

Santa Fe Main Office
Phone: (505) 476-3441
General Information
Phone: (505) 629-6116

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

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

OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

WELL API NO.	30-025-52661
5. Indicate Type of Lease	STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>
6. State Oil & Gas Lease No.	
7. Lease Name or Unit Agreement Name	Coriander 1 12 State Com
8. Well Number	303H
9. OGRID Number	215099
10. Pool name or Wildcat	Red Tank; Bone Spring Diamondtail; Bone Spring
11. Elevation (Show whether DR, RKB, RT, GR, etc.)	

SUNDRY NOTICES AND REPORTS ON WELLS
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

1. Type of Well: Oil Well Gas Well Other

2. Name of Operator
Cimarex Energy Co.

3. Address of Operator
6001 Deauville Blvd., Suite 300N
Midland, Texas 79706

4. Well Location
Unit Letter A : 211 feet from the N line and 671 feet from the E line
Section 1 Township 23S Range 32E NMPM

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	P AND A <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	MULTIPLE COMPL <input type="checkbox"/>	CASING/CEMENT JOB <input type="checkbox"/>	
DOWNHOLE COMMINGLE <input type="checkbox"/>			
CLOSED-LOOP SYSTEM <input type="checkbox"/>			
OTHER: <input checked="" type="checkbox"/>		OTHER: <input type="checkbox"/>	

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 19.15.7.14 NMAC. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

Cimarex Energy Co, proposes changes to:

BHL from 100 FSL/ 330 FEL to 100 FSL/ 380 FEL

No other changes proposed.

Spud Date:

Rig Release Date:

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNATURE Shelly Bowen TITLE Sr. Regulatory Analyst DATE _____

Type or print name Shelly Bowen E-mail address: shelly.bowen@coterra.com PHONE: 432-620-1644 **For State Use Only**

APPROVED BY: _____ TITLE _____ DATE _____ Conditions of Approval (if any): _____

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

WELL LOCATION INFORMATION

API Number	Pool Code 51683	Pool Name RED TANK; BONE SPRING
Property Code	Property Name CORIANDER 1-12 STATE COM	Well Number 303H
OGRID No. 215099	Operator Name COTERRA ENERGY OPERATING CO.	Ground Level Elevation 3,749.2'
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal		

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
1	1	23S	32E		211' NORTH	671' EAST	32.340485°	-103.621947°	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
P	12	23S	32E		100' SOUTH	380' EAST	32.312313°	-103.621004°	LEA

Dedicated Acres 79.95	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
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Order Numbers.	Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No
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Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
1	1	23S	32E		100' NORTH	380' EAST	32.340793°	-103.621005°	LEA


First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude (NAD 83)	Longitude (NAD 83)	County
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Last Take Point (LTP)

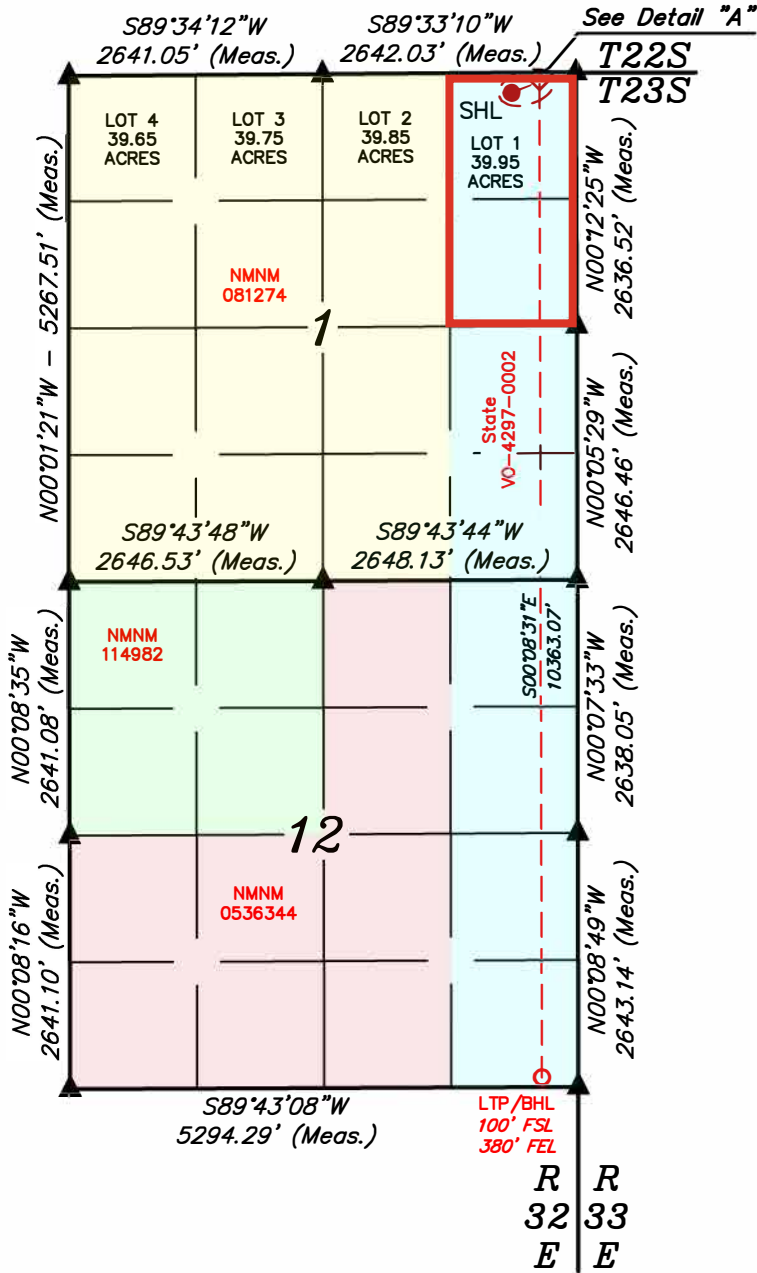
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Unitized Area or Area of Uniform Interest	Spacing Unit Type <input type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation:
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OPERATOR CERTIFICATIONS	SURVEYOR CERTIFICATIONS
<p><i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i></p> <p><i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i></p> <p><i>Shelly Bowen</i> 4/21/2025</p>	<p><i>I hereby certify that the well location shown on this plat was plotted from the field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i></p>  <p><i>Paul Bucher</i></p>
Signature _____ Date _____	Signature and Seal of Professional Surveyor
Shelly Bowen	23782 September 9, 2021
Printed Name	Certificate Number Date of Survey
shelly.bowen@coterra.com	
Email Address	

