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. **30-025-52903**

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: 04/11/2024

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
30-025-52903	98094	BOBCAT DRAW; UPPER WOLFCAMP

[4] Property Code	[5] Property Name	[6] Well Number
314104	CASCADE 28 FEDERAL	404H

[7] OGRID No.	[8] Operator Name	[9] Elevation
215099	CIMAREX ENERGY CO.	3373.1'

[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
B	28	25S	33E		210	NORTH	2039	EAST	LEA

[11] Bottom Hole Location If Different From Surface

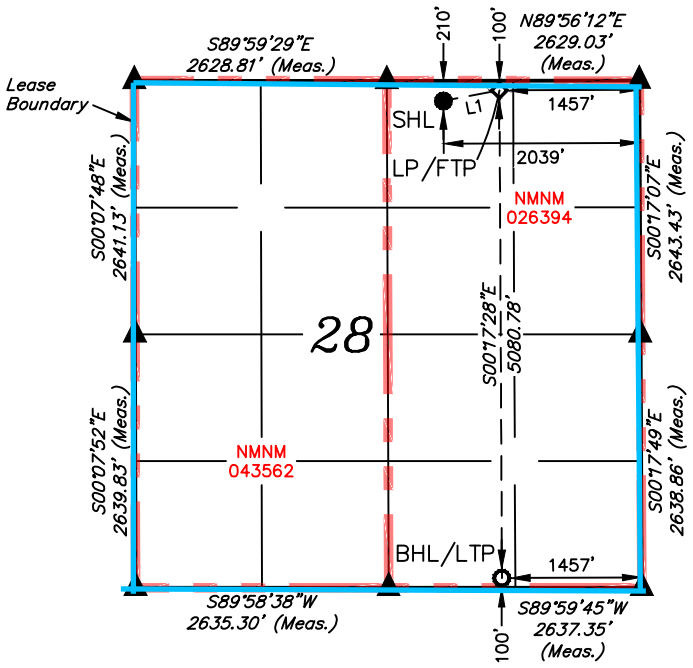
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	28	25S	33E		100	SOUTH	1457	EAST	LEA

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

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]

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"(NAD 83)



LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N79°13'54"E	592.19'

● = SURFACE HOLE LOCATION
◇ = LANDING POINT/FIRST TAKE POINT
○ = BOTTOM HOLE LOCATION/ LAST TAKE POINT
▲ = SECTION CORNER LOCATED

2000' 1000' 0' 2000'
SCALE
DRAWN BY: T.J.S. 03-10-23

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°06'29.59" (32.108220°)
LONGITUDE = 103°34'31.35" (103.575376°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°06'29.14" (32.108095°)
LONGITUDE = 103°34'29.66" (103.574905°)
STATE PLANE NAD 83 (N.M. EAST)
N: 403931.89' E: 776021.87'
STATE PLANE NAD 27 (N.M. EAST)
N: 403874.14' E: 734835.62'

NAD 83 (LP/FTP)
LATITUDE = 32°06'30.67" (32.108519°)
LONGITUDE = 103°34'24.59" (103.573496°)
NAD 27 (LP/FTP)
LATITUDE = 32°06'30.22" (32.108395°)
LONGITUDE = 103°34'22.89" (103.573025°)
STATE PLANE NAD 83 (N.M. EAST)
N: 404044.94' E: 776603.06'
STATE PLANE NAD 27 (N.M. EAST)
N: 403987.19' E: 735416.82'

NAD 83 (BHL/LTP)
LATITUDE = 32°05'40.40" (32.094556°)
LONGITUDE = 103°34'24.46" (103.573460°)
NAD 27 (BHL/LTP)
LATITUDE = 32°05'39.95" (32.094431°)
LONGITUDE = 103°34'22.76" (103.572990°)
STATE PLANE NAD 83 (N.M. EAST)
N: 398965.24' E: 776650.08'
STATE PLANE NAD 27 (N.M. EAST)
N: 398907.62' E: 735463.59'

[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.

Shelly M. Bowen 7/10/23
Signature Date

Shelly M. Bowen
Printed Name

shelly.bowen@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.

January 24, 2018
Date of Survey
Signature and Seal of 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:** 07/5/2023

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
Cascade 28 Federal 404H		B, Sec 28 T25S, R33E	210 FNL/2039 FEL	2000	3900	5000

IV. Central Delivery Point Name: _Cascade 28 CDP Sales_____ [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
Cascade 28 Federal 404H		11/19/2024	12/7/2024	1/28/2025	2/13/2025	2/13/2025

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:	7/5/2023
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 12,320
MD at TD 17,204

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
RUSTLER	995	Useable Water	
TOP SALT	1340	N/A	
BASE SALT	4930	N/A	
TOP DELAWARE SANDS	4970	N/A	
CHERRY CANYON	5985	N/A	
BRUSHY CANYON	7575	Hydrocarbons	
BASAL BRUSHY CANYON	8920	Hydrocarbons	
BONE SPRING LIME	9090	Hydrocarbons	
LEONARD	9130	Hydrocarbons	
AVALON	9330	Hydrocarbons	
1ST BONE SPRING SAND	10105	Hydrocarbons	
3RD BONE SPRING CARB	11120	Hydrocarbons	
3RD BONE SPRING SAND	11785	Hydrocarbons	
WOLFCAMP	12360	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
14 3/4	0	1170	1170	10-3/4"	40.50	J-55	BT&C	3.12	6.18	13.27
9 7/8	0	12288	12192	7-5/8"	29.70	L-80	BT&C	2.49	1.21	1.83
6 3/4	0	11726	11726	5-1/2"	20.00	L-80	LT&C	1.16	1.21	1.88
6 3/4	11726	17204	12320	5"	18.00	P-110	BT&C	1.68	1.70	54.25
					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	455	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	121	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	971	10.30	3.64	22.18		Lead: Tuned Light + LCM
	207	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS
Production						
	710	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	49
Production	12088	25
Production	12088	25

4. Pressure Control Equipment

	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
9 7/8	**13 5/8**	**10M**	Annular	5M	100% of working pressure
			Blind Ram		10M
			Pipe Ram	X	
			Double Ram	X	
			Other		
6 3/4	**13 5/8**	**10M**	Annular	5M	100% of working pressure
			Blind Ram		10M
			Pipe Ram	X	
			Double Ram	X	
			Other		

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

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1170'	Fresh Water	7.83 - 8.33		N/C
1170' to 12288'	Brine Diesel Emulsion	8.50 - 9.00	30-35	N/C
12288' to 17204'	OBM	12.00 - 12.50	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.

The Brine Emulsion is completely saturated brine fluid that ties diesel into itself to lower the weight of the fluid. The drilling fluid is completely salt saturated.

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	8008 psi
Abnormal Temperature	No

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

8. Other Facets of Operation

9. Wellhead

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

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

BOPE Additional Information & Testing

1. After running the first string of casing, a 10M BOP/BOPE system with 5M annular will be installed. BOPs will be tested according to Onshore Order #2. BOPE will be tested to full rated pressure (10K for all BOPE except the annular, which is tested to 5K). For the low test, the system will be tested to 250 psi.

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

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

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

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

Additional Well Control Notes

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

Schlumberger

COTERRA Rev 0

COTERRA

Borehole:	Well:	Field:	Structure:
Cascade 28 Federal 404H	Cascade 28 Federal 404H	NM Lea County (NAD 83)	Coterra Cascade 28 Federal Pad

Gravity & Magnetic Parameters						Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet					Miscellaneous			
Model:	HDGM 2023	Dip:	59.634°	Date:	25-May-2023	Lat:	N 32 6 29.59	Northing:	403931.89ftUS	Grid Conv:	0.4029°	Slot:	Cascade 28 Federal 404H	TVD Ref:	RKB (3396.100 ft above MSL)
MagDec:	6.235°	FS:	47351.626nT	Gravity FS:	998.437mgn (9.80665 Based)	Lon:	W 103 34 31.35	Easting:	776021.87ftUS	Scale Fact:	0.99997217	Plan:	Coterra Cascade 28 Federal 404H Rev0 kFc 25May23		

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [210' FNL, 2039' FEL]	0.00	0.00	78.99	0.00	0.00	0.00	0.00	
Rustler	995.00	0.00	78.99	995.00	0.00	0.00	0.00	0.00
Top Salt	1340.00	0.00	78.99	1340.00	0.00	0.00	0.00	0.00
Nudge, Build 2°/100ft	1800.00	0.00	78.99	1800.00	0.00	0.00	0.00	0.00
Hold	2199.78	8.00	78.99	2198.49	-5.06	5.32	27.34	2.00
Lamar	4958.11	8.00	78.99	4930.00	-74.84	78.58	403.96	0.00
Bell Canyon	4998.50	8.00	78.99	4970.00	-75.86	79.65	409.47	0.00
Cherry Canyon	6023.47	8.00	78.99	5985.00	-101.78	106.87	549.42	0.00
Drop 2°/100ft	6056.08	8.00	78.99	6017.29	-102.61	107.74	553.87	0.00
Hold	6455.86	0.00	78.99	6415.78	-107.67	113.05	581.21	2.00
Brushy Canyon	7615.08	0.00	78.99	7575.00	-107.67	113.05	581.21	0.00
Basal Brushy Canyon	8960.08	0.00	78.99	8920.00	-107.67	113.05	581.21	0.00
Bone Spring Lime	9130.08	0.00	78.99	9090.00	-107.67	113.05	581.21	0.00
Leonard	9170.08	0.00	78.99	9130.00	-107.67	113.05	581.21	0.00
Avalon	9370.08	0.00	78.99	9330.00	-107.67	113.05	581.21	0.00
1st BS SS	10145.08	0.00	78.99	10105.00	-107.67	113.05	581.21	0.00
2nd BS SS	10725.08	0.00	78.99	10685.00	-107.67	113.05	581.21	0.00
3rd BS Carb	11160.08	0.00	78.99	11120.00	-107.67	113.05	581.21	0.00
KOP, Build 8°/100ft	11725.86	0.00	78.99	11685.78	-107.67	113.05	581.21	0.00
3rd BS SS	11825.40	7.96	179.47	11785.00	-100.77	106.15	581.27	8.00
Build 10°/100ft	12288.36	45.00	179.47	12192.21	102.10	-96.71	583.15	8.00
Wolfcamp	12299.49	46.11	179.47	12200.00	110.04	-104.65	583.22	10.00
Landing Point	12743.50	90.51	179.47	12360.00	512.38	-506.97	586.95	10.00
Cascade 28 Federal 404H - BHL [100' FSL, 1457' FEL]	17203.70	90.51	179.47	12320.00	4972.40	-4966.80	628.23	0.00

