Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator

9. API Well No. **30-025-53128**

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool, or Exploratory

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

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

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

12. County or Parish

13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office).
4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM.

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

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 05/31/2024

INSTRUCTIONS

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

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

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

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

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

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

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

NOTICES

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

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

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

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

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

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM conects this information to anow evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

Approval Date: 05/31/2024

Additional Operator Remarks

Location of Well

0. SHL: SWSE / 270 FSL / 2140 FEL / TWSP: 25S / RANGE: 33E / SECTION: 20 / LAT: 32.109574 / LONG: -103.59268 (TVD: 0 feet, MD: 0 feet)

PPP: SESW / 100 FSL / 2590 FWL / TWSP: 25S / RANGE: 33E / SECTION: 20 / LAT: 32.109109 / LONG: -103.594485 (TVD: 10808 feet, MD: 10834 feet)

BHL: NENW / 100 FNL / 2590 FWL / TWSP: 25S / RANGE: 33E / SECTION: 17 / LAT: 32.13758 / LONG: -103.594473 (TVD: 11465 feet, MD: 21524 feet)

BLM Point of Contact

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

Review and Appeal Rights

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-53128	97903	WC-025 G-08 S253235G; LWR BONE SPRIN

[4] Property Code	[5] Property Name	[6] Well Number
319775	VACA DRAW 20-17 FEDERAL	302H

[7] OGRID No.	[8] Operator Name	[9] Elevation
215099	CIMAREX ENERGY CO.	3409.0'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	20	25S	33E		270	SOUTH	2140	EAST	LEA

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	17	25S	33E		100	NORTH	2590	WEST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320			

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

[16]
- ● = SURFACE HOLE LOCATION
- ◇ = LANDING POINT/FIRST TAKE POINT
- ○ = BOTTOM HOLE LOCATION/ LAST TAKE POINT
- ▲ = SECTION CORNER LOCATED
- = LEASE LINE

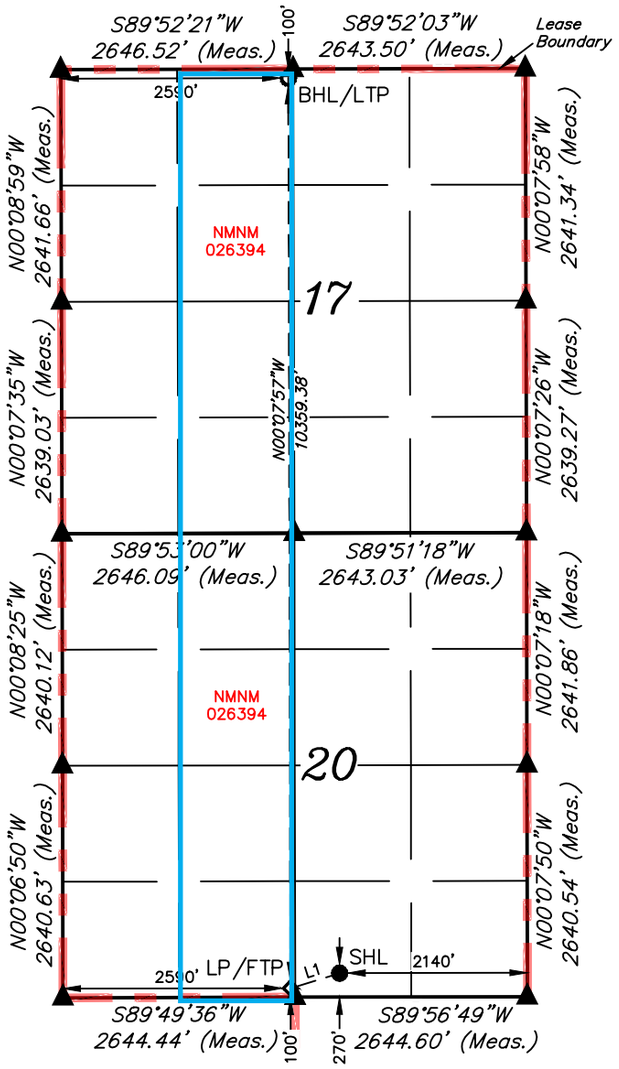
2000' 1000' 0' 2000'
SCALE
DRAWN BY: T.J.S. 03-08-23

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°06'34.47" (32.109574°)
LONGITUDE = 103°35'33.65" (103.592680°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°06'34.02" (32.109449°)
LONGITUDE = 103°35'31.95" (103.592208°)
STATE PLANE NAD 83 (N.M. EAST)
N: 404387.14' E: 770660.45'
STATE PLANE NAD 27 (N.M. EAST)
N: 404329.36' E: 729474.27'

NAD 83 (LP/FTP)
LATITUDE = 32°06'32.79" (32.109109°)
LONGITUDE = 103°35'40.15" (103.594485°)
NAD 27 (LP/FTP)
LATITUDE = 32°06'32.34" (32.108984°)
LONGITUDE = 103°35'38.45" (103.594013°)
STATE PLANE NAD 83 (N.M. EAST)
N: 404214.26' E: 770102.85'
STATE PLANE NAD 27 (N.M. EAST)
N: 404156.49' E: 728916.67'

NAD 83 (BHL/LTP)
LATITUDE = 32°08'15.29" (32.137580°)
LONGITUDE = 103°35'40.10" (103.594473°)
NAD 27 (BHL/LTP)
LATITUDE = 32°08'14.84" (32.137455°)
LONGITUDE = 103°35'38.40" (103.593999°)
STATE PLANE NAD 83 (N.M. EAST)
N: 414571.64' E: 770035.62'
STATE PLANE NAD 27 (N.M. EAST)
N: 414513.61' E: 728849.92'

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S73°00'49"W	583.88'



NOTE:
- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearing is a Transverse Mercator Projection with a Central Meridian of W103°53'00"

[17] OPERATOR CERTIFICATION

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

Brittany Gordon 8/9/2023
Signature Date

Brittany Gordon
Printed Name

brittany.gordon@coterra.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

July 25, 2018
Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
03-08-23
PROFESSIONAL SURVEYOR

Certificate Number:

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: Cimarex Energy Company **OGRID:** 215099 **Date:** 08/24/2023

II. Type: X 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
Vaca Draw 20-17 Federal 302H		O, Sec 20 T25S, R33E	270 FSL/2140 FEL	1064	1756	1596

IV. Central Delivery Point Name: Vaca Draw 20-17 5H-6H CTP [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Vaca Draw 20-17 Federal 302H		9/4/2024	9/24/2024	12/1/2024	1/12/2025	1/12/2025

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	Sarah Jordan
Printed Name:	Sarah Jordan
Title:	Regulatory Analyst
E-mail Address:	sarah.jordan@coterra.com
Date:	8/24/25
Phone:	432/620-1909

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.

Cimarex
VII. Operational Practices

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

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

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

i. Venting or flaring occurs as a result of bradenhead testing.
j. Venting or flaring occurs as a result of normal compressor operations, including general compressor operations, compressor engines and turbines.
k. Venting or flaring occurs as a result of a packer leakage test.
l. Venting or flaring occurs as a result of a production test lasting less than 24 hours unless otherwise approved by the division.
m. Venting or flaring occurs as a result of new equipment commissioning and is necessary to purge impurities from the pipeline or production equipment.

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

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

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

- **Workovers:**
  - Always strive to kill well when performing downhole maintenance.
  - If vapors or trapped pressure is present and must be relieved then:
    - Initial blowdown to production facility:
      - Route vapors to LP flare if possible/applicable
    - Blowdown to portable gas buster tank:
      - Vent to existing or portable flare if applicable.

- **Stock tank servicing:**
  - Minimize time spent with thief hatches open.
  - When cleaning or servicing via manway, suck tank bottoms to ensure minimal volatiles exposed to atmosphere.
    - Connect vacuum truck to low pressure flare while cleaning bottoms to limit venting.
  - Isolate the vent lines and overflows on the tank being serviced from other tanks.

- **Pressure vessel/compressor servicing and associated blowdowns:**
  - Route to flare where possible.
  - Blow vessel down to minimum available pressure via pipeline, prior to venting vessel.
  - Preemptively changing anodes to reduce failures and extended corrosion related servicing.
  - When cleaning or servicing via manway, suck vessel bottoms to ensure minimal volatiles exposed to atmosphere.

- **Flare/combustor maintenance:**
  - Minimize downtime by coordinating with vendor and Cimarex staff travel logistics.
  - Utilizing preventative and predictive maintenance programs to replace high wear components before failure.
  - Because the flare/combustor is the primary equipment used to limit venting practices, ensure flare/combustor is properly maintained and fully operational at all times via routine maintenance, temperature telemetry, onsite visual inspections.

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

1. Geological Formations

TVD of target 11,465
MD at TD 21,524

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
RUSTLER	945	N/A	
TOP SALT	1320	N/A	
BASE SALT	4919	N/A	
TOP DELAWARE SANDS	4958	N/A	
CHERRY CANYON	6000	N/A	
BRUSHY CANYON	7546	Hydrocarbons	
BASAL BRUSHY CANYON	8877	Hydrocarbons	
BONE SPRING LIME	9063	Hydrocarbons	
LEONARD	9103	Hydrocarbons	
AVALON	9325	Hydrocarbons	
1ST BONE SPRING SAND	10045	Hydrocarbons	
2ND BONE SPRING SAND	10597	Hydrocarbons	
3RD BONE SPRING CARB	11079	Hydrocarbons	
HARKEY A SHALE	11400	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	1025	1025	13-3/8"	48.00	H-40	ST&C	1.67	3.90	6.54
12 1/4	0	4908	4908	9-5/8"	40.00	HCK-55	LT&C	1.49	1.55	2.86
8 3/4	0	11583	11360	7"	29.00	L-80	BT&C	1.32	1.53	44.23
6	10333	21524	11465	4-1/2"	11.60	P-110	BT&C	1.41	2.00	27.95
					BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

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

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

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	497	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	133	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
	283	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Production	374	10.30	3.64	22.18		Lead: Tuned Light + LCM
	130	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS
Completion System	737	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	45
Intermediate	0	50
Production	4708	25
Completion System	11383	10

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

4. Pressure Control Equipment

	.

BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	3M	Annular	X	50% of working pressure
			Blind Ram		3M
			Pipe Ram	X	
			Double Ram	X	
			Other		
8 3/4	13 5/8	5M	Annular	X	50% of working pressure
			Blind Ram		5M
			Pipe Ram	X	
			Double Ram	X	
			Other		
6	13 5/8	5M	Annular	X	50% of working pressure
			Blind Ram		5M
			Pipe Ram	X	
			Double Ram	X	
			Other		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

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

The multi-bowl wellhead will be installed by vendors representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder, monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. After running the 13-3/8" surface casing, a 5M BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. After running the Intermediate casing, a 5M BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test.

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1025'	Fresh Water	7.83 - 8.33	28	N/C
1025' to 4908'	Brine Water	9.50 - 10.00	30-32	N/C
4908' to 11583'	Cut Brine or OBM	8.50 - 9.00	27-70	N/C
11876' to 21524'	OBM	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

Logging, 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.
X	No logs are planned based on well control or offset log information.
	Drill stem test?
	Coring?

Additional Logs Planned	Interval

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	5365 psi
Abnormal Temperature	No

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

8. Other Facets of Operation

9. Wellhead

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi. Slips will be utilized after running and cementing the production casing. After installation of the slips and wellhead on the production casing, a 5M BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater. The casing string utilizing steel body pack-off will be tested to 70% of casing burst. If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Standard New Mexico Variances

Variance Request #1: Skid Rig after Cementing Surface Casing

Coterra requests permission to skid the rig to the next well on the pad in order to begin operations immediately after the cement job for the surface casing has been completed. After the cement job is completed, no operations on the subject well will be conducted until at least 8 hours have elapsed, and both lead and tail slurries have achieved 500 psi compressive strength. While cement cures, the surface casing of the subject well will be suspended in the well by a mandrel and landing ring system, which is independent from the rig and ensures that casing remains centered while the rig is active on other wells. Before skidding the rig, a TA cap is installed on the subject well.

Variance Request #2: Utilize Co-Flex Choke Line

Coterra requests approval to utilize a co-flex choke line between the BOP and choke manifold. Certification for the proposed co-flex choke line is attached. The choke line is not required by the manufacturer to be anchored. In the event the specific co-flex choke line is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only.

Schlumberger

COTERRA

Rev 0

COTERRA

Borehole:	Well:	Field:	Structure:
Vaca Draw 20-17 Federal 302H	Vaca Draw 20-17 Federal 302H	NM Lea County (NAD 83)	Coterra Vaca Draw 20-17 Federal Pad

Gravity & Magnetic Parameters

Model:	HDGM 2023	Dip:	59.635°	Date:	25-May-2023
MagDec:	6.245°	FS:	47358.661nT	Gravity FS:	998.432mgn (9.80665 Based)

Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet

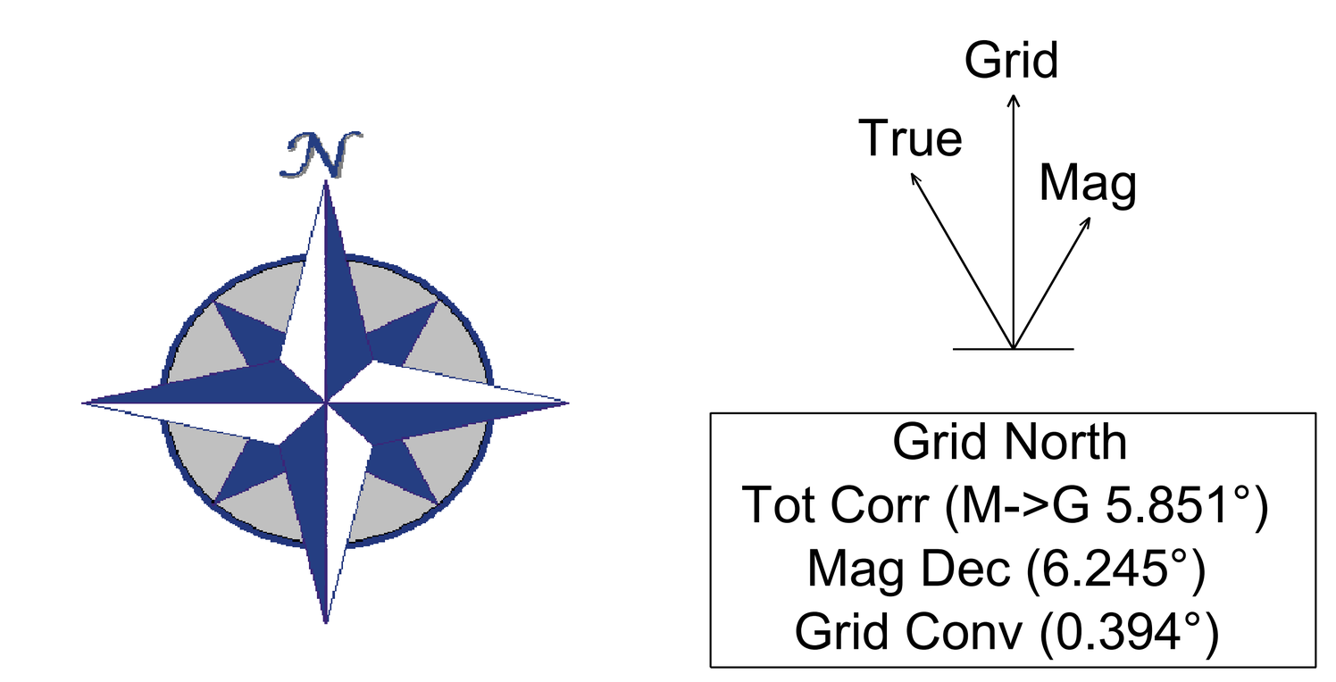
Lat:	N 32 6 34.47	Northing:	404387.14ftUS	Grid Conv:	0.3937°
Lon:	W 103 35 33.65	Easting:	770660.45ftUS	Scale Fact:	0.99996932

