
33	580	165
34	566	161
35	553	157
36	540	153



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:

- o Always strive to kill well when performing downhole maintenance.
- o 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:

- o 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.
- o Isolate the vent lines and overflows on the tank being serviced from other tanks.

• Pressure vessel/compressor servicing and associated blowdowns:

- o Route to flare where possible.
- o 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 OF QUALITY

LTYY/QR-5.7.1-19B

Customer Name

№: LT2024-156-001

Product Na	me		Chok	Choke And Kill Hose			
Product Specifi	cation	3"×10000psi×35ft(1	0.67m)	Quantity		1PCS	
Serial Numl	ber	VTC-766025	7	I	FSL	FSL3	
customer nui	mber	PO890145-00)1	Sta	ndard	API Spec 16C 3 rd edition	
Temperature R	Range	-29℃ ~+121	${\mathbb C}$	Inspec	ction date	2024.09.03	
	Inspecti	on Items			Inspection	n results	
	Appearance	Checking		In accorda	nce with AP	I Spec 16C 3 rd edition	
	Size and I	Lengths		In accordance with API Spec 16C 3 rd edition			
	Dimensions an	d Tolerances		In accordance with API Spec 16C 3 rd edition			
End Connections: 4-	-1/16"×10000psi	Integral flange for sour gas s	ervice	In accordance with API Spec 6A 21st edition			
End Connections: 4-	-1/16″×10000psi	Integral flange for sour gas s	ervice	In accordance with API Spec 17D 3 rd edition			
	Hydrostatio	c Testing		In accorda	nce with AP	I Spec 16C 3 rd edition	
	product M	Marking		In accordance with API Spec 16C 3 rd edition			
Inspection conclusion The inspected items me			ems meet stan	dard require	ments of AP	I Spec 16C 3 rd edition	
Remarks						16C-0403	
Approver	Jane C	QC Auditor Africe D Inspector Leo 1				or Leo W	
LUOHE	LUOHE LETONE HYDRAULICS TECHNOLO					6 LETONE	



HYDROSTATIC TESTING REPORT

LTYY/QR-5.7.1-28

№: <u>24090301</u>

E1117QK-3.7.1-20				J\≌. <u>Z+07030</u>	<u>'-</u>
Product Name	Choke And Kill Hose		Standard	API Spec 16C	3 rd editio
Product Specification	3"×10000psi×35ft	(10.67m)	Serial Number	VTC-7660)257
Inspection Equipment	MTU-BS-1600	-3200-E	Test medium	Water	r
customer number	PO89014	5-001	Inspection Date	2024.08	.30
		Rate of length chan	ge		
Standard requirements	At working pressure ,the	rate of length chan	ge should not more th	nan ±2%	
Testing result	10000psi (69.0MPa) ,Ra	te of length change	0.6%		
		Hydrostatic testing	3		
Standard requirements	At 1.5 times working pre the second pressure-hold				ee minute
Testing result	15000psi (103.5MPa), 3	min for the first tin	ne, 60 min for the sec	ond time, no leakage	e
Graph of pressure testing:					
19/28/15 19/29/05 19/29/55 19/30/45 19/31/35 19/3	25 1933/15 193405 193455 193545 193635 193722 inspected items meet stance	19:38:15 19:39 19:39:33 19:44:33 15	f API Spec 16C 3 rd ec	14:33 20:19:33 20:24:33 20:29:33 20:34:33	20:39:33 20:47:
					0 W



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 3rd 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 3rd edition.

Jane C

QC Manager: Date:Sep 3, 2024

16C-0403

LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

B LETONE



U.S. Department of the Interior BUREAU OF LAND MANAGEMENT SUPO Data Report

APD ID: 10400106556

Submission Date: 09/03/2025

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CASCADE 29 FEDERAL

Well Type: OIL WELL

Well Number: 201H

Well Work Type: Drill

Highlighted data reflects the most recent changes Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Cascade_29_Federal_W2W2_Pad_1_Existing_Access_20210414145401.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Existing Well map Attachment:

Well Name: CASCADE 29 FEDERAL Well Number: 201H

CASCADE_29_FEDERAL_W2W2_PAD_1_1_mile_radius_plat_20250903122821.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: If upon completion the well is a producer, a production facility battery will be constructed and production equipment installed at the wellsite. 4 Batteries (450' x 450' with 50' x 200' connection area) have been previously approved in the Cascade 29 Federal 29H APD. Road: New and existing roads will be used. Please see Exhibit D for 5442' new road. Bulklines: 6484' of 8- 12" Bulklines will be constructed along the proposed road buried in the same 60' trench. Please see Attachment B for route.

Production Facilities map:

Cascade_29_Fed_East_Zone_1_CTB_Layout_20210413130635.pdf

Cascade_29_Fed_East_Zone_2_CTB_Layout_20210413130653.pdf

Cascade_29_Fed_West_Zone_1_CTB_Layout_20210413130557.pdf

Cascade_29_Fed_West_Zone_2_CTB_Layout_20210413130616.pdf

Cascade_29_Federal_18H_SUPO_20210414145629.pdf

Cascade_29_Federal_Bulkline_ROW_20210413130733.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: MUNICIPAL

Water source use type: SURFACE CASING

INTERMEDIATE/PRODUCTION

CASING

Source latitude: Source longitude:

Source datum:

City: Hobbs

Water source permit type: WATER RIGHT

Permit Number:

Water source transport method: TRUCKING

Source land ownership: FEDERAL

Source transportation land ownership: FEDERAL

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

Source volume (gal): 210000

Well Name: CASCADE 29 FEDERAL Well Number: 201H

Water source and transportation

Cascade_29_Fed_Drilling_Water_Routes_20210414145704.pdf

Water source comments:

New water well? N

New Water Well Info

Well latitude: Well Longitude: Well datum:

Well target aquifer:

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

Aquifer comments:

Aquifer documentation:

Well depth (ft): Well casing type:

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

New water well casing?

Used casing source:

Drilling method: Drill material:

Grout material: Grout depth:

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

Well Production type: Completion Method:

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: NO

Construction Materials description:

Construction Materials source location

Section 7 - Methods for Handling

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: N/A

Safe containment attachment:

Received by OCD: 12/8/2025 4:17:37 PM

Page 92 of 145

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CASCADE 29 FEDERAL Well Number: 201H

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

FACILITY

Disposal type description:

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

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 containment attachment:

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

FACILITY

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: 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: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL 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

Well Name: CASCADE 29 FEDERAL Well Number: 201H

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? N

Description of cuttings location

Cuttings area length (ft.)

Cuttings area depth (ft.)

Cuttings area volume (cu. yd.)

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

Cuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

Cascade_29_Federal_18H_Wellsite_Layout_20210414145748.pdf

Cascade_29_Federal_W2W2_Pad_1_Wellsite_Pad_Info_20210420101229.docx

Comments: This well pad has wells 15H 16H 17H 18H 19H 20H 21H 22H 23H 24H 25H 26H 27H 28H

Section 10 - Plans for Surface

Type of disturbance: No New Surface Disturbance Multiple Well Pad Name: Cascade 29 Federal

Multiple Well Pad Number: W2W2 Pad 1

Cuttings area width (ft.)

Recontouring

CASCADE_29_FEDERAL_W2W2_PAD_1_reclamation_plat_20250903122915.pdf

Drainage/Erosion control construction: To control and prevent potentially contaminated precipitation from leaving the pad site, a perimeter berm and settlement pond will be installed. Contaminated water will be removed from pond, stored in waste tanks, and disposed of at a state approved facility. Standing water or puddles will not be allowed. Drainage ditches would be established and maintained on the pad and along access roads to divert water away from operations. Natural drainage areas disturbed during construction would be re-contoured to near original condition prior to construction. Erosion Control Best Management Practices would be used where necessary and consist of seeding, fiber rolls, water bars, silt fences, and temporary diversion dikes. Areas disturbed during construction that are no longer needed for operations would be obliterated, re-contoured to near original condition prior to construction. Erosion Control Best Management Practices would be used where necessary and consist of seeding, fiber rolls, water bars, silt

Well Name: CASCADE 29 FEDERAL Well Number: 201H

fences, and temporary diversion dikes. Areas disturbed during construction that are no longer needed for operations would be obliterated, re-contoured, and reclaimed to near original condition to re-establish natural drainage.

Drainage/Erosion control reclamation: All disturbed and re-contoured areas would be reseeded according to specifications. Approved seed mixtures would be certified weed free and consist of grasses, forbs, or shrubs similar to the surrounding area. Compacted soil areas may need to be obliterated and reclaimed to near natural conditions by recontouring all slopes to facilitate and re-establish natural drainage.

Well pad proposed disturbance

(acres):

Road proposed disturbance (acres):

Well pad interim reclamation (acres): 0 Well pad long term disturbance

Road interim reclamation (acres): 0

Road long term disturbance (acres): 0

Powerline proposed disturbance

(acres):

Pipeline proposed disturbance

(acres):

Other proposed disturbance (acres):

Powerline interim reclamation (acres): Powerline long term disturbance

(acres): 0

(acres): 0

Pipeline interim reclamation (acres): 0 Pipeline long term disturbance

(acres): 0

Other interim reclamation (acres): 0

Other long term disturbance (acres): 0

Total proposed disturbance: 0

Total interim reclamation: 0

Total long term disturbance: 0

Disturbance Comments:

Reconstruction method: After well plugging, all disturbed areas would be returned to the original contour or a contour that blends with the surrounding landform including roads unless the surface owner requests that they be left intact. In consultation with the surface owners it will be determined if any gravel or similar materials used to reinforce an area are to be removed, buried, or left in place during final reclamation. Salvaged topsoil, if any, would be re-spread evenly over the surfaces to be re-vegetated. As necessary, the soil surface would be prepared to provide a seedbed for re-establishment of desirable vegetation. Site preparation may include gouging, scarifying, dozer track-walking, mulching, or fertilizing. Reclamation, Re-vegetation, and Drainage: All disturbed and re-contoured areas would be reseeded using techniques outlined under Phase I and II of this plan or as specified by the land owner. Approved seed mixtures would be certified weed free and consist of grasses, forbs, or shrubs similar to the surrounding area. Compacted soil areas may need to be obliterated and reclaimed to near natural conditions by re-contouring all slopes to facilitate and re-establish natural drainage.

Topsoil redistribution: The original stock piled topsoil, if any, will be spread evenly over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pad, production facilities, roads, pipelines, and power line corridors as close as possible to the original topography. The location will then be seeded.

Soil treatment: The soil surface would be prepared to provide a seedbed for reestablishment of desirable vegetation. Establish control of erosion and invasion of non-native plants to reestablish plant community.

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

Well Name: CASCADE 29 FEDERAL Well Number: 201H

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 Type

Seed Table

Seed Summary

Pounds/Acre

Total pounds/Acre:

Seed reclamation

Operator Contact/Responsible Official

First Name: Last Name:

Phone: Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment

Weed treatment plan description: N/A

Weed treatment plan

Monitoring plan description: N/A

Monitoring plan

Success standards: N/A

Well Name: CASCADE 29 FEDERAL Well Number: 201H

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:

Section 12 - Other

Right of Way needed? Y

Use APD as ROW? Y

ROW Type(s): 281001 ROW - ROADS,288100 ROW - O&G Pipeline,288101 ROW - O&G Facility Sites,289001 ROW-O&G Well Pad

ROW

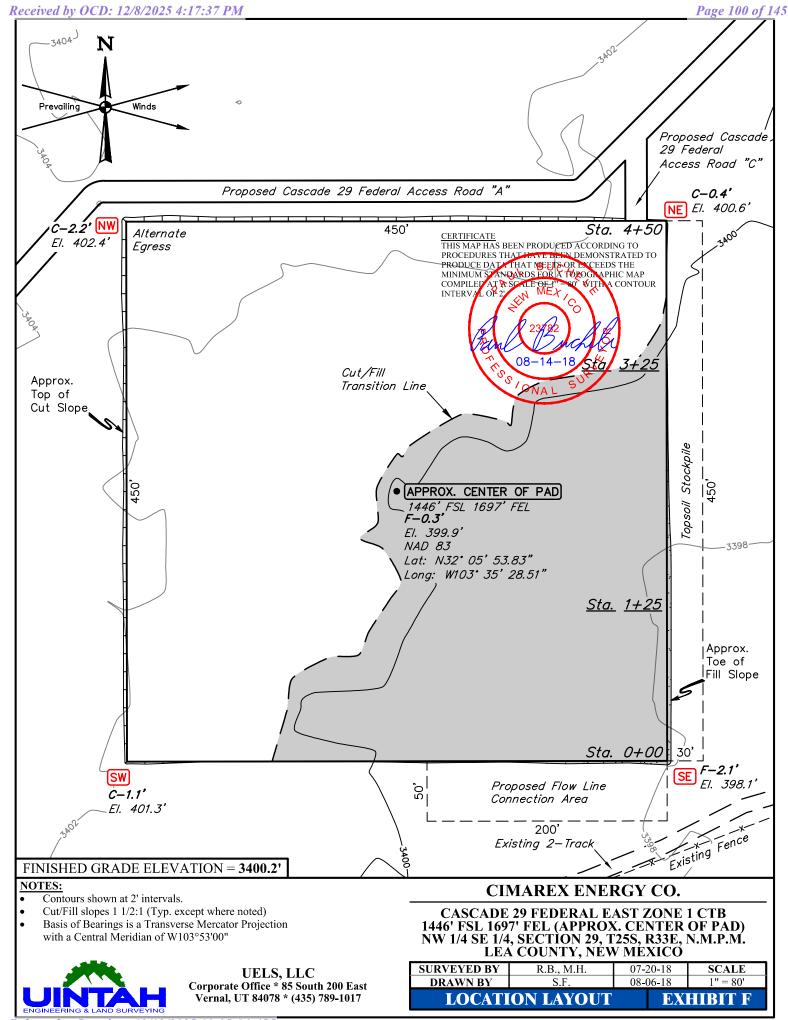
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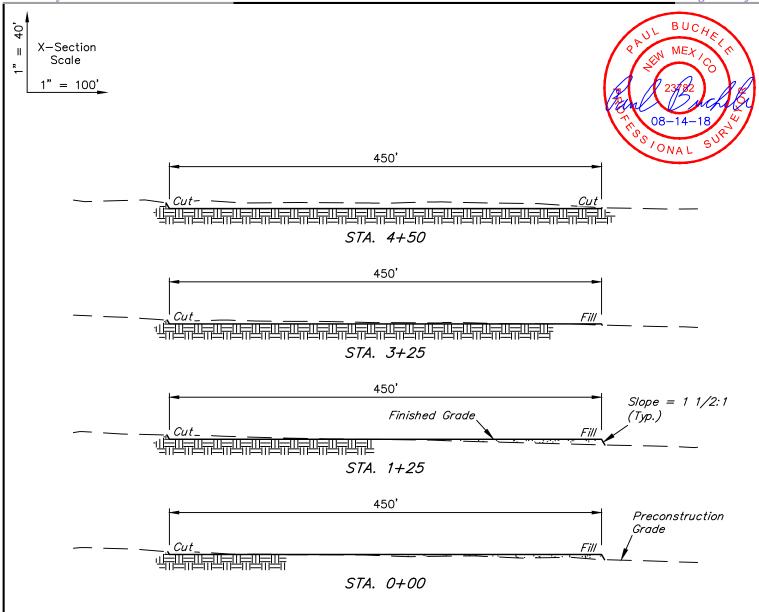
Well Name: CASCADE 29 FEDERAL Well Number: 201H