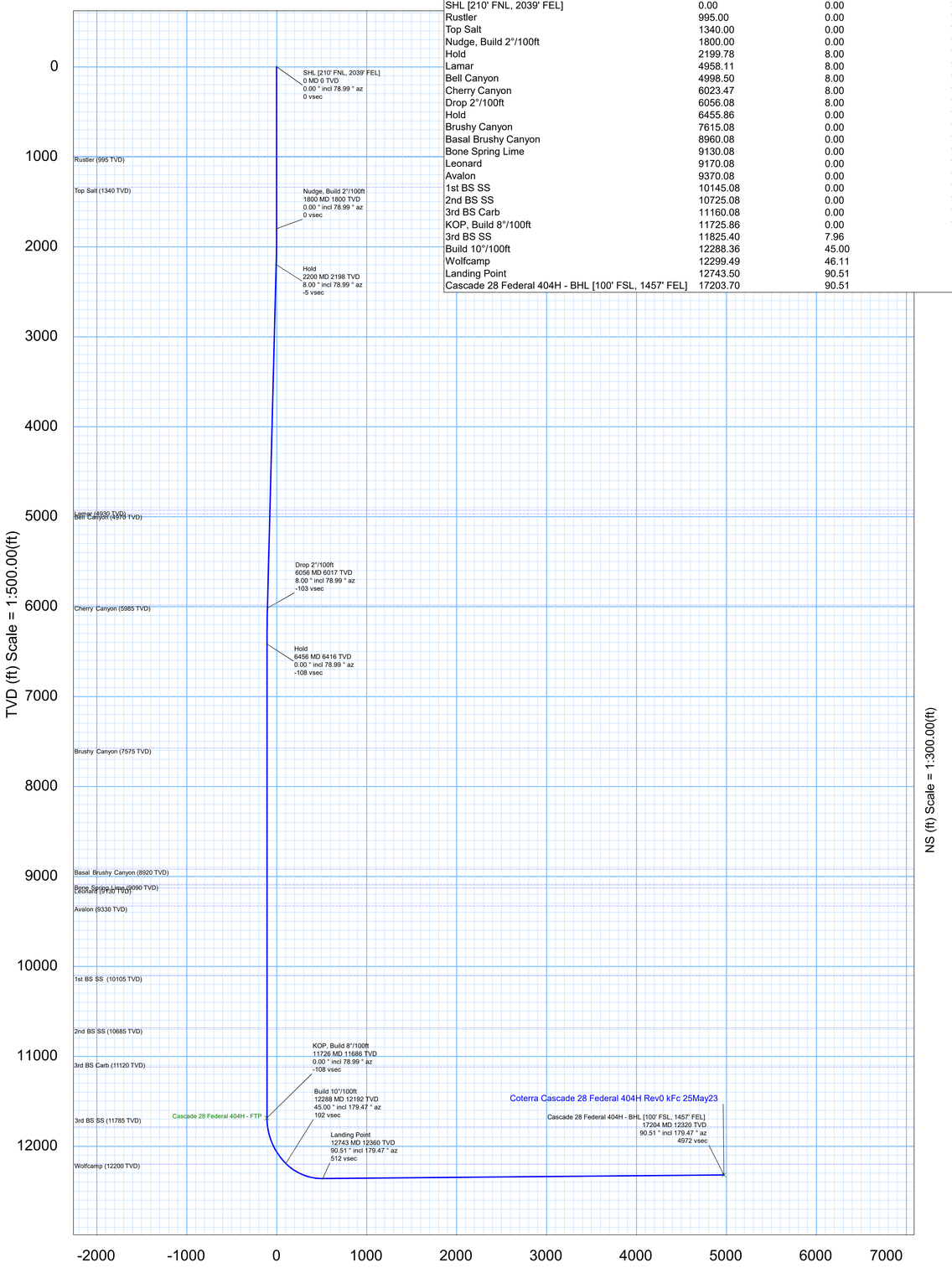
D E C **CONTROLLED**

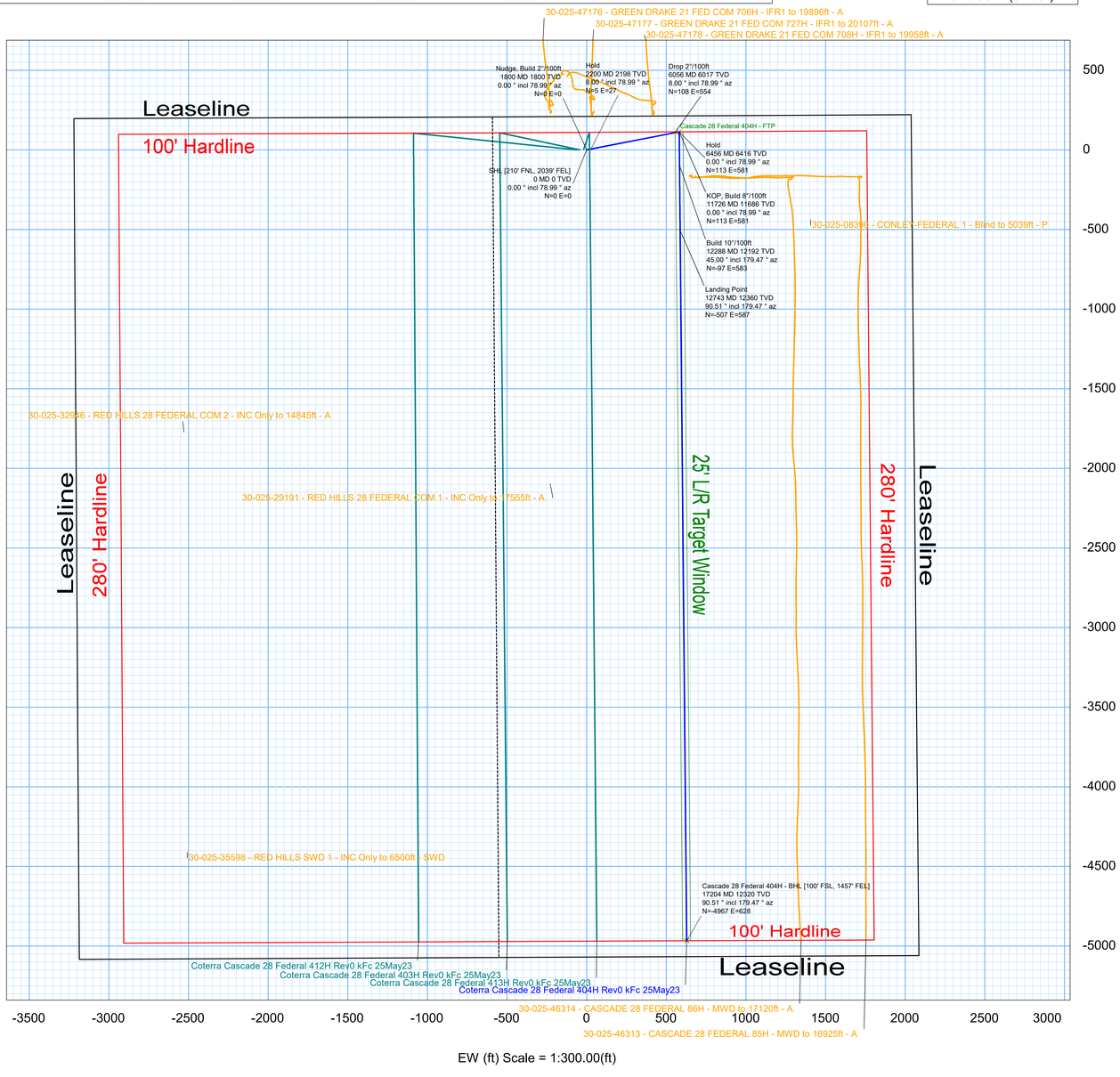
Plan ref	Coterra Cascade 28 Federal 404H Rev0 kFc 25May23
Drawing ref	
Copy number	of 3
Date	25-May-2023

1	Client	
2	Client	
3	Office	
4	Office	

Copy number for

Grid North
Tot Corr (M->G 5.832°)
Mag Dec (6.235°)
Grid Conv (0.403°)





Schlumberger

COTERRA Rev 0

COTERRA

Borehole:	Well:	Field:	Structure:
Cascade 28 Federal 403H	Cascade 28 Federal 403H	NM Lea County (NAD 83)	Coterra Cascade 28 Federal Pad

Gravity & Magnetic Parameters						Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet					Miscellaneous			
Model:	HDGM 2023	Dip:	59.634°	Date:	25-May-2023	Lat:	N 32 6 29.59	Northing:	403931.68ftUS	Grid Conv:	0.4028°	Slot:	Cascade 28 Federal 403H	TVD Ref:	RKB (3397.100 ft above MSL)
MagDec:	6.235°	FS:	47351.665nT	Gravity FS:	998.436mgn (9.80665 Based)	Lon:	W 103 34 31.82	Easting:	775981.88ftUS	Scale Fact:	0.99997215	Plan:	Coterra Cascade 28 Federal 403H Rev0 kFc 25May23		

Critical Points

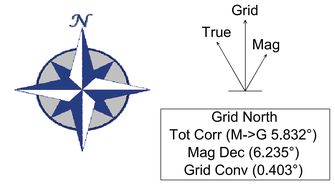
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [210' FNL, 2059' FEL]	0.00	0.00	281.98	0.00	0.00	0.00	0.00	
Rustler	995.00	0.00	281.98	995.00	0.00	0.00	0.00	0.00
Top Salt	1340.00	0.00	281.98	1340.00	0.00	0.00	0.00	0.00
Nudge, Build 2°/100ft	1800.00	0.00	281.98	1800.00	0.00	0.00	0.00	0.00
Hold	2199.97	8.00	281.98	2198.68	-6.04	5.79	-27.27	2.00
Lamar	4958.14	8.00	281.98	4930.00	-89.20	85.48	-402.74	0.00
Bell Canyon	4998.53	8.00	281.98	4970.00	-90.42	86.64	-408.24	0.00
Drop 2°/100ft	5513.65	8.00	281.98	5480.10	-105.95	101.53	-478.37	0.00
Hold	5913.62	0.00	281.98	5878.78	-111.99	107.31	-505.64	2.00
Cherry Canyon	6019.84	0.00	281.98	5985.00	-111.99	107.31	-505.64	0.00
Brushy Canyon	7609.84	0.00	281.98	7575.00	-111.99	107.31	-505.64	0.00
Basal Brushy Canyon	8954.84	0.00	281.98	8920.00	-111.99	107.31	-505.64	0.00
Bone Spring Lime	9124.84	0.00	281.98	9090.00	-111.99	107.31	-505.64	0.00
Leonard	9164.84	0.00	281.98	9130.00	-111.99	107.31	-505.64	0.00
Avalon	9364.84	0.00	281.98	9330.00	-111.99	107.31	-505.64	0.00
1st BS SS	10139.84	0.00	281.98	10105.00	-111.99	107.31	-505.64	0.00
2nd BS SS	10719.84	0.00	281.98	10685.00	-111.99	107.31	-505.64	0.00
3rd BS Carb	11154.84	0.00	281.98	11120.00	-111.99	107.31	-505.64	0.00
KOP, Build 8°/100ft	11720.62	0.00	281.98	11685.78	-111.99	107.31	-505.64	0.00
3rd BS SS	11820.16	7.96	179.47	11785.00	-105.08	100.41	-505.57	8.00
Build 10°/100ft	12283.12	45.00	179.47	12192.21	97.78	-102.45	-503.69	8.00
Wolfcamp	12294.25	46.11	179.47	12200.00	105.73	-110.39	-503.62	10.00
Landing Point	12738.26	90.51	179.47	12360.00	508.07	-512.71	-499.90	10.00
Cascade 28 Federal 403H - BHL [100 FSL, 2584' FEL]	17197.29	90.51	179.47	12320.00	4966.91	-4971.37	-458.63	0.00

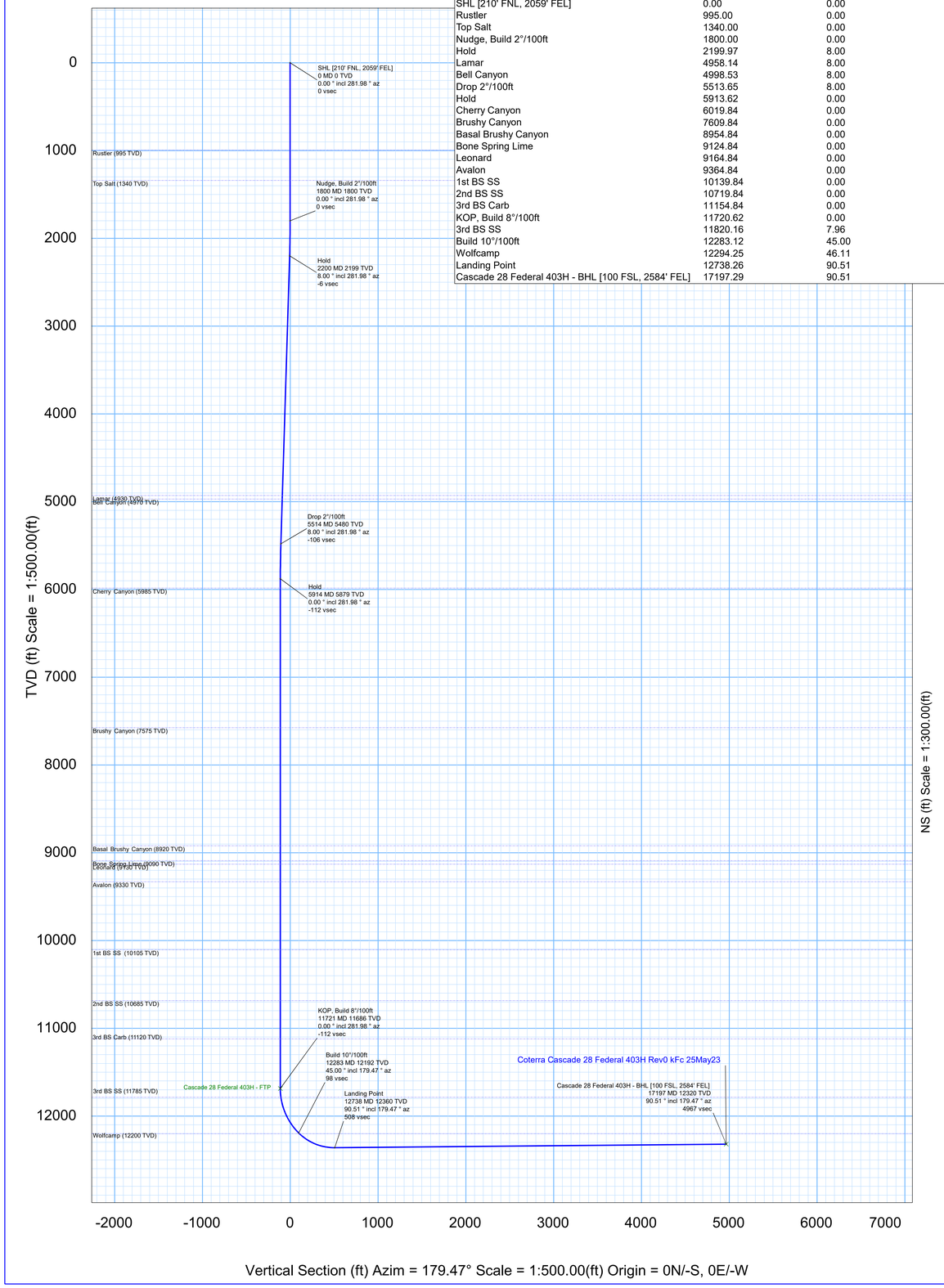
D E C **CONTROLLED**

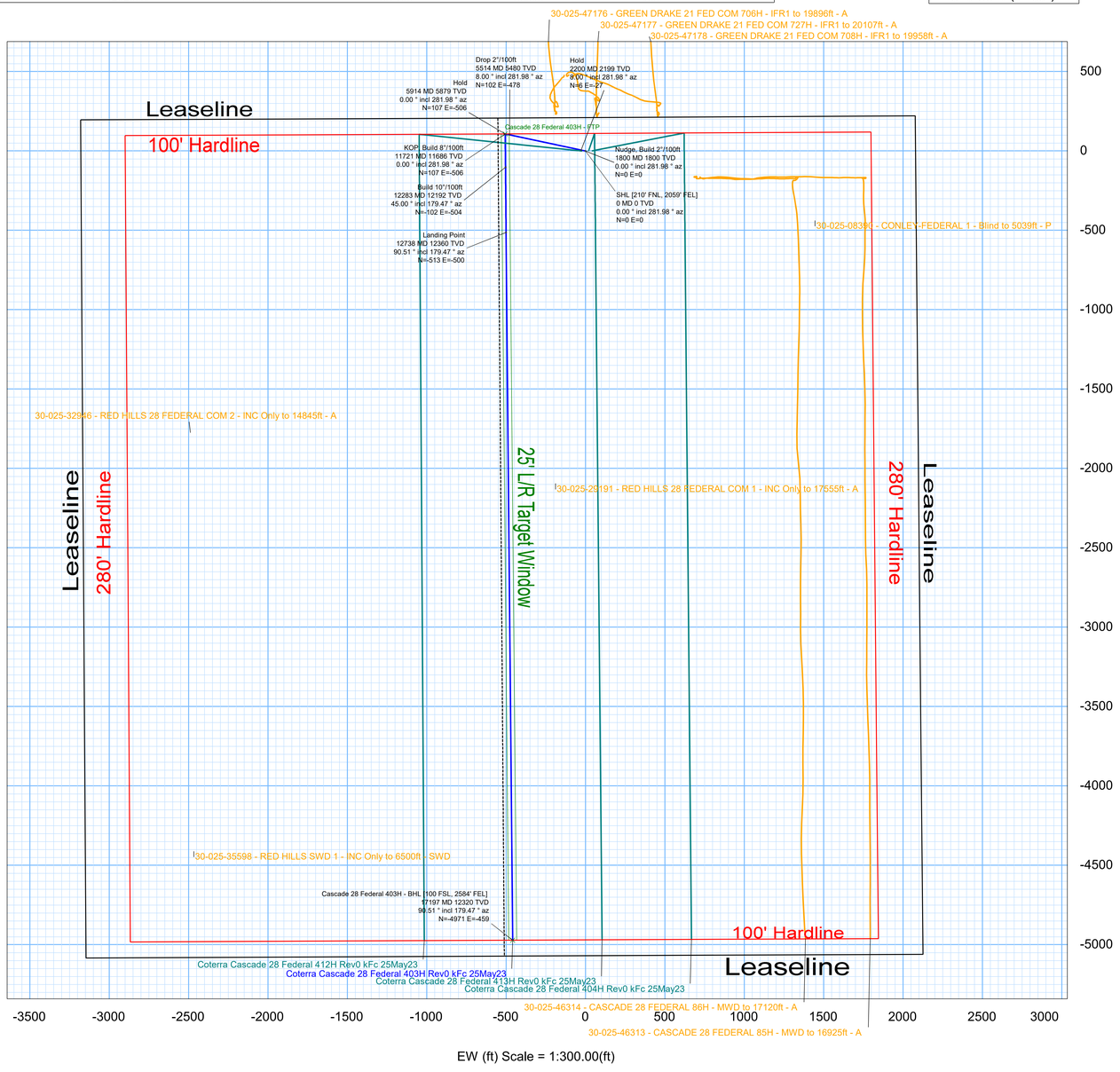
Plan ref	Coterra Cascade 28 Federal 403H Rev0 kFc 25May23
Drawing ref	
Copy number	of 3
Date	25-May-2023