Miscellaneous

Slot:	Vaca Draw 20-17 Federal 302H	TVD Ref:	RKB (3432.000 ft above MSL)
Plan:	Coterra Vaca Draw 20-17 Federal 302H Rev0 kFc 25May23		

Critical Points

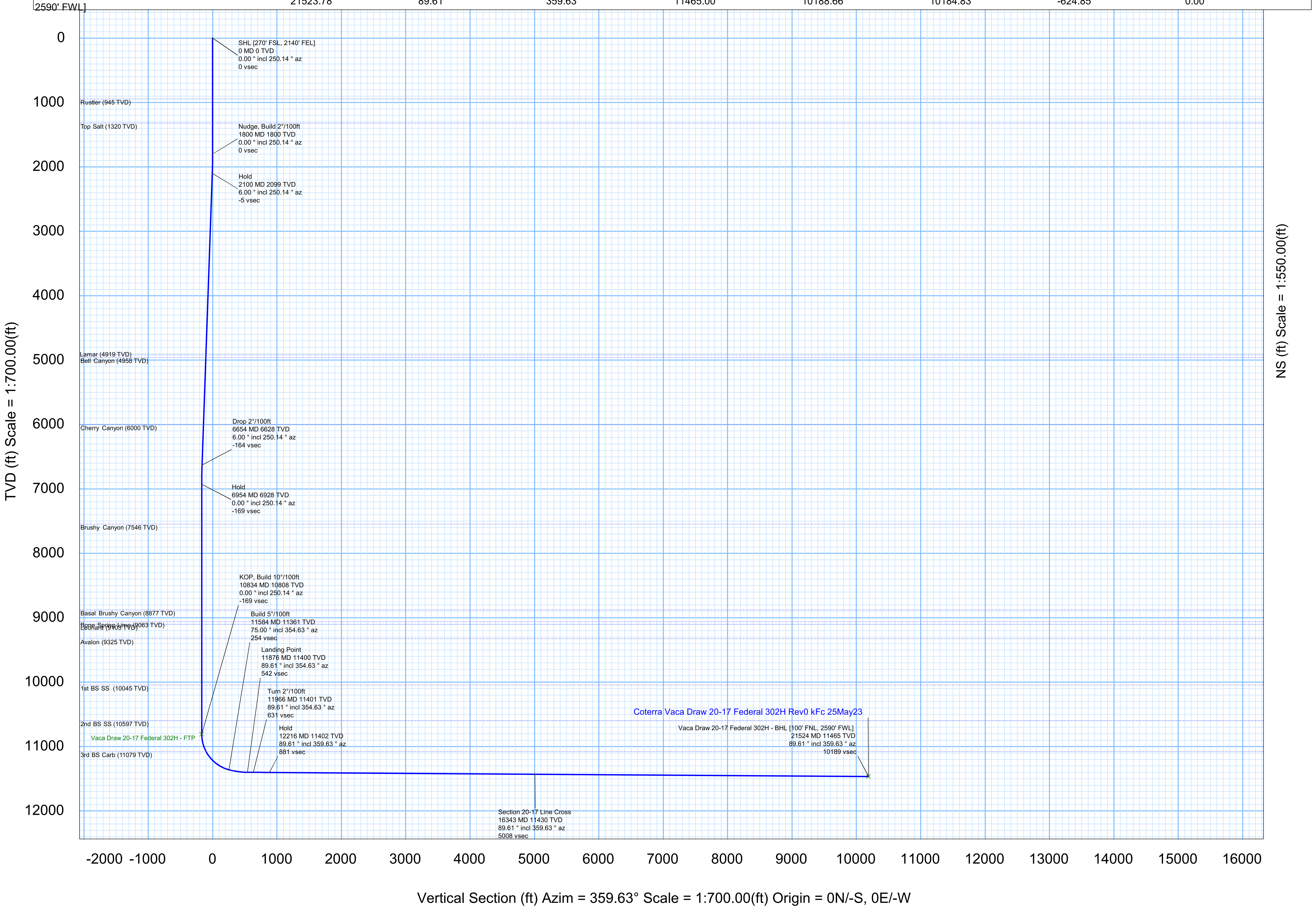
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [270' FSL, 2140' FEL]	0.00	0.00	250.14	0.00	0.00	0.00	0.00	
Rustler	945.00	0.00	250.14	945.00	0.00	0.00	0.00	0.00
Top Salt	1320.00	0.00	250.14	1320.00	0.00	0.00	0.00	0.00
Nudge, Build 2°/100ft	1800.00	0.00	250.14	1800.00	0.00	0.00	0.00	0.00
Hold	2099.87	6.00	250.14	2099.33	-5.23	-5.33	-14.75	2.00
Lamar	4935.07	6.00	250.14	4919.00	-104.07	-105.97	-293.36	0.00
Bell Canyon	4974.28	6.00	250.14	4958.00	-105.44	-107.36	-297.22	0.00
Cherry Canyon	6022.02	6.00	250.14	6000.00	-141.96	-144.55	-400.18	0.00
Drop 2°/100ft	6653.70	6.00	250.14	6628.22	-163.98	-166.97	-462.25	0.00
Hold	6953.57	0.00	250.14	6927.55	-169.22	-172.30	-477.00	2.00
Brushy Canyon	7572.02	0.00	250.14	7546.00	-169.22	-172.30	-477.00	0.00
Basal Brushy Canyon	8903.02	0.00	250.14	8877.00	-169.22	-172.30	-477.00	0.00
Bone Spring Lime	9089.02	0.00	250.14	9063.00	-169.22	-172.30	-477.00	0.00
Leonard	9129.02	0.00	250.14	9103.00	-169.22	-172.30	-477.00	0.00
Avalon	9351.02	0.00	250.14	9325.00	-169.22	-172.30	-477.00	0.00
1st BS SS	10071.02	0.00	250.14	10045.00	-169.22	-172.30	-477.00	0.00
2nd BS SS	10623.02	0.00	250.14	10597.00	-169.22	-172.30	-477.00	0.00
KOP, Build 10°/100ft	10833.57	0.00	250.14	10807.55	-169.22	-172.30	-477.00	0.00
3rd BS Carb	11116.36	28.28	354.63	11079.00	-101.09	-104.22	-483.40	10.00
Build 5°/100ft	11583.57	75.00	354.63	11360.98	253.83	250.50	-516.74	10.00
Landing Point	11875.77	89.61	354.63	11400.00	541.52	538.02	-543.77	5.00
Turn 2°/100ft	11965.77	89.61	354.63	11400.62	631.17	627.62	-552.19	0.00
Hold	12215.75	89.61	359.63	11402.31	880.83	877.21	-564.71	2.00
Section 20-17 Line Cross	16343.00	89.61	359.63	11430.11	5007.99	5004.27	-591.37	0.00
Vaca Draw 20-17 Federal 302H - BHL [100' FNL, 2590' FWL]	21523.78	89.61	359.63	11465.00	10188.66	10184.83	-624.85	0.00

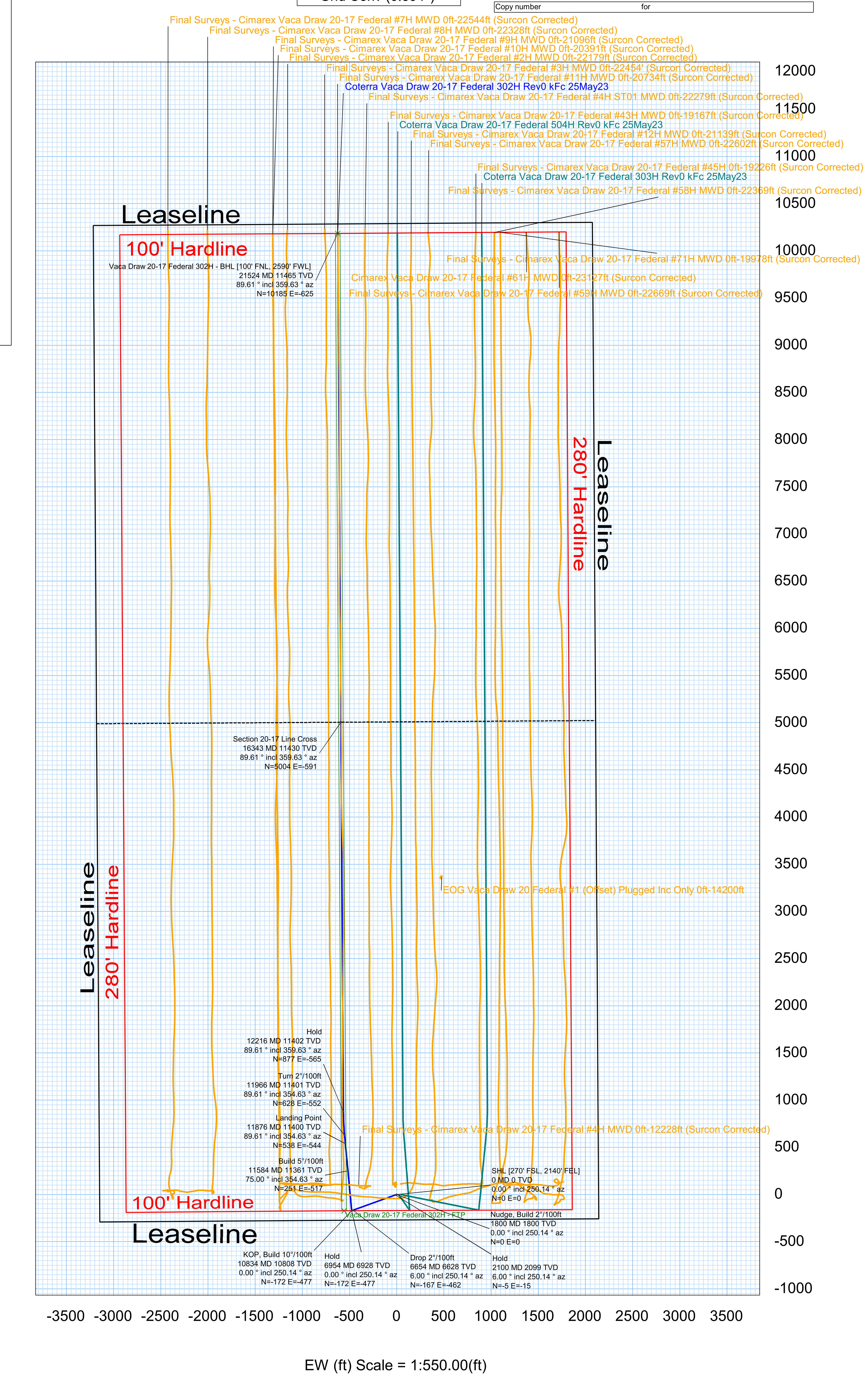


D E C	CONTROLLED
Plan ref	Coterra Vaca Draw 20-17 Federal 302H Rev0 kFc 25May23
Drawing ref	
Copy number	of 3
Date	25-May-2023

1	Client	
2	Client	
3	Office	
4	Office	

Copy number for





Schlumberger

Coterra Vaca Draw 20-17 Federal 302H Rev0 kFc 25May23 Proposal Geodetic Report

Def Plan

Report Date:	May 25, 2023 - 04:40 PM (UTC 0)	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	COTERRA	**Vertical Section Azimuth:**	359.630 °(GRID North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Coterra Vaca Draw 20-17 Federal Pad / Vaca Draw 20-17 Federal 302H	**TVD Reference Datum:**	RKB
Well:	Vaca Draw 20-17 Federal 302H	**TVD Reference Elevation:**	3432.000 ft above MSL
Borehole:	Vaca Draw 20-17 Federal 302H	**Seabed / Ground Elevation:**	3409.000 ft above MSL
UBHI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.245°
Survey Name:	Coterra Vaca Draw 20-17 Federal 302H Rev0 kFc 25May23	**Total Gravity Field Strength:**	998.4316mgn (9.80665 Based)
Survey Date:	May 25, 2023	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	106.605 ° / 10868.411 ft / 6.337 / 0.948	**Total Magnetic Field Strength:**	47358.661 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.635°
Location Lat / Long:	32°6'34.46502"N , 103°35'33.64893"W	**Declination Date:**	May 25, 2023
Location Grid N/E Y/X:	N 404387.140 ftUS , E 770660.450 ftUS	**Magnetic Declination Model:**	HDGM 2023
CRS Grid Convergence Angle:	0.3937°	**North Reference:**	Grid North
Grid Scale Factor:	0.99996932	**Grid Convergence Used:**	0.3937°
Version / Patch:	2022.5.0.11	**Total Corr Mag North->Grid North:**	5.851°
		Local Coord Referenced To:	Well Head