Use a previously conducted onsite? Y

Previous Onsite information: Onsite Date: 6/28/2018 BLM Personnel on site: Jeff Robertson Cimarex Energy personnel on site: Barry Hunt Pertinent information from onsite: V-Door East. Top soil west. Access road off SE corner south to proposed Red Hills Unit 32 access road. 560' (N/S) x 500' (E/W).

Other SUPO





APPROXIMATE EARTHWORK QUANTITIES					
(4") TOPSOIL STRIPPING	2,550 Cu. Yds.				
REMAINING LOCATION	3,720 Cu. Yds.				
TOTAL CUT	6,270 Cu. Yds.				
FILL	3,720 Cu. Yds.				
EXCESS MATERIAL	2,550 Cu. Yds.				
TOPSOIL	2,550 Cu. Yds.				
EXCESS UNBALANCE (After Interim Rehabilitation)	0 Cu. Yds.				

APPROXIMATE SURFACE DISTURBANCE AREAS					
	DISTANCE	ACRES			
WELL SITE DISTURBANCE	NA	±5.037			
FLOW LINE SURFACE USE AREA DISTURBANCE	±0.230				
TOTAL SURFACE USE AREA	±5.267				

NOTES:

- Fill quantity includes 5% for compaction.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)

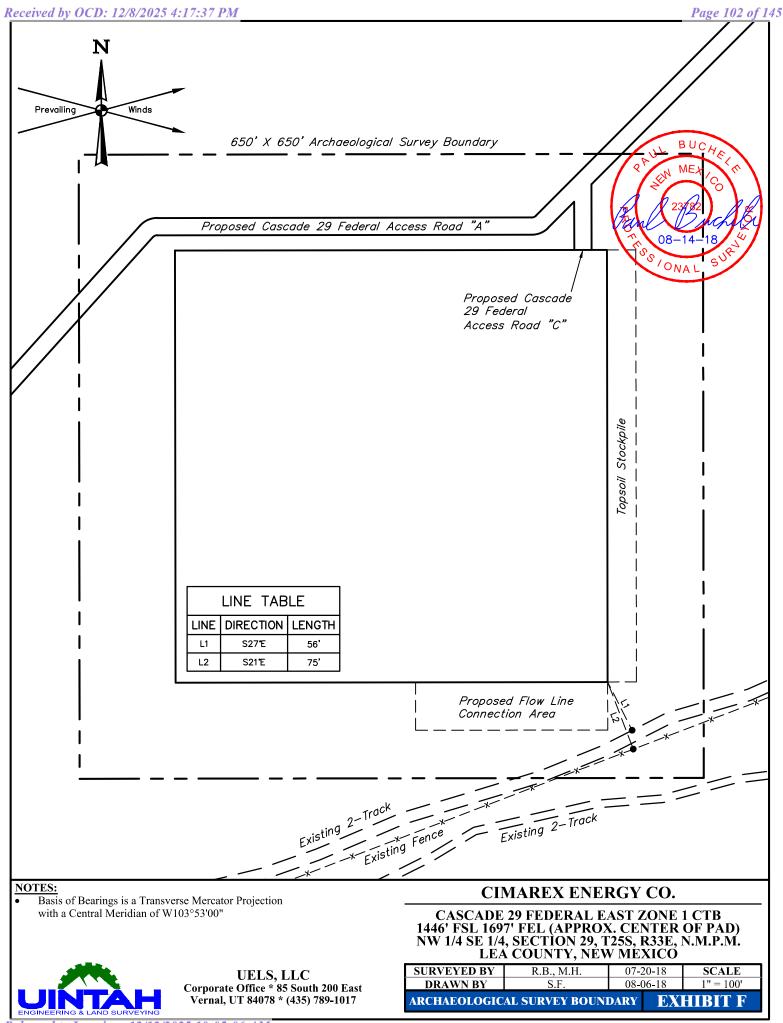


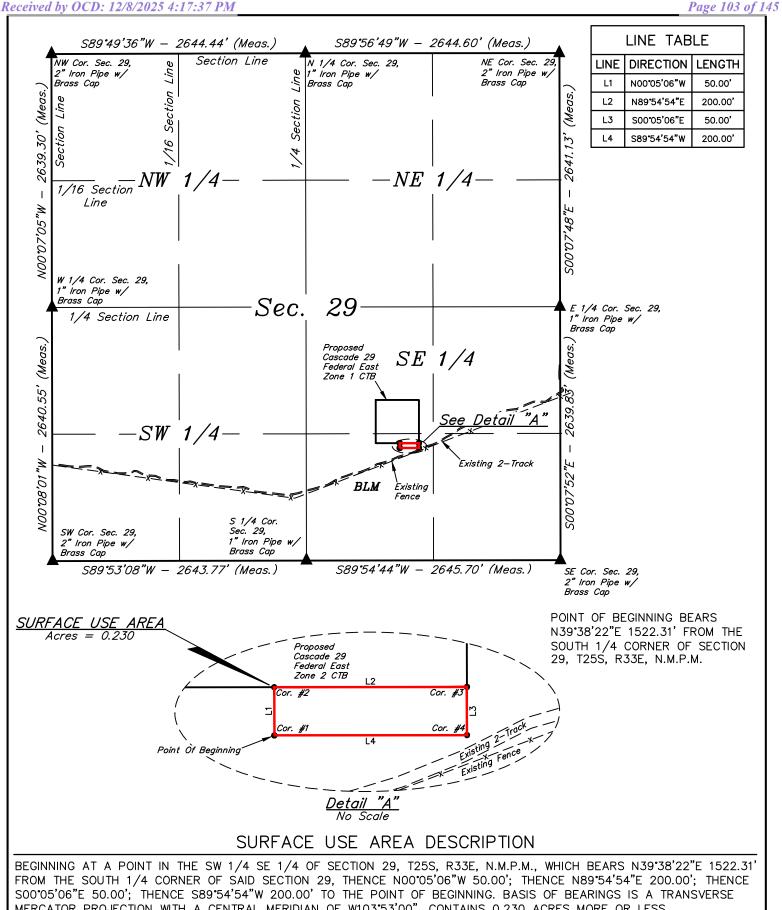
UELS, LLCCorporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL EAST ZONE 1 CTB 1446' FSL 1697' FEL (APPROX. CENTER OF PAD) NW 1/4 SE 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

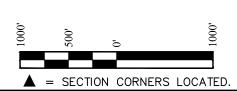
SURVEYED BY	R.B., M.H.	07-20-18	SCALE			
DRAWN BY	S.F.	08-06-18	AS SHOWN			
TYPICAL CROSS SECTIONS EXHIBIT F						





MERCATOR PROJECTION WITH A CENTRAL MERIDIAN OF W103°53'00". CONTAINS 0.230 ACRES MORE OR LESS.

FILE: 6 4 5 0 8 - A1



CERTIFICATE
THIS IS TO CERTIFY THAT THIS SURFACE USE AREA AND
THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT
IS BASED WERF PERFORMIN BY ME OR UNDER MY
DIRECT SUPPRIVIOUS: THAT I AWRESNONSIBLE FOR
THIS SURVEY, THAT THIS SURVEY MEETS THE
MINIMUM STANDARDS FOR SURVEYING IN NEW
MEXICO, AND THAT IT IS THE AND CORRECT TO THE

08 - 14ONAL

Sheet 1 of 2

NOTES:

Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017 CIMAREX ENERGY CO.

CASCADE 29 FEDERAL EAST ZONE 1 CTB ON BLM LANDS IN SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY C.T., T.R. 07-20-18 **SCALE** DRAWN BY J.P.P 08-14-18 1'' = 1000'**SURFACE USE AREA** EXHIBIT

BEGINNING AT THE INTERSECTION J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD 83 LATITUDE N32.0650° AND LONGITUDE W103.6742°) PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 5.1 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN LEFT AND PROCEED IN A NORTHWESTERLY, THEN NORTHEASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 2.8 MILES TO THE BEGINNING OF THE PROPOSED CASCADE 29 FEDERAL ACCESS ROAD "A" TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY, THEN SOUTHWESTERLY, THEN WESTERLY DIRECTION APPROXIMATELY 1,606' TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE SOUTH; FOLLOW ROAD FLAGS IN A SOUTHERLY DIRECTION APPROXIMATELY 72' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD 83 LATITUDE N32.0650° AND LONGITUDE W103.6742°) TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 8.2 MILES.

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL EAST ZONE 1 CTB 1446' FSL 1697' FEL (APPROX. CENTER OF PAD) NW 1/4 SE 1/4, SECTION 29, T25S, R33E, 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.B., M.H.	07-20-	18	
DRAWN BY	R.J.	08-12-	18	
ROAD DES	SCRIPTIO	N	EX	HIBIT F

LEGEND:



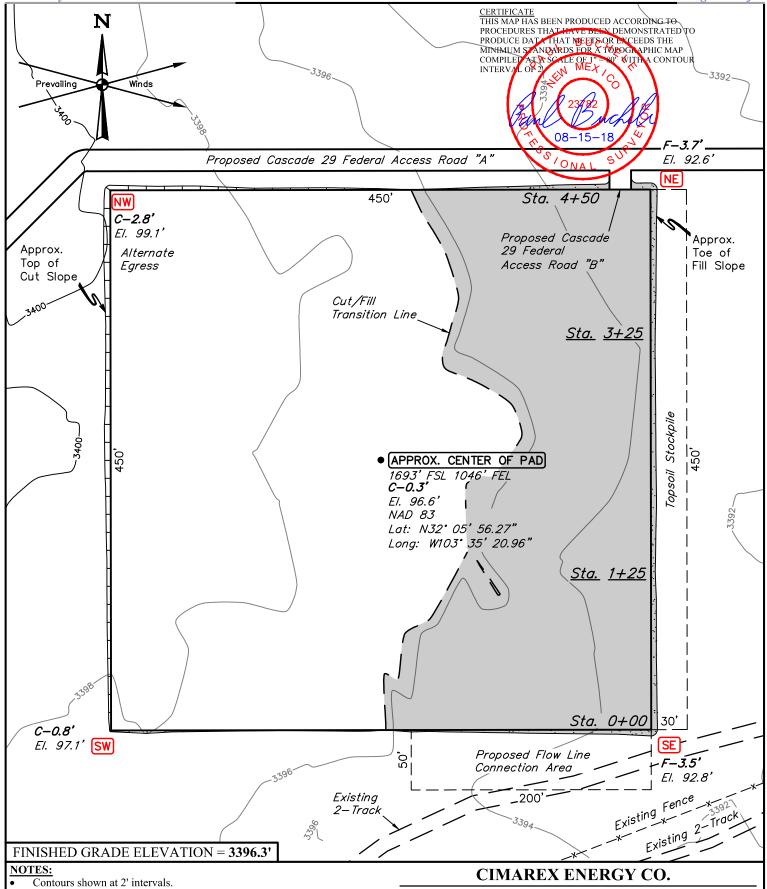


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CIMAREX ENERGY CO.