1	Client	
2	Client	
3	Office	
4	Office	

Copy number for







Schlumberger

Coterra Cascade 28 Federal 404H Rev0 kFc 25May23 Anti-Collision Summary Report

Analysis Date-24hr Time:	May 25, 2023 - 03:24 PM (UTC 0)	**Analysis Method:**	3D Least Distance
Client:	COTERRA	**Reference Trajectory:**	Coterra Cascade 28 Federal 404H Rev0 kFc 25May23 (Def Plan)
Field:	NM Lea County (NAD 83)	**Depth Interval:**	Every 10.00 Measured Depth (ft)
Structure:	Coterra Cascade 28 Federal Pad	**Rule Set:**	NAL Procedure: D&M AntiCollision Standard S002
Slot:	Cascade 28 Federal 404H	**Min Pts:**	Absolute minima indicated.
Well:	Cascade 28 Federal 404H	**Engine Version:**	2022.5.0.11
Borehole:	Cascade 28 Federal 404H	**Database \ Project:**	Cascade 28 Federal 404H–COTERRA
Scan MD Range:	0.00ft ~ 17203.70ft		

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

Offset Trajectories Summary

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

12 out of 51 are selected

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
30-025-08390 - CONLEY-FEDERAL 1 - Blind to 5039ft - P (DefinitiveSurvey)													Fail Major
	1472.88	32.81	1471.02	1440.07	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1472.55	32.81	1470.65	1439.74	38906.15	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	1472.53	32.81	1470.63	1439.72	42973.56	MAS = 10.00 (m)	23.00	23.00				WRP	
	1472.49	444.95	1175.23	1027.54	4.98	OSF1.50	350.00	350.00	OSF<5.00			Enter Alert	
	1472.49	1482.73	483.37	-10.25	1.49	OSF1.50	850.00	850.00		OSF<1.50		Enter Minor	
	1472.49	2208.98	-0.72	-736.49	1.00	OSF1.50	1200.00	1200.00			OSF<1.00	Enter Major	
	1110.85	10247.65	-5721.47	-9136.80	0.16	OSF1.50	5110.00	5080.41				MinPt-O-ADP	
	1109.88	10246.64	-5721.77	-9136.76	0.16	OSF1.50	5120.00	5090.32				MINPT-O-EOU	
	1106.89	10234.36	-5716.57	-9127.47	0.16	OSF1.50	5160.00	5129.93				MinPt-O-SF	
	1105.10	10191.04	-5689.47	-9085.93	0.16	OSF1.50	5220.00	5189.34				MinPt-CtCt	
	2603.23	3906.35	-1.56	-1303.12	1.00	OSF1.50	7520.00	7479.92			OSF>1.00	Exit Major	
	3185.23	3193.06	1055.97	-7.83	1.50	OSF1.50	8140.00	8099.92		OSF>1.50		Exit Minor	
	5821.95	1748.88	4655.48	4073.07	5.00	OSF1.50	10850.00	10809.92	OSF>5.00			Exit Alert	
	7333.06	1153.30	6563.69	6179.77	9.55	OSF1.50	12750.00	12359.94				MinPt-CtCt	
	7454.84	2241.70	5959.86	5213.14	4.99	OSF1.50	14090.00	12347.92	OSF<5.00			Enter Alert	
	8580.59	5489.68	4920.29	3090.90	2.34	OSF1.50	17203.70	12320.00				MinPts	
Coterra Cascade 28 Federal 413H Rev0 kFc 25May23 (DefinitivePlan)													Fail Minor
	20.09	16.29	19.03	3.81	N/A	MAS = 4.96 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
	20.09	16.29	19.02	3.81	4475.27	MAS = 4.96 (m)	23.00	23.00				WRP	
	20.09	20.21	6.29	-0.12	1.49	OSF1.50	1340.00	1340.00		OSF<1.50		Enter Minor	
	20.09	27.13	1.68	-7.04	1.10	OSF1.50	1800.00	1800.00				MinPt-CtCt	
	20.25	27.57	1.53	-7.33	1.09	OSF1.50	1830.00	1830.00				MinPts	
	20.37	27.72	1.56	-7.36	1.09	OSF1.50	1840.00	1840.00				MinPt-O-ADP	
	30.02	30.68	9.24	-0.66	1.47	OSF1.50	2040.00	2039.72		OSF>1.50		Exit Minor	
	143.48	43.85	113.92	99.63	4.99	OSF1.50	2930.00	2921.61	OSF>5.00			Exit Alert	
	563.92	169.98	450.28	393.95	5.00	OSF1.50	11380.00	11339.92	OSF<5.00			Enter Alert	
	564.11	176.07	446.40	388.04	4.82	OSF1.50	11860.00	11819.14				MINPT-O-EOU	
	564.31	176.30	446.45	388.01	4.82	OSF1.50	11890.00	11848.49				MinPt-O-ADP	
	565.59	176.93	447.31	388.66	4.81	OSF1.50	11970.00	11925.22				MinPt-O-SF	
	589.12	177.51	470.46	411.62	5.00	OSF1.50	12330.00	12220.56	OSF>5.00			Exit Alert	
	622.56	171.21	508.09	451.35	5.48	OSF1.50	12743.50	12360.00				MinPt-CtCt	
	623.45	187.82	497.91	435.63	5.00	OSF1.50	14600.00	12343.35	OSF<5.00			Enter Alert	
	624.70	235.97	467.05	388.72	3.98	OSF1.50	17200.00	12320.03				MinPts	
	624.72	235.97	467.08	388.75	3.98	OSF1.50	17203.70	12320.00				TD	
Coterra Cascade 28 Federal 403H Rev0 kFc 25May23 (DefinitivePlan)													Warning Alert
	39.99	32.21	38.93	7.79	N/A	MAS = 9.82 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
	39.99	32.21	38.93	7.79	10986.87	MAS = 9.82 (m)	23.00	23.00				WRP	
	39.99	32.21	21.68	7.79	2.25	MAS = 9.82 (m)	1790.00	1790.00				MinPts	
	40.03	32.21	21.62	7.82	2.23	MAS = 9.82 (m)	1810.00	1810.00				MINPT-O-EOU	
	40.31	32.21	21.60	8.10	2.22	MAS = 9.82 (m)	1830.00	1830.00				MinPt-O-SF	
	107.39	33.34	84.84	74.05	4.93	OSF1.50	2250.00	2248.22	OSF>5.00			Exit Alert	
	1126.84	175.33	1009.63	951.51	9.69	OSF1.50	12560.00	12332.49				MinPt-CtCt	
	1126.86	239.75	966.71	887.12	7.07	OSF1.50	17203.70	12320.00				MinPts	
Coterra Cascade 28 Federal 412H Rev0 kFc 25May23 (DefinitivePlan)													Warning Alert
	59.99	32.81	58.93	27.18	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	59.99	32.81	58.93	27.18	15119.69	MAS = 10.00 (m)	23.00	23.00				WRP	
	59.99	32.81	47.19	27.18	4.99	MAS = 10.00 (m)	1240.00	1240.00	OSF<5.00			Enter Alert	
	59.99	32.81	43.68	27.18	3.85	MAS = 10.00 (m)	1590.00	1590.00				MinPts	
	60.16	32.81	43.46	27.35	3.76	MAS = 10.00 (m)	1630.00	1630.00				MINPT-O-EOU	
	61.73	32.81	44.35	28.92	3.70	MAS = 10.00 (m)	1700.00	1700.00				MinPt-O-SF	
	96.06	32.81	75.84	63.25	4.94	MAS = 10.00 (m)	2010.00	2009.81	OSF>5.00			Exit Alert	
	1669.13	176.42	1551.19	1492.71	14.26	OSF1.50	11910.00	11867.90				MINPT-O-EOU	
	1669.30	176.63	1551.22	1492.67	14.25	OSF1.50	11940.00	11896.74				MinPt-O-ADP	
	1669.89	176.84	1551.67	1493.05	14.24	OSF1.50	12000.00	11953.27				MinPt-O-SF	
	1691.30	176.67	1573.20	1514.64	14.43	OSF1.50	12743.50	12360.00				MINPT-O-EOU	
	1704.44	240.24	1543.95	1464.20	10.68	OSF1.50	17203.70	12320.00				MinPts	
30-025-47178 - GREEN DRAKE 21 FED COM 708H - IFR1 to 19958ft - A (DefinitiveSurvey)													Warning Alert
	492.66	32.81	490.80	459.86	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	492.63	32.81	490.75	459.82	36960.29	MAS = 10.00 (m)	23.00	23.00				WRP	
	475.45	32.81	467.17	442.64	73.86	MAS = 10.00 (m)	720.00	720.00				MinPts	
	475.72	32.81	466.88	442.91	67.93	MAS = 10.00 (m)	780.00	780.00				MINPT-O-EOU	
	254.16	77.42	201.99	176.74	5.00	OSF1.50	4960.00	4931.87	OSF<5.00			Enter Alert	
	226.50	92.77	164.10	133.73	3.70	OSF1.50	5920.00	5882.54				MinPt-CtCt	
	226.73	93.50	163.85	133.23	3.68	OSF1.50	5970.00	5932.05				MINPT-O-EOU	
	227.09	93.93	163.92	133.16	3.66	OSF1.50	6000.00	5961.76				MinPt-O-ADP	
	231.63	116.17	153.62	115.45	3.01	OSF1.50	7620.00	7579.92				MinPt-CtCt	
	231.94	117.09	153.32	114.85	2.99	OSF1.50	7690.00	7649.92				MINPT-O-EOU	
	232.26	117.49	153.38	114.77	2.99	OSF1.50	7720.00	7679.92				MinPt-O-ADP	
	195.57	171.34	80.83	24.23	1.71	OSF1.50	11470.00	11429.92				MinPt-CtCt	
	196.27	175.17	78.97	21.09	1.68	OSF1.50	11750.00	11709.91				MinPt-CtCt	
	196.31	175.26	78.96	21.05	1.68	OSF1.50	11760.00	11719.91				MinPts	
	547.81	167.49	435.64	380.32	4.94	OSF1.50	12400.00	12262.98	OSF>5.00			Exit Alert	
	5214.86	181.80	5093.15	5033.06	43.38	OSF1.50	17203.70	12320.00				TD	
30-025-47177 - GREEN DRAKE 21 FED COM 727H - IFR1 to 20107ft - A (DefinitiveSurvey)													Warning Alert
	501.27	32.81	499.40	468.46	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	501.24	32.81	499.37	468.43	114657.95	MAS = 10.00 (m)	23.00	23.00				WRP	
	494.83	32.81	488.22	462.02	103.85	MAS = 10.00 (m)	560.00	560.00				MinPts	
	494.95	32.81	488.06	462.14	98.19	MAS = 10.00 (m)	590.00	590.00				MINPT-O-EOU	
	417.37	44.10	387.96	373.82	14.71	OSF1.50	2920.00	2911.70				MinPt-CtCt	
	419.58	51.06	384.98	368.52	12.69	OSF1.50	3370.00	3357.33				MINPT-O-EOU	
	421.13	52.91	385.30	368.22	12.28	OSF1.50	3490.00	3476.16				MinPt-O-ADP	
	413.05	72.40	364.23	340.65	8.72	OSF1.50	4750.00	4723.91				MinPt-CtCt	
	413.09	72.55	364.17	340.54	8.71	OSF1.50	4760.00	4733.82				MINPT-O-EOU	
	413.20	72.69	364.18	340.51	8.69	OSF1.50	4770.00	4743.72				MinPt-O-ADP	
	416.07	73.58	366.46	342.49	8.64	OSF1.50	4840.00	4813.04				MinPt-O-SF	

Results highlighted in red: Sep-Factor <= 1.5
Result highlighted in boxed, red and bold: all local minima indicated.