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)
SHL [270' FSL, 2140' FEL]	0.00	0.00	250.14	0.00	-3,432.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026			
	100.00	0.00	250.14	100.00	-3,332.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	200.00	0.00	250.14	200.00	-3,232.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	300.00	0.00	250.14	300.00	-3,132.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	400.00	0.00	250.14	400.00	-3,032.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	500.00	0.00	250.14	500.00	-2,932.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	600.00	0.00	250.14	600.00	-2,832.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	700.00	0.00	250.14	700.00	-2,732.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	800.00	0.00	250.14	800.00	-2,632.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	900.00	0.00	250.14	900.00	-2,532.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
Rustler	945.00	0.00	250.14	945.00	-2,487.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	1,000.00	0.00	250.14	1,000.00	-2,432.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	1,100.00	0.00	250.14	1,100.00	-2,332.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	1,200.00	0.00	250.14	1,200.00	-2,232.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	1,300.00	0.00	250.14	1,300.00	-2,132.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
Top Salt	1,320.00	0.00	250.14	1,320.00	-2,112.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	1,400.00	0.00	250.14	1,400.00	-2,032.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	1,500.00	0.00	250.14	1,500.00	-1,932.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	1,600.00	0.00	250.14	1,600.00	-1,832.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	1,700.00	0.00	250.14	1,700.00	-1,732.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
Nudge, Build 2°/100ft	1,800.00	0.00	250.14	1,800.00	-1,632.00	0.00	0.00	0.00	404,387.14	770,660.45	32.10957362	-103.59268026	0.00	0.00	0.00
	1,900.00	2.00	250.14	1,899.98	-1,532.02	-0.58	-0.59	-1.64	404,386.55	770,658.81	32.10957202	-103.59268557	2.00	2.00	0.00
	2,000.00	4.00	250.14	1,999.84	-1,432.16	-2.33	-2.37	-6.56	404,384.77	770,653.89	32.10956722	-103.59270151	2.00	2.00	0.00
Hold	2,099.87	6.00	250.14	2,099.33	-1,332.67	-5.23	-5.33	-14.75	404,381.81	770,645.70	32.10955925	-103.59272800	2.00	2.00	0.00
	2,100.00	6.00	250.14	2,099.45	-1,332.55	-5.24	-5.33	-14.76	404,381.81	770,645.69	32.10955924	-103.59272804	0.00	0.00	0.00
	2,200.00	6.00	250.14	2,198.90	-1,233.10	-8.72	-8.88	-24.59	404,378.26	770,635.86	32.10954967	-103.59275986	0.00	0.00	0.00
	2,300.00	6.00	250.14	2,298.36	-1,133.64	-12.21	-12.43	-34.41	404,374.71	770,626.04	32.10954010	-103.59279167	0.00	0.00	0.00
	2,400.00	6.00	250.14	2,397.81	-1,034.19	-15.69	-15.98	-44.24	404,371.16	770,616.21	32.10953053	-103.59282349	0.00	0.00	0.00
	2,500.00	6.00	250.14	2,497.26	-934.74	-19.18	-19.53	-54.07	404,367.61	770,606.38	32.10952096	-103.59285530	0.00	0.00	0.00
	2,600.00	6.00	250.14	2,596.72	-835.28	-22.67	-23.08	-63.90	404,364.06	770,596.56	32.10951138	-103.59288711	0.00	0.00	0.00
	2,700.00	6.00	250.14	2,696.17	-735.83	-26.15	-26.63	-73.72	404,360.51	770,586.73	32.10950181	-103.59291893	0.00	0.00	0.00
	2,800.00	6.00	250.14	2,795.62	-636.38	-29.64	-30.18	-83.55	404,356.96	770,576.90	32.10949224	-103.59295074	0.00	0.00	0.00
	2,900.00	6.00	250.14	2,895.07	-536.93	-33.13	-33.73	-93.38	404,353.41	770,567.08	32.10948267	-103.59298256	0.00	0.00	0.00
	3,000.00	6.00	250.14	2,994.53	-437.47	-36.61	-37.28	-103.20	404,349.86	770,557.25	32.10947310	-103.59301437	0.00	0.00	0.00
	3,100.00	6.00	250.14	3,093.98	-338.02	-40.10	-40.83	-113.03	404,346.31	770,547.42	32.10946353	-103.59304619	0.00	0.00	0.00
	3,200.00	6.00	250.14	3,193.43	-238.57	-43.58	-44.38	-122.86	404,342.76	770,537.60	32.10945396	-103.59307800	0.00	0.00	0.00
	3,300.00	6.00	250.14	3,292.88	-139.12	-47.07	-47.93	-132.68	404,339.21	770,527.77	32.10944439	-103.59310981	0.00	0.00	0.00
	3,400.00	6.00	250.14	3,392.34	-39.66	-50.56	-51.48	-142.51	404,335.66	770,517.94	32.10943481	-103.59314163	0.00	0.00	0.00
	3,500.00	6.00	250.14	3,491.79	59.79	-54.04	-55.03	-152.34	404,332.11	770,508.12	32.10942524	-103.59317344	0.00	0.00	0.00
	3,600.00	6.00	250.14	3,591.24	159.24	-57.53	-58.58	-162.17	404,328.57	770,498.29	32.10941567	-103.59320526	0.00	0.00	0.00
	3,700.00	6.00	250.14	3,690.69	258.69	-61.01	-62.13	-171.99	404,325.02	770,488.46	32.10940610	-103.59323707	0.00	0.00	0.00
	3,800.00	6.00	250.14	3,790.15	358.15	-64.50	-65.68	-181.82	404,321.47	770,478.64	32.10939653	-103.59326888	0.00	0.00	0.00
	3,900.00	6.00	250.14	3,889.60	457.60	-67.99	-69.23	-191.65	404,317.92	770,468.81	32.10938696	-103.59330070	0.00	0.00	0.00
	4,000.00	6.00	250.14	3,989.05	557.05	-71.47	-72.78	-201.47	404,314.37	770,458.98	32.10937739	-103.59333251	0.00	0.00	0.00
	4,100.00	6.00	250.14	4,088.51	656.51	-74.96	-76.33	-211.30	404,310.82	770,449.16	32.10936782	-103.59336433	0.00	0.00	0.00
	4,200.00	6.00	250.14	4,187.96	755.96	-78.45	-79.87	-221.13	404,307.27	770,439.33	32.10935824	-103.59339614	0.00	0.00	0.00
	4,300.00	6.00	250.14	4,287.41	855.41	-81.93	-83.42	-230.95	404,303.72	770,429.50	32.10934867	-103.59342795	0.00	0.00	0.00
	4,400.00	6.00	250.14	4,386.86	954.86	-85.42	-86.97	-240.78	404,300.17	770,419.68	32.10933910	-103.59345977	0.00	0.00	0.00
	4,500.00	6.00	250.14	4,486.32	1,054.32	-88.90	-90.52	-250.61	404,296.62	770,409.85	32.10932953	-103.59349158	0.00	0.00	0.00
	4,600.00	6.00	250.14	4,585.77	1,153.77	-92.39	-94.07	-260.44	404,293.07	770,400.02	32.10931996	-103.59352340	0.00	0.00	0.00
	4,700.00	6.00	250.14	4,685.22	1,253.22	-95.88	-97.62	-270.26	404,289.52	770,390.20	32.10931039	-103.59355521	0.00	0.00	0.00
	4,800.00	6.00	250.14	4,784.67	1,352.67	-99.36	-101.17	-280.09	404,285.97	770,380.37	32.10930082	-103.59358702	0.00	0.00	0.00
	4,900.00	6.00	250.14	4,884.13	1,452.13	-102.85	-104.72	-289.92	404,282.42	770,370.54	32.10929124	-103.59361884	0.00	0.00	0.00
Lamar	4,935.07	6.00	250.14	4,919.00	1,487.00	-104.07	-105.97	-293.36	404,281.18	770,367.10	32.10928789	-103.59362999	0.00	0.00	0.00
Bell Canyon	4,974.28	6.00	250.14	4,958.00	1,526.00	-105.44	-107.36	-297.22	404,279.78	770,363.24	32.10928413	-103.59364247	0.00	0.00	0.00
	5,000.00	6.00	250.14	4,983.58	1,551.58	-106.33	-108.27	-299.74	404,278.87	770,360.72	32.10928167	-103.59365065	0.00	0.00	0.00
	5,100.00	6.00	250.14	5,083.03	1,651.03	-109.82	-111.82	-309.57	404,275.32	770,350.89	32.10927210	-103.59368246	0.00	0.00	0.00
	5,200.00	6.00	250.14	5,182.48	1,750.48	-113.31	-115.37	-319.40	404,271.77	770,341.06	32.10926253	-103.59371428	0.00	0.00	0.00
	5,300.00	6.00	250.14	5,281.94	1,849.94	-116.79	-118.92	-329.22	404,268.22	770,331.24	32.10925296	-103.59374609	0.00	0.00	0.00
	5,400.00	6.00	250.14	5,381.39	1,949.39	-120.28	-122.47	-339.05	404,264.67	770,321.41	32.10924339	-103.59377791	0.00	0.00	0.00
	5,500.00	6.00	250.14	5,480.84	2,048.84	-123.76	-126.02	-348.88	404,261.12	770,311.58	32.10923382	-103.59380972	0.00	0.00	0.00
	5,600.00	6.00	250.14	5,580.29	2,148.29	-127.25	-129.57	-358.71	404,257.57	770,301.76	32.10922424	-103.59384153	0.00	0.00	0.00
	5,700.00	6.00	250.14	5,679.75	2,247.75	-130.74	-133.12	-368.53	404,254.02	770,291.93	32.10921467	-103.59387335	0.00	0.00	0.00
	5,800.00	6.00	250.14	5,779.20	2,347.20	-134.22	-136.67	-378.36	404,250.48	770,282.10	32.10920510	-103.59390516	0.00	0.00	0.00
	5,900.00	6.00	250.14	5,878.65	2,446.65	-137.71	-140.22	-388.19	404,246.93	770,272.28	32.10919553	-103.59393698	0.00	0.00	0.00
	6,000.00	6.00	250.14	5,978.11	2,546.11	-141.20	-143.77	-398.01	404,243.38	770,262.45	32.10918596	-103.59396879	0.00	0.00	0.00
Cherry Canyon	6,022.02	6.00	250.14	6,000.00	2,568.00	-141.96	-144.55	-400.18	404,242.59	770,260.29	32.10918385	-103.59397579	0.00	0.00	0.00
	6,100.00	6.00	250.14	6,077.56	2,645.56	-144.68	-147.32	-407.84	404,239.83	770,252.62	32.10917628	-103.59400060	0.00	0.00	0.00
	6,200.00	6.00	250.14	6,177.01	2,745.01	-148.17	-150.87	-417.67	404,236.28	770,242.80	32.10916682	-103.59403242	0.00	0.00	0.00
	6,300.00	6.00	250.14	6,276.46	2,844.46	-151.65	-154.42	-427.49	404,232.73	770,232.97	32.10915724	-103.59406423	0.00	0.00	0.00
	6,400.00	6.00	250.14	6,375.92	2,943.92	-155.14	-157.97	-437.32	404,229.18	770,223.14	32.10914767	-103.59409605	0.00	0.00	0.00
	6,500.00	6.00	250.14	6,475.37	3,043.37	-158.63	-161.52	-447.15	404,225.63	770,213.32	32.10913810	-103.59412786	0.00	0.00	0.00
	6,600.00	6.00	250.14	6,574.82	3,142.82	-162.11	-165.07	-456.98	404,222.08	770,203.49	32.10912853	-103.59415967	0.00	0.00	0.00
Drop 2°/100ft	6,653.70	6.00	250.14	6,628.22	3,196.22	-163.98	-166.97	-462.25	404,220.17	770,198.21	32.10912339	-103.59417676	0.00	0.00	0.00
	6,700.00	5.07	250.14	6,674.31	3,242.31	-165.47	-168.49	-466.45	404,218.66	770,194.01	32.10911930	-103.59419035	2.00	-2.00	0.00
	6,800.00	3.07	250.14	6,774.05	3,342.05	-167.84	-170.90	-473.13	404,216.24	770,187.34	32.10911280	-103.59421197	2.00	-2.00	0.00
	6,900.00	1.07	250.14	6,873.98	3,441.98	-169.05	-172.13	-476.53	404,215.02	770,183.94	32.10910948	-103.59422297	2.00	-2.00	0.00
Hold	6,953.57	0.00	250.14	6,927.55	3,495.55	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	2.00	-2.00	0.00
	7,000.00	0.00	250.14	6,973.98	3,541.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	7,100.00	0.00	250.14	7,073.98	3,641.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	7,200.00	0.00	250.14	7,173.98	3,741.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	7,300.00	0.00	250.14	7,273.98	3,841.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	7,400.00	0.00	250.14	7,373.98	3,941.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	7,500.00	0.00	250.14	7,473.98	4,041.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
Brushy Canyon	7,572.02	0.00	250.14	7,546.00	4,114.00	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	7,600.00	0.00	250.14	7,573.98	4,141.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	7,700.00	0.00	250.14	7,673.98	4,241.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	7,800.00	0.00	250.14	7,773.98	4,341.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	7,900.00	0.00	250.14	7,873.98	4,441.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,000.00	0.00	250.14	7,973.98	4,541.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,100.00	0.00	250.14	8,073.98	4,641.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,200.00	0.00	250.14	8,173.98	4,741.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,300.00	0.00	250.14	8,273.98	4,841.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,400.00	0.00	250.14	8,373.98	4,941.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,500.00	0.00	250.14	8,473.98	5,041.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,600.00	0.00	250.14	8,573.98	5,141.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,700.00	0.00	250.14	8,673.98	5,241.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,800.00	0.00	250.14	8,773.98	5,341.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	8,900.00	0.00	250.14	8,873.98	5,441.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
Basal Brushy Canyon	8,903.02	0.00	250.14	8,877.00	5,445.00	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,000.00	0.00	250.14	8,973.98	5,541.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
Bone Spring Lime	9,089.02	0.00	250.14	9,063.00	5,631.00	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,100.00	0.00	250.14	9,073.98	5,641.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
Leonard	9,129.02	0.00	250.14	9,103.00	5,671.00	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,200.00	0.00	250.14	9,173.98	5,741.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,300.00	0.00	250.14	9,273.98	5,841.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
Avalon	9,351.02	0.00	250.14	9,325.00	5,893.00	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,400.00	0.00	250.14	9,373.98	5,941.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,500.00	0.00	250.14	9,473.98	6,041.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,600.00	0.00	250.14	9,573.98	6,141.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,700.00	0.00	250.14	9,673.98	6,241.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,800.00	0.00	250.14	9,773.98	6,341.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	9,900.00	0.00	250.14	9,873.98	6,441.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	10,000.00	0.00	250.14	9,973.98	6,541.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
1st BS SS	10,071.02	0.00	250.14	10,045.00	6,613.00	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	10,100.00	0.00	250.14	10,073.98	6,641.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	10,200.00	0.00	250.14	10,173.98	6,741.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	10,300.00	0.00	250.14	10,273.98	6,841.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	10,400.00	0.00	250.14	10,373.98	6,941.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	10,500.00	0.00	250.14	10,473.98	7,041.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	10,600.00	0.00	250.14	10,573.98	7,141.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
2nd BS SS	10,623.02	0.00	250.14	10,597.00	7,165.00	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	10,700.00	0.00	250.14	10,673.98	7,241.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00