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

Property Name CORIANDER 1-12 STATE COM	Well Number 303H	Drawn By N.R. 10-17-23	Revised By REV. 2 N.R. 03-04-25 (UPDATE WELLBORE)
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NAD 83 (SURFACE HOLE LOCATION)	
LATITUDE = 32°20'25.75" (32.340485°)	
LONGITUDE = -103°37'19.01" (-103.621947°)	
NAD 27 (SURFACE HOLE LOCATION)	
LATITUDE = 32°20'25.30" (32.340362°)	
LONGITUDE = -103°37'17.27" (-103.621463°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 488330.06' E: 761042.48'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 488270.05' E: 719859.52'	

NAD 83 (KOP/LP/FTP)	
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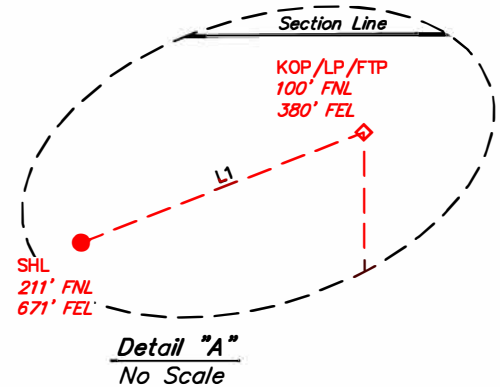
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N: 478023.34' E: 720218.65'	

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N68°47'27"E	311.84'

- = SURFACE HOLE LOCATION
- ◆ = KICK OFF POINT/LANDING POINT /FIRST TAKE POINT
- = LAST TAKE POINT/ BOTTOM HOLE LOCATION
- ▲ = SECTION CORNER LOCATED

NOTE:

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



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	Submit Type:	<input type="checkbox"/> Initial Submittal <input checked="" type="checkbox"/> Amended Report <input type="checkbox"/> As Drilled		

WELL LOCATION INFORMATION

API Number	Pool Code 17644	Pool Name DIAMONDTAIL, BONE SPRING
Property Code	Property Name CORIANDER 1-12 STATE COM	Well Number 303H
OGRID No. 215099	Operator Name COTERRA ENERGY OPERATING CO.	Ground Level Elevation 3,749.2'
Surface Owner: <input checked="" type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal Mineral Owner: <input checked="" type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input type="checkbox"/> Federal		

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Dedicated Acres 240	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
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Order Numbers. Well setbacks are under Common Ownership: Yes No