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	562.77	143.52	466.54	419.26	5.93	OSF1.50	9650.00	9609.92				MinPt-CtCt	
	559.07	151.57	457.47	407.50	5.58	OSF1.50	10200.00	10159.92				MinPt-CtCt	
	550.57	166.46	439.04	384.11	5.00	OSF1.50	11210.00	11169.92	OSF<5.00			Enter Alert	
	550.01	167.85	437.56	382.16	4.95	OSF1.50	11310.00	11269.92				MinPt-CtCt	
	550.31	168.95	437.13	381.36	4.92	OSF1.50	11390.00	11349.92				MinPts	
	552.13	172.18	436.84	379.95	4.84	OSF1.50	11620.00	11579.92				MINPT-O-EOU	
	553.03	173.33	436.96	379.70	4.82	OSF1.50	11700.00	11659.92				MinPt-O-ADP	
	554.14	173.94	437.67	380.20	4.81	OSF1.50	11770.00	11729.89				MinPt-O-SF	
	582.85	176.37	464.76	406.48	4.99	OSF1.50	12090.00	12034.43	OSF>5.00			Exit Alert	
	5222.77	182.70	5100.46	5040.07	43.23	OSF1.50	17203.70	12320.00				TD	
30-025-46314 - CASCADE 28 FEDERAL 86H - MWD to 17120ft - A (DefinitiveSurvey)													Warning Alert
	683.96	32.81	682.09	651.15	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	683.93	32.81	682.06	651.12	116537.08	MAS = 10.00 (m)	23.00	23.00				WRP	
	664.93	32.81	651.58	632.12	56.76	MAS = 10.00 (m)	1260.00	1260.00				MinPts	
	665.15	32.81	651.35	632.34	54.67	MAS = 10.00 (m)	1310.00	1310.00				MINPT-O-EOU	
	575.37	46.74	543.66	528.63	19.09	OSF1.50	3180.00	3169.17				MinPt-CtCt	
	575.47	47.13	543.50	528.34	18.93	OSF1.50	3210.00	3198.88				MINPT-O-EOU	
	575.68	47.39	543.54	528.30	18.83	OSF1.50	3230.00	3218.69				MinPt-O-ADP	
	575.16	64.47	531.62	510.68	13.70	OSF1.50	4330.00	4308.00				MinPt-CtCt	
	575.55	65.65	531.23	509.90	13.45	OSF1.50	4410.00	4387.22				MINPT-O-EOU	
	577.00	67.33	531.55	509.66	13.14	OSF1.50	4520.00	4496.15				MinPt-O-ADP	
	582.98	76.47	531.44	506.51	11.66	OSF1.50	5090.00	5060.61				MinPt-CtCt	
	586.35	83.72	529.98	502.63	10.69	OSF1.50	5550.00	5516.14				MINPT-O-EOU	
	586.00	92.72	523.64	493.28	9.63	OSF1.50	6100.00	6060.83				MinPt-CtCt	
	586.19	93.35	523.40	492.83	9.56	OSF1.50	6140.00	6100.56				MINPT-O-EOU	
	586.43	93.67	523.43	492.77	9.53	OSF1.50	6160.00	6120.44				MinPt-O-ADP	
	598.14	97.24	532.76	500.90	9.36	OSF1.50	6400.00	6359.92				MinPt-O-SF	
	758.12	129.08	671.51	629.04	8.91	OSF1.50	8570.00	8529.92				MinPt-CtCt	
	758.68	140.50	664.46	618.18	8.18	OSF1.50	9360.00	9319.92				MinPt-CtCt	
	760.47	145.16	663.15	615.32	7.93	OSF1.50	9680.00	9639.92				MINPT-O-EOU	
	761.21	146.03	663.30	615.18	7.89	OSF1.50	9740.00	9699.92				MinPt-O-ADP	
	683.36	178.20	564.04	505.15	5.79	OSF1.50	12440.00	12284.08				MinPts	
	683.57	178.29	564.20	505.28	5.79	OSF1.50	12460.00	12293.72				MinPt-O-SF	
	715.50	196.77	583.81	518.73	5.49	OSF1.50	14060.00	12348.19				MinPt-CtCt	
	715.72	197.41	583.60	518.31	5.47	OSF1.50	14090.00	12347.92				MINPT-O-EOU	
	715.90	197.62	583.64	518.28	5.46	OSF1.50	14100.00	12347.83				MinPt-O-ADP	
	721.32	199.98	587.49	521.34	5.44	OSF1.50	14210.00	12346.85				MinPt-O-SF	
	733.91	206.97	595.41	526.93	5.35	OSF1.50	14440.00	12344.79				MinPt-CtCt	
	734.72	210.04	594.18	524.68	5.27	OSF1.50	14550.00	12343.80				MINPT-O-EOU	
	735.61	211.15	594.33	524.46	5.25	OSF1.50	14590.00	12343.44				MinPt-O-ADP	
	730.92	220.61	583.33	510.31	4.99	OSF1.50	14880.00	12340.84	OSF<5.00			Enter Alert	
	727.11	233.80	570.73	493.30	4.69	OSF1.50	15280.00	12337.25				MinPt-CtCt	
	727.74	235.71	570.09	492.03	4.65	OSF1.50	15340.00	12336.71				MINPT-O-EOU	
	728.26	236.33	570.19	491.93	4.64	OSF1.50	15360.00	12336.53				MinPt-O-ADP	
	734.97	263.52	558.78	471.45	4.20	OSF1.50	16080.00	12330.08				MinPt-CtCt	
	721.86	284.34	531.79	437.52	3.82	OSF1.50	16610.00	12325.32				MinPt-CtCt	
	722.71	286.97	530.88	435.73	3.79	OSF1.50	16680.00	12324.70				MINPT-O-EOU	
	726.11	292.78	530.41	433.33	3.73	OSF1.50	16820.00	12323.44				MINPT-O-EOU	
	732.89	301.54	531.35	431.35	3.66	OSF1.50	17030.00	12321.56				MinPt-O-ADP	
	741.90	308.60	535.66	433.30	3.62	OSF1.50	17203.70	12320.00				MinPt-O-SF	
30-025-29191 - RED HILLS 28 FEDERAL COM 1 - INC Only to 17555ft - A (DefinitiveSurvey)													Warning Alert
	2108.62	32.81	2106.76	2075.82	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2108.62	32.81	2106.76	2075.82	N/A	MAS = 10.00 (m)	23.00	23.00				WRP	
	2108.62	106.06	2037.36	2002.56	30.27	OSF1.50	1800.00	1800.00				MinPt-CtCt	
	2114.69	124.71	2031.00	1989.98	25.76	OSF1.50	2140.00	2139.20				MINPT-O-EOU	
	2219.91	246.08	2055.30	1973.83	13.61	OSF1.50	4220.00	4199.06				MinPt-O-ADP	
	2339.66	703.76	1869.98	1635.90	4.99	OSF1.50	11870.00	11828.95	OSF<5.00			Enter Alert	
	831.02	738.56	338.14	92.46	1.69	OSF1.50	14330.00	12345.77				MinPts	
	2450.06	737.47	1957.90	1712.59	4.99	OSF1.50	16630.00	12325.15	OSF>5.00			Exit Alert	
	2996.05	737.21	2504.07	2258.85	6.11	OSF1.50	17203.70	12320.00				TD	
30-025-47176 - GREEN DRAKE 21 FED COM 706H - IFR1 to 19896ft - A (DefinitiveSurvey)													Pass
	510.91	32.81	509.04	478.10	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	510.87	32.81	509.00	478.07	68747.39	MAS = 10.00 (m)	23.00	23.00				WRP	
	498.75	32.81	488.83	465.94	61.71	MAS = 10.00 (m)	890.00	890.00				MINPT-O-EOU	
	497.99	32.81	484.60	465.18	42.31	MAS = 10.00 (m)	1260.00	1260.00				MinPts	
	476.39	32.81	455.10	443.58	24.19	MAS = 10.00 (m)	2040.00	2039.72				MinPts	
	476.76	32.81	454.77	443.95	23.38	MAS = 10.00 (m)	2110.00	2109.40				MINPT-O-EOU	
	506.52	49.35	473.07	457.17	15.88	OSF1.50	3230.00	3218.69				MinPt-O-ADP	
	633.15	73.23	583.78	559.92	13.23	OSF1.50	4850.00	4822.94				MinPt-O-SF	
	832.79	103.49	763.25	729.30	12.24	OSF1.50	6930.00	6889.92				MINPT-O-EOU	
	837.93	118.64	758.28	719.29	10.72	OSF1.50	7960.00	7919.92				MinPt-CtCt	
	815.14	148.61	715.51	666.53	8.30	OSF1.50	10000.00	9959.92				MinPt-CtCt	
	815.39	149.41	715.24	665.99	8.26	OSF1.50	10060.00	10019.92				MINPT-O-EOU	
	817.12	151.42	715.62	665.70	8.17	OSF1.50	10200.00	10159.92				MinPt-O-ADP	
	812.21	163.58	702.61	648.63	7.51	OSF1.50	11020.00	10979.92				MinPt-CtCt	
	812.37	164.08	702.43	648.29	7.49	OSF1.50	11060.00	11019.92				MINPT-O-EOU	
	812.59	164.33	702.48	648.26	7.48	OSF1.50	11080.00	11039.92				MinPt-O-ADP	
	824.90	173.74	708.56	651.16	7.17	OSF1.50	11740.00	11699.92				MINPT-O-EOU	
	824.96	173.81	708.58	651.15	7.17	OSF1.50	11750.00	11709.91				MinPt-O-ADP	
	826.25	174.27	709.56	651.98	7.16	OSF1.50	11820.00	11779.65				MinPt-O-SF	
	5313.27	182.06	5191.38	5131.20	44.13	OSF1.50	17203.70	12320.00				TD	
30-025-46313 - CASCADE 28 FEDERAL 85H - MWD to 16925ft - A (DefinitiveSurvey)													Pass
	703.40	32.81	701.54	670.59	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	703.37	32.81	701.51	670.56	2977743.37	MAS = 10.00 (m)	23.00	23.00				WRP	
	703.31	32.81	700.01	670.50	490.57	MAS = 10.00 (m)	230.00	230.00				MinPts	
	701.31	32.81	691.40	668.50	86.97	MAS = 10.00 (m)	890.00	890.00				MINPT-O-EOU	
	699.48	32.81	687.11	666.67	65.14	MAS = 10.00 (m)	1160.00	1160.00				MinPts	
	699.75	32.81	686.81	666.94	61.92	MAS = 10.00 (m)	1220.00	1220.00				MINPT-O-EOU	
	629.20	44.76	598.81	584.44	21.84	OSF1.50	3040.00	3030.54				MinPt-CtCt	
	629.32	45.13	598.68	584.19	21.66	OSF1.50	3070.00	3060.24				MINPT-O-EOU	
	629.43	45.25	598.71	584.18	21.60	OSF1.50	3080.00	3070.15				MinPt-O-ADP	
	678.35	66.62	633.39	611.73	15.63	OSF1.50	4450.00	4426.83				MinPt-CtCt	
	678.79	67.95	632.94	610.84	15.32	OSF1.50	4540.00	4515.95				MINPT-O-EOU	
	679.29	68.54	633.04	610.76	15.20	OSF1.50	4580.00	4555.56				MinPt-O-ADP	
	681.16	75.45	630.33	605.74	13.81	OSF1.50	5010.00	4981.38				MinPt-CtCt	
	681.34	75.85	630.22	605.49	13.74	OSF1.50	5040.00	5011.09				MINPT-O-EOU	
	681.45	75.98	630.24	605.47	13.72	OSF1.50	5050.00	5021.00				MinPt-O-ADP	
	746.26	95.16	682.26	651.10	11.95	OSF1.50	6280.00	6240.03				MinPt-O-SF	
	969.06	114.49	892.18	854.58	12.86	OSF1.50	7570.00	7529.92				MinPt-O-SF	
	1155.88	161.36	1047.75	994.52	10.84	OSF1.50	10740.00	10699.92				MinPt-CtCt	
	1158.13	170.87	1043.67	987.27	10.25	OSF1.50	11390.00	11349.92				MinPts	
	1159.08	173.38	1042.98	985.70	10.10	OSF1.50	11570.00	11529.92				MINPT-O-EOU	
	1160.26	175.58	1042.69	984.68	9.99	OSF1.50	11725.86	11685.78				MINPT-O-EOU	
	1158.27	176.87	1039.84	981.40	9.90	OSF1.50	11970.00	11925.22				MinPt-CtCt	
	1158.30	176.96	1039.82	981.34	9.89	OSF1.50	12000.00	11953.27				MINPT-O-EOU	
	1158.32	176.99	1039.82	981.34	9.89	OSF1.50	12010.00	11962.52				MinPt-O-ADP	
	1144.61	179.01	1024.76	965.60	9.66	OSF1.50	12520.00	12318.91				MinPt-CtCt	
	1144.63	179.06	1024.74	965.57	9.66	OSF1.50	12530.00	12322.55				MINPT-O-EOU	
	1144.66	179.11	1024.75	965.55	9.66	OSF1.50	12540.00	12326.03				MinPt-O-ADP	
	1113.92	187.52	988.40	926.40	8.97	OSF1.50	13310.00	12354.92				MinPt-CtCt	
	1114.18	188.26	988.16	925.92	8.94	OSF1.50	13360.00	12354.47				MINPT-O-EOU	
	1114.69	188.87	988.27	925.82	8.91	OSF1.50	13400.00	12354.11				MinPt-O-ADP	
	1120.99	211.17	979.70	909.82	8.01	OSF1.50	14380.00	12345.32				MinPt-CtCt	
	1119.70	221.01	971.85	898.69	7.64	OSF1.50	14710.00	12342.36				MinPt-CtCt	
	1120.32	223.06	971.10	897.26	7.58	OSF1.50	14780.00	12341.74				MINPT-O-EOU	
	1121.31	224.23	971.31	897.08	7.54	OSF1.50	14820.00	12341.38				MinPt-O-ADP	
	1118.78	251.13	950.85	867.66	6.71	OSF1.50	15580.00	12334.56				MinPt-CtCt	
	1122.28	258.51	949.43	863.77	6.54	OSF1.50	15780.00	12332.77				MINPT-O-EOU	
	1131.16	272.39	949.06	858.77	6.26	OSF1.50	16130.00	12329.63				MINPT-O-EOU	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	1130.67	285.47	939.85	845.21	5.97	OSF1.50	16440.00	12326.85				MinPt-CtCt	
	1126.83	315.28	916.14	811.56	5.38	OSF1.50	17130.00	12320.66				MinPt-CtCt	
	1126.66	318.59	913.75	808.06	5.32	OSF1.50	17203.70	12320.00				MinPts	
30-025-32946 - RED HILLS 28 FEDERAL COM 2 - INC Only to 14845ft - A (DefinitiveSurvey)													Pass
	3089.00	32.81	3087.14	3056.19	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3089.00	32.81	3087.12	3056.19	187746.60	MAS = 10.00 (m)	23.00	23.00				WRP	
	3089.00	106.61	3017.37	2982.39	44.13	OSF1.50	1800.00	1800.00				MinPt-CtCt	
	3092.12	115.59	3014.51	2976.53	40.69	OSF1.50	1940.00	1939.94				MINPT-O-EOU	
	3095.37	119.47	3015.18	2975.91	39.39	OSF1.50	2000.00	1999.84				MinPt-O-ADP	
	3126.68	910.15	2519.41	2216.54	5.16	OSF1.50	13980.00	12348.91				MinPts	
	3126.69	910.15	2519.41	2216.54	5.16	OSF1.50	13990.00	12348.82				MinPt-O-SF	
	4488.93	910.72	3881.27	3578.21	7.40	OSF1.50	17203.70	12320.00				TD	
30-025-35598 - RED HILLS SWD 1 - INC Only to 6500ft - SWD (DefinitiveSurvey)													Pass
	5074.50	32.81	5072.63	5041.69	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	5074.49	32.81	5072.56	5041.68	74279.20	MAS = 10.00 (m)	23.00	23.00				WRP	
	5074.49	93.92	5011.32	4980.57	82.47	OSF1.50	1800.00	1800.00				MinPt-CtCt	
	5077.78	103.78	5008.03	4973.99	74.56	OSF1.50	1970.00	1969.90				MINPT-O-EOU	
	5081.60	108.34	5008.81	4973.25	71.43	OSF1.50	2050.00	2049.68				MinPt-O-ADP	
	5341.11	326.87	5122.64	5014.24	24.63	OSF1.50	4850.00	4822.94				MINPT-O-EOU	
	5371.07	362.99	5128.52	5008.08	22.29	OSF1.50	5160.00	5129.93				MinPt-O-ADP	
	5478.44	464.53	5168.20	5013.91	17.75	OSF1.50	6550.00	6509.92				MinPts	
	5478.63	464.57	5168.36	5014.06	17.75	OSF1.50	6590.00	6549.92				MinPt-O-SF	
	6609.68	262.74	6434.01	6346.95	37.95	OSF1.50	16670.00	12324.79				MinPt-CtCt	
	6609.86	263.30	6433.81	6346.55	37.87	OSF1.50	16720.00	12324.34				MINPT-O-EOU	
	6610.14	263.67	6433.86	6346.48	37.82	OSF1.50	16750.00	12324.07				MinPt-O-ADP	
	6631.05	270.74	6450.04	6360.31	36.94	OSF1.50	17203.70	12320.00				MinPt-O-SF	