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)
	10,800.00	0.00	250.14	10,773.98	7,341.98	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
KOP, Build 10°/100ft	10,833.57	0.00	250.14	10,807.55	7,375.55	-169.22	-172.30	-477.00	404,214.85	770,183.47	32.10910903	-103.59422450	0.00	0.00	0.00
	10,900.00	6.64	354.63	10,873.83	7,441.83	-165.38	-168.47	-477.36	404,218.68	770,183.11	32.10911956	-103.59422558	10.00	10.00	0.00
	11,000.00	16.64	354.63	10,971.65	7,539.65	-145.31	-148.40	-479.25	404,238.74	770,181.22	32.10917475	-103.59423122	10.00	10.00	0.00
	11,100.00	26.64	354.63	11,064.48	7,632.48	-108.61	-111.73	-482.69	404,275.41	770,177.77	32.10927562	-103.59424155	10.00	10.00	0.00
3rd BS Carb	11,116.36	28.28	354.63	11,079.00	7,647.00	-101.09	-104.22	-483.40	404,282.93	770,177.07	32.10929628	-103.59424366	10.00	10.00	0.00
	11,200.00	36.64	354.63	11,149.51	7,717.51	-56.41	-59.56	-487.60	404,327.58	770,172.87	32.10941910	-103.59425623	10.00	10.00	0.00
	11,300.00	46.64	354.63	11,224.14	7,792.14	9.70	6.51	-493.81	404,393.65	770,166.66	32.10960083	-103.59427482	10.00	10.00	0.00
	11,400.00	56.64	354.63	11,286.12	7,854.12	87.72	84.48	-501.14	404,471.62	770,159.33	32.10981528	-103.59429676	10.00	10.00	0.00
	11,500.00	66.64	354.63	11,333.56	7,901.56	175.27	171.99	-509.36	404,559.12	770,151.10	32.11005595	-103.59432139	10.00	10.00	0.00
Build 5°/100ft	11,583.57	75.00	354.63	11,360.98	7,928.98	253.83	250.50	-516.74	404,637.63	770,143.72	32.11027190	-103.59434348	10.00	10.00	0.00
	11,600.00	75.82	354.63	11,365.12	7,933.12	269.67	266.33	-518.23	404,653.46	770,142.24	32.11031544	-103.59434794	5.00	5.00	0.00
	11,700.00	80.82	354.63	11,385.36	7,953.36	367.20	363.80	-527.39	404,750.93	770,133.07	32.11058352	-103.59437537	5.00	5.00	0.00
	11,800.00	85.82	354.63	11,396.98	7,964.98	466.11	462.66	-536.69	404,849.78	770,123.78	32.11085541	-103.59440319	5.00	5.00	0.00
Landing Point	11,875.77	89.61	354.63	11,400.00	7,968.00	541.52	538.02	-543.77	404,925.14	770,116.70	32.11106269	-103.59442440	5.00	5.00	0.00
	11,900.00	89.61	354.63	11,400.17	7,968.17	565.66	562.14	-546.04	404,949.26	770,114.43	32.11112904	-103.59443119	0.00	0.00	0.00
Turn 2°/100ft	11,965.77	89.61	354.63	11,400.62	7,968.62	631.17	627.62	-552.19	405,014.74	770,108.28	32.11130914	-103.59444962	0.00	0.00	0.00
	12,000.00	89.61	355.31	11,400.85	7,968.85	665.29	661.72	-555.19	405,048.84	770,105.28	32.11140292	-103.59445855	2.00	0.00	2.00
	12,100.00	89.61	357.31	11,401.53	7,969.53	765.12	761.51	-561.62	405,148.62	770,098.85	32.11167731	-103.59447710	2.00	0.00	2.00
	12,200.00	89.61	359.31	11,402.20	7,970.20	865.08	861.45	-564.56	405,248.57	770,095.91	32.11195209	-103.59448438	2.00	0.00	2.00
Hold	12,215.75	89.61	359.63	11,402.31	7,970.31	880.83	877.21	-564.71	405,264.32	770,095.76	32.11199539	-103.59448450	2.00	0.00	2.00
	12,300.00	89.61	359.63	11,402.88	7,970.88	965.08	961.45	-565.25	405,348.56	770,095.22	32.11222696	-103.59448439	0.00	0.00	0.00
	12,400.00	89.61	359.63	11,403.55	7,971.55	1,065.08	1,061.45	-565.90	405,448.55	770,094.57	32.11250182	-103.59448427	0.00	0.00	0.00
	12,500.00	89.61	359.63	11,404.22	7,972.22	1,165.08	1,161.44	-566.54	405,548.54	770,093.93	32.11277668	-103.59448414	0.00	0.00	0.00
	12,600.00	89.61	359.63	11,404.90	7,972.90	1,265.07	1,261.44	-567.19	405,648.54	770,093.28	32.11305155	-103.59448401	0.00	0.00	0.00
	12,700.00	89.61	359.63	11,405.57	7,973.57	1,365.07	1,361.43	-567.83	405,748.53	770,092.63	32.11332641	-103.59448389	0.00	0.00	0.00
	12,800.00	89.61	359.63	11,406.25	7,974.25	1,465.07	1,461.43	-568.48	405,848.52	770,091.99	32.11360127	-103.59448376	0.00	0.00	0.00
	12,900.00	89.61	359.63	11,406.92	7,974.92	1,565.07	1,561.42	-569.13	405,948.51	770,091.34	32.11387614	-103.59448363	0.00	0.00	0.00
	13,000.00	89.61	359.63	11,407.59	7,975.59	1,665.06	1,661.42	-569.77	406,048.51	770,090.70	32.11415100	-103.59448350	0.00	0.00	0.00
	13,100.00	89.61	359.63	11,408.27	7,976.27	1,765.06	1,761.41	-570.42	406,148.50	770,090.05	32.11442587	-103.59448338	0.00	0.00	0.00
	13,200.00	89.61	359.63	11,408.94	7,976.94	1,865.06	1,861.41	-571.07	406,248.49	770,089.40	32.11470073	-103.59448325	0.00	0.00	0.00
	13,300.00	89.61	359.63	11,409.61	7,977.61	1,965.06	1,961.41	-571.71	406,348.48	770,088.76	32.11497559	-103.59448312	0.00	0.00	0.00
	13,400.00	89.61	359.63	11,410.29	7,978.29	2,065.05	2,061.40	-572.36	406,448.47	770,088.11	32.11525046	-103.59448300	0.00	0.00	0.00
	13,500.00	89.61	359.63	11,410.96	7,978.96	2,165.05	2,161.40	-573.00	406,548.47	770,087.47	32.11552532	-103.59448287	0.00	0.00	0.00
	13,600.00	89.61	359.63	11,411.63	7,979.63	2,265.05	2,261.39	-573.65	406,648.46	770,086.82	32.11580018	-103.59448274	0.00	0.00	0.00
	13,700.00	89.61	359.63	11,412.31	7,980.31	2,365.05	2,361.39	-574.30	406,748.45	770,086.17	32.11607505	-103.59448261	0.00	0.00	0.00
	13,800.00	89.61	359.63	11,412.98	7,980.98	2,465.05	2,461.38	-574.94	406,848.44	770,085.53	32.11634991	-103.59448249	0.00	0.00	0.00
	13,900.00	89.61	359.63	11,413.65	7,981.65	2,565.04	2,561.38	-575.59	406,948.44	770,084.88	32.11662478	-103.59448236	0.00	0.00	0.00
	14,000.00	89.61	359.63	11,414.33	7,982.33	2,665.04	2,661.38	-576.23	407,048.43	770,084.23	32.11689964	-103.59448223	0.00	0.00	0.00
	14,100.00	89.61	359.63	11,415.00	7,983.00	2,765.04	2,761.37	-576.88	407,148.42	770,083.59	32.11717450	-103.59448210	0.00	0.00	0.00
	14,200.00	89.61	359.63	11,415.67	7,983.67	2,865.04	2,861.37	-577.53	407,248.41	770,082.94	32.11744937	-103.59448198	0.00	0.00	0.00
	14,300.00	89.61	359.63	11,416.35	7,984.35	2,965.03	2,961.36	-578.17	407,348.41	770,082.30	32.11772423	-103.59448185	0.00	0.00	0.00
	14,400.00	89.61	359.63	11,417.02	7,985.02	3,065.03	3,061.36	-578.82	407,448.40	770,081.65	32.11799909	-103.59448172	0.00	0.00	0.00
	14,500.00	89.61	359.63	11,417.69	7,985.69	3,165.03	3,161.35	-579.47	407,548.39	770,081.00	32.11827396	-103.59448159	0.00	0.00	0.00
	14,600.00	89.61	359.63	11,418.37	7,986.37	3,265.03	3,261.35	-580.11	407,648.38	770,080.36	32.11854882	-103.59448147	0.00	0.00	0.00
	14,700.00	89.61	359.63	11,419.04	7,987.04	3,365.03	3,361.35	-580.76	407,748.38	770,079.71	32.11882368	-103.59448134	0.00	0.00	0.00
	14,800.00	89.61	359.63	11,419.72	7,987.72	3,465.02	3,461.34	-581.40	407,848.37	770,079.07	32.11909855	-103.59448121	0.00	0.00	0.00
	14,900.00	89.61	359.63	11,420.39	7,988.39	3,565.02	3,561.34	-582.05	407,948.36	770,078.42	32.11937341	-103.59448108	0.00	0.00	0.00
	15,000.00	89.61	359.63	11,421.06	7,989.06	3,665.02	3,661.33	-582.70	408,048.35	770,077.77	32.11964828	-103.59448096	0.00	0.00	0.00
	15,100.00	89.61	359.63	11,421.74	7,989.74	3,765.02	3,761.33	-583.34	408,148.34	770,077.13	32.11992314	-103.59448083	0.00	0.00	0.00
	15,200.00	89.61	359.63	11,422.41	7,990.41	3,865.01	3,861.32	-583.99	408,248.34	770,076.48	32.12019800	-103.59448070	0.00	0.00	0.00
	15,300.00	89.61	359.63	11,423.08	7,991.08	3,965.01	3,961.32	-584.63	408,348.33	770,075.83	32.12047287	-103.59448057	0.00	0.00	0.00
	15,400.00	89.61	359.63	11,423.76	7,991.76	4,065.01	4,061.31	-585.28	408,448.32	770,075.19	32.12074773	-103.59448045	0.00	0.00	0.00
	15,500.00	89.61	359.63	11,424.43	7,992.43	4,165.01	4,161.31	-585.93	408,548.31	770,074.54	32.12102259	-103.59448032	0.00	0.00	0.00
	15,600.00	89.61	359.63	11,425.10	7,993.10	4,265.01	4,261.31	-586.57	408,648.31	770,073.90	32.12129746	-103.59448019	0.00	0.00	0.00
	15,700.00	89.61	359.63	11,425.78	7,993.78	4,365.00	4,361.30	-587.22	408,748.30	770,073.25	32.12157232	-103.59448006	0.00	0.00	0.00
	15,800.00	89.61	359.63	11,426.45	7,994.45	4,465.00	4,461.30	-587.87	408,848.29	770,072.60	32.12184718	-103.59447994	0.00	0.00	0.00
	15,900.00	89.61	359.63	11,427.12	7,995.12	4,565.00	4,561.29	-588.51	408,948.28	770,071.96	32.12212205	-103.59447981	0.00	0.00	0.00
	16,000.00	89.61	359.63	11,427.80	7,995.80	4,665.00	4,661.29	-589.16	409,048.28	770,071.31	32.12239691	-103.59447968	0.00	0.00	0.00
	16,100.00	89.61	359.63	11,428.47	7,996.47	4,764.99	4,761.28	-589.80	409,148.27	770,070.67	32.12267177	-103.59447955	0.00	0.00	0.00
	16,200.00	89.61	359.63	11,429.14	7,997.14	4,864.99	4,861.28	-590.45	409,248.26	770,070.02	32.12294664	-103.59447943	0.00	0.00	0.00
	16,300.00	89.61	359.63	11,429.82	7,997.82	4,964.99	4,961.28	-591.10	409,348.25	770,069.37	32.12322150	-103.59447930	0.00	0.00	0.00
Section 20-17 Line Cross	16,343.00	89.61	359.63	11,430.11	7,998.11	5,007.99	5,004.27	-591.37	409,391.25	770,069.10	32.12333969	-103.59447924	0.00	0.00	0.00
	16,400.00	89.61	359.63	11,430.49	7,998.49	5,064.99	5,061.27	-591.74	409,448.25	770,068.73	32.12349636	-103.59447917	0.00	0.00	0.00
	16,500.00	89.61	359.63	11,431.16	7,999.16	5,164.98	5,161.27	-592.39	409,548.24	770,068.08	32.12377123	-103.59447904	0.00	0.00	0.00
	16,600.00	89.61	359.63	11,431.84	7,999.84	5,264.98	5,261.26	-593.03	409,648.23	770,067.43	32.12404609	-103.59447891	0.00	0.00	0.00
	16,700.00	89.61	359.63	11,432.51	8,000.51	5,364.98	5,361.26	-593.68	409,748.22	770,066.79	32.12432095	-103.59447879	0.00	0.00	0.00
	16,800.00	89.61	359.63	11,433.19	8,001.19	5,464.98	5,461.25	-594.33	409,848.22	770,066.14	32.12459582	-103.59447866	0.00	0.00	0.00
	16,900.00	89.61	359.63	11,433.86	8,001.86	5,564.98	5,561.25	-594.97	409,948.21	770,065.50	32.12487068	-103.59447853	0.00	0.00	0.00
	17,000.00	89.61	359.63	11,434.53	8,002.53	5,664.97	5,661.25	-595.62	410,048.20	770,064.85	32.12514554	-103.59447840	0.00	0.00	0.00
	17,100.00	89.61	359.63	11,435.21	8,003.21	5,764.97	5,761.24	-596.27	410,148.19	770,064.20	32.12542041	-103.59447828	0.00	0.00	0.00
	17,200.00	89.61	359.63	11,435.88	8,003.88	5,864.97	5,861.24	-596.91	410,248.18	770,063.56	32.12569527	-103.59447815	0.00	0.00	0.00
	17,300.00	89.61	359.63	11,436.55	8,004.55	5,964.97	5,961.23	-597.56	410,348.18	770,062.91	32.12597013	-103.59447802	0.00	0.00	0.00
	17,400.00	89.61	359.63	11,437.23	8,005.23	6,064.96	6,061.23	-598.20	410,448.17	770,062.27	32.12624500	-103.59447789	0.00	0.00	0.00
	17,500.00	89.61	359.63	11,437.90	8,005.90	6,164.96	6,161.22	-598.85	410,548.16	770,061.62	32.12651986	-103.59447776	0.00	0.00	0.00
	17,600.00	89.61	359.63	11,438.57	8,006.57	6,264.96	6,261.22	-599.50	410,648.15	770,060.97	32.12679472	-103.59447764	0.00	0.00	0.00
	17,700.00	89.61	359.63	11,439.25	8,007.25	6,364.96	6,361.21	-600.14	410,748.15	770,060.33	32.12706959	-103.59447751	0.00	0.00	0.00
	17,800.00	89.61	359.63	11,439.92	8,007.92	6,464.96	6,461.21	-600.79	410,848.14	770,059.68	32.12734445	-103.59447738	0.00	0.00	0.00
	17,900.00	89.61	359.63	11,440.59	8,008.59	6,564.95	6,561.21	-601.43	410,948.13	770,059.03	32.12761931	-103.59447725	0.00	0.00	0.00
	18,000.00	89.61	359.63	11,441.27	8,009.27	6,664.95	6,661.20	-602.08	411,048.12	770,058.39	32.12789418	-103.59447712	0.00	0.00	0.00
	18,100.00	89.61	359.63	11,441.94	8,009.94	6,764.95	6,761.20	-602.73	411,148.12	770,057.74	32.12816904	-103.59447700	0.00	0.00	0.00
	18,200.00	89.61	359.63	11,442.61	8,010.61	6,864.95	6,861.19	-603.37	411,248.11	770,057.10	32.12844390	-103.59447687	0.00	0.00	0.00
	18,300.00	89.61	359.63	11,443.29	8,011.29	6,964.94	6,961.19	-604.02	411,348.10	770,056.45	32.12871877	-103.59447674	0.00	0.00	0.00
	18,400.00	89.61	359.63	11,443.96	8,011.96	7,064.94	7,061.18	-604.67	411,448.09	770,055.80	32.12899363	-103.59447661	0.00	0.00	0.00
	18,500.00	89.61	359.63	11,444.63	8,012.63	7,164.94	7,161.18	-605.31	411,548.09	770,055.16	32.12926849	-103.59447648	0.00	0.00	0.00
	18,600.00	89.61	359.63	11,445.31	8,013.31	7,264.94	7,261.18	-605.96	411,648.08	770,054.51	32.12954335	-103.59447636	0.00	0.00	0.00
	18,700.00	89.61	359.63	11,445.98	8,013.98	7,364.93	7,361.17	-606.60	411,748.07	770,053.87	32.12981822	-103.59447623	0.00	0.00	0.00
	18,800.00	89.61	359.63	11,446.66	8,014.66	7,464.93	7,461.17	-607.25	411,848.06	770,053.22	32.13009308	-103.59447610	0.00	0.00	0.00
	18,900.00	89.61	359.63	11,447.33	8,015.33	7,564.93	7,561.16	-607.90	411,948.06	770,052.57	32.13036794	-103.59447597	0.00	0.00	0.00
	19,000.00	89.61	359.63	11,448.00	8,016.00	7,664.93	7,661.16	-608.54	412,048.05	770,051.93	32.13064281	-103.59447584	0.00	0.00	0.00
	19,100.00	89.61	359.63	11,448.68	8,016.68	7,764.93	7,761.15	-609.19	412,148.04	770,051.28	32.13091767	-103.59447571	0.00	0.00	0.00
	19,200.00	89.61	359.63	11,449.35	8,017.35	7,864.92	7,861.15	-609.83	412,248.03	770,050.63	32.13119253	-103.59447559	0.00	0.00	0.00
	19,300.00	89.61	359.63	11,450.02	8,018.02	7,964.92	7,961.14	-610.48	412,348.02	770,049.99	32.13146740	-103.59447546	0.00	0.00	0.00
	19,400.00	89.61	359.63	11,450.70	8,018.70	8,064.92	8,061.14	-611.13	412,448.02	770,049.34	32.13174226	-103.59447533	0.00	0.00	0.00
	19,500.00	89.61	359.63	11,451.37	8,019.37	8,164.92	8,161.14	-611.77	412,548.01	770,048.70	32.13201712	-103.59447520	0.00	0.00	0.00
	19,600.00	89.61	359.63	11,452.04	8,020.04	8,264.91	8,261.13	-612.42	412,648.00	770,048.05	32.13229198	-103.59447507	0.00	0.00	0.00
	19,700.00	89.61	359.63	11,452.72	8,020.72	8,364.91	8,361.13	-613.07	412,747.99	770,047.40	32.13256685	-103.59447494	0.00	0.00	0.00
	19,800.00	89.61	359.63	11,453.39	8,021.39	8,464.91	8,461.12	-613.71	412,847.99	770,046.76	32.13284171	-103.59447482	0.00	0.00	0.00
	19,900.00	89.61	359.63	11,454.06	8,022.06	8,564.91	8,561.12	-614.36	412,947.98	770,046.11	32.13311657	-103.59447469	0.00	0.00	0.00
	20,000.00	89.61	359.63	11,454.74	8,022.74	8,664.91	8,661.11	-615.00	413,047.97	770,045.47	32.13339144	-103.59447456	0.00	0.00	0.00
	20,100.00	89.61	359.63	11,455.41	8,023.41	8,764.90	8,761.11	-615.65	413,147.96	770,044.82	32.13366630	-103.59447443	0.00	0.00	0.00
	20,200.00	89.61	359.63	11,456.08	8,024.08	8,864.90	8,861.11	-616.30	413,247.96	770,044.17	32.13394116	-103.59447430	0.00	0.00	0.00
	20,300.00	89.61	359.63	11,456.76	8,024.76	8,964.90	8,961.10	-616.94	413,347.95	770,043.53	32.13421603	-103.59447417	0.00	0.00	0.00
	20,400.00	89.61	359.63	11,457.43	8,025.43	9,064.90	9,061.10	-617.59	413,447.94	770,042.88	32.13449089	-103.59447405	0.00	0.00	0.00
	20,500.00	89.61	359.63	11,458.10	8,026.10	9,164.89	9,161.09	-618.24	413,547.93	770,042.24	32.13476575	-103.59447392	0.00	0.00	0.00
	20,600.00	89.61	359.63	11,458.78	8,026.78	9,264.89	9,261.09	-618.88	413,647.93	770,041.59	32.13504061	-103.59447379	0.00	0.00	0.00
	20,700.00	89.61	359.63	11,459.45	8,027.45	9,364.89	9,361.08	-619.53	413,747.92	770,040.94	32.13531548	-103.59447366	0.00	0.00	0.00
	20,800.00	89.61	359.63	11,460.13	8,028.13	9,464.89	9,461.08	-620.17	413,847.91	770,040.30	32.13559034	-103.59447353	0.00	0.00	0.00
	20,900.00	89.61	359.63	11,460.80	8,028.80	9,564.88	9,561.08	-620.82	413,947.90	770,039.65	32.13586520	-103.59447340	0.00	0.00	0.00
	21,000.00	89.61	359.63	11,461.47	8,029.47	9,664.88	9,661.07	-621.47	414,047.90	770,039.00	32.13614007	-103.59447328	0.00	0.00	0.00
	21,100.00	89.61	359.63	11,462.15	8,030.15	9,764.88	9,761.07	-622.11	414,147.89	770,038.36	32.13641493	-103.59447315	0.00	0.00	0.00
	21,200.00	89.61	359.63	11,462.82	8,030.82	9,864.88	9,861.06	-622.76	414,247.88	770,037.71	32.13668979	-103.59447302	0.00	0.00	0.00
	21,300.00	89.61	359.63	11,463.49	8,031.49	9,964.88	9,961.06	-623.40	414,347.87	770,037.07	32.13696465	-103.59447289	0.00	0.00	0.00
	21,400.00	89.61	359.63	11,464.17	8,032.17	10,064.87	10,061.05	-624.05	414,447.86	770,036.42	32.13723952	-103.59447276	0.00	0.00	0.00
	21,500.00	89.61	359.63	11,464.84	8,032.84	10,164.87	10,161.05	-624.70	414,547.86	770,035.77	32.13751438	-103.59447263	0.00	0.00	0.00
Vaca Draw 20-17 Federal 302H -	21,523.78	89.61	359.63	11,465.00	8,033.00	10,188.66	10,184.83	-624.85	414,571.64	770,035.62	32.13757975	-103.59447260	0.00	0.00	0.00