CASCADE 29 FEDERAL EAST ZONE 1 CTB 1446' FSL 1697' FEL (APPROX. CENTER OF PAD) NW 1/4 SE 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY DRAWN BY	R.B., M.H.	07-20-18	SCALE
	R.J.	08-12-18	1:100,000
PUBLIC ACCE	SS ROAD	MAP EX	HIBIT F

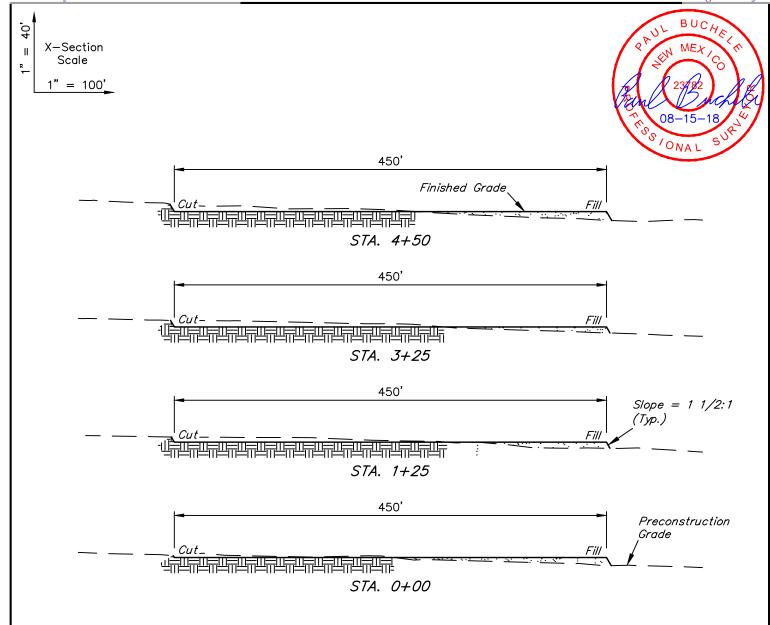


- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"



UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017 CASCADE 29 FEDERAL EAST ZONE 2 CTB 1693' FSL 1046' FEL (APPROX. CENTER OF PAD) NE 1/4 SE 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	R.B., M.H.	07-20-18		SCALE
DRAWN BY	S.F.	08-04-18		1" = 80'
LOCATION LAYOUT			EX	HIBIT F



APPROXIMATE EARTHWORK QUANTITIES				
(4") TOPSOIL STRIPPING	2,570 Cu. Yds.			
REMAINING LOCATION	5,870 Cu. Yds.			
TOTAL CUT	8,440 Cu. Yds.			
FILL	5,870 Cu. Yds.			
EXCESS MATERIAL	2,570 Cu. Yds.			
TOPSOIL	2,570 Cu. Yds.			
EXCESS UNBALANCE (After Interim Rehabilitation)	0 Cu. Yds.			

APPROXIMATE SURFACE DISTURBANCE AREAS				
	DISTANCE	ACRES		
WELL SITE DISTURBANCE	NA	±5.047		
FLOW LINE SURFACE USE AREA DISTURBANCE	NA	±0.230		
TOTAL SURFACE USE AREA		±5.277		

NOTES:

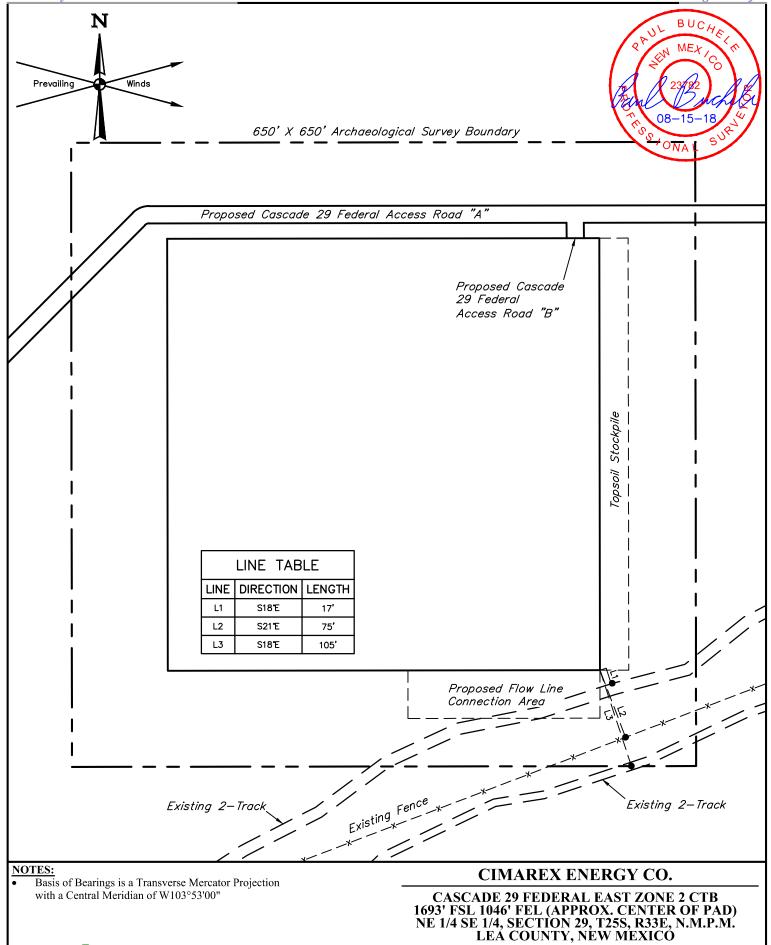
- Fill quantity includes 5% for compaction. Cut/Fill slopes 1 1/2:1 (Typ. except where noted)

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

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL EAST ZONE 2 CTB 1693' FSL 1046' FEL (APPROX. CENTER OF PAD) NE 1/4 SE 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	R.B., M.H.	07-20-18	SCALE			
DRAWN BY	S.F.	08-04-18	AS SHOWN			
TYPICAL CROSS SECTIONS EXHIBIT F						



SURVEYED BY

DRAWN BY

R.B., M.H.

ARCHAEOLOGICAL SURVEY BOUNDARY

07-20-18

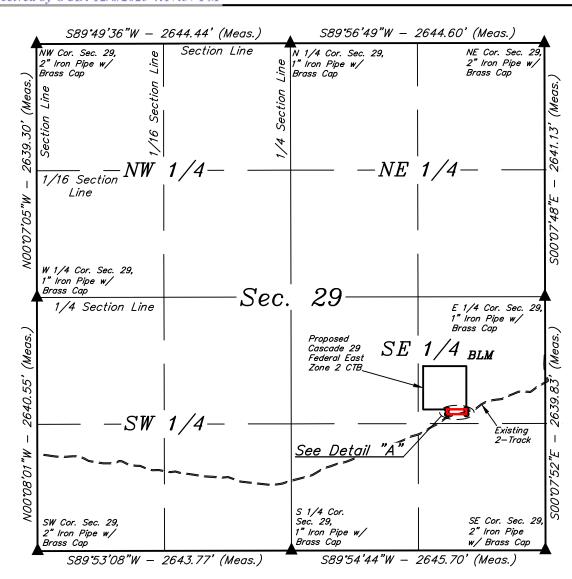
08-04-18

SCALE

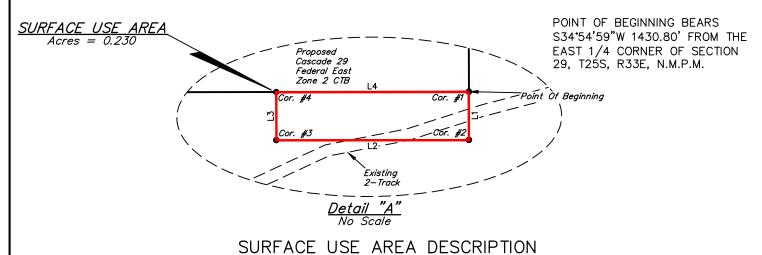
EXHIBIT F

UELS, LLC

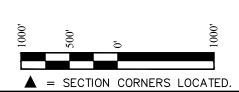
Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017



LINE TABLE			
LINE	DIRECTION	LENGTH	
L1	S00°04'57"E	50.00'	
L2	S89°55'03"W	200.00'	
L3	N00°04'57"W	50.00'	
L4	N89*55'03"E	200.00'	



BEGINNING AT A POINT IN THE NE 1/4 SE 1/4 OF SECTION 29, T25S, R33E, N.M.P.M., WHICH BEARS S34°54'59"W 1430.80' FROM THE EAST 1/4 CORNER OF SAID SECTION 29, THENCE S00°04'57"E 50.00'; THENCE S89°55'03"W 200.00'; THENCE N00°04'57"W 50.00'; THENCE N89°55'03"E 200.00' TO THE POINT OF BEGINNING. BASIS OF BEARINGS IS A TRANSVERSE MERCATOR PROJECTION WITH A CENTRAL MERIDIAN OF W103'53'00". CONTAINS 0.230 ACRES MORE OR LESS.



FILE: 6 4 5 2 1 - A1

CERTIFICATE
THIS IS TO CERTIFY THAT THIS SURFACE USE AREA AND
THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT
IS BASED WERE PERFORMED BY MS OR UNDER MY
DIRECT SUPERVISION: THAT I AWRES CONSIBLE FOR
THIS SURVEY, THAT THIS SURVEY MEETS THE
MINIMUM STANDARDS FOR SURVEYING IN NEW
MEXICG, AND THAY IT IS TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE AND BELLIFF.

08 - 15

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Sheet 1 of 2

NOTES:

Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017 CIMAREX ENERGY CO.

CASCADE 29 FEDERAL EAST ZONE 2 CTB ON BLM LANDS IN SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

 SURVEYED BY
 C.T., T.R.
 07-25-18
 SCALE

 DRAWN BY
 J.P.P.
 08-15-18
 1" = 1000'

 SURFACE USE AREA
 EXHIBIT F

BEGINNING AT THE INTERSECTION J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD 83 LATITUDE N32.0650° AND LONGITUDE W103.6742°) PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 5.1 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN LEFT AND PROCEED IN A NORTHWESTERLY, THEN NORTHEASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 2.8 MILES TO THE BEGINNING OF THE PROPOSED CASCADE 29 FEDERAL ACCESS ROAD "A" TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY DIRECTION APPROXIMATELY 873' TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE SOUTH; FOLLOW ROAD FLAGS IN A SOUTHERLY DIRECTION APPROXIMATELY 25' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD 83 LATITUDE N32.0650° AND LONGITUDE W103.6742°) TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 8.1 MILES.

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL EAST ZONE 2 CTB 1693' FSL 1046' FEL (APPROX. CENTER OF PAD) NE 1/4 SE 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

 UELS, LLC
 SURVEYED BY
 R.B., M.H.
 07-20-18

 Corporate Office * 85 South 200 East
 DRAWN BY
 R.J.
 08-13-18

 Vernal, UT 84078 * (435) 789-1017
 ROAD DESCRIPTION
 EXHIBIT F



LEGEND:



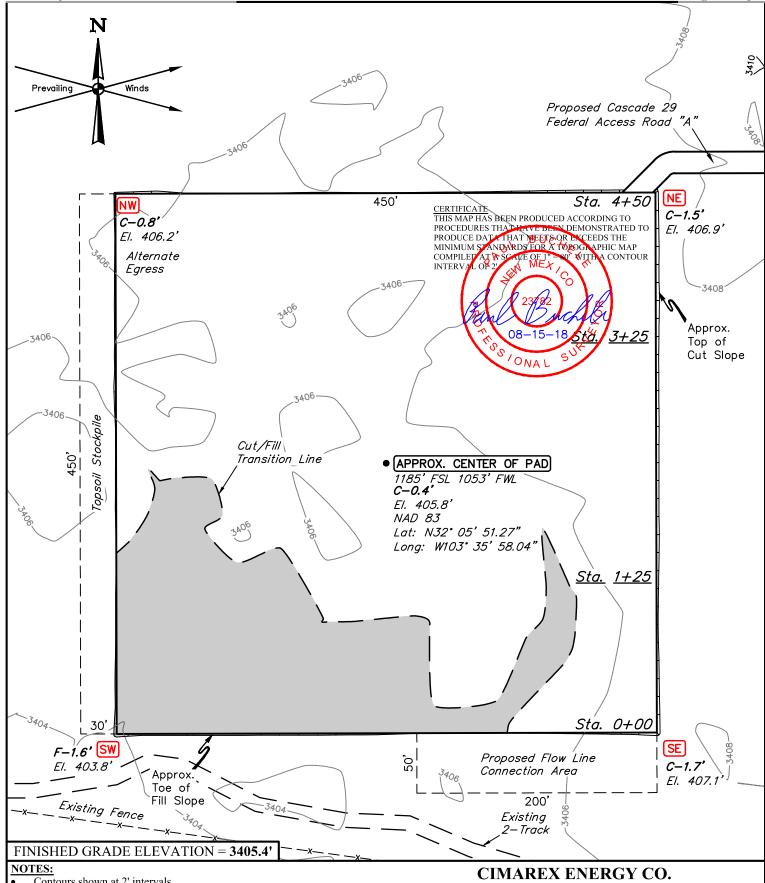


UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL EAST ZONE 2 CTB 1693' FSL 1046' FEL (APPROX. CENTER OF PAD) NE 1/4 SE 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	R.B., M.H.	07-20-18	SCALE	
DRAWN BY	R.J.	08-13-18	1:100,000	
PUBLIC ACCESS ROAD MAP EXHIBIT F				



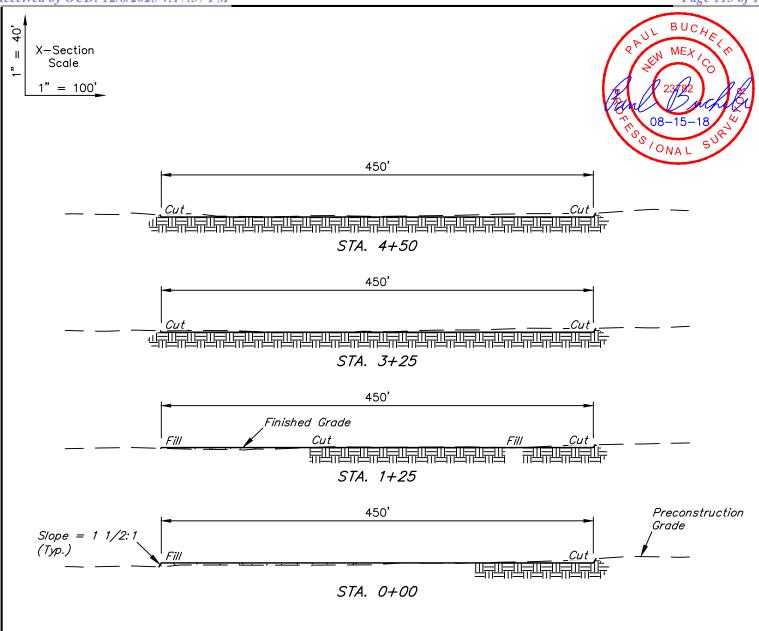
- Contours shown at 2' intervals.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"



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

CASCADE 29 FEDERAL WEST ZONE 1 CTB 1185' FSL 1053' FWL (APPROX. CENTER OF PAD) SW 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEÁ COUNTY, NÉW MÉXICÓ

SURVEYED BY	R.B., M.H.	07-20-18		SCALE
DRAWN BY	S.F.	08-06-18		1" = 80'
LOCATION LAYOUT			EX	HIBIT F



APPROXIMATE EARTHWORK QUANTITIES			
(4") TOPSOIL STRIPPING	2,530 Cu. Yds.		
REMAINING LOCATION	1,760 Cu. Yds.		
TOTAL CUT	4,290 Cu. Yds.		
FILL	1,760 Cu. Yds.		
EXCESS MATERIAL	2,530 Cu. Yds.		
TOPSOIL	2,530 Cu. Yds.		
EXCESS UNBALANCE (After Interim Rehabilitation)	0 Cu. Yds.		