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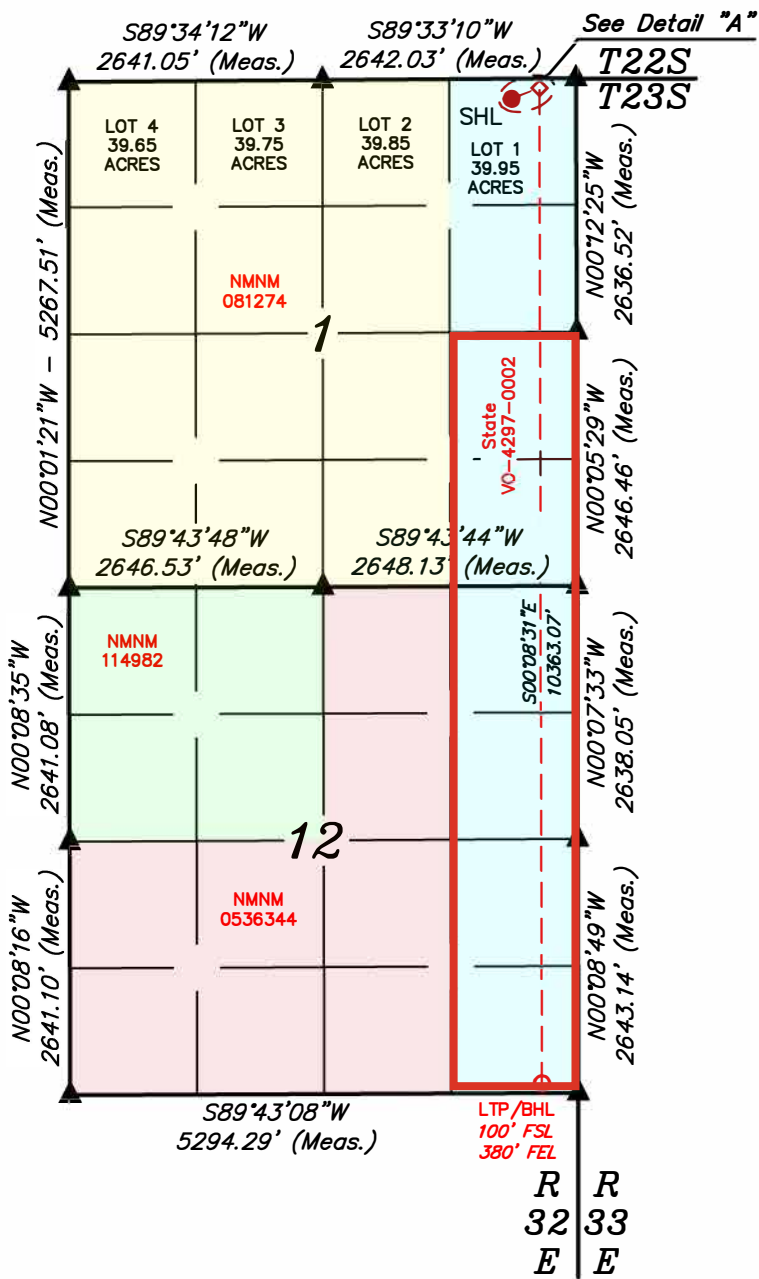
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Signature Date	Signature and Seal of Professional Surveyor
Shelly Bowen	23782 September 9, 2021
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shelly.bowen@coterra.com	
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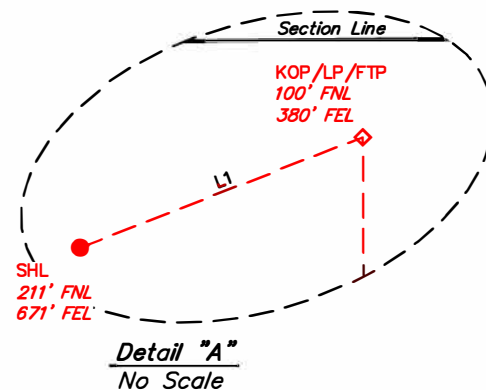
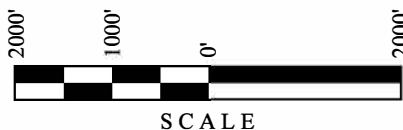
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1. Geological Formations

TVD of target 11,330
MD at TD 21,450

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1256	N/A	
Top of Salt	1790	N/A	
Base of Salt	4970	N/A	
Top Delaware Sands/Bell Canyon	5017	Hydrocarbons	
Cherry Canyon	6130	Hydrocarbons	
Brushy Canyon	7201	Hydrocarbons	
Basal Brushy Canyon	8532	N/A	
Bone Spring Lime	8825	N/A	
Leonard/Avalon Sand	8940	Hydrocarbons	
Avalon Shale	9360	Hydrocarbons	
1st Bone Spring Sand	9989	Hydrocarbons	
2nd Bone Spring Sand	10650	Hydrocarbons	
3rd Bone Spring Carbonate	11110	Hydrocarbons	
3rd Bone Spring Carb/Harkey - Target	11330	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	1306	1306	10-3/4"	40.50	J-55	BT&C	2.79	5.53	11.89
9 7/8	0	11506	11290	7-5/8"	29.70	L-80	LT&C	2.71	1.30	1.69
6 3/4	0	10705	10705	5-1/2"	23.00	L-80	LT&C	2.05	1.81	2.40
6 3/4	10705	21450	11330	5"	18.00	P-110	BT&C	2.33	2.36	51.56
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.