Survey Type: Def Plan

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

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Borehole / Survey
	1	0.000	10,800.000	1/100.000	14.75 – 9.875	10.75 – 7.625		A001Mb_MWD	Vaca Draw 20-17 Federal 302H / Coterra Vaca Draw 20-17 Federal 302H Rev0 kFc 25May23
	1	10,800.000	21,523.780	1/100.000	9.875 – 6.75	7.625 – 5		A008Mb_MWD+IFR1+MS	Vaca Draw 20-17 Federal 302H / Coterra Vaca Draw 20-17 Federal 302H Rev0 kFc 25May23

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
1,008.600	14.750	10.750	
11,508.600	9.875	7.625	
21,523.785	6.750	5.000	

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Company of Colorado
LEASE NO.:	NMNM0026394
COUNTY:	Lea

Wells:

Well Pad 1
Vaca Draw 20-17 Fed #14H
Surface Hole Location: 270' FSL & 590' FWL Section 20-T25S-R33E
Bottom Hole Location: 100' FNL & 440' FWL Section 17-T25S-R33E

Vaca Draw 20-17 Fed #15H
Surface Hole Location: 270' FSL & 610' FWL Section 20-T25S-R33E
Bottom Hole Location: 100' FNL & 1060' FWL Section 17-T25S-R33E

Vaca Draw 20-17 Fed #16H
Surface Hole Location: 270' FSL & 630' FEL Section 20-T25S-R33E
Bottom Hole Location: 100' FNL & 1272' FWL Section 17-T25S-R33E

Vaca Draw 20-17 Fed #19H
Surface Hole Location: 210' FSL & 670' FWL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #20H
Surface Hole Location: 210' FSL & 690' FWL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #21H
Surface Hole Location: 210' FSL & 710' FWL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #22H
Surface Hole Location: 210' FSL & 730' FWL Section 20-T25S-R33E
Bottom Hole Location: TBD

Well Pad 2:
Vaca Draw 20-17 Fed #46H
Surface Hole Location: 330' FSL & 2060' FEL Section 20-T25S-R33E
Bottom Hole Location: 100' FNL & 1992' FEL Section 17-T25S-R33E

Vaca Draw 20-17 Fed #47H
Surface Hole Location: 330' FSL & 2040' FEL Section 20-T25S-R33E
Bottom Hole Location: 100' FNL & 1576' FEL Section 17-T25S-R33E

Approval Date: 05/31/2024

Vaca Draw 20-17 Fed #48H
Surface Hole Location: 330' FSL & 2020' FEL Section 20-T25S-R33E
Bottom Hole Location: 100' FNL & 1161' FEL Section 17-T25S-R33E

Vaca Draw 20-17 Fed #49H
Surface Hole Location: 330' FSL & 2000' FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #50H
Surface Hole Location: 270' FSL & 2140' FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #51H
Surface Hole Location: 270' FSL & 2160' FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #52H
Surface Hole Location: 270' FSL & 2180' FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #53H
Surface Hole Location: 210' FSL & 2220' FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #54H
Surface Hole Location: 210' FSL & 2240' FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #55H
Surface Hole Location: 210' FSL & 2260' FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #56H
Surface Hole Location: 210' FSL & 2280' FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Well Pad 3:
Vaca Draw 20-17 Fed #74H
Surface Hole Location: 330' FSL & 290' FEL Section 20-T25S-R33E
Bottom Hole Location: 100' FNL & 745' FEL Section 17-T25S-R33E

Vaca Draw 20-17 Fed #75H
Surface Hole Location: 330' FSL & 270' FEL Section 20-T25S-R33E
Bottom Hole Location: 100' FNL & 330' FEL Section 17-T25S-R33E

Vaca Draw 20-17 Fed #76H
Surface Hole Location: 330' FSL & 250' FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #77H
Surface Hole Location: 330’ FSL & 230 FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #78H
Surface Hole Location: 270’ FSL & 920’ FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #79H
Surface Hole Location: 270’ FSL & 900’ FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #80H
Surface Hole Location: 270’ FSL & 880’ FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #81H
Surface Hole Location: 210’ FSL & 840’ FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #82H
Surface Hole Location: 210’ FSL & 820’ FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #83H
Surface Hole Location: 210’ FSL & 800’ FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

Vaca Draw 20-17 Fed #84H
Surface Hole Location: 210’ FSL & 780’ FEL Section 20-T25S-R33E
Bottom Hole Location: TBD

TABLE OF CONTENTS

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

II. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area 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 to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder 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 holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. 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 the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area 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 to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder 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 holder.

III. 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 and BLM requirements and policies.

SPECIAL REQUIREMENT(S)

BURIED/SURFACE LINE(S):
When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

Range:

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).

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.

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

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

Ground-level Abandoned Well Marker to avoid raptor perching:
Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

IV. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 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 Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. 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 (below six inches) 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.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS 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.

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
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 pit 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.)

G. ON LEASE ACCESS ROADS

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.

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 should 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.

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.

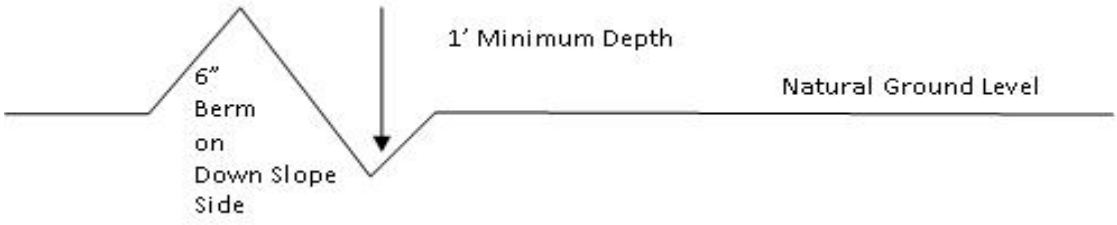
Ditching
Ditching shall be required on both sides of the road.

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.