APPROXIMATE SURFACE DISTURBANCE AREAS			
	DISTANCE	ACRES	
WELL SITE DISTURBANCE	NA	±5.005	
FLOW LINE SURFACE USE AREA DISTURBANCE	NA	±0.230	
TOTAL SURFACE USE AREA		±5.235	

NOTES:

- Fill quantity includes 5% for compaction.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)

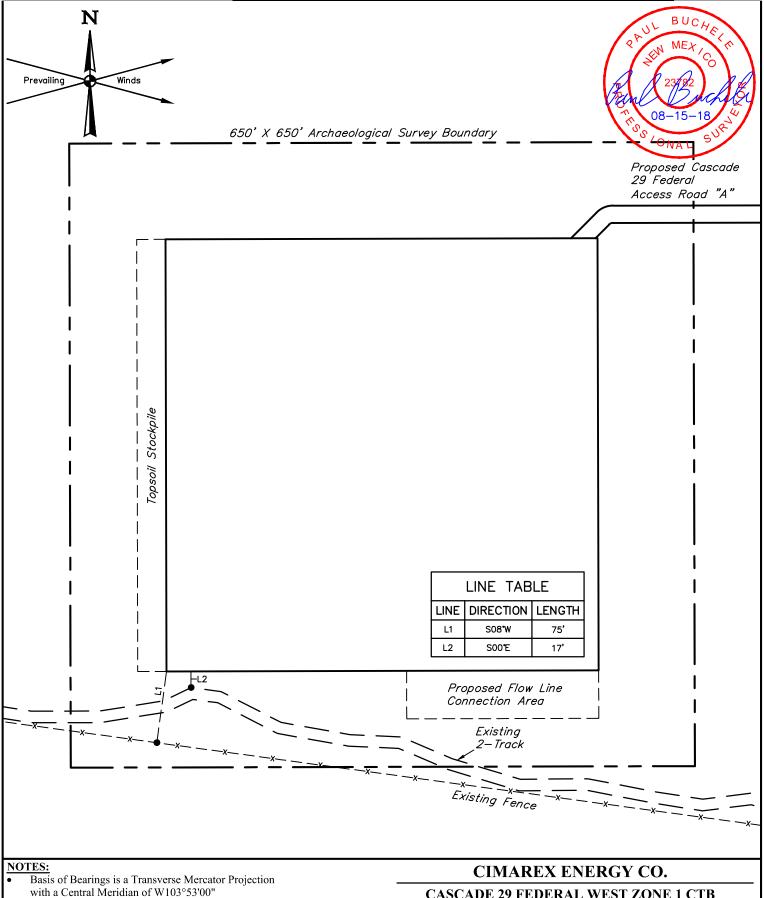
ENGINEERING & LAND SURVEYING

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

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL WEST ZONE 1 CTB 1185' FSL 1053' FWL (APPROX. CENTER OF PAD) SW 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	R.B., M.H.	07-20-18	SCALE
DRAWN BY	S.F.	08-06-18	AS SHOWN
TYPICAL CH	ROSS SECTION	ONS EX	HIBIT F

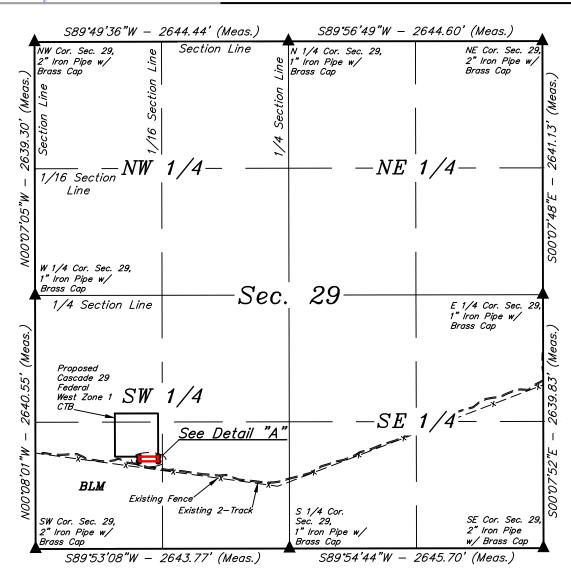


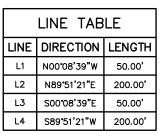
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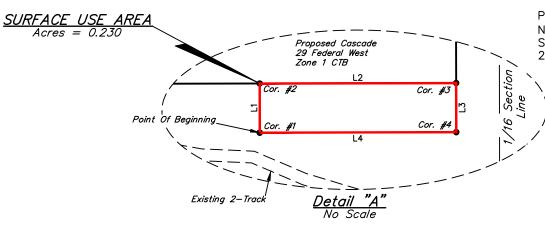
UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017 CASCADE 29 FEDERAL WEST ZONE 1 CTB 1185' FSL 1053' FWL (APPROX. CENTER OF PAD) SW 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	R.B., M.H.	07-2	20-18	SCALE
DRAWN BY	S.F.	08-0	06-18	1" = 100'
ARCHAEOLOGICAL SURVEY BOUNDARY				HIBIT F

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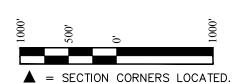




POINT OF BEGINNING BEARS N49'42'42"E 1410.42' FROM THE SOUTHWEST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

SURFACE USE AREA DESCRIPTION

BEGINNING AT A POINT IN THE SW 1/4 SW 1/4 OF SECTION 29, T25S, R33E, N.M.P.M., WHICH BEARS N49°42'42"E 1410.42' FROM THE SOUTHWEST CORNER OF SAID SECTION 29, THENCE N00°08'39"W 50.00'; THENCE N89°51'21"E 200.00'; THENCE S00°08'39"E 50.00'; THENCE S89°51'21"W 200.00' TO THE POINT OF BEGINNING. BASIS OF BEARINGS IS A TRANSVERSE MERCATOR PROJECTION WITH A CENTRAL MERIDIAN OF W103°53'00". CONTAINS 0.230 ACRES MORE OR LESS.



CERTIFICATE
THIS IS TO CERTIFY THAT THIS SURFACE USE AREA
PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON
WHICH IT IS BASED WEBE IT REPORTED BY ME OR
UNDER MY DIRECT SUPERVISIONS THAT I AM
RESPONSIBLE FOR THIS SURVEY THAT THIS SURVEY
MEETS THE MINIMUM STANDARD FOR SURVEYING IN
NEW MIXICO AND THAT IT IS TRUBAND CORRECT TO
THE BIST OF MY KNOWLEDGRAND BELIEF

08-15-18 W

Sheet 1 of 2

NOTES:

Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

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UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017 CIMAREX ENERGY CO.

FILE: 6 4 5 1 8 - A1

CASCADE 29 FEDERAL WEST ZONE 1 CTB ON BLM LANDS IN SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

 SURVEYED BY
 C.T., T.R.
 07-25-18
 SCALE

 DRAWN BY
 J.P.P.
 08-15-18
 1" = 1000'

 SURFACE USE AREA
 EXHIBIT F

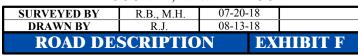
Released to Imaging: 12/12/2025 10:05:06 AM

BEGINNING AT THE INTERSECTION J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD 83 LATITUDE N32.0650° AND LONGITUDE W103.6742°) PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 5.1 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN LEFT AND PROCEED IN A NORTHWESTERLY, THEN NORTHEASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 2.8 MILES TO THE BEGINNING OF THE PROPOSED CASCADE 29 FEDERAL ACCESS ROAD "A" TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY, THEN SOUTHWESTERLY, THEN WESTERLY, THEN SOUTHWESTERLY, THEN WESTERLY DIRECTION APPROXIMATELY 4,281' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD 83 LATITUDE N32.0650° AND LONGITUDE W103.6742°) TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 8.7 MILES.

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL WEST ZONE 1 CTB 1185' FSL 1053' FWL (APPROX. CENTER OF PAD) SW 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO





LEGEND:



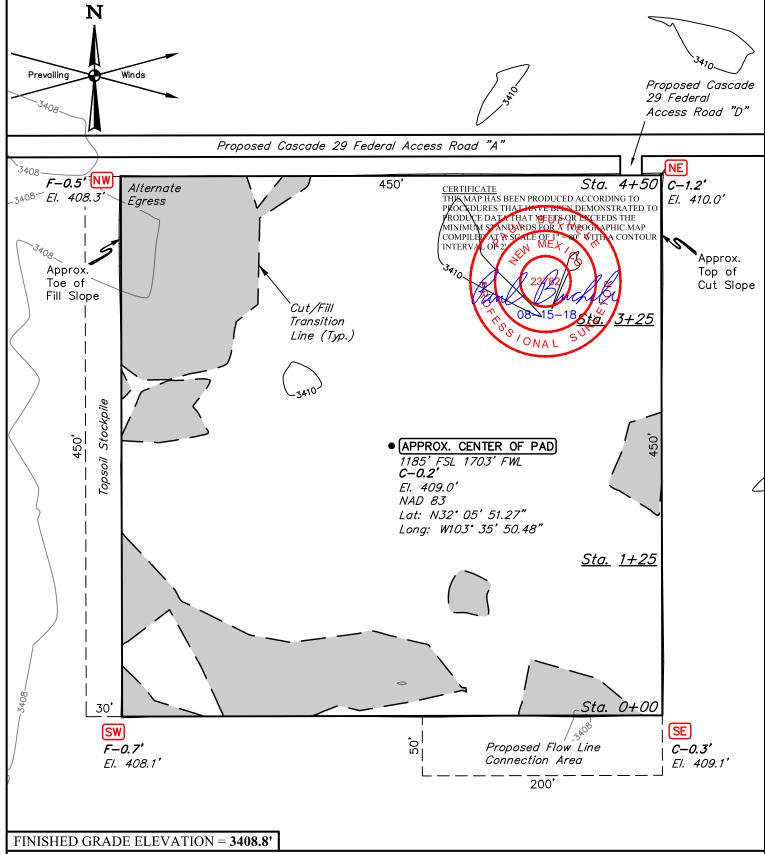


UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL WEST ZONE 1 CTB 1185' FSL 1053' FWL (APPROX. CENTER OF PAD) SW 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	R.B., M.H.	07-20-18	SCALE	
DRAWN BY	R.J.	08-13-18	1:100,000	
PUBLIC ACCESS ROAD MAP EXHIBIT F				



NOTES:

- Contours shown at 2' intervals.
- Cut/Fill slopes 1 1/2:1 (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"

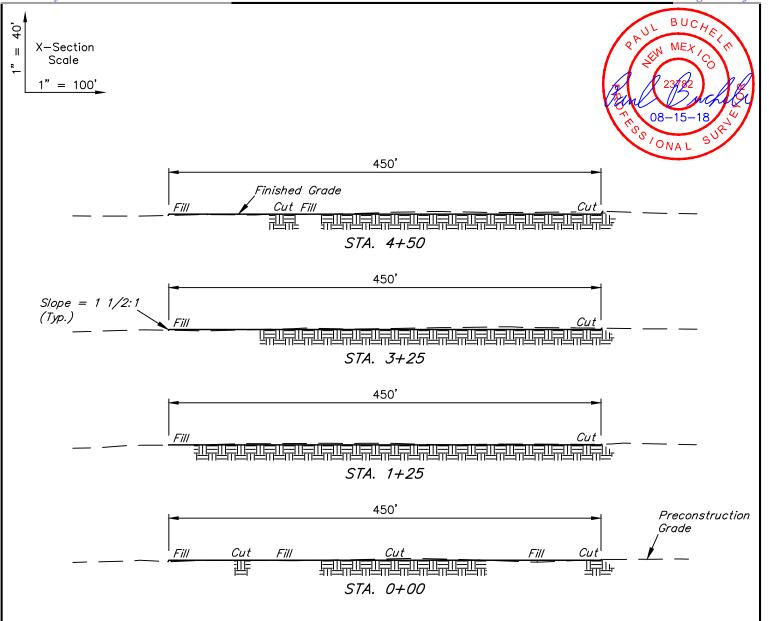


UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL WEST ZONE 2 CTB 1185' FSL 1703' FWL (APPROX. CENTER OF PAD) SE 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	R.B., M.H.	07-2	20-18	SCALE
DRAWN BY	S.F.	08-06-18		1" = 80'
LOCATION LAYOUT			EX	HIBIT F



APPROXIMATE EARTHWORK QUANTITIES			
(4") TOPSOIL STRIPPING	2,510 Cu. Yds.		
REMAINING LOCATION	1,400 Cu. Yds.		
TOTAL CUT	3,910 Cu. Yds.		
FILL	1,400 Cu. Yds.		
EXCESS MATERIAL	2,510 Cu. Yds.		
TOPSOIL	2,510 Cu. Yds.		
EXCESS UNBALANCE (After Interim Rehabilitation)	0 Cu. Yds.		