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

Cimarex Energy Co., Coriander 1-12 State Com 303H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	N
Does casing meet API specifications? If no, attach casing specification sheet.	N
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).	N
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	N
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?	N

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	507	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	136	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	899	10.30	3.64	22.18	12	Lead: Tuned Light + LCM
	198	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Production	1385	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	11306	25

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

4. Pressure Control Equipment

	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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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		5M
			Pipe Ram	X	
			Double Ram	X	
			Other		
6 3/4	13 5/8	10M	Annular	5M	100% of working pressure
			Blind Ram		5M
			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 1306'	Brine Water	7.83 - 8.33	30-32	N/C
1306' to 11506'	Brine Diesel Emulsion	8.50 - 9.00	30-35	N/C
11506' to 21450'	OBM	9.30 - 9.80	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
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6. Logging and Testing Procedures

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

Additional Logs Planned	Interval
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7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	5773 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. After running the first string of casing, a 5M 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 (5K for all BOPE, including the annular). 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.

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 5K psi.

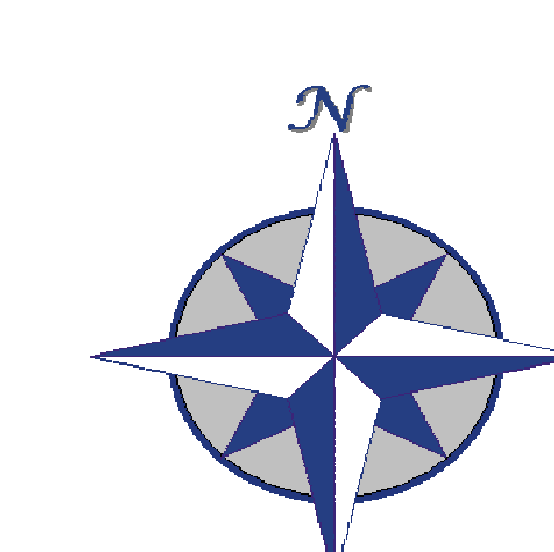
In the event wellbore pressure encroaches to the maximum rated pressure of the annular, primary pressure control will be switched to the higher rated components (i.e., switch from annular to pipe rams) upper pipe rams will be closed, and the annular opened in order to not exceed maximum rated pressures.



Borehole: Coriander 1-12 State Com 303H	Well: Coriander 1-12 State Com 303H	Field: NM Lea County (NAD 83)	Structure: Cimarex Coriander 1-12 State Com Lot 1 Pad
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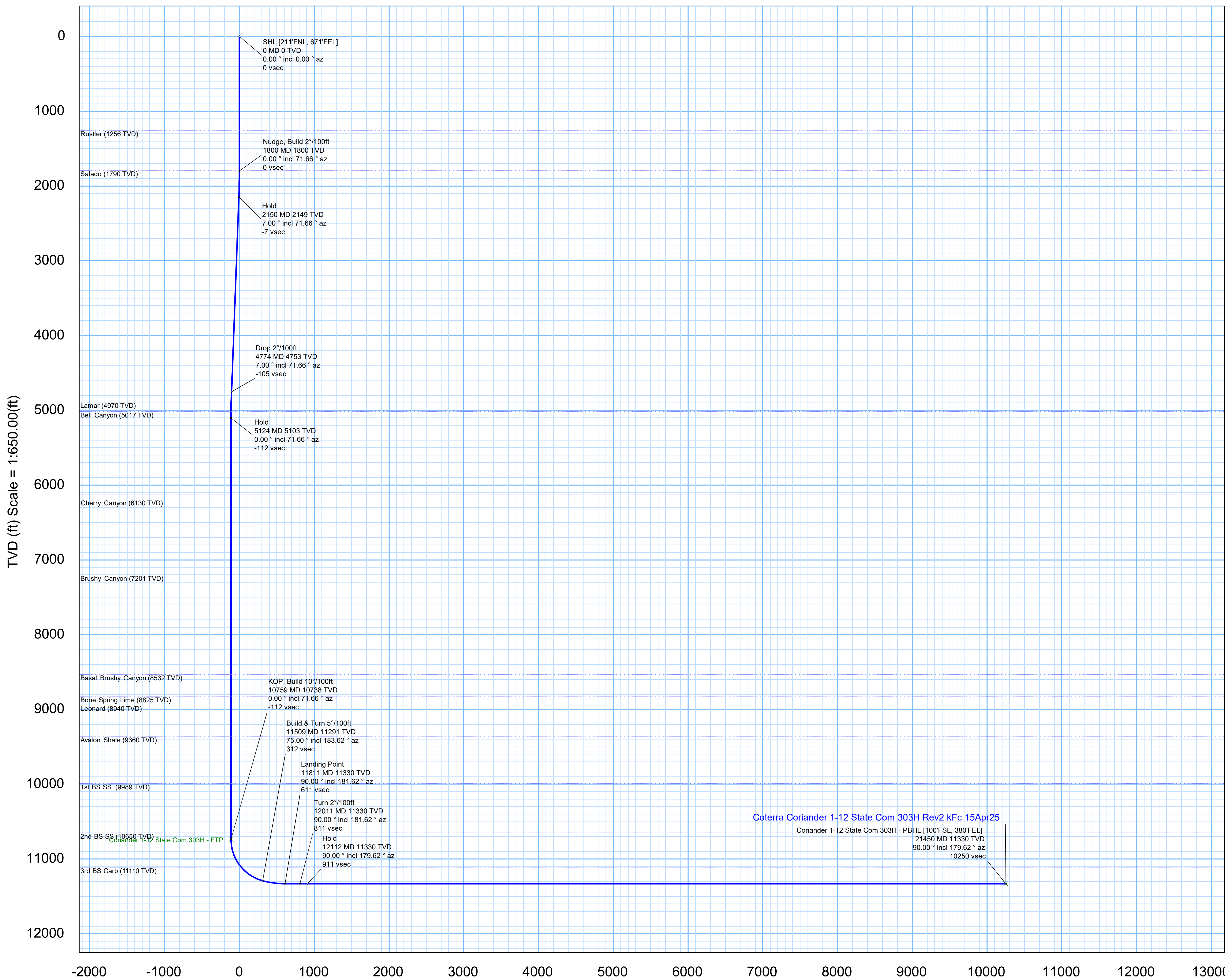
Gravity & Magnetic Parameters		Surface Location			NAD83 New Mexico State Plane, Eastern Zone, US Feet		Miscellaneous	
Model: HDGM 2025	Dip: 59.869°	Date: 15-Apr-2025	Lat: N 32 20 25.75	Northing: 488330.06ftUS	Grid Conv: 0.3806°	Slot: Coriander 1-12 State	TVD Ref: RKB (3772.200 ft above MSL)	Plan: Coriander 1-12 State Com 303H Rev2 kFc 15Apr25
MagDec: 6.147°	FS: 47331.779NT	Gravity FS: 998.44mgn (9.80665 Based)	Lon: W 103 37 19.01	Easting: 761042.48ftUS	Scale Fact: 0.99996437			