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

Onshore Order No. 1 Surface Use Plan of Operations

Cimarex Energy Co.
Cascade 28 Federal W2E2 Pad
S ½ SW ¼, Section 28, T25S, R33E, NMPM
Lea County, New Mexico

Well Name	Surface Hole Locations
Cascade 28 Federal 403H	210' FNL / 2079' FEL
Cascade 28 Federal 404H	210' FNL / 2039' FEL
Cascade 28 Federal 412H	210' FNL / 2099' FEL
Cascade 28 Federal 413H	210' FNL / 2059' FEL

This surface use plan of operations provides site specific information for the above referenced wells located within the proposed "Cascade 28 Federal Project".

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:** No off-lease ROW is required.

2. **New Roads: See Exhibit D & Access Road Map & R-O-W Plats**
   a. **Road Construction:**
      - The proposed access road is approximately 480 feet in length. It will be 30 feet in width, containing a total of approximately 0.33 acres of disturbance on BLM surface. The existing road that runs to the proposed access road may need to be repaired. Graveling or capping the roadbed will be performed as necessary to provide a well-constructed safe road. Should conditions warrant, rock, gravel, or culverts will be installed as needed.
      - New access roads on BLM surface will be crowned (2 to 3%), ditched, and constructed with a running surface of 480' and a maximum disturbed width of 30'.
      - Surface disturbance and vehicular traffic will be limited to the approved location and access route.
   b. **Road Dimensions:**
      - Total Length: 480'
      - Construction Width: 30'
      - Travel Width: 20'
      - Max Slope: 0
      - Max Grade: 0

c. **New Road Drainage Crossings:**
   - **Location and size of culverts and/or low water crossings**: Should conditions warrant, rock, gravel or culverts will be installed as needed. The operator will clean and maintain approved culverts as needed.
   - **Drainage Control comments and Ditch Design:** All drainage ditches will be kept clear and free-flowing and will be maintained to good standards. All culverts will be kept free of trash, free-flowing, and serviceable. The access road disturbed area will be kept free of trash during operations. All traffic will be confined to the approved road running surface. Road drainage crossings shall be of the typical dry creek drainage crossing type. Crossings shall be designed so they will not cause excess siltation or accumulation of debris in the drainage, nor shall the drainage be blocked by the roadbed.

d. **Army Corp of Engineers (ACOE) permit:**, N/A
e. **Road Drainage Control Structures (DCS):** Drainage structures or drainage dips will be placed in all natural drainage ways
f. **New road access erosion control**: Erosion of drainage ditches by runoff water shall be prevented by diverting water off at frequent intervals by means of cutouts. Should mud holes develop, the holes shall be filled in and detours around the holes avoided.
g. **Road Plan or Profile prepared:** N/A
h. **Engineering Design:** N/A
i. **Turnouts:** N/A
j. **Surfacing Material Type:** Should conditions warrant, rock, gravel or culverts will be installed as needed.
k. **Source and storage of Topsoil:**
   - **Onsite:**
     i. **Depth:** 4”
     ii. **Removal process:** The topsoil shall be stripped and salvaged to provide for sufficient quantities to be respreads to a depth that will be determined at the on-site over the disturbed areas needing reclamation. Topsoil shall be stockpiled separately from subsoil materials.
l. **Other**: The road surface and shoulders will be kept in safe and usable condition and will be maintained to good standards. When snow is removed from the road during the winter months, the snow should be pushed outside of the borrow ditches, and the turnouts kept clear so that snowmelt will be channeled away from the road.

3. **Location of Wells: See Exhibit E 1 Mile Radius Map**

4. **Location of Production Facilities: See Exhibit J Location Layout**
   a. **Production Facilities:**
      - A Satellite pad will be constructed on the southeast corner of the proposed pad.
      - An existing battery pad (South) will be utilized.

- 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.

b. Proposed Pipelines: See Exhibit H SWD Pipeline ROW

- No SWD pipeline ROW is required. Existing infrastructure will be utilized.

c. Proposed Power lines: See Powerline ROW

- **BLM ROW:** New powerline ROW will parallel the bulkline ROW, so only one ROW is needed for the power/bulkline.

d. Bulklines Pipelines

- **Bulkline ROW: Bulkline ROW required, crossing from NMNM026394 to NMNM043562**
  - All proposed pipelines will be constructed in a 70' ROW corridor.
    - Bulklines
      - Cimarex Energy plans to construct off-lease bulklines to service the well.
      - 8- 12" HP steel for oil, gas, and water production.
      - Length: 6,484'.
      - MAOP: 1,500 psi; Anticipated working pressure: 200-300 psi.

5. Location and Types of Water Supply: See Water Haul Map

a. Source & Volume:

- **Source Type:** Commercial Water – NGL CTP – Treated Produced Water
- **Use:** Surface Casing and Intermediate/Production Casing
- **Location:** Latitude: 32.3070805, Longitude: -103.6602027, SW/NE, Section 15, T23S, R32E
- **Source Land Ownership:** Federal
- **Source Transportation Land Ownership:** Federal
- **Permit Type:** Water Right
- **Transportation Method:** Pipeline/Trucking
- **Volume:** 150,000 BBLS

6. 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: NM One Call (811), offset operators will be notified before construction starts, if necessary. Top 4" of soil and brush will be stockpiled near the well pad. Top 4" of soil and brush will be piled near the CTB. Caliche will be obtained from the actual well sit if available. If caliche is not available onsite, caliche will be

hauled from an existing caliche pit on private land in SWSE, Section 6, T23S, R32E or SENE, Section 3, T22S, R32E.

7. **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

8. Ancillary Facilities

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

9. **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.

10. Plans for Final Surface Reclamation

- New Surface Disturbance vs. No New Surface Disturbance

APPROXIMATE SURFACE DISTURBANCE AREAS	DISTANCE (feet)	ACRES
WELL SITE DISTURBANCE	NA	4.24
70’ WIDE Bulk Line R-O-W DISTURBANCE	757.80	1.28
30’ Wide Road	480	0.33
TOTAL SURFACE USE AREA:	NA	5.52

**The table can be modified as needed to incorporate any/all associated actions*

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:

- **Well/Road/Pipeline/Other (Powerline**): Vegetation types noted during onsite were shinnery oak, yucca, mesquite, and big blue stem.

e. **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.
f. **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.
g. **Soil Treatments:** As needed.
h. **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
    - **PLS pound per acre**: TBD
    - **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.
i. **Revegetation Operator Contact:**
    - **Name:**
    - **Phone #:**
    - **Email:**
    - **Seed method:** Broadcast over rough surface.
j. **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.

k. **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.

11. 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
- **Utility Lines**
  a. **Surface owner:** Bureau of Land Management
  b. **Contact/Office location:** Bureau of Land Management

**include surface ownership for all actions associated with the APD*

12. 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.
d. **Archeology:** A Class III Archeological Survey (19-0283) has been conducted by Archeologist. A copy of the reports was sent via email to the lead agency BLM Field Office.

13. Additional Information

Onsite Information: An onsite inspection was conducted for the Pad on 1/18/2018. Weather conditions were warm and sunny at the time of the onsite. In attendance at the inspection were the following individuals:

Attendee	Organization/Affiliate
Unknown	Cimarex/Coterra
Jeff Robertson	BLM
Cimarex Energy personnel on site:	BLM

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

Drilling, Completions Operational Matters
Operator: Cimarex Energy Co.
Address: 6001 Deuville 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

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

Drilling Plan Data Report
04/23/2024

APD ID: 10400093773
Submission Date: 08/03/2023
Operator Name: CIMAREX ENERGY COMPANY
Well Name: CASCADE 28 FEDERAL
Well Number: 404H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