APPROXIMATE SURFACE DISTURBANCE AREAS			
	DISTANCE	ACRES	
WELL SITE DISTURBANCE	NA	±4.979	
PROPOSED FLOW LINE CONNECTION AREA	NA	±0.230	
TOTAL SURFACE USE AREA		±5.209	

NOTES:

- Fill quantity includes 5% for compaction.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)

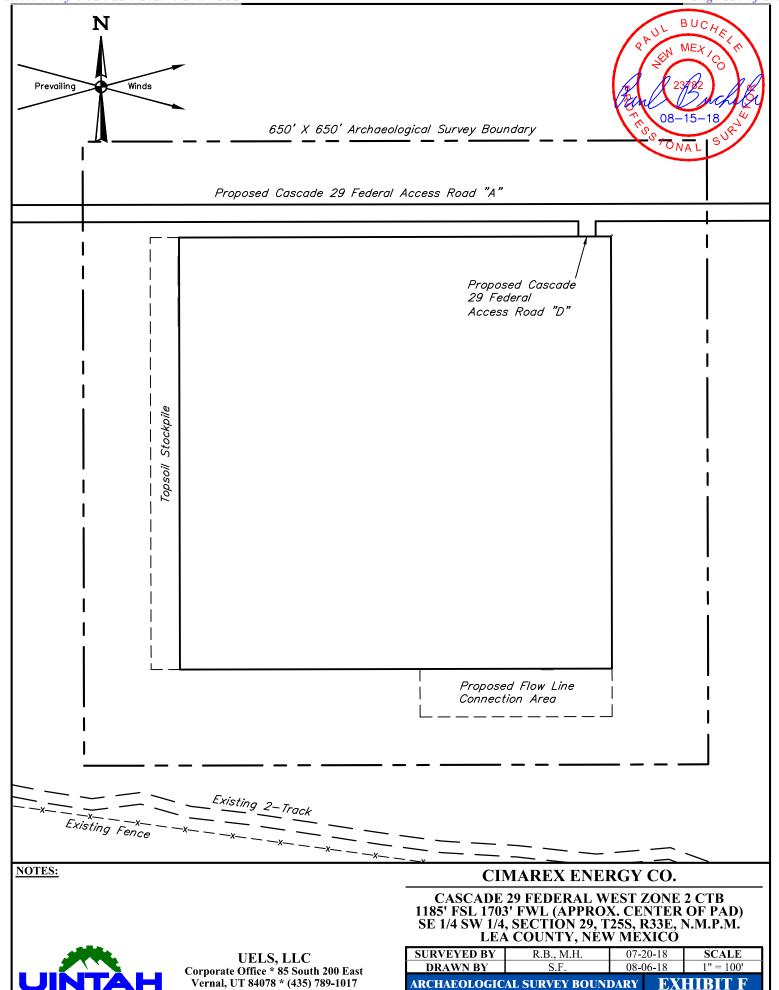
ENGINEERING & LAND SURVEYING

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

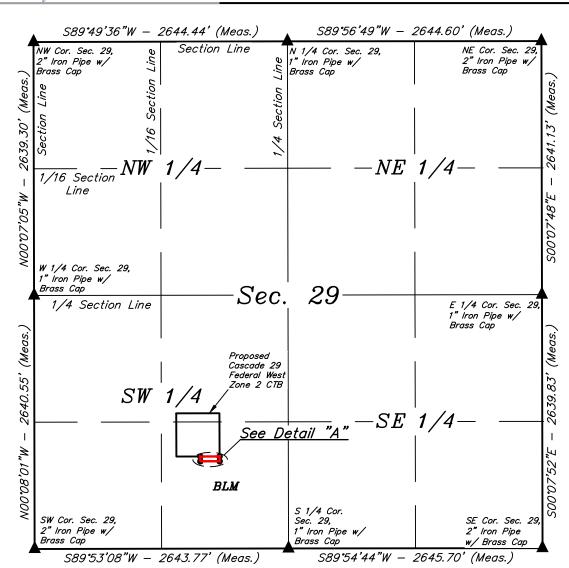
CIMAREX ENERGY CO.

CASCADE 29 FEDERAL WEST ZONE 2 CTB 1185' FSL 1703' FWL (APPROX. CENTER OF PAD) SE 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

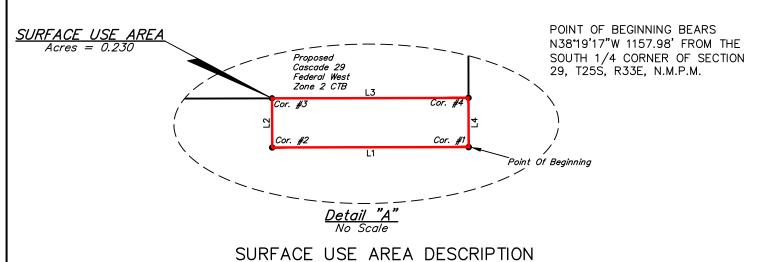
SURVEYED BY	R.B., M.H.	07-20-18	8 SCALE
DRAWN BY	S.F.	08-06-18	8 AS SHOWN
TYPICAL CH	ROSS SECTION	DNS I	EXHIBIT F



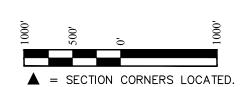
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LINE TABLE				
LINE	DIRECTION	LENGTH		
L1	S89°51'59"W	200.00'		
L2	N00°08'01"W	50.00'		
L3	N89°51'59"E	200.00'		
L4	S00°08'01"E	50.00'		



BEGINNING AT A POINT IN THE SE 1/4 SW 1/4 OF SECTION 29, T25S, R33E, N.M.P.M., WHICH BEARS N38°19'17"W 1157.98' FROM THE SOUTH 1/4 CORNER OF SAID SECTION 29, THENCE S89°51'59"W 200.00'; THENCE N00°08'01"W 50.00'; THENCE N89°51'59"E 200.00'; THENCE S00°08'01"E 50.00' TO THE POINT OF BEGINNING. BASIS OF BEARINGS IS A TRANSVERSE MERCATOR PROJECTION WITH A CENTRAL MERIDIAN OF W103°53'00". CONTAINS 0.230 ACRES MORE OR LESS.



08 - 15

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CERTIFICATE
THIS IS TO CERTIFY THAT THIS SURFACE USE AREA AND
THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT
IS BASED WERP PERFORMIND BY ME OR UNDER MY
DIRECT SUPPRISON: THAT I AWRES NONSIBLE FOR
THIS SURVEY, THAT THIS SURVEY MEETS THE
MINIMUM STANDARDS FOR SURVEYING IN NEW
MEXICG, AND THAY IT IS TRUE AND CORRECT TO THE
BEST OF MY ENOWALDES AND BELLIE.

Sheet 1 of 2

NOTES:

Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

UELS, LLC

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

CIMAREX ENERGY CO.

FILE: 6 4 5 1 6 - A1

CASCADE 29 FEDERAL WEST ZONE 2 CTB ON BLM LANDS IN SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SCALE SURVEYED BY R.B., M.H. 07-20-18 08-15-18 1'' = 1000'DRAWN BY **SURFACE USE AREA** EXHIBIT

BEGINNING AT THE INTERSECTION J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD 83 LATITUDE N32.0650° AND LONGITUDE W103.6742°) PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 5.1 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN LEFT AND PROCEED IN A NORTHWESTERLY, THEN NORTHEASTERLY, THEN NORTHWESTERLY DIRECTION APPROXIMATELY 2.8 MILES TO THE BEGINNING OF THE PROPOSED CASCADE 29 FEDERAL ACCESS ROAD "A" TO THE WEST; FOLLOW ROAD FLAGS IN A WESTERLY, THEN SOUTHWESTERLY, THEN WESTERLY DIRECTION APPROXIMATELY 3,631' TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE SOUTH; FOLLOW ROAD FLAGS IN A SOUTHERLY DIRECTION APPROXIMATELY 25' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD 83 LATITUDE N32.0650° AND LONGITUDE W103.6742°) TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 8.6 MILES.

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL WEST ZONE 2 CTB 1185' FSL 1703' FWL (APPROX. CENTER OF PAD) SE 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

 SURVEYED BY
 R.B., M.H.
 07-20-18

 DRAWN BY
 R.J.
 08-13-18

 ROAD DESCRIPTION
 EXHIBIT F



LEGEND:

PROPOSED LOCATION



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

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL WEST ZONE 2 CTB 1185' FSL 1703' FWL (APPROX. CENTER OF PAD) SE 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	R.B., M.H.	07-20-18	SCALE	
DRAWN BY	R.J.	08-13-18	1:100,000	
PUBLIC ACCESS ROAD MAP EXHIBIT F				

Cimarex Cascade 29 Federal 18H Surface Use Plan

Upon approval of the Application for Permit to Drill (APD) the following surface use plan of operations will be followed and carried out. The surface use plan outlines the proposed surface disturbance. If any other disturbance is needed after the APD is approved, a BLM sundry notice or right of way application will be submitted for approval prior to any additional surface disturbance.

Existing Roads

- Directions to location Exhibit A.
- Public access route Exhibit B.
- Existing access road for the proposed project. Please see Exhibit B and C.
- Cimarex Energy will:
 - Improve and/or maintain existing road(s) condition the same as or better than before the operations began.
 - Provide plans for improvement and /or maintenance of existing roads if requested.
 - Repair or replace damaged or deteriorated structures as needed. Including cattle guards and culverts.
 - Prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.
 - Obtain written BLM approval prior to the application of surfactants, binding agents, or other dust suppression chemicals on the roadways.
- The maximum width of the driving surface will be 18'. The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1' deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.

New or Reconstructed Access Roads

Cimarex Energy plans to construct a new off-lease access road

- Length: 5442'
- Width: 30'
- Road Plat Exhibit D.
- A ROW will be submitted to the BLM for approval.
- Cimarex Energy will complete improvements to the driving surface as needed.
- The maximum width of the driving surface for all roads above will be 18'.
- The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface.
- The ditches will be 1' deep with 3:1 slopes.
- The driving surface will be made of 6" rolled and compacted caliche.
- Cimarex Energy will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.

Well Radius Map

Please see Exhibit E for wells within one mile or proposed well SHL and BHL.

Proposed or Existing Production Facility

A new facility will be constructed for this project if the well is productive.

- Cascade 29 Fed East Zone 1 & 2, Cascade 29 Fed West Zone 1 & 2 Exhibit F
 - Direction to facility
 - Facility pad location layout and cut and fill
 - Facility pad archeological boundary
 - Facility pad flowline corridor
 - Facility pad access road
- Battery Pad location previously approved
 - APD: Cascade 29 Federal 29H.

Gas Pipeline Specifications

• No new gas pipelines are required for this project.

Salt Water Disposal Specifications

• No new SWD pipelines are required for this project.

Power Lines

Cimarex Cascade 29 Federal 18H Surface Use Plan

· No new power line is required for this project.

Well Site Location

- Proposed well pad/location layout Exhibit J.
- Proposed Rig layout Exhibit K
 - The rig layout, including V-door and flare line may change depending on rig availability. The pad dimensions and orientation will remain the same. No additional disturbance is anticipated if a rig layout change is necessary to accommodate the drilling rig. If additional disturbance is required a sundry notice will be submitted to the BLM for approval.
 - Mud pits in the closed circulation system will be steel pits and the cuttings will be stored in the steel containment pits.
 - Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- Archeological boundary Exhibit L
- Single well pad
- Pad Size: 500 x 560
- · Construction Material
 - If possible, native caliche will be obtained from the excavation of drill site. The primary way of obtaining caliche will be
 by "turning over" the location. This means caliche will be obtained from the actual well site. A caliche permit will be
 obtained from BLM prior to pushing up any caliche. 2,400 cu yds is the max amount of caliche needed for pad and
 roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:
 - The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.
 - An approximate 120' x 120' area is used within the proposed well site to remove caliche.
 - Subsoil is removed and piled alongside the 120' x 120' area within the pad site.
 - When caliche is found, material will be stockpiled within the pad site to build the location and road.
 - Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
 - Once well is drilled, the stockpiled top soil will be used for interim reclamation and spread along areas where
 caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the
 well pad. Topsoil will be stockpiled along the edge of the pad as depicted in Exhibit J Layout Diagram.
 - In the event that no caliche is found onsite, caliche will be hauled in from BLM-approved caliche pit in NENE Sec 20 25S 33E or NESE Sec 5 26S 33E.
 - Mud pits in the closed circulation system will be steel pits and the cuttings will be stored in steel containment pits.
- Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- If the well is a producer, those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements. Exhibit P: Interim Reclamation Diagram.
- There are no known dwellings within 1.5 miles of this location.

Bulklines Pipelines

All proposed pipelines will be constructed in a 60' ROW corridor.

- Bulklines
 - Cimarex Energy plans to construct off-lease bulklines to service the well.
 - 8- 12" HP steel for oil, gas, and water production.
 - Length: 6,484'.
 - MAOP: 1,500 psi; Anticipated working pressure: 200-300 psi.
 - Please see Exhibit M for proposed off-lease route.
 - A ROW application will be submitted to the BLM for the proposed route.

Water Resources

No temporary fresh water pipelines are proposed for this project.