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [211°FNL, 671°FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Rustler	1256.00	0.00	71.66	1256.00	0.00	0.00	0.00	0.00
Salado	1790.00	0.00	71.66	1790.00	0.00	0.00	0.00	0.00
Nudge, Build 2°/100ft	1800.00	0.00	71.66	1800.00	0.00	0.00	0.00	0.00
Hold	2149.93	7.00	71.66	2149.06	-6.58	6.72	20.26	2.00
Drop 2°/100ft	4773.88	7.00	71.66	4753.46	-105.15	107.30	323.74	0.00
Lamar	4991.24	2.65	71.66	4970.00	-110.78	113.05	341.09	2.00
Bell Canyon	5038.28	1.71	71.66	5017.00	-111.34	113.61	342.79	2.00
Hold	5123.81	0.00	71.66	5102.52	-111.73	114.01	344.00	2.00
Cherry Canyon	6151.29	0.00	71.66	6130.00	-111.73	114.01	344.00	0.00
Brushy Canyon	7222.29	0.00	71.66	7201.00	-111.73	114.01	344.00	0.00
Basal Brushy Canyon	8553.29	0.00	71.66	8532.00	-111.73	114.01	344.00	0.00
Bone Spring Lime	8846.29	0.00	71.66	8825.00	-111.73	114.01	344.00	0.00
Leonard	8961.29	0.00	71.66	8940.00	-111.73	114.01	344.00	0.00
Avalon Shale	9381.29	0.00	71.66	9360.00	-111.73	114.01	344.00	0.00
1st BS SS	10010.29	0.00	71.66	9989.00	-111.73	114.01	344.00	0.00
2nd BS SS	10671.29	0.00	71.66	10650.00	-111.73	114.01	344.00	0.00
KOP, Build 10°/100ft	10758.81	0.00	71.66	10737.52	-111.73	114.01	344.00	0.00
3rd BS Carb	11164.30	40.55	183.62	11110.00	25.53	-23.31	335.31	10.00
Build & Turn 5°/100ft	11508.81	75.00	183.62	11290.95	311.90	-309.80	317.19	10.00
Landing Point	11811.40	90.00	181.62	11330.34	610.63	-608.63	303.60	5.00
Turn 2°/100ft	12011.40	90.00	181.62	11330.34	810.51	-808.55	297.95	0.00
Hold	12111.59	90.00	179.62	11330.34	910.67	-908.72	296.87	2.00
Coriander 1-12 State Com 303H - PBHL [100°FSL, 380°FEL]	21450.47	90.00	179.62	11330.00	10249.55	-10247.40	359.40	0.00