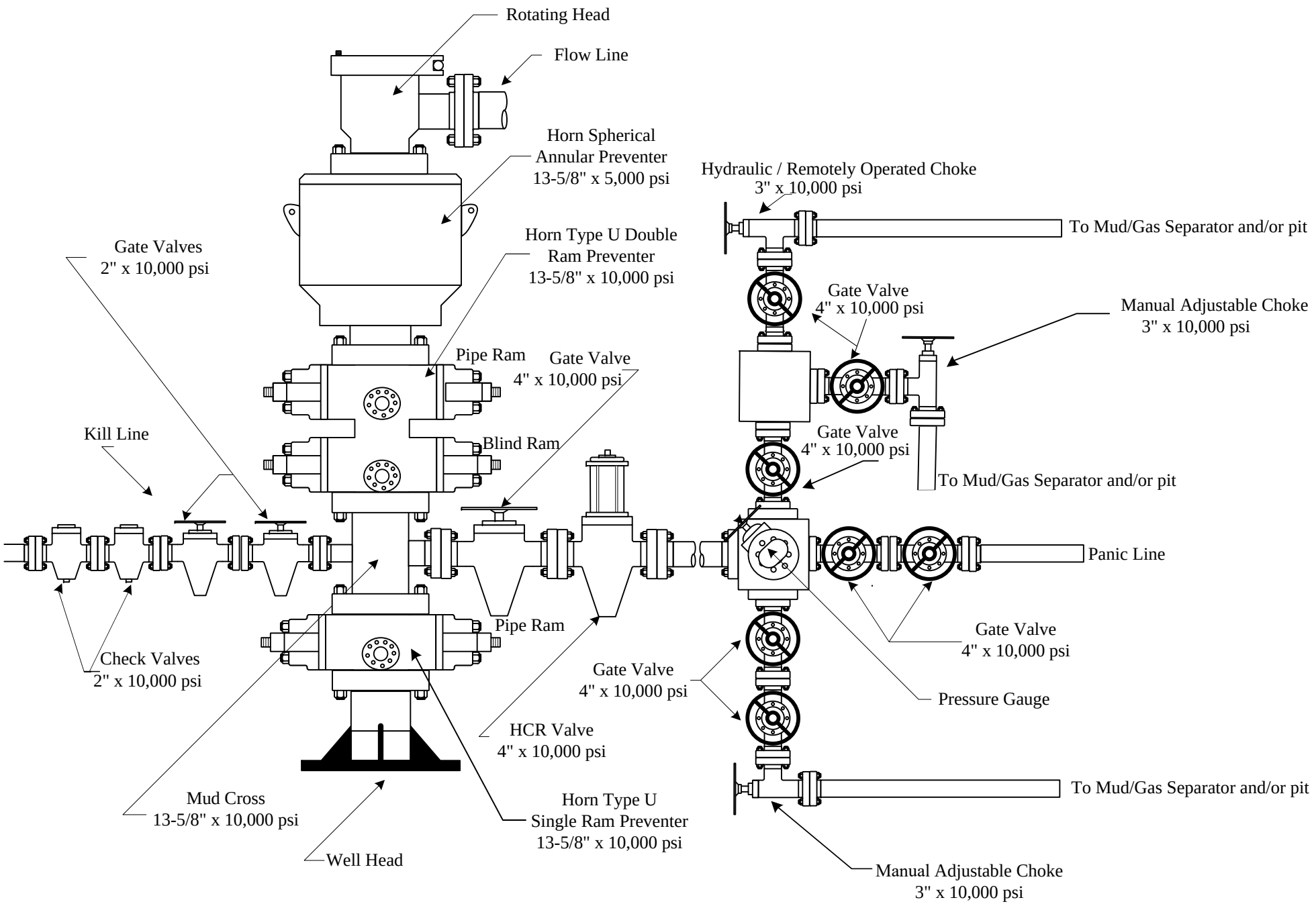
Show Final Text

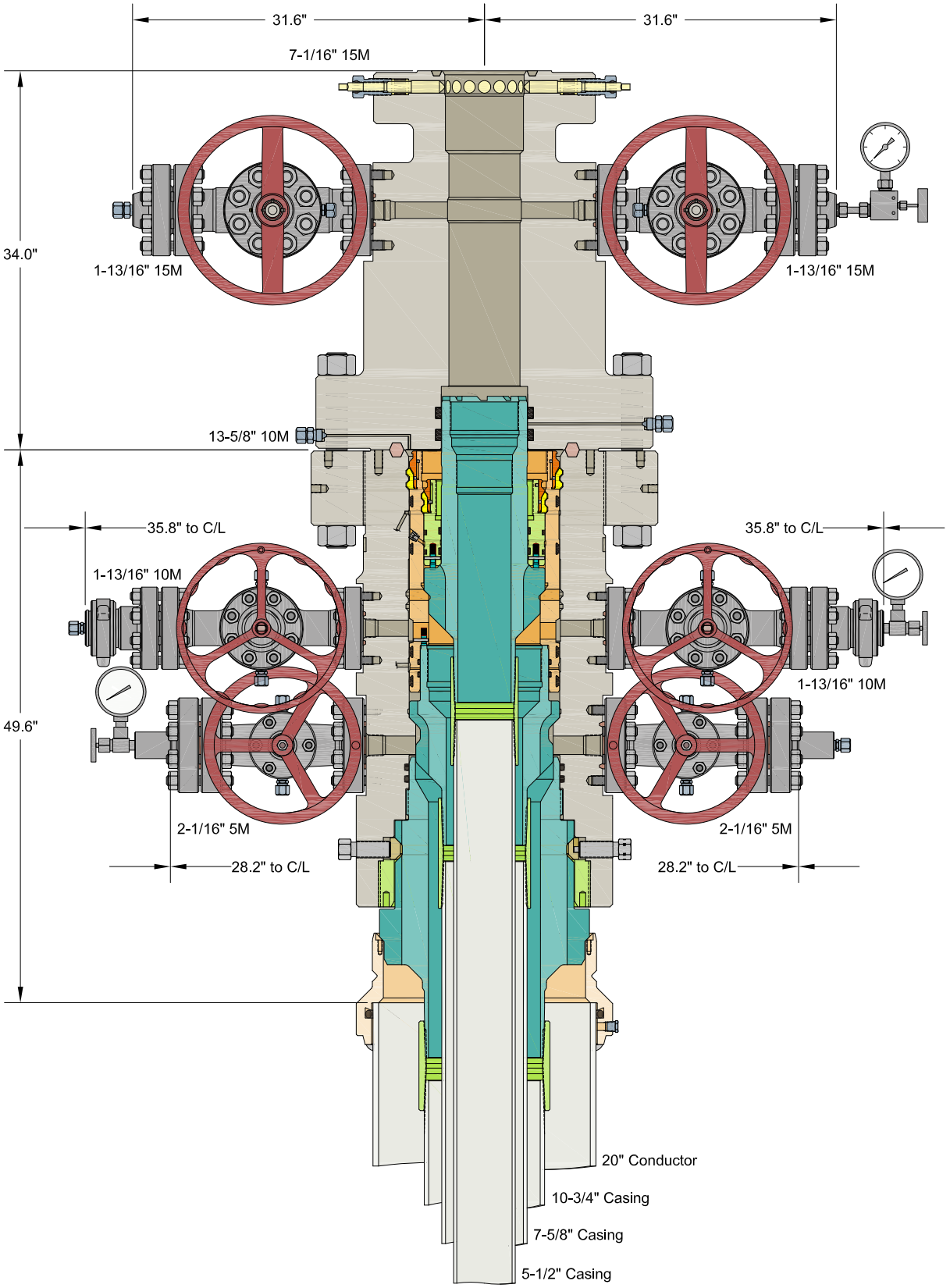
Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
13238845	RUSTLER	0	995	995	ANHYDRITE, SANDSTONE	USEABLE WATER	N
13238846	TOP SALT	-1340	1340	1340	ANHYDRITE	NONE	N
13238855	LAMAR	-4930	4930	4958	LIMESTONE	NONE	N
13238847	BASE OF SALT	-4930	4930	4958	ANHYDRITE	NONE	N
13238849	BELL CANYON	-4970	4970	4999	SANDSTONE	NONE	N
13238850	CHERRY CANYON	-5985	5985	6020	SANDSTONE	NONE	N
13238851	BRUSHY CANYON	-7575	7575	7610	SANDSTONE	NATURAL GAS, OIL	N
13238840	BRUSHY CANYON LOWER	-8920	8920	8955	SANDSTONE	NATURAL GAS	N
13238852	BONE SPRING	-9090	9090	9125	LIMESTONE	NATURAL GAS, OIL	N
13238853	UPPER AVALON SHALE	-9330	9330	9364	SHALE	NATURAL GAS, OIL	N
13238841	BONE SPRING 1ST	-10105	10105	10139	SANDSTONE	NATURAL GAS	N
13238842	BONE SPRING 2ND	-10685	10685	10719	SANDSTONE	NATURAL GAS	N
13238843	BONE SPRING 3RD	-11120	11120	11154	OTHER : Carbonate	NATURAL GAS	N
13238844	BONE SPRING 3RD	-11785	11785	11820	SANDSTONE	NATURAL GAS	N
13238854	WOLFCAMP	-12200	12200	17197	SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

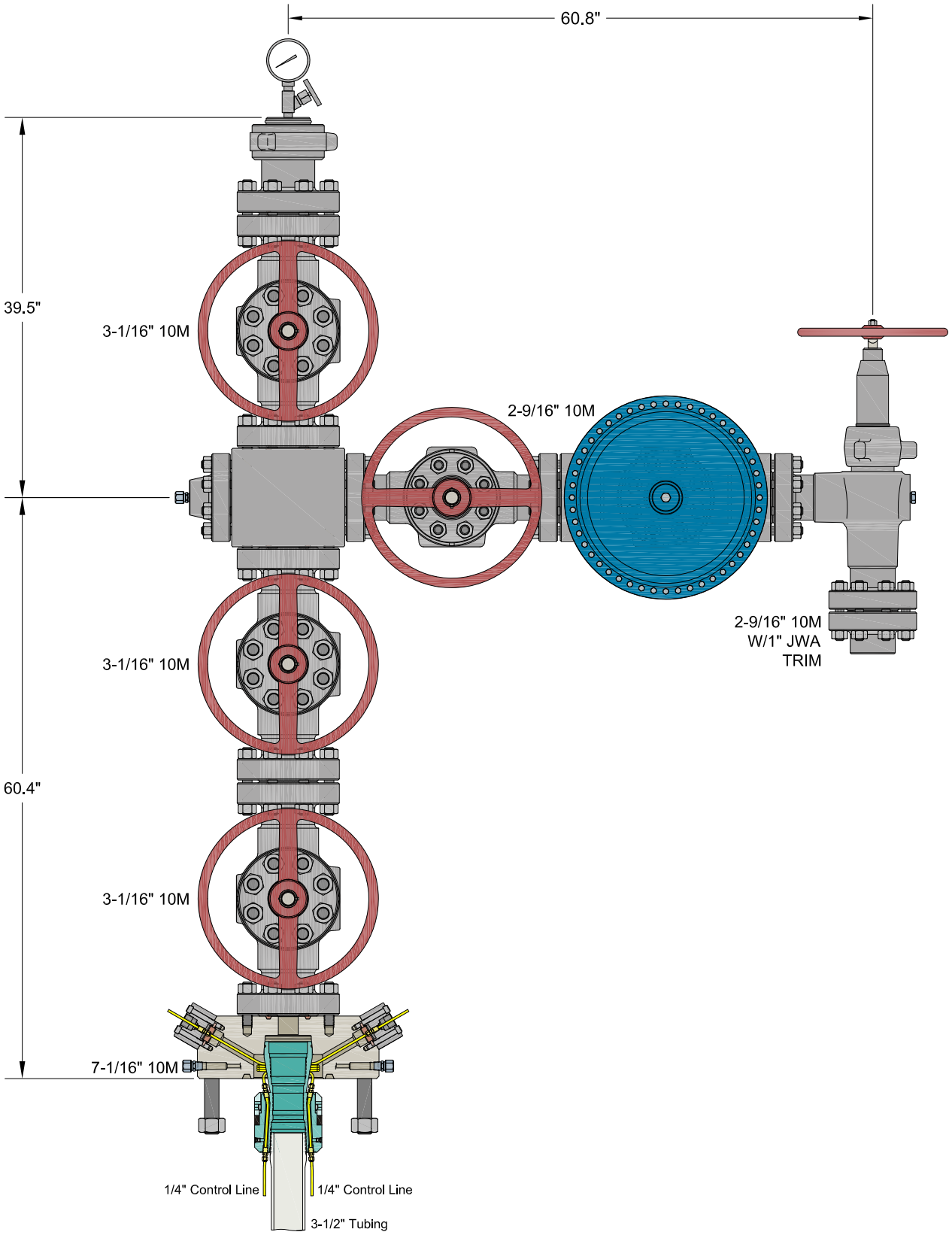
COTERRA





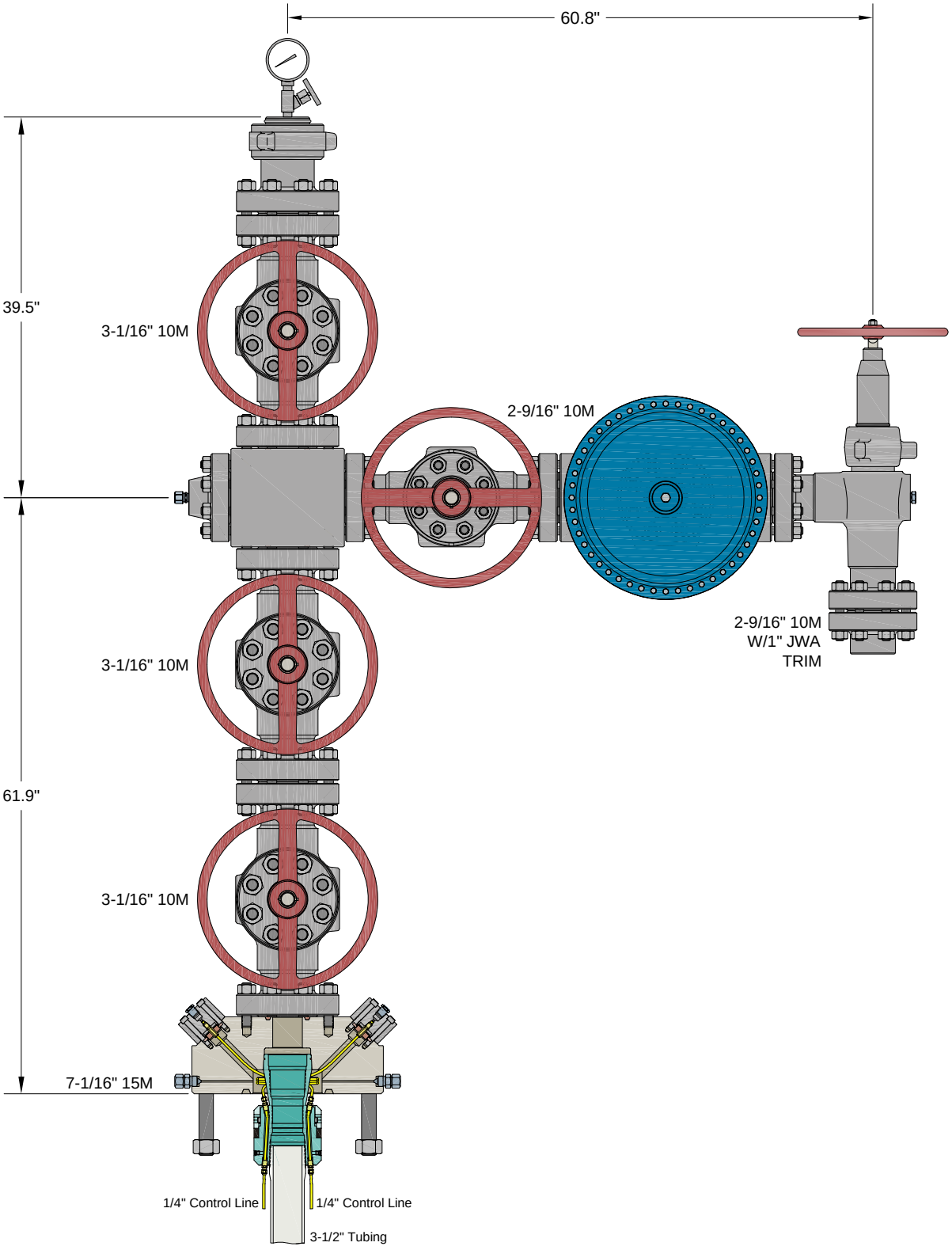
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	COTERRA ENERGY INC HOBBS, NM		
20" x 10-3/4" x 7-5/8" x 5-1/2" MBU-3T-CFL-R-DBLO-SF Wellhead With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head And 7-5/8" & 5-1/2" Mandrel Casing Hangers	DRAWN	VJK	07JUL23
	APPRV		
	DRAWING NO.	HBE0000965	



ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	CIMAREX HOBBS, NM
7-1/16" 10M x 3-1/16" x 2-9/16" 10M Production Tree Assembly With 7-1/16" 10M x 3-1/16" 10M T40-CCL Tubing Head Adapter And 7-1/16" 3-1/2" T40-CCL Tubing Hanger	DRAWN VJK 05SEP23 APPRV DRAWING NO. HBE0001018



ALL DIMENSIONS APPROXIMAT

CACTUS WELLHEAD LLC	CIMAREX HOBBS, NM
7-1/16" 15M x 3-1/16" x 2-9/16" 10M Production Tree Assembly With 7-1/16" 15M x 3-1/16" 10M T40-CCL Tubing Head Adapter And 7-1/16" 3-1/2" T40-CCL Tubing Hanger	DRAWN VJK 13DEC23 APPRV DRAWING NO. HBE0001018