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

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

Cross Section of a Typical Lead-off Ditch



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

Formula for Spacing Interval of Lead-off Ditches

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

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

Cattle guards
An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route 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 cattle guards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

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

Construction Steps

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

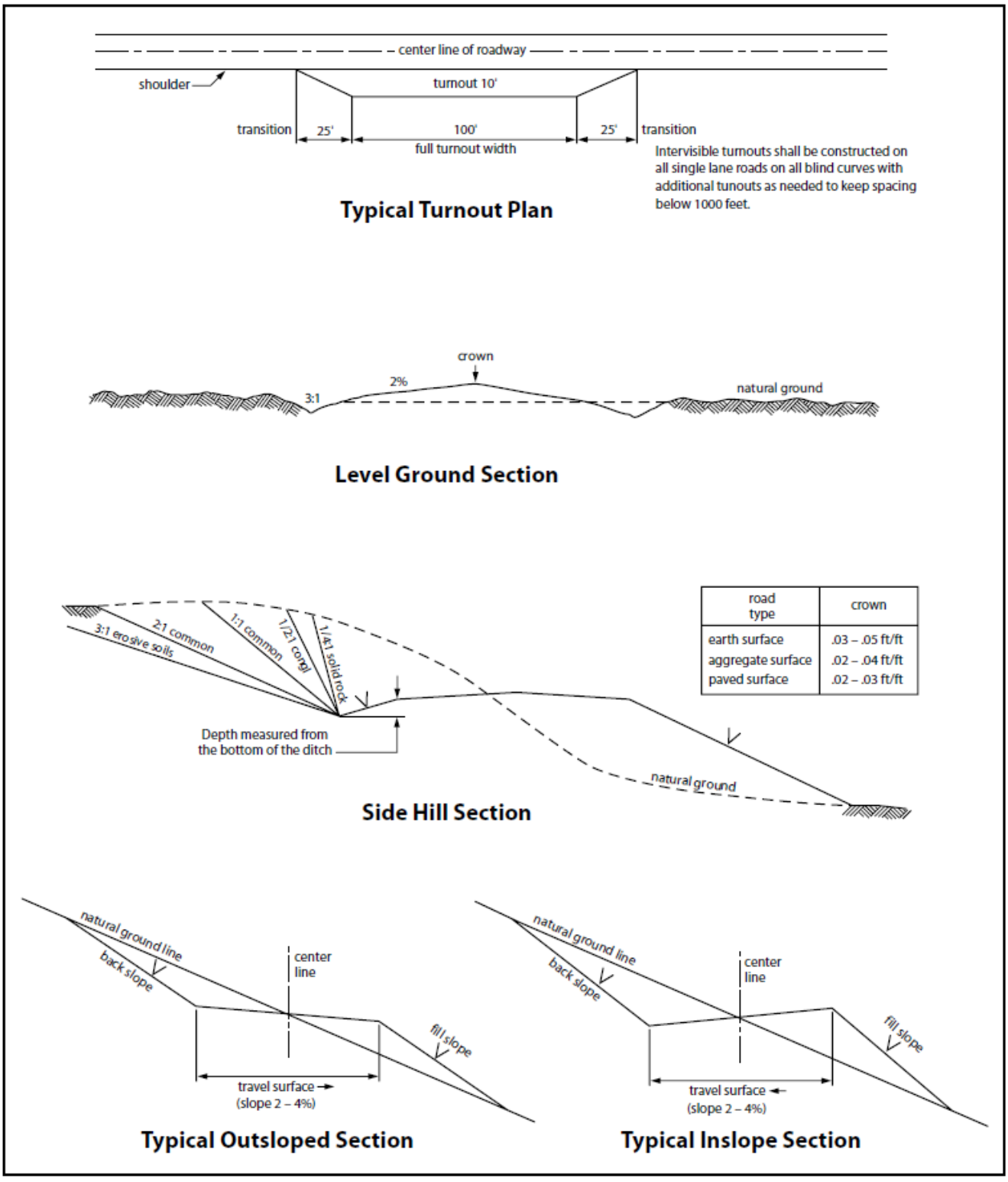


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

Approval Date: 05/31/2024

V. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

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.

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.

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.

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

B. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

BURIED PIPELINE STIPULATIONS

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

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

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

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

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the

Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

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

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

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

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

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

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

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

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
(X) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates “Standard Environmental Colors” – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

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

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

16. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area 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 to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder 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 holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. 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 the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

17. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

18. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area 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 to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder 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 holder.

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

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

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.

b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

VI. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should 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 should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. 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 below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

VII. FINAL ABANDONMENT & RECLAMATION

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 should 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.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

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.

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Seed Mixture 2, for Sandy Sites

The holder 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 will be planted 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 have a tendency to drop the bottom of the drill and are planted first). The holder 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 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.

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

Species	lb/acre
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

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PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Cimarex Energy Company of Colorado**
LEASE NO.:	**NMNM26394**
LOCATION:	Section 20, T.25 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	**Vaca Draw 20-17 Federal 302H**
SURFACE HOLE FOOTAGE:	270'/S & 2140'/E
BOTTOM HOLE FOOTAGE	100'/N & 2590'/W
ATS/API ID:	**ATS-20-1229**
APD ID:	**10400094387**
Sundry ID:	**N/a**

WELL NAME & NO.:	**Vaca Draw 20-17 Federal 303H**
SURFACE HOLE FOOTAGE:	270'/S & 2100'/E
BOTTOM HOLE FOOTAGE	100'/N & 1173'/E
ATS/API ID:	**ATS-20-1228**
APD ID:	**10400094388**
Sundry ID:	**N/a**

COA

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H2S	No		
Potash	None		
Cave/Karst Potential	Low		
Cave/Karst Potential	☐ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	Conventional and Multibowl		
Other	☐ 4 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	☐ COM	☐ Unit
Special Requirements	☐ Batch Sundry		
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	☐ Casing Clearance

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet **43 CFR part 3170 Subpart 3176**, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1040 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of

six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

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

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

3. The minimum required fill of cement behind the **7** inch production casing is:

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

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

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

C. PRESSURE CONTROL

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

2.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **2000 (2M)** 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.

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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.

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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.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report when present.

A. CASING

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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, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

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

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-

off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 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) 5/14/2024

Approval Date: 05/31/2024

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 (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Contacting Authorities

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

Coterra: H2S Plan

Emergency Contacts

Coterra Energy

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

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

Third Party

PERMIAN REGION CONTACT NUMBERS

CALL 911

Air Ambulance Services

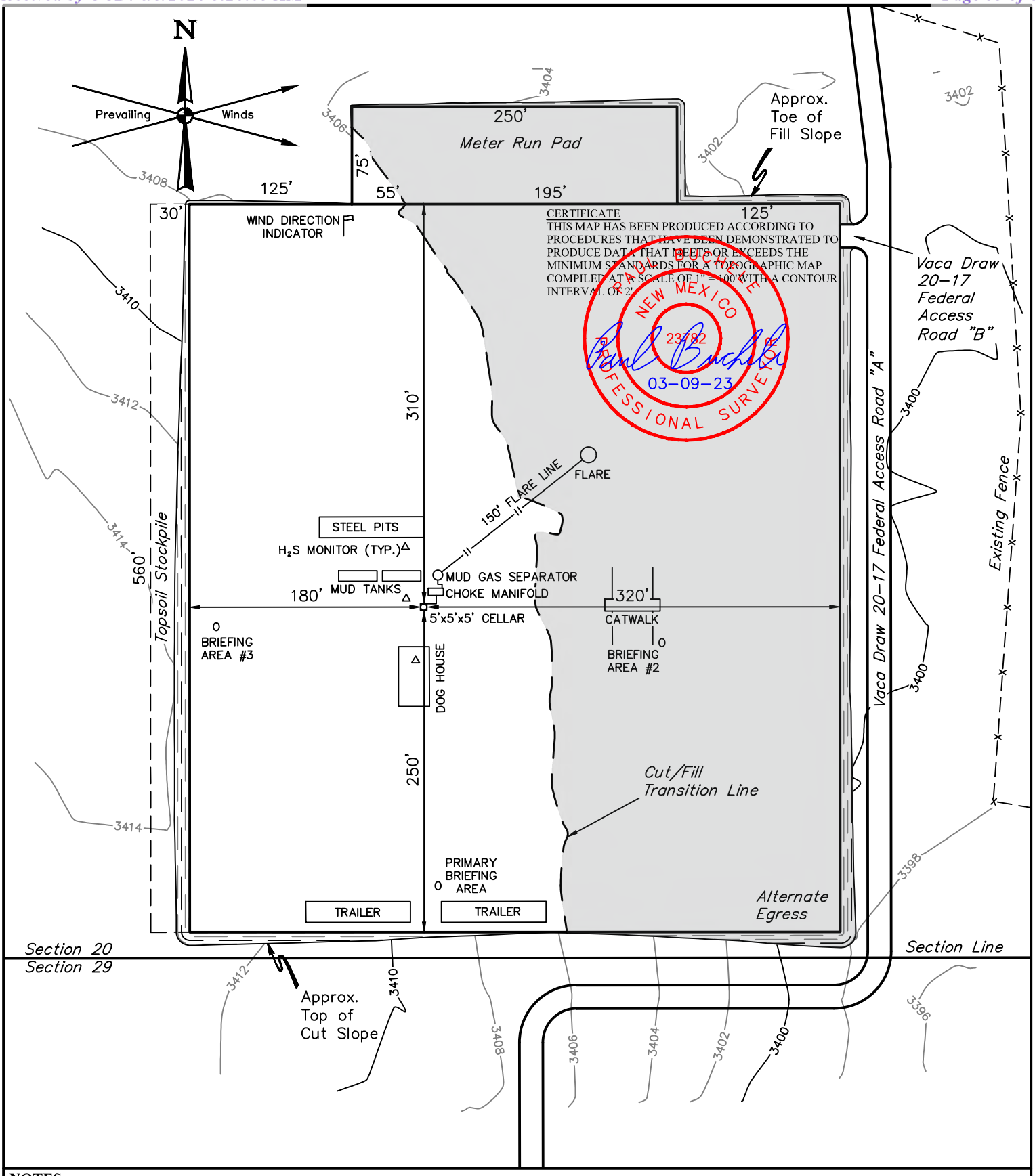
Reeves County Medical - Pecos, TX	432-447-3551
Aero Care - Midland, TX	800-627-2376
Tri State Care Flight - Artesia, NM	800-800-0900
Air Methods - Hobbs, NM	800-242-6199

Fire / Police / Medical Care

Sheriff's Office		Fire Departments		Hospital / Medical Care Facilities	
Andrews County	432-523-5545	Andrews	432-523-3111	Permian Regional Med.	432-523-2200
Reagan County	325-884-2929	Big Lake	325-884-3650	Reagan Memorial Hosp.	325-884-2561
Howard County	432-264-2244	Big Springs	432-264-2303	Scenic Mountain Med Ctr	432-263-1211
Terry County	806-637-2212	Brownfield	806-637-6633		
Crane County	432-558-3571	Crane	432-558-2361	Crane Memorial Hosp.	432-558-3555
Val Verde County	830-774-7513	Del Rio	830-774-8648	Val Verde Regional Med.	830-775-8566
		Denver City	806-592-3516	Yoakum County Hospital	806-592-2121
Pecos County	432-336-3521	Ft. Stockton	432-336-8525		
Glasscock County	432-354-2361	Garden City			
Winkler County	432-586-3461	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 Ambulance Services

Reeves County Medical	Pecos, TX	432-447-3551



NOTES:

- Contours shown at 2' intervals.

CIMAREX ENERGY CO.

VACA DRAW 20-17 FEDERAL 302H
270' FSL 2140' FEL
SW 1/4 SE 1/4, SECTION 20, T25S, R33E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	C.T., M.T.	02-09-19	SCALE
DRAWN BY	T.J.S.	03-09-23	1" = 100'
TYPICAL RIG LAYOUT			EXHIBIT K

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

Surface Use Plan of Operations

Cimarex Energy Co.
Vaca Draw 20-17 Federal W2E2 Pad
SW ¼ SE ¼, Section 20, T25S, R33E
Lea County, New Mexico

Vaca Draw 20-17 Federal 302H 270' FSL / 2140' FEL
Vaca Draw 20-17 Federal 303H 270' FSL / 2100' FEL
Vaca Draw 20-17 Federal 504H 270' FSL / 2120' FEL

This surface use plan of operations provides site specific information for the above referenced wells located within the existing "Vaca Draw 20-17 Federal Project". No additional surface disturbance will be associated with the addition of these wells.

1. **Existing Roads, directions to location: See Exhibit C**
    a. **Existing Road Purpose:** Existing roads providing access to the well site are shown. Existing roads will be maintained and kept in good repair during all drilling and completion operations associated with these wells.
    b. **BLM ROW:** Existing off- lease ROW. 281001 ROW - ROADS, 288100 ROW O&G Pipeline, 288101 ROW O&G Facility Sites, 289001 ROW O&G Well Pad, Other.
2. **Location of Wells:** See Exhibit E 1 Mile Radius Map

3. **Location of Production Facilities: See Exhibit J Location Layout**
    a. **Production Facilities:**
        - Existing battery pad is built North-West of the well pad.
        - All permanent (on site six months or longer) above the ground structures constructed or installed will be painted Carlsbad Tan as approved by the BLM.

4. **Location and Types of Water Supply: See Water Haul Map**
    a. **Source & Volume:**
        - **Source Type:** Commercial Water – Double M Water Sales or Cuatro Transportation – Water Station –Fresh Water
        - **Use:** Surface Casing and Intermediate/Production Casing
        - **Location:** NE/SE, Section 20, T24S, R33E or NW/SW Section 19, T25S, R37E
        - **Source Land Ownership:** State or Federal
        - **Source Transportation Land Ownership:** State or Federal
        - **Permit Type:** Water Right
        - **Transportation Method:** Trucking
        - **Volume:** 150,000 BBLS
5. **Construction Materials**
    a. **Intended Use of Construction Materials:** The use of materials under BLM jurisdiction will conform with 43 CFR 3610.2-3.

b. **Proposed Source of Materials:** There will be no additional surface disturbance with the addition of these wells.

6. **Methods of Handling Waste**
   a. **Reserve Pits (if necessary):** No Reserve Pit Planned
   b. **Cuttings stored on location:** Contents (drill cuttings, mud, salts, and other chemicals) of the mud tanks will be hauled to state approved disposal.
   c. **Garbage:** All trash will be placed in a portable trash cage. It will be hauled to the Lea County landfill. There will be no trash burning.
      - **Waste content description:** Onsite Refuse/trash
      - **Amount:** 32,500 pounds
      - **Disposal frequency:** Weekly
      - **Safe Containment description:** Garbage, trash, and other waste materials will be collected in a portable, self-contained, fully enclosed trash cage during operations. Trash will not be burned on location. All debris and other waste material not contained in the trash cage will be cleaned up and removed from the location immediately after removal of the drilling rig.
      - **Waste disposal type:** Haul to commercial facility
      - **Disposal location ownership:** Commercial
      - **Disposal location description:** All trash and waste material will be hauled to the Lea County Landfill.
   d. **Sewage:** Human waste will be disposed of in chemical toilets and hauled to the Hobbs wastewater treatment plant.
      - **Waste content description:** Onsite human waste
      - **Amount:** 300 gallons
      - **Disposal frequency:** Weekly
      - **Safe Containment description:** A chemical porta-toilet will be furnished with the drilling rig.
      - **Waste disposal type:** Haul to commercial facility
      - **Disposal location ownership:** Commercial
      - **Disposal location description:** The chemical porta-toilet wastes will be hauled to state approved disposal facility for treatment.

e. **Produced Water:**
   - **Waste content description:** After first production, produced water will be confined to storage tanks on location and then disposed of in an approved location or recycled on location for future use.
   - **Amount:** 400 BBLS
   - **Disposal frequency:** Daily
   - **Safe Containment description:** Flowline to an approved disposal location
   - **Waste disposal type:** Off-lease injection
   - **Disposal location ownership:** Federal
   - **Disposal location description:** Federal

7. **Ancillary Facilities**
   No camps, airstrips or other facilities will be necessary during drilling of this well.

8. **Well Site Layout: See Exhibits J, K, L, Archeological Survey Boundary Plat**
   a. The location showing access roads onto the pad and orientation of the rig with respect to the pad and other facilities are shown on Typical Rig Layout, Exhibit K for each well.