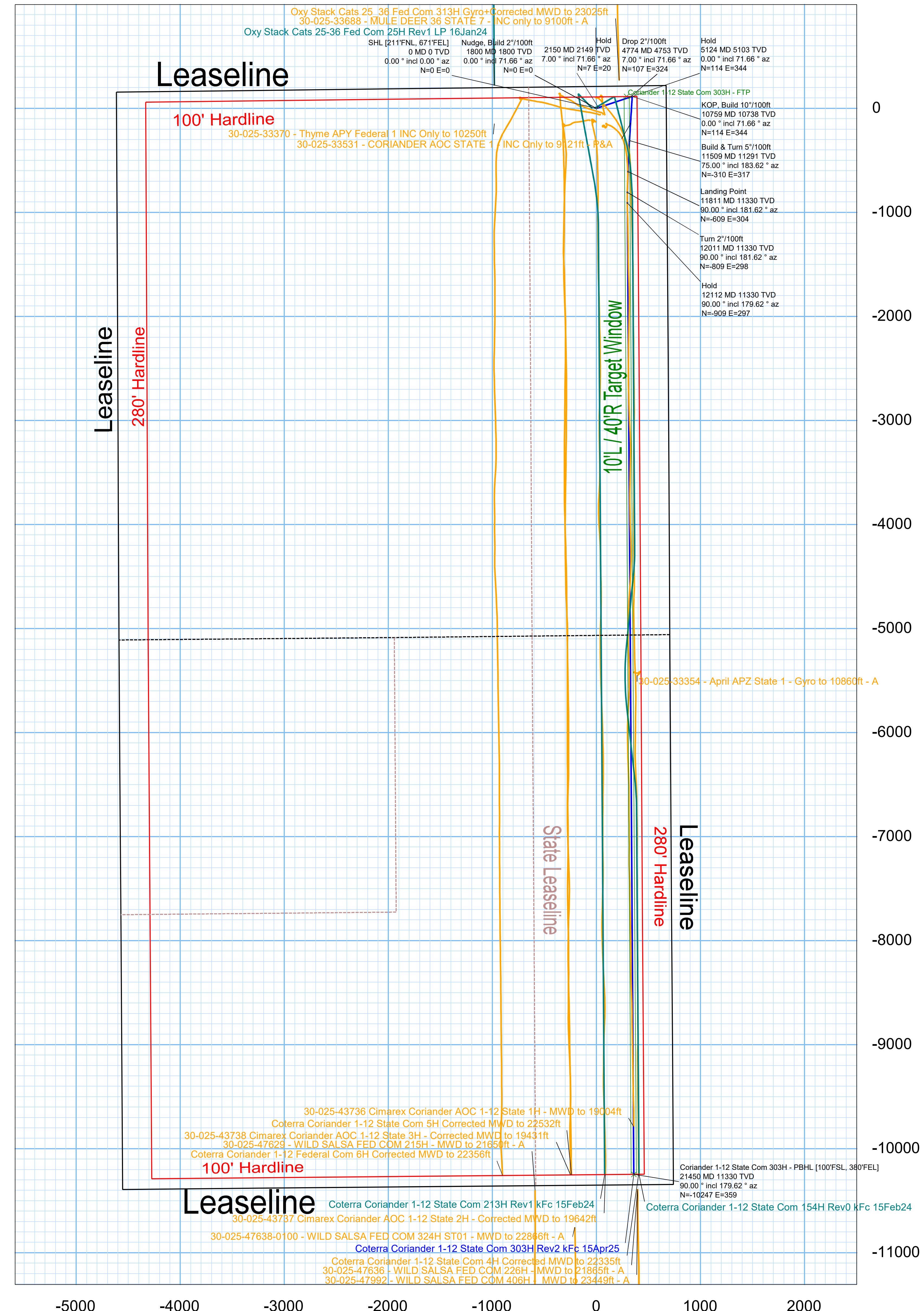


Grid North
Tot Corr (M->G 5.766°)
Mag Dec (6.147°)
Grid Conv (0.381°)

CONTROLLED	
Plan ref	Coriander 1-12 State Com 303H Rev2 kFc 15Apr25
Drawing ref	
Copy number	of 3
Date	15-Apr-2025
1 Client	
2 Client	
3 Office	
4 Office	
Copy number	for



NS (ft) Scale = 1:500.00(ft)



EW (ft) Scale = 1:500.00(ft)



Coterra Coriander 1-12 State Com 303H Rev2 kFc 15Apr25 Proposal Geodetic

Report
Def Plan

Report Date: April 15, 2025 - 04:30 PM (UTC 0)
Client: COTERRA
Field: NM Lea County (NAD 83)
Structure / Slost: Cimarex Coriander 1-12 State Com Lot 1 Pad / Coriander 1-12 State Com
Well: Coriander 1-12 State Com 303H
Borehole: Coriander 1-12 State Com 303H
UBHI / API#: Unknown / Unknown
Survey Name: Coterra Coriander 1-12 State Com 303H Rev2 kFc 15Apr25
Survey Date: April 15, 2025
Tort / AHD / DDI / ERD Ratio: 106.130 * / 10725.283 ft / 6.333 / 0.947
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: 32.202574568°N, 103.371930821°W
Location Grid NE YX: N 488330.060 RUS, E 761042.480 RUS
CRS Grid Conversion Angle: 0.381°
Grid Scale Factor: 0.99996437(Applied)
Version / Patch: 2024.5.0.1