Cimarex Cascade 29 Federal 18H Surface Use Plan

Methods of Handling Waste

- Drilling fluids, produced oil, and water from the well during drilling and completion operations will be stored safely and disposed of properly in a NMOCD approved disposal facility.
- Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around well site will be collected for disposal.
- · Human waste and grey water will be contained and disposed of properly at a state approved disposal site.
- After drilling and completion operations, trash, chemicals, salts, frac sand and other waste will be removed and disposed of
 properly at a state approved disposal site.
- The well will be drilled utilizing a closed loop system. Drill cuttings will be properly disposed of into steel tanks and taken to an NMOCD approved disposal facility.

Ancillary Facilities

No camps or airstrips to be constructed.

Interim and Final Reclamation

- Rehabilitation of the location will start in a timely manner after all proposed drilling wells have been drilled from the pad or if drilling operations have ceased as outlined below:
 - No approved or pending drill permits for wells located on the drill pad
 - No drilling activity for 5 years from the drill pad
- Surfacing materials will be removed and returned to a mineral pit or recycled to repair or build roads and well pads.
- Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may
 need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area
 has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible.
 Revegetation procedures will comply with BLM standards.
- Exhibit P illustrates the proposed Surface Reclamation plans after cessation of drilling operations as outlined above.
 - The areas of the location not essential to production facilities and operations will be reclaimed and seeded per BLM requirements.
- Operator will amend the surface reclamation plan if well is a dry hole and/or a single well pad.

Surface Ownership

- The wellsite is on surface owned by BLM.
- A copy of Surface Use Agreement has been given to the surface owner.
- The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production.

Cultural Resource Survey - Archeology

 Cultural Resources Survey will be conducted for the entire project as proposed in the APD and submitted to the BLM for review and approval.

On Site Notes and Information

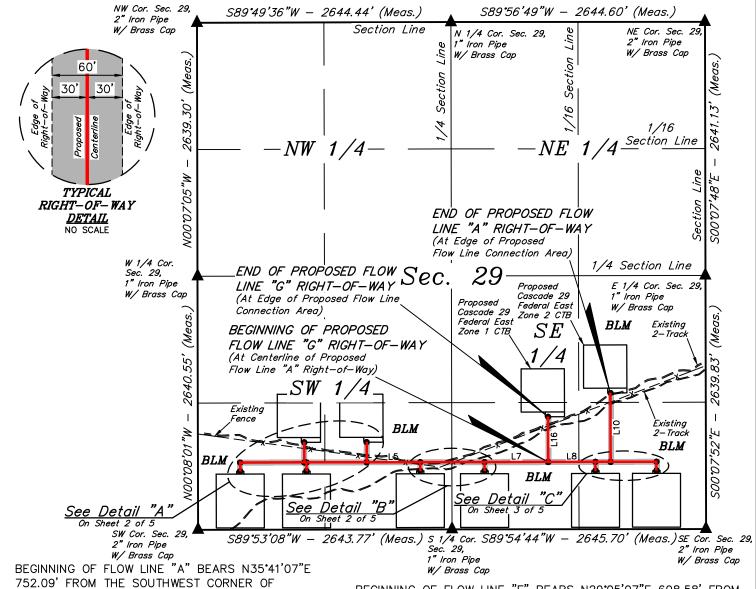
Onsite Date: 6/28/2018

BLM Personnel on site: Jeff Robertson

Cimarex Energy personnel on site: Barry Hunt

Pertinent information from onsite:

V-Door East. Top soil west. Access road off SE corner south to proposed Red Hills Unit 32 access road. 560' (N/S) x 500' (E/W).



752.09' FROM THE SOUTHWEST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

END OF FLOW LINE "A" BEARS \$38.56.53"W 1573.17' FROM THE EAST 1/4 CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

BEGINNING OF FLOW LINE "B" BEARS N57°35'14"E 1310.07' FROM THE SOUTHWEST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

END OF FLOW LINE "B" BEARS N50°28'36"E 1433.24' FROM THE SOUTHWEST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

BEGINNING OF FLOW LINE "C" BEARS N61°31'17"E 1284.11' FROM THE SOUTHWEST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

END OF FLOW LINE "C" BEARS N58°06'14"E 1329.08' FROM THE SOUTHWEST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

BEGINNING OF FLOW LINE "D" BEARS N51°48'56"W 1129.48' FROM THE SOUTH 1/4 CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

END OF FLOW LINE "D" BEARS N44°21'58"W 1270.26' FROM THE SOUTH 1/4 CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

BEGINNING OF FLOW LINE "E" BEARS N28°27'04"W 692.97' FROM THE SOUTH 1/4 CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

END OF FLOW LINE "E" BEARS N2516'03"W 773.35' FROM THE SOUTH 1/4 CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

= SECTION CORNERS LOCATED.

BEGINNING OF FLOW LINE "F" BEARS N29°05'07"E 698.58' FROM THE SOUTH 1/4 CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

END OF FLOW LINE "F" BEARS N25'50'29"E 778.55' FROM THE SOUTH 1/4 CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

BEGINNING OF FLOW LINE "G" BEARS N54°59'06"E 1223.50' FROM THE SOUTH 1/4 CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

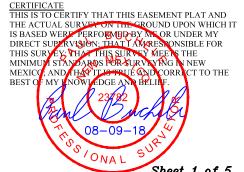
END OF FLOW LINE "G" BEARS N40°29'43"E 1541.62' FROM THE SOUTH 1/4 CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

BEGINNING OF FLOW LINE "H" BEARS N62°09'01"W 1302.03' FROM THE SOUTHEAST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

END OF FLOW LINE "H" BEARS N58'44'16"W 1346.87' FROM THE SOUTHEAST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

BEGINNING OF FLOW LINE "I" BEARS N40°16'35"W 798.53' FROM THE SOUTHEAST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.

END OF FLOW LINE "I" BEARS N54°51'39"W 1214.95' FROM THE SOUTHEAST CORNER OF SECTION 29, T25S, R33E, N.M.P.M.



FILE: 64476-A1

Sheet 1 of 5

NOTES:

Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

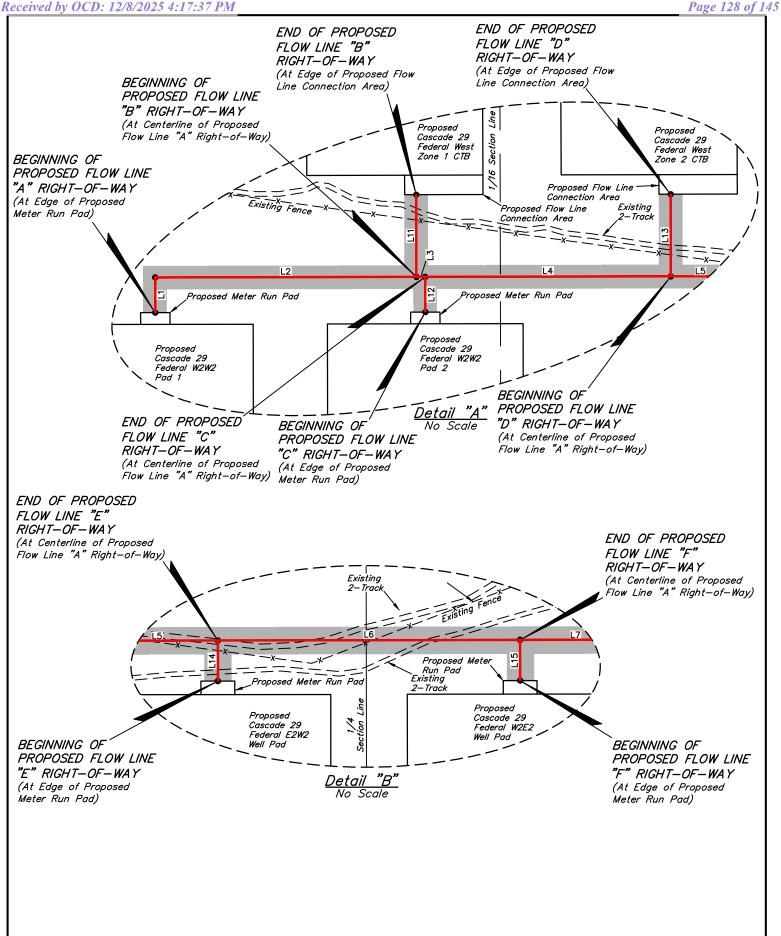


UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017

CIMAREX ENERGY CO. CASCADE 29 FEDERAL FLOW LINE NETWORK ON BLM LANDS IN SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY C.T., R.G. 07-25-18 **SCALE** 08-09-18 DRAWN BY Bulkline R-O-W **EXHIBIT M**

Released to Imaging: 12/12/2025 10:05:06 AM



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 SUPPLYISION; THAT I AMPESSAONSBLE FOR
THIS SURVEY, THAT THAT I SURVEY MEETS THE
MINIMUM STANDARDS FOR SURVEY WIG IN NEW
MEXICG, AND THAT IT IS TRUE AND CORRECT TO THE
BEST OF MY UNOWLEDGE AND BELIEF.

08 - 09 - 18

SIONAL

FILE: 64476-A2

Sheet 2 of 5

NOTES:

Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

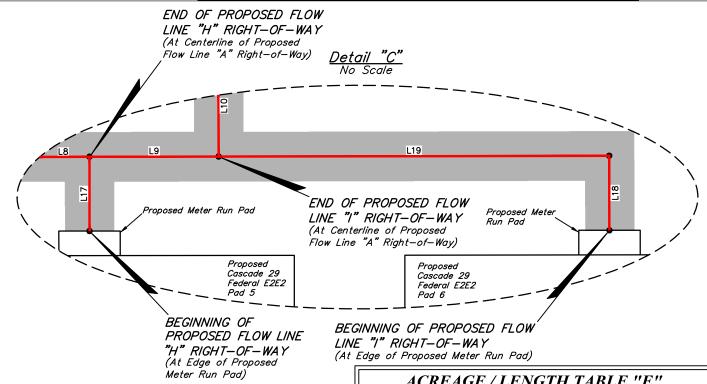


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CIMAREX ENERGY CO.

CASCADE 29 FEDERAL FLOW LINE NETWORK ON BLM LANDS IN SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY C.T., R.G. **SCALE** DRAWN BY 08-09-18 Bulkline R-O-W EXHIBIT



ACREAGE / LENGTH TABLE "A"				
OWNERSHIP FEET RODS ACRI				
SEC. 29 (SW 1/4)	BLM	2293.75	139.02	3.159
SEC. 29 (SE 1/4)	BLM	2370.68	143.68	3.265
TOTAL 4664.43 282.69 6.425			6.425	

ACREAGE / LENGTH TABLE "B"					
OWNERSHIP FEET RODS ACRE					
SEC. 29 (SW 1/4)	BLM	209.89	12.72	0.289	

ACREAGE / LENGTH TABLE "C"					
OWNERSHIP FEET RODS ACRE					
SEC. 29 (SW 1/4)	BLM	89.96	5.45	0.124	

ACREAGE / LENGTH TABLE "D"				
	OWNERSHIP FEET RODS AC			
SEC. 29 (SW 1/4)	BLM	209.85	12.72	0.289

ACREAGE / LENGTH TABLE "E"						
	OWNERSHIP FEET RODS ACR					
SEC. 29 (SW 1/4)	BLM	90.08	5.46	0.124		

ACREAGE / LENGTH TABLE "F"				
	OWNERSHIP	FEET	RODS	ACRES
SEC. 29 (SE 1/4)	BLM	90.21	5.47	0.124

ACREAGE / LENGTH TABLE "G"				
	OWNERSHIP	FEET	RODS	ACRES
SEC. 29 (SE 1/4)	BLM	470.31	28.50	0.648

ACREAGE / LENGTH TABLE "H"				
	OWNERSHIP	FEET	RODS	ACRES
SEC. 29 (SE 1/4)	BLM	90.71	5.50	0.125

ACREAGE / LENGTH TABLE "I"				
	OWNERSHIP	FEET	RODS	ACRES
SEC. 29 (SE 1/4)	BLM	568.04	34.43	0.782

	CASCADE 29 FEDERAL FLOW LINE NETWORK				
SECTION CORNER	DESCRIPTION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)		
NW COR. SEC. 29, T25S, R33E	2" IRON PIPE W/ BRASS CAP	N 32°06'31.79"	W 103°36'10.25"		
N 1/4 COR. SEC. 29, T25S, R33E	1" IRON PIPE W/ BRASS CAP	N 32°06'31.80"	W 103°35'39.51"		
NE COR. SEC. 29, T25S, R33E	2" IRON PIPE W/ BRASS CAP	N 32°06'31.76"	W 103°35'08.77"		
E 1/4 COR. SEC. 29, T25S, R33E	1" IRON PIPE W/ BRASS CAP	N 32°06'05.62"	W 103°35'08.79"		
SE COR. SEC. 29, T25S, R33E	2" IRON PIPE W/ BRASS CAP	N 32°05'39.51"	W 103°35'08.80"		
S 1/4 COR. SEC. 29, T25S, R33E	1" IRON PIPE W/ BRASS CAP	N 32°05'39.54"	W 103°35'39.55"		
SW COR. SEC. 29, T25S, R33E	2" IRON PIPE W/ BRASS CAP	N 32°05'39.55"	W 103°36'10.28"		
W 1/4 COR. SEC. 29, T25S, R33E	1" IRON PIPE W/ BRASS CAP	N 32°06'05.68"	W 103°36'10.27"		

CERTIFICATE
THIS IS TO CERTIFY THAT THIS EASEMENT PLAT AND
THE ACTUAL SURVEY. ON THIS GROUND UPON WHICH IT
IS BASED WERE PERFORMED BY ME OR UNDER MY
DIRECT SUBJECTION: THAT I AMRES ONSIBLE FOR
THIS SURVEY, THAT THIS SURVEY MEETS THE
MINIMUM STANDARDS FOR SURVEY WIG IN NEW
MEXICG, AND THAT IT IS TRUE AND CORRECT TO THE
BEST OF MY UNOWLEDGE AND BELLIF.