9. **Plans for Final Surface Reclamation**
   - No New Surface Disturbance.

   a. **Interim Reclamation:** Once the last well has been drilled, then the pad will be interim reclaimed to a reduced working surface area. The reclaimed area will be recontoured and reseeded to match preconstruction grades.
   b. **Final Reclamation:** Once the last well is plugged, then the pad, CTB, and new road will be reclaimed within 6 months of plugging. Disturbed areas will be recontoured to match pre- construction grades. Soil and brush will be evenly spread over disturbed areas and harrowed on the contour. Disturbed areas will be seeded in accordance with BLM requirements. Road will be blocked. Noxious weeds will be controlled.
   c. **Drainage Systems:**
      - **Drainage/Erosion control construction:** Pad construction will include drainage control by rerouting drainages around the pad an installing culverts or low water crossings where needed. Erosion control techniques will be used where needed to minimize wind and water erosion and sedimentation prior to vegetation establishment.
      - **Drainage/Erosion control reclamation:** Area-wide drainage will be stabilized and restored so that surface runoff flows and gradients are returned to the condition present prior to development. Drainage basins will have similar features found in nearby, properly functioning basins.
   d. **Existing Vegetation:**
   e. **Well/Road/Pipeline/Other (Powerline**): General area vegetation.
   f. **Reconstruction method**: Areas to be reclaimed will be graded to approximate original contours and to blend in with adjacent topography. Graded surfaces will be suitable for

the replacement of a uniform depth of topsoil, will promote cohesion between subsoil and topsoil layers, will reduce wind erosion, and will facilitate moisture capture. Specialized grading techniques may be applied, if warranted, and could include slope rounding, stair-step grading/terracing, and/or contour furrowing.

g. **Topsoil redistribution:** After compaction relief (ripping and discing) all topsoil will be redistributed on the reclaimed area to a pre-disturbance depth. Topsoil is typically redistributed with a scraper or front-end loader which leaves a friable surface to work with. Waterbars and erosion control devices will be installed on reclaimed areas, as necessary, to control topsoil erosion.
h. **Soil Treatments:** As needed.
i. **Seed Management (for each seed type, or Seed Reclamation Attachment):**
    - **Seed type:** The seed mixture and seeding rates will be submitted to the BLM in a subsequent report sundry notice following reclamation operations. Seed mixtures will be certified weed-free.
    - **Seed use location:** Well pad, access road, pipeline right-of-way, powerline right-of-way
    - **Proposed seeding season:** Once the topsoil is replaced, seeding will occur generally between August 15 and ground freeze-up. If fall seeding is not feasible and erosion control is needed, seeding may occur between spring thaw and May 15. Spring seeding will be an exception, not the rule. The site will be monitored as outlined in this plan. Seeding will not be applied to wet or frozen ground. In this circumstance, seeding will take place when the ground dries or thaws to the point where soils are friable.
j. **Revegetation Operator Contact:**
    - **Name:** Laci Luig
    - **Phone #:** 432-425-0434
    - **Email:** laci.luig@coterra.com
    - **Seed method:** Broadcast over rough surface.
k. **Existing invasive species:** Yes
    - **Existing invasive species treatment description:** African Rue is present in proximity to well pad, access road, pipeline right-of-way, powerline right-of-way.
    - **Weed treatment plan:** Operator will be responsible for noxious and invasive weed control from all project activities for the life of the project. If use of herbicides is deemed necessary, a Pesticide Use Proposal will be submitted for approval to the BLM. Herbicides will be used only in the season or growth stage during which they are most effective. Herbicides will be applied only by certified personnel using approved precautionary and application procedures in compliance with all applicable federal, state, and local regulations. Herbicides will not be used within 100 feet of open water or during extremely windy conditions. Mowing may be considered as an alternative to herbicide applications. Mowing would be implemented prior to seed head establishment or bloom. A weed control program will be applied to all existing and proposed

access roads, pipeline ROWs, and well pads. Weed control involves annual treatments that are monitored and continued until desirable vegetation out-competes invasive or noxious weeds.

- **Monitoring:** Monitoring will be done in accordance with the BLM Reclamation Guidelines.
- **Success standard:** Success Standards will be in accordance with the BLM Reclamation Guidelines.

l. **Pit Closure Description:** No pit closure will be necessary. The referenced wells will be drilled utilizing a closed loop system. The closed loop system will be installed in a manner that will prevent leaks, breaks, or discharge. Drill cuttings will be contained in designated cuttings area. Upon completion of drilling operations, the cuttings will be mixed on location and dried; then spread on location.

10. Surface Ownership

- **Well site**
  a. **Surface owner:** Bureau of Land Management
  b. **Contact/Office location:** Bureau of Land Management
- **Roads**
  a. **Surface owner:** Bureau of Land Management
  b. **Contact/Office location:** Bureau of Land Management
- **Pipeline**
  a. **Surface owner:** Bureau of Land Management
  b. **Contact/Office location:** Bureau of Land Management.

11. Additional Information

a. **Location Construction:** OPERATOR shall notify the BLM AO 48 hours prior to construction of the location and access roads.
b. **Location Completion:** OPERATOR shall notify the BLM AO prior to moving the drilling rig on location
c. **Approved APD:** A true and complete copy of the approved Application for Permit to Drill will be located on site during all drilling & completion operations.

12. Additional Information

Onsite Information: An onsite inspection was conducted for the Pad on 7/24/2018. In attendance at the inspection were the following individuals:

Attendee	Organization/Affiliate
Barry Hunt	Coterra previously Cimarex
Jeff Robertson	BLM

Permitting Matters
Operator: Cimarex Energy Co.

Drilling, Completions Operational Matters
Operator: Cimarex Energy Co.

Address: 6001 Deauville Blvd., Suite 300N
City, State, Zip: Midland, TX 79706
Name: Phillip Levasseur
Title: Regulatory Manager
Phone: 432-620-1974
Email: phillip.levasseur@coterra.com

Address: 6001 Deauville Blvd., Suite 300N
City, State, Zip: Midland, TX 79706
Name: Grant Muncrief
Title: Drilling and Completions Manager
Phone: 432-570-3607
Email: grant.muncrief@coterra.com

Schlumberger

COTERRA

Rev 0

COTERRA

Borehole:	Well:	Field:	Structure:
Vaca Draw 20-17 Federal 302H	Vaca Draw 20-17 Federal 302H	NM Lea County (NAD 83)	Coterra Vaca Draw 20-17 Federal Pad

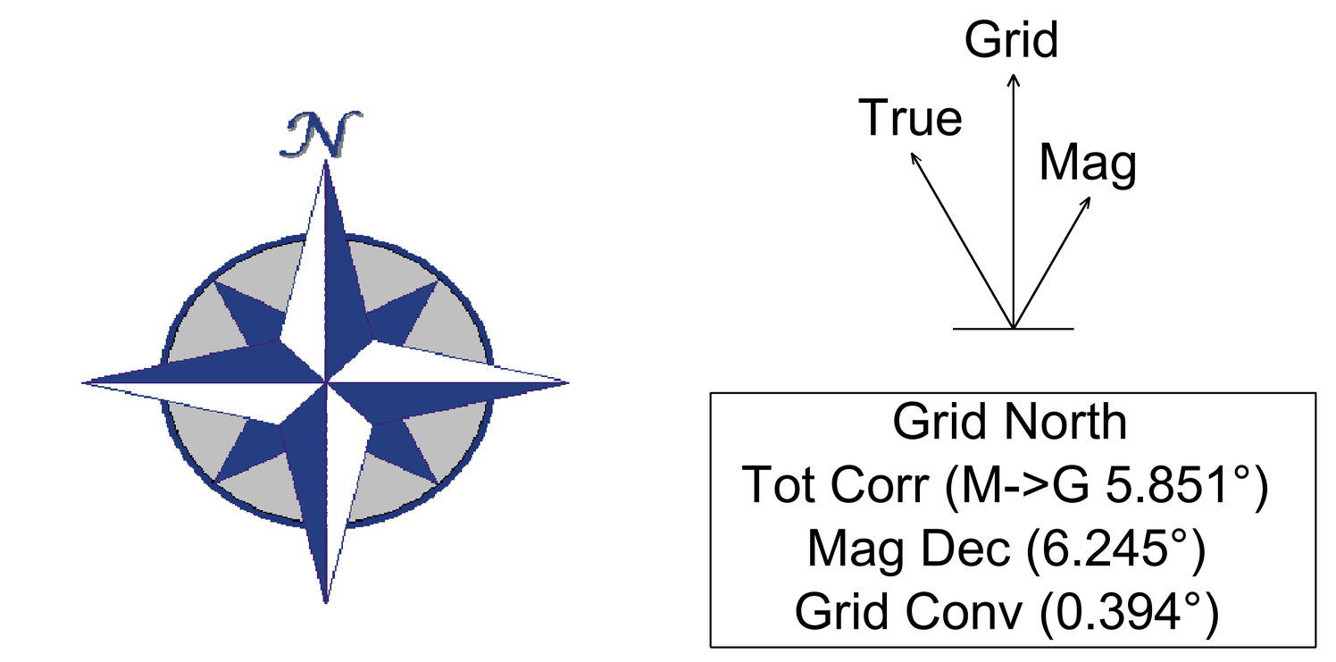
Gravity & Magnetic Parameters
Model: HDGM 2023 | Dip: 59.635° | Date: 25-May-2023
MagDec: 6.245° | FS: 47358.661nT | Gravity FS: 998.432mgn (9.80665 Based)

Surface Location — NAD83 New Mexico State Plane, Eastern Zone, US Feet
Lat: N 32 6 34.47 | Northing: 404387.14ftUS | Grid Conv: 0.3937°
Lon: W 103 35 33.65 | Easting: 770660.45ftUS | Scale Fact: 0.99996932

Miscellaneous
Slot: Vaca Draw 20-17 Federal 302H | TVD Ref: RKB (3432.000 ft above MSL)
Plan: Coterra Vaca Draw 20-17 Federal 302H Rev0 kFc 25May23

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [270' FSL, 2140' FEL]	0.00	0.00	250.14	0.00	0.00	0.00	0.00	
Rustler	945.00	0.00	250.14	945.00	0.00	0.00	0.00	0.00
Top Salt	1320.00	0.00	250.14	1320.00	0.00	0.00	0.00	0.00
Nudge, Build 2°/100ft	1800.00	0.00	250.14	1800.00	0.00	0.00	0.00	0.00
Hold	2099.87	6.00	250.14	2099.33	-5.23	-5.33	-14.75	2.00
Lamar	4935.07	6.00	250.14	4919.00	-104.07	-105.97	-293.36	0.00
Bell Canyon	4974.28	6.00	250.14	4958.00	-105.44	-107.36	-297.22	0.00
Cherry Canyon	6022.02	6.00	250.14	6000.00	-141.96	-144.55	-400.18	0.00
Drop 2°/100ft	6653.70	6.00	250.14	6628.22	-163.98	-166.97	-462.25	0.00
Hold	6953.57	0.00	250.14	6927.55	-169.22	-172.30	-477.00	2.00
Brushy Canyon	7572.02	0.00	250.14	7546.00	-169.22	-172.30	-477.00	0.00
Basal Brushy Canyon	8903.02	0.00	250.14	8877.00	-169.22	-172.30	-477.00	0.00
Bone Spring Lime	9089.02	0.00	250.14	9063.00	-169.22	-172.30	-477.00	0.00
Leonard	9129.02	0.00	250.14	9103.00	-169.22	-172.30	-477.00	0.00
Avalon	9351.02	0.00	250.14	9325.00	-169.22	-172.30	-477.00	0.00
1st BS SS	10071.02	0.00	250.14	10045.00	-169.22	-172.30	-477.00	0.00
2nd BS SS	10623.02	0.00	250.14	10597.00	-169.22	-172.30	-477.00	0.00
KOP, Build 10°/100ft	10833.57	0.00	250.14	10807.55	-169.22	-172.30	-477.00	0.00
3rd BS Carb	11116.36	28.28	354.63	11079.00	-101.09	-104.22	-483.40	10.00
Build 5°/100ft	11583.57	75.00	354.63	11360.98	253.83	250.50	-516.74	10.00
Landing Point	11875.77	89.61	354.63	11400.00	541.52	538.02	-543.77	5.00
Turn 2°/100ft	11965.77	89.61	354.63	11400.62	631.17	627.62	-552.19	0.00
Hold	12215.75	89.61	359.63	11402.31	880.83	877.21	-564.71	2.00
Section 20-17 Line Cross	16343.00	89.61	359.63	11430.11	5007.99	5004.27	-591.37	0.00
Vaca Draw 20-17 Federal 302H - BHL [100' FNL, 2590' FWL]	21523.78	89.61	359.63	11465.00	10188.66	10184.83	-624.85	0.00