Cactus

Quotation

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

Quote Number : HBE0001018

Date: 09/08/2023

Valid For 30 Days

Bill To: 7050

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

Ship To: 1016

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

	Quantity	Price	Ext Price

CIMAREX

HOBBS, NM

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

QUOTATION SUMMARY:

- PRODUCTION TREE ASSEMBLY - $49,338.02

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

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

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

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

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

Gates SO No. 31675	**Customer Name & Address:** **Gates Engineering & Services North America** **7603, Prairie Oak Drive** **Suite 190** **Houston, TX 77086** **United States**
Clients PO No: 1714987/ 0	
Description: 3" Choke & Kill Hose x 35ft	

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

SPECIFICATION

ITEM	DESCRIPTION	Drawing Num	QTY
2	3" Choke & Kill Hose x 35ft complete with 4.1/16" API 6A 10K Fixed Flange with BX155 Inlaid Ring Groove on one end & 4.1/16" API 6A 10K Swivel Flange with BX155 Inlaid Ring Groove On the other end	31675-DW-001, Rev 0	1
	Hose Batch: 120839		
	Hose Assembly: 120840		
	Customer Tag: N/A		
	Working Pressure: 10000 PSI		
	Test Pressure: 15000 PSI		
	Standard: API 16C		
	PSL: FSL 3		
	Material Grade: F		
	Temperature Rating: -25 to +100 Deg C		

Accepted by..S.A.Tait..... 17/02/20 ..... **for and on behalf of Gates Engineering & Services UK Ltd**

Gates Engineering & Services UK Limited QA Approved

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

	Certificate No:
☐ BURST ☑ HYDROSTATIC ☐ CYCLIC	31675-002

Product:	3” Choke & Kill Hose	**Hose WO/Batch:**	120839
Assembly WO:	120840	**Length:**	35Ft
SO No:	31675	**Date:**	11/02/20
Client:	Gates Engineering & Services North America	**Client Reference:**	1714987/ 0

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

Hose Description:	3” Choke & Kill Hose x 35ft complete with 4.1/16" API 6A 10K Fixed Flange with BX155 Inlaid Ring Groove on one end & 4.1/16" API 6A 10K Swivel Flange with BX155 Inlaid Ring Groove On the other end	
Item No	**Qty**	**Part Code**	**Customer Tag No (if applicable)**
2	1	HA31623-001	N/A

Details of Test:	Pressure tested with water at ambient temperature for 60 minutes at test pressure 1034 BAR, Chart recording done with Yokagawa Data Logger S/N: S5NC08915 Transducer ESI GS4200EX3000DE ID:TD/DC-002, S/N: 2018-741502 Calibration Certificate No: IKMCERTL9111
Results:	Pressure Loss: 11.4 Bar Acceptance Criteria: Pressure loss not to exceed - 34.47 Bar or 500 PSI

GESUK Ltd	Third Party
 17/02/20	

CR 374

File Message : 120840 FAT
Device Type : DX2000
Serial No. : S5NC08915

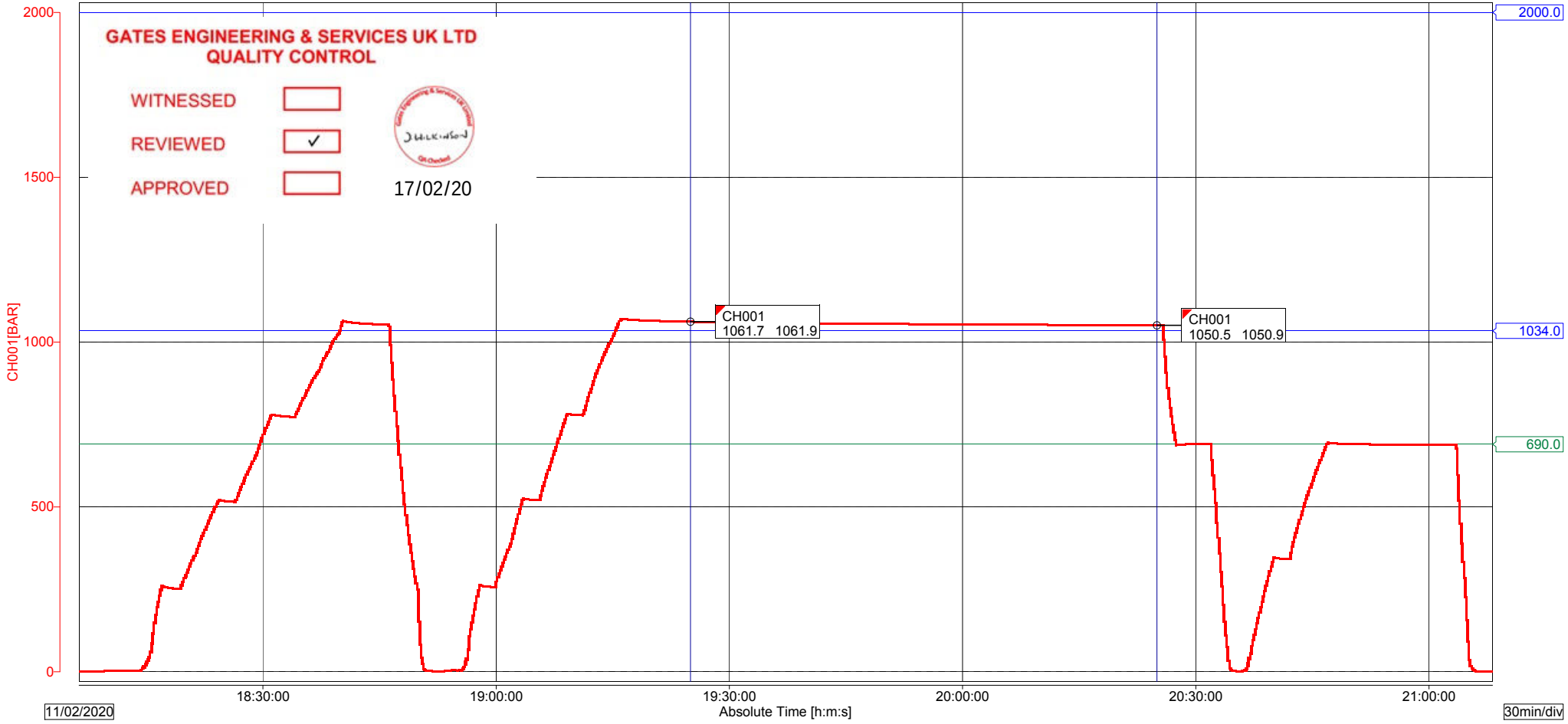
Start Time : 11/02/2020 18:06:20.000
Stop Time : 11/02/2020 21:08:10.000

Print Groups : GROUP 1
Print Range : 11/02/2020 18:06:20.000 - 11/02/2020 21:08:10.000
Comment : Factory Acceptance Test

		Cursor A	Cursor B	Difference
Data No.		472	832	360
Absolute Time		11/02/2020 19:25:00.000	11/02/2020 20:25:00.000	01:00:00.000
Channel		Value A	Value B	Value B-A
CH001 [BAR]	Max	1061.9	1050.9	-11.0
	Min	1061.7	1050.5	-11.2

Section 472 - 832 11/02/2020 19:25:00.000 - 11/02/2020 20:25:00.000

Channel	MIN	MAX	P-P	Mean	RMS
CH001[BAR]	1050.5	1061.9	11.4	1055.0	1055.1



TUSK LIFTING

REPORT OF THOROUGH EXAMINATION OF LIFTING EQUIPMENT

IN ACCORDANCE WITH LIFTING OPERATIONS AND LIFTING EQUIPMENT REGULATIONS 1998

ALL ITEMS ON THIS REPORT ARE SAFE TO USE

NAME & ADDRESS OF COMPANY FOR WHOM THE EXAMINATION WAS MADE	ADDRESS OF THE PREMISES WHERE THE EXAMINATION WAS MADE		
Gates Engineering & Services UK Ltd Bassington Drive Bassington Industrial Estate Cramlington NE23 8AS	Tusk Lifting Ltd 49D Sadler Forster Way Teesside Industrial Estate Stockton-On-Tees TS17 9JY	DATE OF REPORT	08/01/2020
		REPORT NO	13322
		CUSTOMER REFERENCE	052628
		CONTRACT NO.	0000059501

QTY	ID NO.	DESCRIPTION OF EQUIPMENT INCLUDING MANUFACTURER AND DATE OF MANUFACTURE	SWL / WLL	EWL	EXAM REASON (SEE BELOW)	TEST APPLIED	LATEST DATE OF NEXT THOROUGH EXAMINATION
50.00	643615/1 - 643615/50	10mm x 6ft HCP Coated Chain Sling c/w 4.75t Safety Pin Bow Shackle each end	4 TONNE	6 FT	B	VISUAL	08/07/2020

REASON FOR EXAMINATION: **A** - NEW INSTALLATION OR NEW LOCATION; **B** - WITHIN 6 MONTHS; **C** - WITHIN 12 MONTHS; **D** - WRITTEN SCHEME; **E** - EXCEPTIONAL CIRCUMSTANCES.

NAME AND QUALIFICATION OF PERSON MAKING THE REPORT

Jimmy Joyce, Company Approved Examiner

SIGNATURE

NAME OF THE PERSON AUTHENTICATING THE REPORT

Julie Montgomery, Planner

SIGNATURE

DATE OF THOROUGH EXAMINATION **08/01/2020**

OPERATING INSTRUCTIONS CAN BE FOUND ON OUR WEBSITE, HTTP://WWW.TUSKLIFTING.CO.UK
THE ORIGINAL MANUFACTURERS EC DECLARATION OF CONFORMITY IS HELD ON FILE AT OUR PREMISES AND IS AVAILABLE UPON REQUEST

Tusk Lifting Ltd.
49D Sadler Forster Way. Teesside Industrial Estate.
Stockton On Tees. TS17 9JY

T. 01642 915330
E. teesside@tusklifting.co.uk
W. tusklifting.co.uk

VAT. GB258876247
REG. 10497383

MAMMOET

LEEA Full Member

IMB52628

William Hackett
Lifting Products Limited

QUALITY SYSTEM CERTIFICATION DNV·GL ISO 9001
ENVIRONMENTAL SYSTEM CERTIFICATION DNV·GL ISO 14001
SAFETY SYSTEM CERTIFICATION DNV·GL ISO 45001
LEEA Full Member

DUAL PURPOSE DOCUMENT

EC DECLARATION OF CONFORMITY — A

DECLARATION

I DECLARE THAT THE ITEMS DESCRIBED ON THIS DOCUMENT COMPLY WITH THE REQUIREMENTS OF THE MACHINERY DIRECTIVE 2006/42/EC

MANUFACTURER'S CERTIFICATE — B

CERTIFIED ON BEHALF OF THE COMPANY

T.J. BURGESS 17/12/2019

Delivery Address		
TUSK LIFTING LTD (STOCK) 49D SADLER FORSTER WAY TEESIDE INDUSTRIAL ESTATE STOCKTON ON TEES TS17 9JY	**Supplied To:**	TUS002
	Certificate Number:	**L072222**
	Customer Order No:	7557
	Date Received:	17/12/2019

PRODUCTS REQUIRING A DECLARATION OF CONFORMITY ARE INDICATED BY (A)
THOSE REQUIRING JUST A MANUFACTURER'S CERTIFICATE BY (B)

Authorised person for the configuration of the declaration documents: Tim Burgess, William Hackett Lifting Products, Alnwick, UK

A/B	Batch	Lot No / Serial No	Product	Description	Qty	Working Load Limit	Proof Load	Min Breaking Load
A	P02637	643615/1-50	HNZZZ.100.TUSK	10mm grade 10 chain sling assembly. Comprising of: 1 x 4.75t Safety Bow Shackle, 1 x 10mm connector, 10mm grade 10 chain, 1 x 10mm connector and 1 x 4.75t Safety Bow Shackle.	50	4t		

OAK DRIVE, LIONHEART ENTERPRISE PARK, ALNWICK, NORTHUMBERLAND NE66 2EU
Tel. + 44 (0) 1665 604200 Fax. + 44 (0) 1665 604204 Email: info@williamhackett.co.uk
Website: www.williamhackett.co.uk Co. Registration No. 09679580 VAT Reg. No. 217 3508 23

Report Version 2-5

IMB52628

William Hackett
Lifting Products Limited

3.1 Material Certificate

DATE: 18.12.2019	**PURCHASE ORDER NO. 7557**

CUSTOMER	TUSK LIFTING LIMITED
ADDRESS	49D SADLER FORSTER WAY TEESIDE IND EST STOCKTON ON TEES TS17 9JY

PRODUCT CODE: ASV.100.5	Marking: 1235
DESCRIPTION: 10MM GRADE 10 LIFTING CHAIN – Q61076	

Chemical Composition –

	%
C	0,215
Si	0,216
Mn	1,222
P	0,0076
S	0,0071
Ni	0,947
Cr	0,554
Cu	-
Mo	0,595
AL	0,0337

Trading & Registered Office: Oak Drive, Lionheart Enterprise Park, Alnwick, Northumberland NE66 2EU
Tel: +44 (0) 1665 604200 Fax: +44 (0) 1665 604204 Email: info@williamhackett.co.uk
Website: www.williamhackett.co.uk CRN: 09679580 VAT Registration No. 217 3508 23

YOKE®

Safety is our first priority™

Q6|259

YOKE INDUSTRIAL CORP.
#39,33rd Road, Taichung Industrial Park,
TAICHUNG 407, TAIWAN
TEL:+886-4-2350 8088
FAX:+886-4-2350 1001

Test Certificate

80059145-000730

TO : WILLIAM HACKETT LIFTING PRODUCTS LTD
Oak Drive,
Lionheart Enterprise Park,
Alnwick, Northumberland, NE66 2EU,
United Kingdom
Tel: 44-1665604200

Invoice NO: 90059797

Description: ITEM: X-015-10
G100,Connecting Link,10mm,3/8"
Batch No : YUA
Quantity : 1,800 PC

C	Si	Mn	P	S	Cr	Mo	Ni	Fe
0.18~0.30	0.15~0.40	0.70~1.30	<0.035	<0.04	0.40~1.10	0.15~0.40	0.40~1.00	other

Material :	Alloy Steel	Proof Load Test 100% :	98.1kN
Mini. Breaking Load :	157kN	Fatigue Rate 20000 cycle :	58.8kN
Magnetic Flux Crack Tested :	100% of above quantity	Working Load Limit :	4.0tonnes

TESTING ACCORDING TO ASTM A952/A 952M、DIN PAS 1061、EN1677-1
ISO 9001:2015 Certification by DNV and API
Inspection Test Certificate meet the EN 10204 3.1

TEST RESULT
Pass

YOKE INDUSTRIAL CORP.