08-09-18

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FILE: 64476-A3

Sheet 3 of 5

NOTES:

Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL FLOW LINE NETWORK ON BLM LANDS IN SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY C.T., R.G. 07-25-18 **SCALE** DRAWN BY 08-09-18 **EXHIBIT M** R-O-W Bulkline



CASCADE 29 FEDERAL FLOW LINE "A"			
NUMBER	STATION	LATITUDE (NAD 83)	LONGITUDE (NAD 83)
BEGIN	0+00	N 32°05'45.59"	W 103°36'05.16"
1	0+90.00	N 32°05'46.48"	W 103°36'05.16"
2	7+57.40	N 32°05'46.47"	W 103°35'57.40"
3	7+79.83	N 32°05'46.47"	W 103°35'57.14"
4	14+07.40	N 32°05'46.47"	W 103°35'49.85"
5	19+65.10	N 32°05'46.47"	W 103°35'43.37"
6	6 26+34.55 N 32°05'46.46" W 103°35		W 103°35'35.58"
7	7 32+97.25 N 3		W 103°35'27.88"
8	37+89.59	N 32°05'46.45"	W 103°35'22.16"
9	39+47.36	N 32°05'46.45"	W 103°35'20.33"
END	46+64.42	N 32°05'53.55"	W 103°35'20.32"
CASCADE 29 FEDERAL ELOW LINE "B"			

CASCADE 29 FEDERAL FLOW LINE "B"					
NUMBER STATION LATITUDE (NAD 83) LONGITUDE (NAD 83)					
BEGIN	0+00	N 32°05'46.47"	W 103°35'57.40"		
END 2+09.89 N 32°05'48.55" W 103°35'57.40"					

CASCADE 29 FEDERAL FLOW LINE "C"					
NUMBER STATION LATITUDE (NAD 83) LONGITUDE (NAD 83)					
BEGIN	0+00	N 32°05'45.58"	W 103°35'57.14"		
END 0+89.96 N 32°05'46.47" W 103°35'57.14"					

CASCADE 29 FEDERAL FLOW LINE "D"					
NUMBER STATION LATITUDE (NAD 83) LONGITUDE (NAD 83)					
BEGIN 0+00 N 32°05'46.47" W 103°35'49.85"					
END 2+09.85 N 32°05'48.55" W 103°35'49.85"					

CASCADE 29 FEDERAL FLOW LINE "E"					
NUMBER STATION LATITUDE (NAD 83) LONGITUDE (NAD 83)					
BEGIN 0+00 N 32°05'45.57" W 103°35'43.37"					
END 0+90.08 N 32°05'46.47" W 103°35'43.37"					

CASCADE 29 FEDERAL FLOW LINE "F"					
NUMBER STATION LATITUDE (NAD 83) LONGITUDE (NAD 83					
BEGIN 0+00 N 32°05'45.57" W 103°35'35					
END 0+90.21 N 32°05'46.46" W 103°35'35.58"					

CASCADE 29 FEDERAL FLOW LINE "G"					
NUMBER STATION LATITUDE (NAD 83) LONGITUDE (NAD 83)					
BEGIN 0+00 N 32°05'46.46" W 103°35'27.88"					
END 4+70.31 N 32°05'51.11" W 103°35'27.88"					

CASCADE 29 FEDERAL FLOW LINE "H"					
NUMBER STATION LATITUDE (NAD 83) LONGITUDE (NAD 83)					
BEGIN 0+00 N 32°05'45.56"		N 32°05'45.56"	W 103°35'22.16"		
END 0+90.71 N 32°05'46.45" W 103°35'22.16"					

CASCADE 29 FEDERAL FLOW LINE "I"				
NUMBER STATION LATITUDE (NAD 83) LONGITUDE (NAD 83)				
BEGIN 0+00 N 32°05'45.		N 32°05'45.55"	W 103°35'14.78"	
1 0+91.02 N 32°05'46.45" W 103°35'14.78		W 103°35'14.78"		
END 5+68.04 N 32°05'46.45" W 103°35'20.33"				

LINE TABLE			
LINE	DIRECTION	LENGTH	
L1	N00°05'27"W	90.00'	
L2	N89*53'07"E	667.39'	
L3	N89°53'07"E	22.43'	
L4	N89°53'07"E	627.57	
L5	N89*53'07"E	557.70'	
L6	N89*53'07"E	669.46'	
L7	N89*53'07"E	662.69'	
L8	N89°53'07"E	492.34'	
L9	N89°53'07"E	157.78	
L10	N00°06'52"W	717.06	
L11	N00°06'52"W	209.89'	
L12	N00°12'23"W	89.96'	
L13	N00°06'52"W	209.85'	
L14	N00°01'16"E	90.08'	
L15	N00°08'57"W	90.21	
L16	N00°06'52"W	470.31	
L17	N00°03'08"W	90.71	
L18	N00°10'46"W	91.02'	
L19	S89°53'07"W	477.02'	

CERTIFICATE
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BEST OF MY UNOWLEDGE AND BELLIF.

08-09-18 SIONAL

FILE: 64476-A4

Sheet 4 of 5

NOTES:

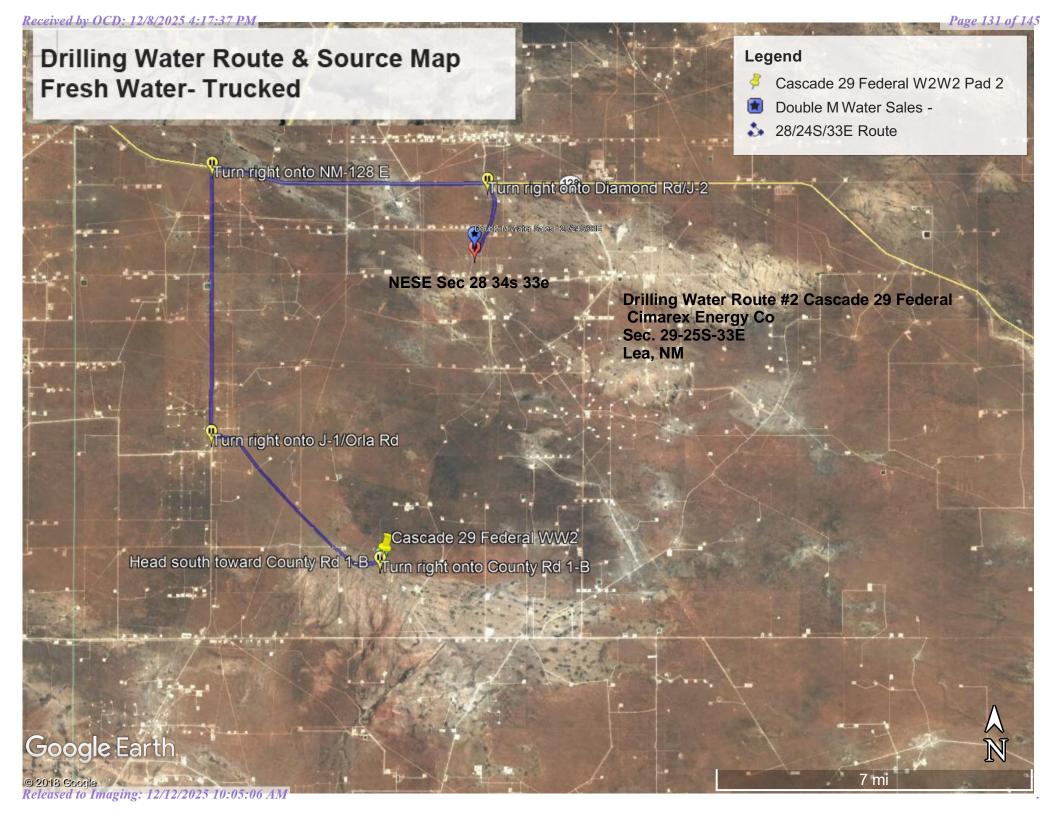
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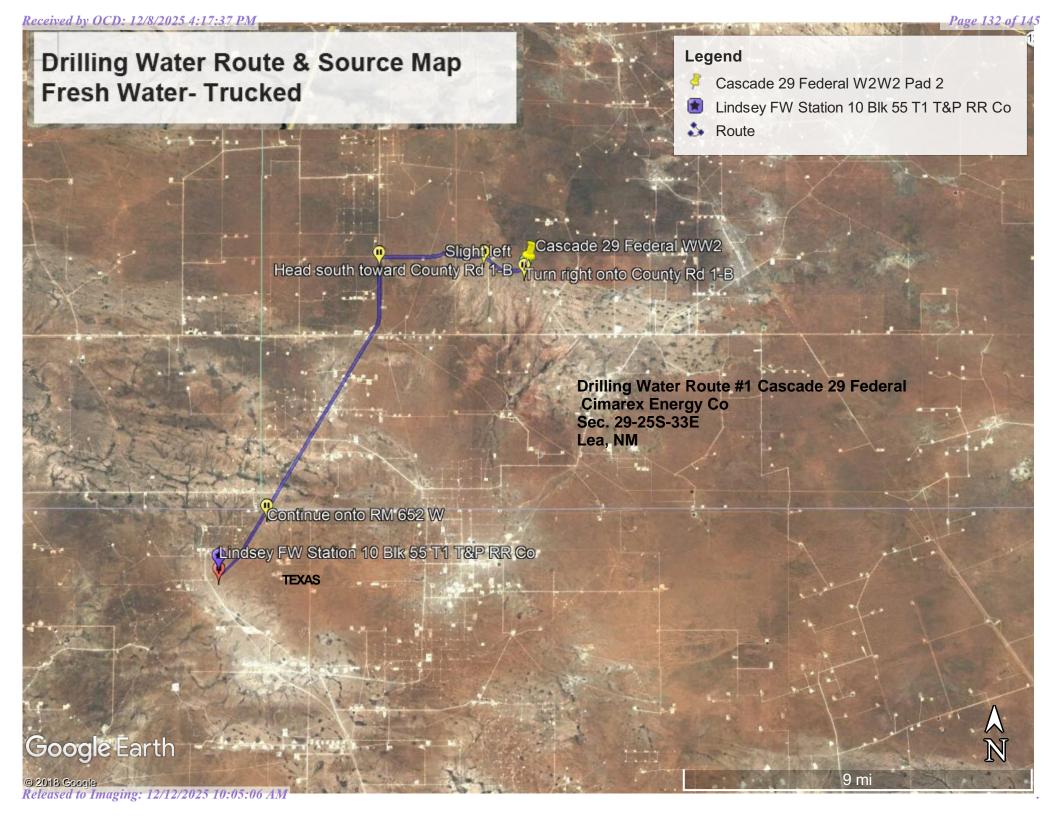
CIMAREX ENERGY CO.

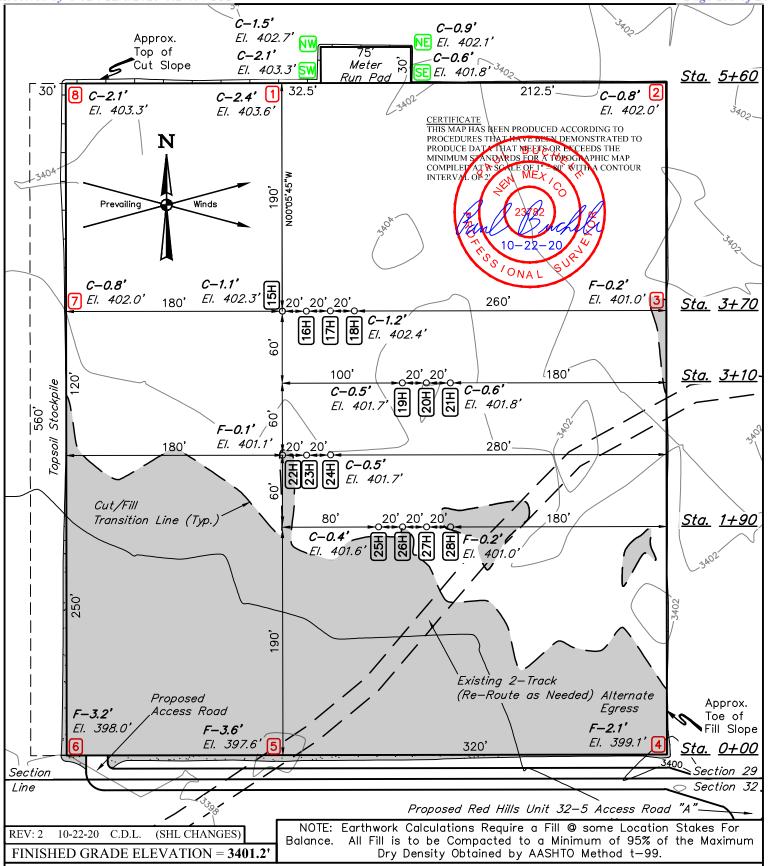
CASCADE 29 FEDERAL FLOW LINE NETWORK ON BLM LANDS IN SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY C.T., R.G. 07-25-18 **SCALE** DRAWN BY 08-09-18 FLOW LINE R-O-W **EXHIBIT M**