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.620 (GRID North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3772.200 ft above MSL
Seated / Ground Elevation: 3749.200 ft above MSL
Magnetic Declination: 6.147°
Total Gravity Field Strength: 998.44mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47331.779 nT
Magnetic Dip Angle: 59.869°
Declination Date: April 15, 2025
Magnetic Declination Model: HDGM 2025
North Reference: Grid North
Grid Convergence Used: 0.381°
Total Corr Mag North->Grid North: 5.766°
Local Coord Referenced To: Well Head

Table with columns: Comments, MD (ft), Incl (°), Azim (°), TVD (ft), TVDSS (ft), VSECC (ft), NS (ft), EW (ft), Northing (RUS), Easting (RUS), Latitude (°), Longitude (°), DLS (*/100ft), BR (*/100ft), TR (*/100ft). Rows include SHL [211\FNL, 671\FEL], Rustler, Salado, Nudge, Build 2*/100ft, Hold, Drop 2*/100ft, Lamar, Bell Canyon, Hold, Cherry Canyon, Brushy Canyon, Basal Brushy Canyon, and Bone Spring Lime.

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
	21,100.00	90.00	179.62	11,330.01	7,557.81	9,899.08	-9,896.93	357.06	478,433.50	761,399.52	32.31327621	-103.62100376	0.00	0.00	0.00
	21,200.00	90.00	179.62	11,330.01	7,557.81	9,999.08	-9,996.93	357.73	478,333.51	761,400.19	32.31300135	-103.62100374	0.00	0.00	0.00
	21,300.00	90.00	179.62	11,330.01	7,557.81	10,099.08	-10,096.93	358.40	478,233.51	761,400.86	32.31272649	-103.62100373	0.00	0.00	0.00
	21,400.00	90.00	179.62	11,330.00	7,557.80	10,199.08	-10,196.93	359.07	478,133.52	761,401.53	32.31245163	-103.62100371	0.00	0.00	0.00
Coriander 1-12 State Com 303H	21,450.47	90.00	179.62	11,330.00	7,557.80	10,249.55	-10,247.40	359.40	478,083.05	761,401.87	32.31231290	-103.62100370	0.00	0.00	0.00

Survey Type: Def Plan

Survey Error Model: ISOWSA0 3 - D 95 % Confidence 2.7955 sigma

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	10,750.000	1/100.000	7.5 - 12.25 - 8.75	3.375 - 9.625	- 7	A001Mb_MWD		Coriander 1-12 State Com 303H / Coterra Coriande
	1	10,750.000	21,446.305	1/100.000	8.75 - 6	7 - 4.5		A008Mb_MWD+IFR1+MS		Coriander 1-12 State Com 303H / Coterra Coriande

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
1,325.600	17.500	13.375	
4,986.600	12.250	9.625	
11,369.600	8.750	7.000	
21,450.470	6.000	4.500	