Jason Yu

Dated: May 14, 2019

Qualification: QA Manager

YOKE INDUSTRIAL CORP.
#39,33rd Road, Taichung Industrial Park,
TAICHUNG 407, TAIWAN
TEL:+886-4-2350 8088
FAX:+886-4-2350 1001

Safety is our first priority™

061396

IMB52628

Test Certificate

80062821-000450

TO: WILLIAM HACKETT LIFTING PRODUCTS,LTD
Oak Drive,
Lionheart Enterprise Park,
Alnwick, Northumberland, NE66 2EU,
United Kingdom
Tel: 44-1665604200

Invoice NO: 90064302

Description: ITEM: DA-808-19
DA Bolt Pin Anchor Shackle, 3/4"
(Your PO no. 601644)
Batch No : AAA/AA
Quantity : 1,142 PC

C	Si	Mn	P	S	Cr	Mo	Ni	Fe
0.38~0.43	0.15~0.35	0.60~1.00	<0.035	<0.040	0.90~1.00	0.15~0.30	<0.1%	other

Material :	Alloy Steel	Proof Load Test 100% :	93kN
Mini. Breaking Load :	373kN	Fatigue Rate 20000 cycle :	70kN
Magnetic Flux Crack Tested :	100% of above quantity	Impact Test (-40℃) :	42J
Working Load Limit :	4.75tonnes		

TESTING ACCORDING TO EN 13889、RR-C-271F、DNVGL-ST-E273、EN 12079-2、IMO/MSC Circular 860
ISO 9001:2015 Certification by DNVGL and API
Inspection Test Certificate meet the EN 10204 3.1
These shackle have been designed, approved and tested in accordance with
DNVGL-ST-E271 Offshore Containers
This certificate is based on DNVGL type approval NO. S-8059

TEST RESULT
Pass

YOKE INDUSTRIAL CORP.
Jason Yu
Dated: September 30, 2019
Qualification: QA Manager

IML52690

TUSK LIFTING

REPORT OF THOROUGH EXAMINATION OF LIFTING EQUIPMENT

IN ACCORDANCE WITH LIFTING OPERATIONS AND LIFTING EQUIPMENT REGULATIONS 1998

ALL ITEMS ON THIS REPORT ARE SAFE TO USE

NAME & ADDRESS OF COMPANY FOR WHOM THE EXAMINATION WAS MADE	ADDRESS OF THE PREMISES WHERE THE EXAMINATION WAS MADE		
Gates Engineering & Services UK Ltd Bassington Drive Bassington Industrial Estate Cramlington NE23 8AS	Tusk Lifting Ltd 49D Sadler Forster Way Teesside Industrial Estate Stockton-On-Tees TS17 9JY	DATE OF REPORT REPORT NO CUSTOMER REFERENCE CONTRACT NO.	21/01/2020 13586 052690 0000059627

QTY	ID NO.	DESCRIPTION OF EQUIPMENT INCLUDING MANUFACTURER AND DATE OF MANUFACTURE	SWL / WLL	EWL	EXAM REASON (SEE BELOW)	TEST APPLIED	LATEST DATE OF NEXT THOROUGH EXAMINATION
30.00	IMK52690/01 - IMK52690/30	3.6T Safety Clamp CS Galv - 195MM Material CERT : GI9268	3.6 TONNE	-	B	PROOF LOAD	21/07/2020
20.00	IML52690/01 - IML52690/20	3.6T Safety Clamp CS Galv - 195MM Material CERT : GI9268	3.6 TONNE	-	B	PROOF LOAD	21/07/2020

REASON FOR EXAMINATION: **A** - NEW INSTALLATION OR NEW LOCATION; **B** - WITHIN 6 MONTHS; **C** - WITHIN 12 MONTHS; **D** - WRITTEN SCHEME; **E** - EXCEPTIONAL CIRCUMSTANCES.

NAME AND QUALIFICATION OF PERSON MAKING THE REPORT

Jimmy Joyce, Company Approved Examiner

SIGNATURE

NAME OF THE PERSON AUTHENTICATING THE REPORT

Julie Montgomery, Planner

SIGNATURE

DATE OF THOROUGH EXAMINATION **21/01/2020**

OPERATING INSTRUCTIONS CAN BE FOUND ON OUR WEBSITE, HTTP://WWW.TUSKLIFTING.CO.UK
THE ORIGINAL MANUFACTURERS EC DECLARATION OF CONFORMITY IS HELD ON FILE AT OUR PREMISES AND IS AVAILABLE UPON REQUEST

Tusk Lifting Ltd.
49D Sadler Forster Way. Teesside Industrial Estate.
Stockton On Tees. TS17 9JY

T. 01642 915330
E. teesside@tusklifting.co.uk
W. tusklifting.co.uk

VAT. GB258876247
REG. 10497383

MAMMOET

LEEA Full Member

IML52690

CELSA STEEL UK
OFFICES: Build. 58, Castle Works, East Moors Road
CF24 5NN Cardiff (United Kingdom)

CELSA GROUP

CELSA MANUFACTURING UK

CE UK MADE

LRV ID N: 0038
06
Cert No: 0038/CPR/LRQ4002811/1
DOP: CELSAUK001 EN10025
Hot rolled structural steel products

INSPECTION CERTIFICATE
BS-EN 10204-2004, TYPE 3.1

Standard
BS-EN 10025-2004

Customer:
CARTER STEEL LTD
YARM ROAD, STOCKTON
TS18 3SA STOCKTON
United Kingdom

Destination:
CARTER STEEL LTD
YARM ROAD, STOCKTON
TS18 3SA STOCKTON
United Kingdom

Delivery number: 2550169238
Order number : 15705941
Your order : 11049

MATERIAL Hot rolled structural steel products	CAST	C %	MN %	SI %	S %	P %	Cr %	N %	Ni %	Cu %	Mo %	V %	CE %	Reh MPA	Rm MPA	A 5.65 %	T °C	Impact 1 J	Impact 2 J	Impact 3 J	Impact Avg. J
S275 JR+AR FL130X10 L.6m	CM124288	0.10	0.53	0.14	0.026	0.020	0.117	0.010	0.14	0.55	0.021	0.001	0.260	328	464	34.8					
S275 JR+AR FL130X10 L.6m	CM124288	0.10	0.53	0.14	0.026	0.020	0.117	0.010	0.14	0.55	0.021	0.001	0.260	325	467	35.3					
S275 JR+AR FL130X10 L.6m	CM124288	0.10	0.53	0.14	0.026	0.020	0.117	0.010	0.14	0.55	0.021	0.001	0.260	329	465	35.2					
S275 JR+AR FL130X10 L.6m	CM124288	0.10	0.53	0.14	0.026	0.020	0.117	0.010	0.14	0.55	0.021	0.001	0.260	323	465	35.2					
S275 JR+AR FL130X12 L.6m	CM124207	0.10	0.56	0.16	0.035	0.022	0.124	0.009	0.14	0.47	0.021	0.001	0.259	317	452	33.8					
S275 JR+AR FL130X12 L.6m	CM124207	0.10	0.56	0.16	0.035	0.022	0.124	0.009	0.14	0.47	0.021	0.001	0.259	323	451	33.8					
S275 JR+AR FL150X12 L.6m	CM127200	0.10	0.54	0.15	0.023	0.018	0.086	0.010	0.11	0.44	0.014	0.002	0.250	313	448	32.5					
S275 JR+AR FL150X12 L.6m	CM127200	0.10	0.54	0.15	0.023	0.018	0.086	0.010	0.11	0.44	0.014	0.002	0.250	308	450	32.0					
S275 JR+AR FL150X6 L.6m	CM127310	0.11	0.57	0.15	0.023	0.019	0.105	0.008	0.10	0.40	0.015	0.001	0.260	298	462	37.6					
S275 JR+AR FL150X6 L.6m	CM127310	0.11	0.57	0.15	0.023	0.019	0.105	0.008	0.10	0.40	0.015	0.001	0.260	319	459	32.5					
S275 JR+AR FL150X6 L.6m	CM127310	0.11	0.57	0.15	0.023	0.019	0.105	0.008	0.10	0.40	0.015	0.001	0.260	318	457	37.5					
S275 JR+AR FL50X15 L.6m	CM124647	0.08	0.53	0.14	0.023	0.020	0.097	0.012	0.20	0.52	0.021	0.001	0.244	320	448	33.2					
S275 JR+AR FL50X15 L.6m	CM124647	0.08	0.53	0.14	0.023	0.020	0.097	0.012	0.20	0.52	0.021	0.001	0.244	329	447	33.8					
S275 JR+AR FL50X15 L.6m	CM124647	0.08	0.53	0.14	0.023	0.020	0.097	0.012	0.20	0.52	0.021	0.001	0.244	326	448	33.9					
S275 JR+AR FL50X15 L.6m	CM124647	0.08	0.53	0.14	0.023	0.020	0.097	0.012	0.20	0.52	0.021	0.001	0.244	322	447	33.5					

Red. X

The materials has been evaluated and radiation is within national limits
Product suitable for galvanizing: 0.14<=Si<=0.25 & P<=0.035.

Steel making process
Electric arc

Certified that the material detailed hereon meets the requirements of the specified standard.

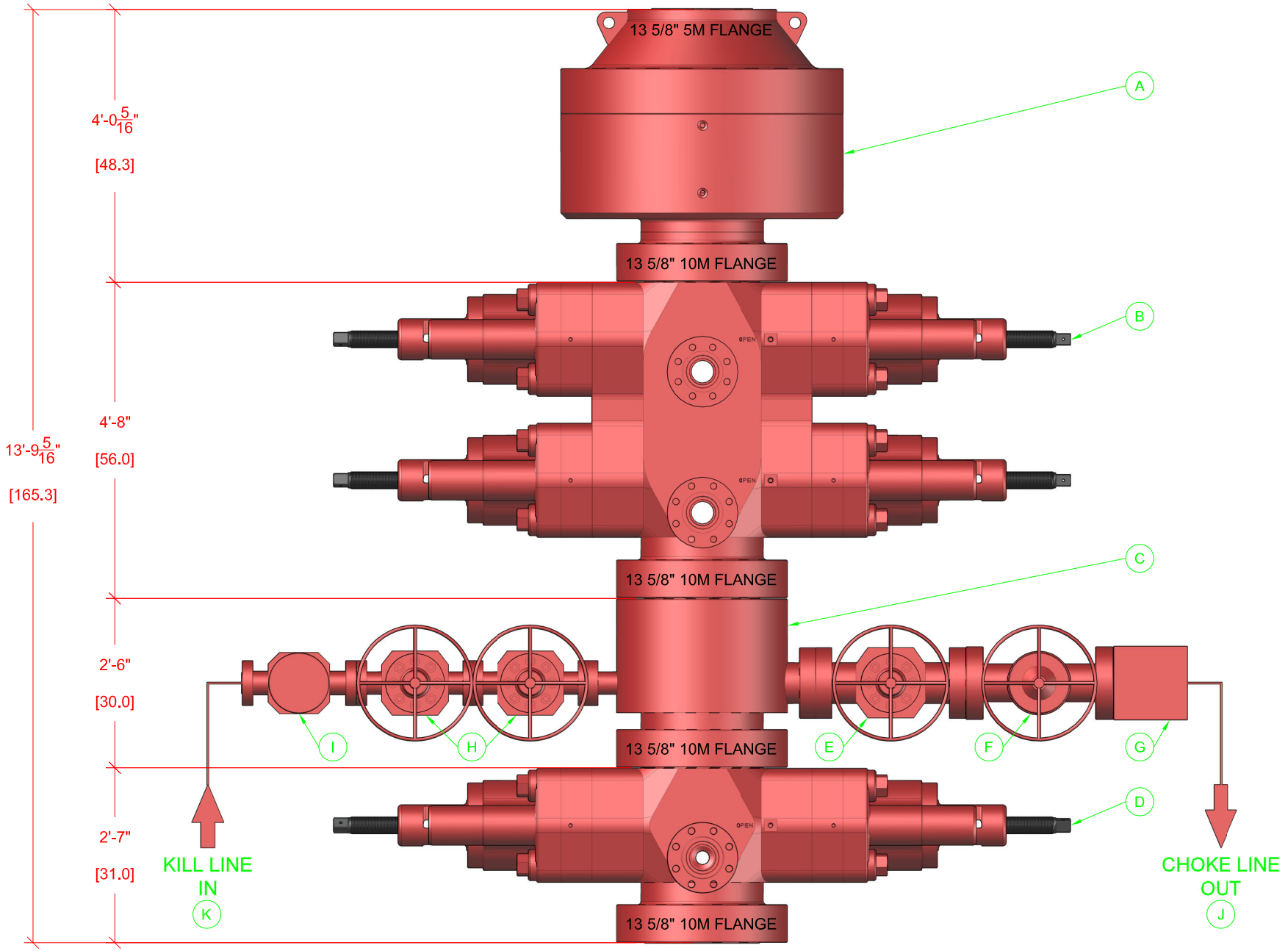
Cardiff, 20.08.2019

Stuart Thomas
Quality Manager

THIS IS A VERIFIED TRUE COPY OF AN ORIGINAL HELD BY CARTER STEEL LTD

CARTER STEEL LTD
DATE 21.8.2019
ORDER No 1104-9
CHECKED BY:

PAGE 1 2



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 341640

CONDITIONS

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 341640
	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	5/9/2024
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	5/9/2024
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	5/9/2024
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	5/9/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	5/9/2024