Flare pit is to be located a min. of 100' from the wellhead

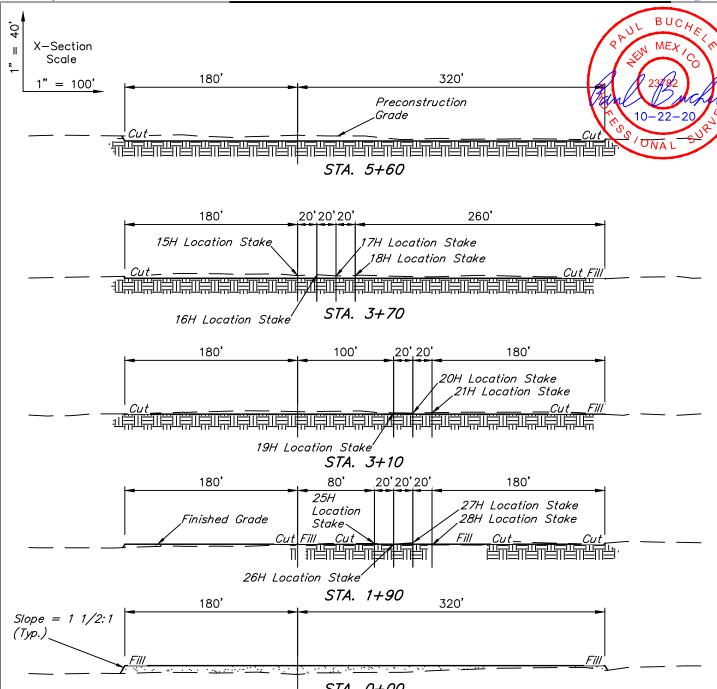
- Contours shown at 2' intervals.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)
- Underground utilities shown on this sheet are for visualization purposes only, actual locations to be determined prior to construction.
- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian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

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL W2W2 PAD 1 SW 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO







STA. 0+00

APPROXIMATE EARTHWORK QUANTITIES				
(4") TOPSOIL STRIPPING	3,540 Cu. Yds.			
REMAINING LOCATION	6,070 Cu. Yds.			
TOTAL CUT	9,610 Cu. Yds.			
FILL	6,070 Cu. Yds.			
EXCESS MATERIAL	3,540 Cu. Yds.			
TOPSOIL	3,540 Cu. Yds.			
EXCESS UNBALANCE (After Interim Rehabilitation)	0 Cu. Yds.			

APPROXIMATE SURFACE DISTURBANCE AREAS			
DISTANCE ACRES			
WELL SITE DISTURBANCE	NA	±6.943	
30' WIDE ACCESS ROAD R-O-W DISTURBANCE ±563.42'		±0.398	
TOTAL SURFACE USE AREA		±7.341	

REV: 2 10-22-20 C.D.L. (SHL CHANGES)

NOTES:

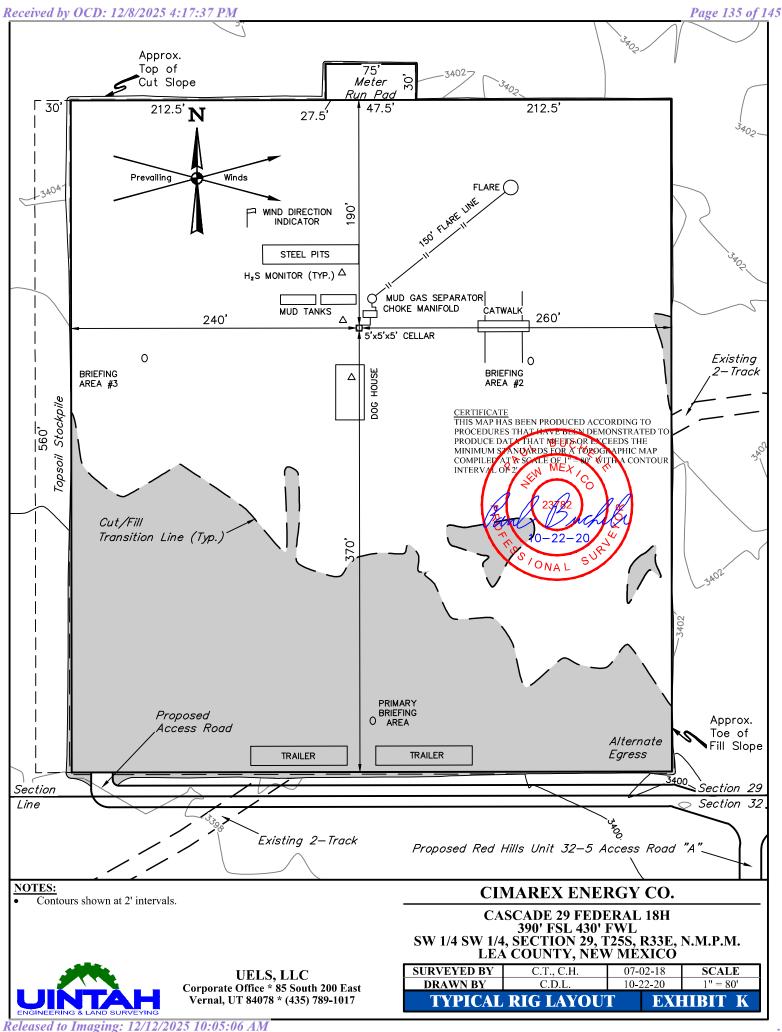
- Fill quantity includes 5% for compaction.
- Cut/Fill slopes 1 1/2:1 (Typ. except where noted)

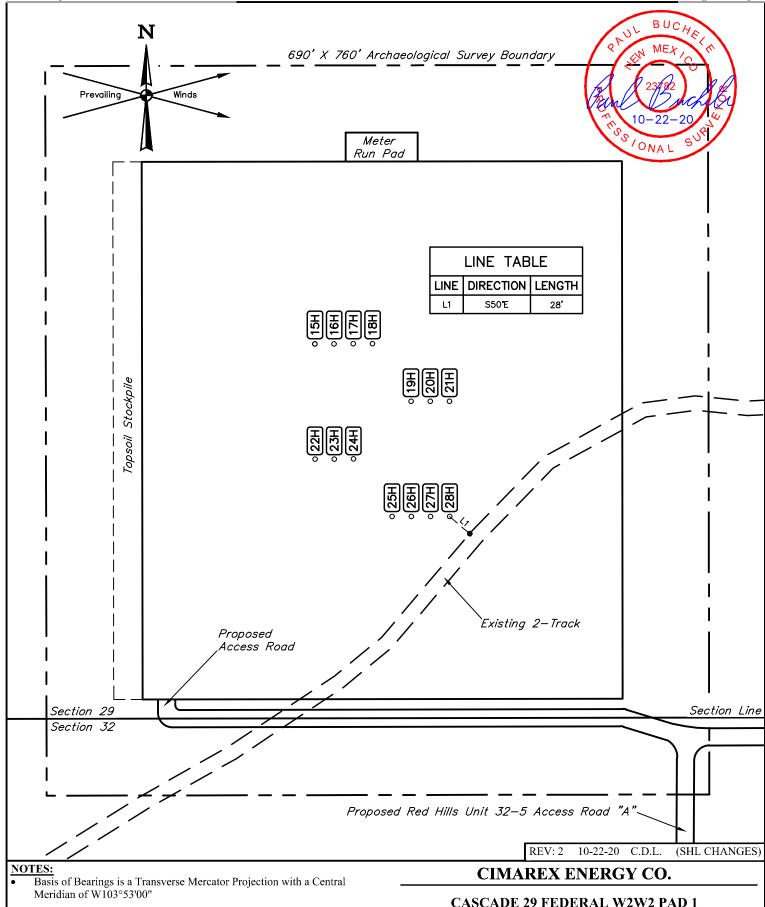
UELS, LLC Corporate Office * 85 South 200 East Vernal, UT 84078 * (435) 789-1017

CIMAREX ENERGY CO.

CASCADE 29 FEDERAL W2W2 PAD 1 SW 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

SURVEYED BY	C.T., C.H.	07-02-18	SCALE
DRAWN BY	D.J.S.	08-13-18	AS SHOWN
TYPICAL CROSS SECTIONS EXHIBIT			HIBIT J





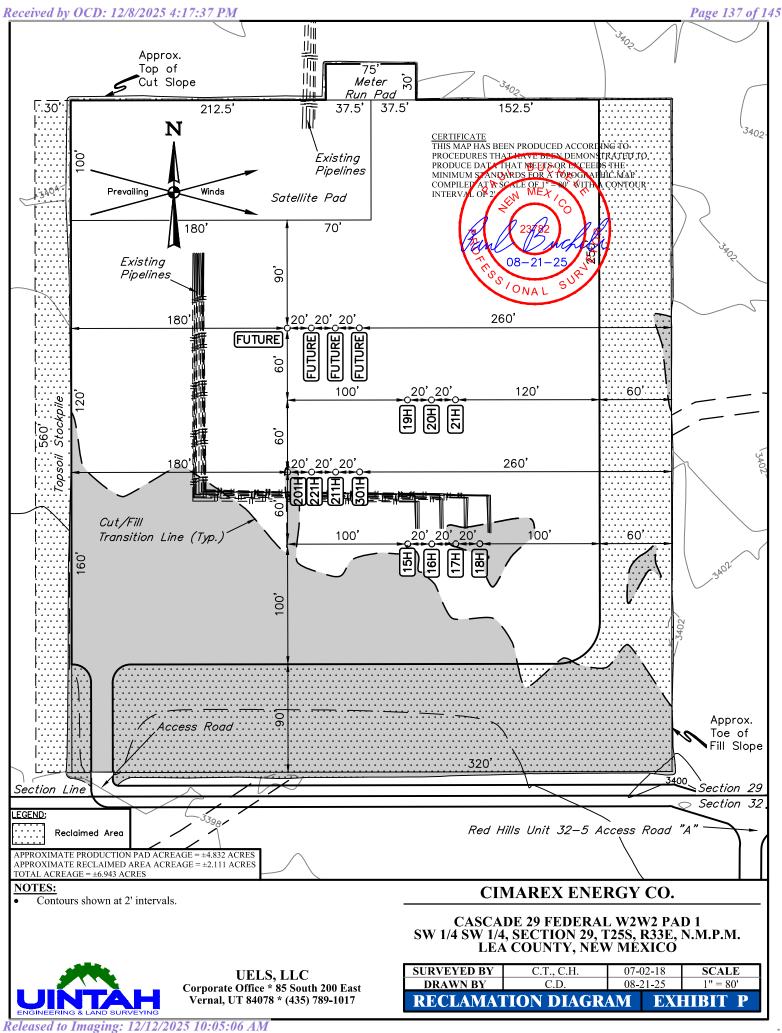
CASCADE 29 FEDERAL W2W2 PAD 1 SW 1/4 SW 1/4, SECTION 29, T25S, R33E, N.M.P.M. LEA COUNTY, NEW MEXICO

 SURVEYED BY
 C.T., C.H.
 07-02-18
 SCALE

 DRAWN BY
 D.J.S.
 08-13-18
 1" = 100'

 ARCHAEOLOGICAL SURVEY BOUNDARY
 EXHIBIT L







U.S. Department of the Interior BUREAU OF LAND MANAGEMENT PWD Data Report

PWD disturbance (acres):

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CASCADE 29 FEDERAL Well Number: 201H
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:
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

Well Name: CASCADE 29 FEDERAL Well Number: 201H

Lined pit Monitor description:

Lined pit Monitor

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): PWD surface owner:

Other PWD Surface Owner Description:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

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

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

Precipitated Solids Permit

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

TDS lab results:

Geologic and hydrologic

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CASCADE 29 FEDERAL Well Number: 201H

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

Well Name: CASCADE 29 FEDERAL Well Number: 201H

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

APD ID: 10400106556

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CASCADE 29 FEDERAL

Well Type: OIL WELL

Submission Date: 09/03/2025

Highlighted data reflects the most recent changes Show Final Text

Well Number: 201H

Well Work Type: Drill

Bond

Federal/Indian APD: FED

BLM Bond number: NMB001188

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:

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

General Information Phone: (505) 629-6116

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

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

ACKNOWLEDGMENTS

Action 532955

ACKNOWLEDGMENTS

ſ	Operator:	OGRID:
	Coterra Energy Operating Co.	215099
١	6001 Deauville Blvd	Action Number:
	Midland, TX 79706	532955
١		Action Type:
١		[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

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

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COMMENTS

Action 532955

COMMENTS

Operator:	OGRID:
Coterra Energy Operating Co.	215099
6001 Deauville Blvd	Action Number:
Midland, TX 79706	532955
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

COMMENTS

Created By	Comment	Comment Date
matthew.gomez	Invalid defining well reported on C-102. Defining well cannot also be an infill well.	12/12/2025

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Phone: (505) 629-6116

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CONDITIONS

Action 532955

CONDITIONS

Operator:	OGRID:
Coterra Energy Operating Co.	215099
6001 Deauville Blvd	Action Number:
Midland, TX 79706	532955
	Action Type:
	[C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
sbowen00	Cement is required to circulate on both surface and intermediate1 strings of casing.	12/8/2025
matthew.gomez	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing, if a CBL is unable to indicate sufficient cement coverage due to a lighter cement, a USI log may also be required. If strata isolation is not achieved, remediation will be required before further operations may commence.	12/12/2025
matthew.gomez	All conducted logs must be submitted to the OCD.	12/12/2025
matthew.gomez	Cement must be in place for at least eight hours and achieve a minimum compressive strength of 500 PSI before performing any further operations on the well.	12/12/2025
matthew.gomez	Administrative order required for non-standard location prior to production.	12/12/2025
matthew.gomez	Notify the OCD 24 hours prior to casing & cement.	12/12/2025
matthew.gomez	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	12/12/2025
matthew.gomez	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	12/12/2025
matthew.gomez	File As Drilled C-102 and a directional Survey with C-104 completion packet.	12/12/2025