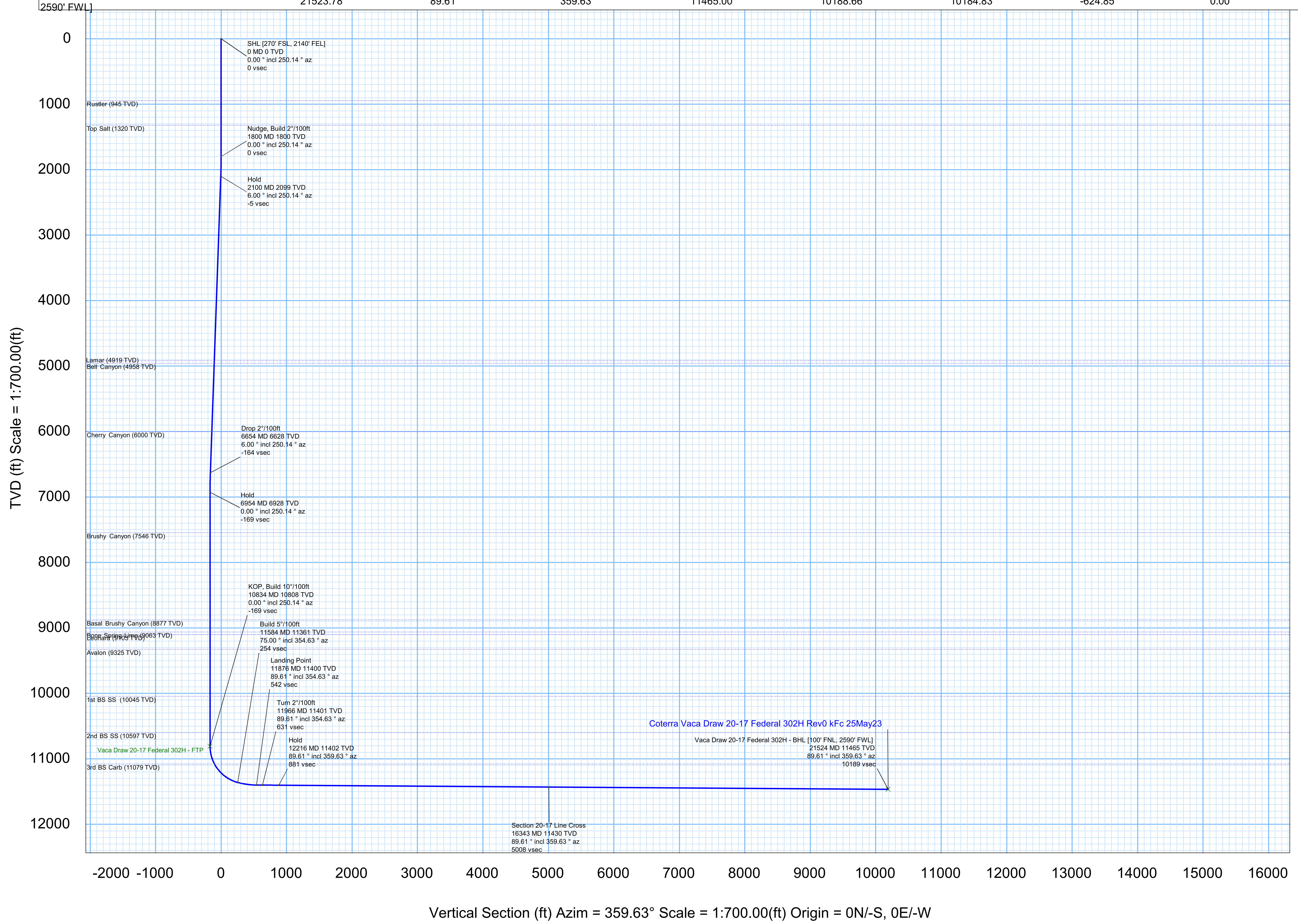


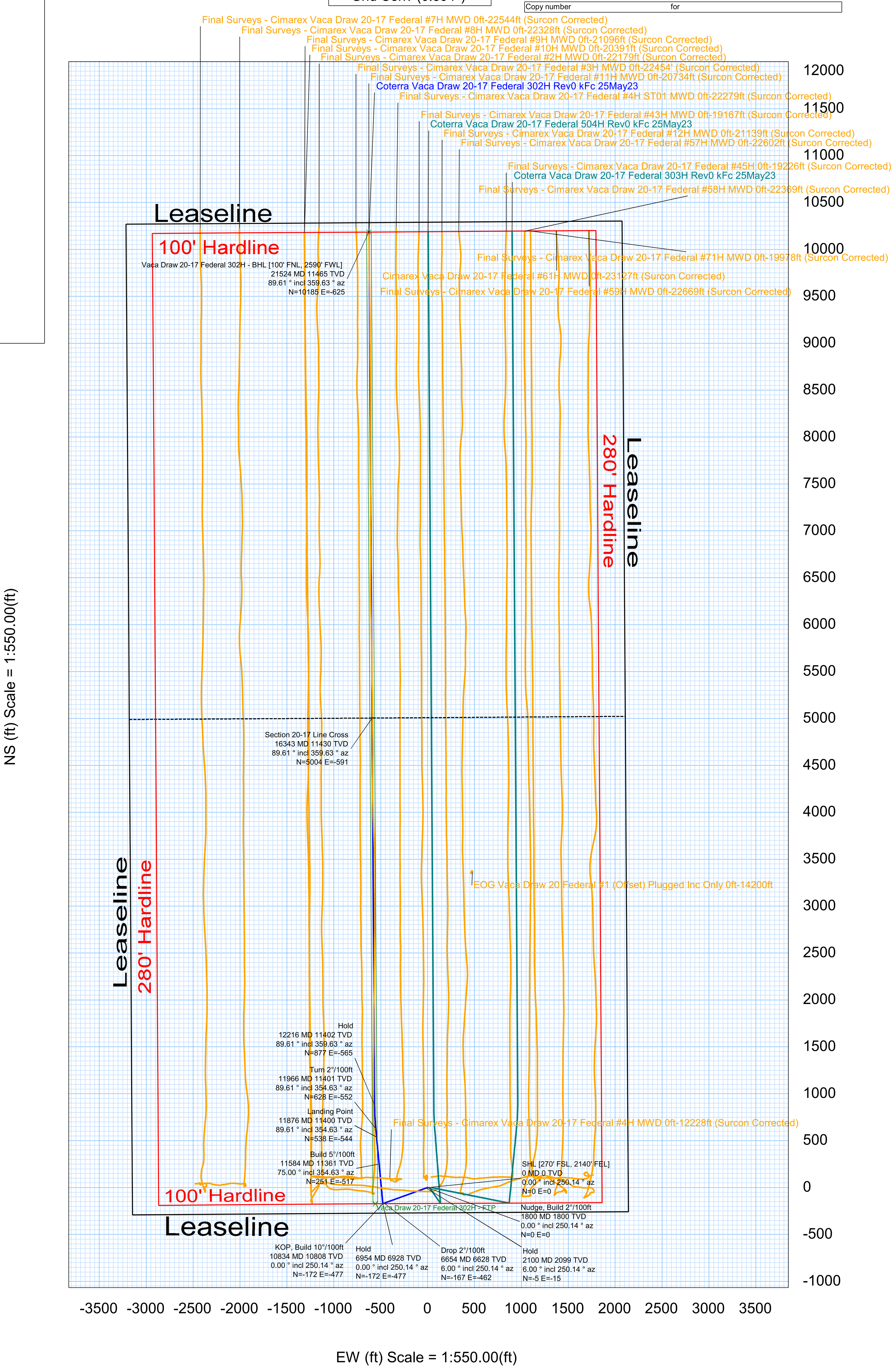
CONTROLLED

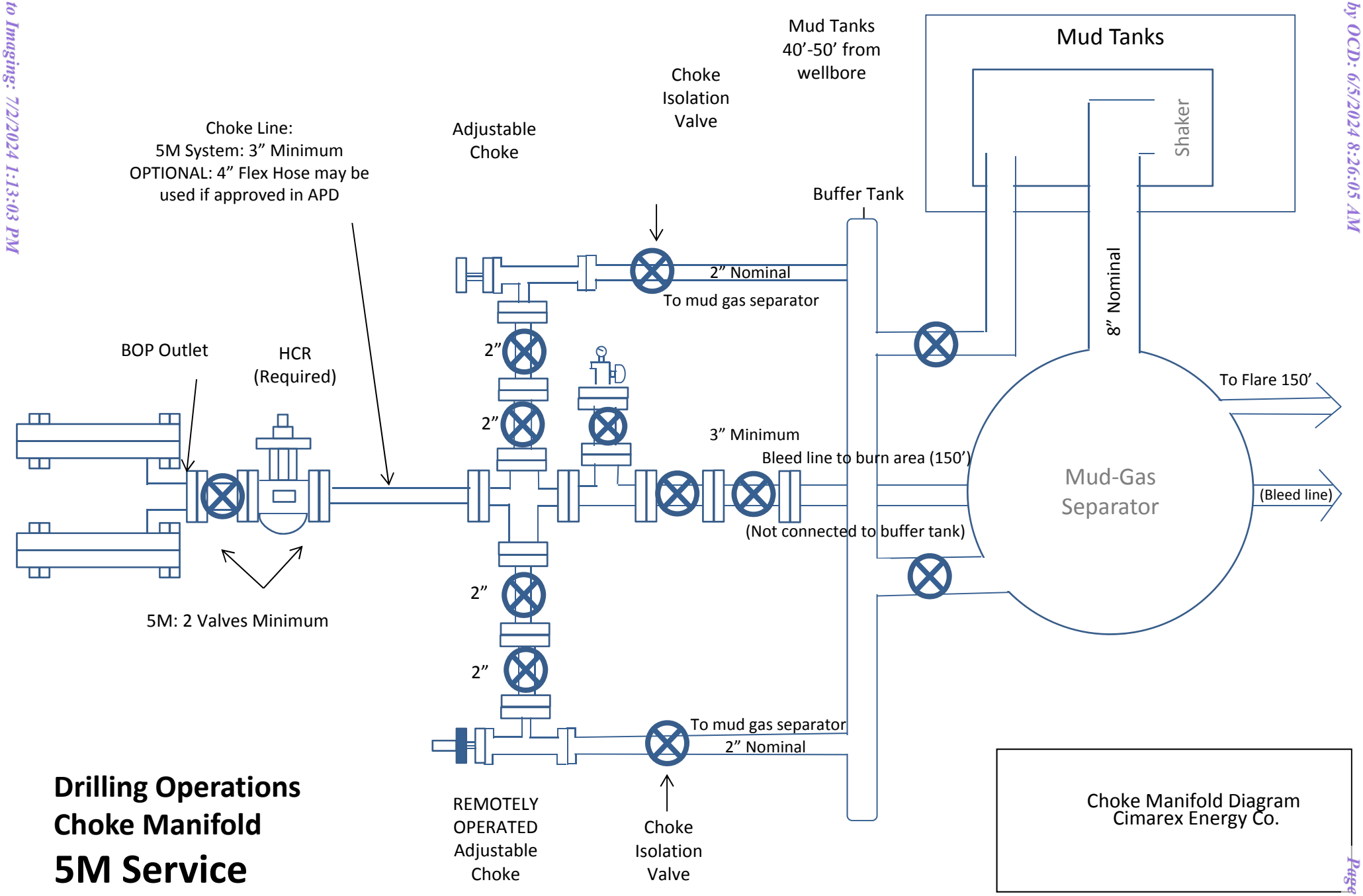
Plan ref	Coterra Vaca Draw 20-17 Federal 302H Rev0 kFc 25May23
Drawing ref	
Copy number	of 3
Date	25-May-2023

1	Client	
2	Client	
3	Office	
4	Office	

Copy number for

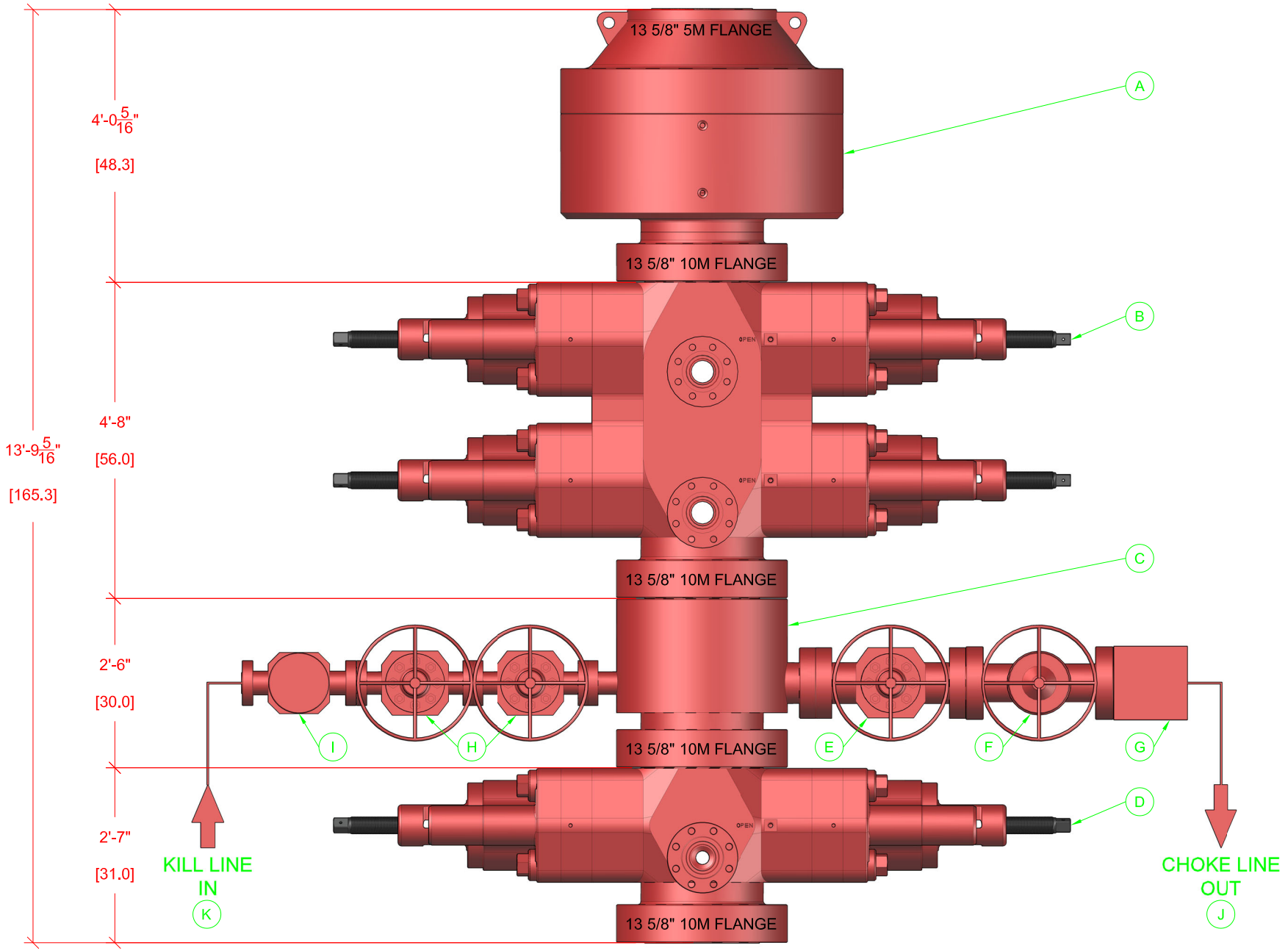






Drilling Operations
Choke Manifold
5M Service

Choke Manifold Diagram
Cimarex Energy Co.



BOP EQUIPMENT INFORMATION

DESCRIPTION	MODEL	QTY
ANNULAR BOP	13 5/8" 5M	1
DOUBLE RAM BOP	13 5/8" 10M TYPE-U	1
MUD CROSS	13 5/8" 10M	1
SINGLE RAM BOP	13 5/8" 10M TYPE-U	1
GATE VALVE	4 1/16" 10M FC MANUAL	1
HCR VALVE	4 1/16" 10M HCR	1

ITEM	DESCRIPTION	MODEL	QTY
G	STUDDED BLOCK	4 1/16" 10M	1
H	GATE VALE	2 1/16" 10M FC MANUAL	2
I	CHECK VALVE	2 1/16" 10M	1
J	CHOKE HOSE	4 1/16" 10M	1
K	KILL HOSE	2 1/16" 10M	1
L			

SYM	DATE	REVISION	BY

TOLERANCE UNLESS OTHERWISE SPECIFIED
DIMENSIONS IN INCHES

DECIMAL	DIMENSION	CONCENTRICITY
X.X	± .1	.1 F.I.R.
X.XX	± .06	.06 F.I.R.
X.XXX	± .010	.010 F.I.R.

ANGLES ± .5 DEGREES

ACAD FILE: CAC148-A-005-00-RO

CUSTOMER INFO:

FILE: R-148_BOP.dwg

DWG BY	IJA	9/10/2021
CHK BY		
APP BY		

SCALE: 1:25

CACTUS Drilling Co., L.L.C.
Oklahoma City, OK, U.S.A.
Tel: 405-577-5347 Fax: 405-577-9306

TITLE:
RIG 148
BOP STACK-UP

SIZE A | CAC148-A005 | SHEET 1/1

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 350917

CONDITIONS

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 350917
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	7/2/2024
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	7/2/2024
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	7/2/2024
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	7/2/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	7/2/2024