Coterra Coriander 1-12 State Com 303H Rev2 kFc 15Apr25 Proposal Geodetic Report

Def Plan

Report Date:	April 15, 2025 - 04:41 PM (UTC 0)	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	COTERRA	Vertical Section Azimuth:	179.620 (GRID North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Coriander 1-12 State Com Lot 1 Pad / Coriander 1-12 State	TVD Reference Datum:	RKB
Well:	Coriander 1-12 State Com 303H	TVD Reference Elevation:	3772.200 ft above MSL
Borehole:	Coriander 1-12 State Com 303H	Seabed / Ground Elevation:	3749.200 ft above MSL
UBHI / API#:	Unknown / Unknown	Magnetic Declination:	6.147°
Survey Name:	Coterra Coriander 1-12 State Com 303H Rev2 kFc 15Apr25	Total Gravity Field Strength:	998.44mgm (9.80665 Based)
Survey Date:	April 15, 2025	Gravity Model:	G498M
Tort / AHD / DDI / ERD Ratio:	106.130 ° / 10725.283 ft / 6.333 / 0.947	Total Magnetic Field Strength:	47331.779 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.869°
Location Lat / Long:	32°20'25.74566"N - 103°37'19.00821"W	Declination Date:	April 15, 2025
Location Grid N/E Y/X:	N 488330.050 RUS ; E 761042.480 RUS	Magnetic Declination Model:	HDM 2025
CRS Grid Convergence Angle:	0.381°	North Reference:	Grid North
Grid Scale Factor:	0.99996437(Applied)	Grid Convergence Used:	0.381°
Version / Patch:	2024.5.0.1	Total Corr Mag North->Grid North:	5.786°
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
SHL [211°FNL, 671°FEL]	0.00	0.00	0.00	0.00	-3,772.20	0.00	0.00	0.00	488,330.06	761,042.48	32.34048491	-103.62194672			
Nudge, Build 2"/100ft	1,800.00	0.00	71.66	1,800.00	-1,972.20	0.00	0.00	0.00	488,330.06	761,042.48	32.34048491	-103.62194672	0.00	0.00	0.00
Hold	2,149.93	7.00	71.66	2,149.06	-1,623.14	-6.58	6.72	29.26	488,336.77	761,062.74	32.34050299	-103.62188098	2.00	2.00	0.00
Drop 2"/100ft	4,773.88	7.00	71.66	4,753.46	981.26	-105.15	107.30	323.74	488,437.36	761,366.21	32.34077391	-103.62089628	0.00	0.00	0.00
Hold	5,123.81	0.00	71.66	5,102.52	1,330.32	-111.73	114.01	344.00	488,444.07	761,386.47	32.34079199	-103.62083054	2.00	-2.00	0.00
KOP, Build 10"/100ft	10,758.81	0.00	71.66	10,737.52	6,965.32	-111.73	114.01	344.00	488,444.07	761,386.47	32.34079199	-103.62083054	0.00	0.00	0.00
Build & Turn 5"/100ft	11,508.81	75.00	183.62	11,290.95	7,518.75	311.90	-309.80	317.19	488,020.27	761,359.66	32.33862760	-103.62092648	10.00	10.00	0.00
Landing Point	11,811.40	90.00	181.62	11,330.34	7,558.14	810.63	-808.63	303.69	487,721.45	761,348.07	32.33860652	-103.62097689	5.00	4.96	-0.66
Turn 2"/100ft	12,011.40	90.00	181.62	11,330.34	7,558.14	810.61	-808.55	297.95	487,521.54	761,340.42	32.33825713	-103.62099950	0.00	0.00	0.00
Hold	12,111.59	90.00	179.62	11,330.34	7,558.14	910.67	-908.72	296.87	487,421.37	761,339.34	32.33798182	-103.62100516	2.00	0.00	-2.00
Coriander 1-12 State Com 303H - PBHL [100°FSL, 380°FEL]	21,450.47	90.00	179.62	11,330.00	7,557.80	10,249.55	-10,247.40	359.40	478,083.05	761,401.87	32.31231290	-103.62100370	0.00	0.00	0.00

Survey Type: Def Plan
 Survey Error Model: ISCWSA0 3 - D 95 % Confidence 2.7955 sigma
 Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	10,750.000	1/100.000	5 - 12.25 - 8.75	3.375 - 9.625	- 7	A001Mb_MWD		Coriander 1-12 State Com 303H / Coterra Coriande
	1	10,750.000	21,446.305	1/100.000	8.75 - 6	7 - 4.5		A008Mb_MWD+FR1+MS		Coriander 1-12 State Com 303H / Coterra Coriande

EOU Geometry:	Hole Size (in)	Casing Size (in)	Name
End MD (ft)			
1,325.600	17.500	13.375	
4,986.600	12.250	9.625	
11,369.600	8.750	7.000	
21,450.470	6.000	4.500	



Coterra Coriander 1-12 State Com 303H Rev2 kFc 15Apr25 Anti-Collision Summary Report

Analysis Date-24hr Time: April 15, 2025 - 04:40 PM (UTC 0)
Client: COTERRA
Field: NM Lea County (NAD 83)
Structure: Cimarex Coriander 1-12 State Com Lot 1 Pad
Slot: Coriander 1-12 State Com 303H
Well: Coriander 1-12 State Com 303H
Borehole: Coriander 1-12 State Com 303H
Scan MD Range: 0.00ft ~ 21450.47ft

Analysis Method: 3D Least Distance
Reference Trajectory: Coterra Coriander 1-12 State Com 303H Rev2 kFc 15Apr25
Depth Interval: Every 10.00 Measured Depth (ft)
Rule Set: NAL Procedure: D&M AntiCollision Standard S002
Min Pts: Absolute minima indicated.
Engine Version: 2024.5.0.1
Database \ Project: Coriander 1-12 State Com 303H-COTERRA

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

Offset Trajectories Summary

Offset Selection Criteria

Bounding box scan: minimum Ct-Ct separation <= 2000ft
 Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
 Selection filters: - All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole
18 out of 33 are selected

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

Results highlighted in red: Sep-Factor <= 1.5

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

30-025-33531 - CORIANDER AOC STATE 1 - INC Only to 9121ft - P&A (DefinitiveSurvey) - **Fail Major**

360.82	32.81	358.84	328.01	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
360.18	32.81	358.10	327.37	3591.23	MAS = 10.00 (m)	10.00	10.00					MinPt-SF
359.75	32.81	357.71	326.95	5452.07	MAS = 10.00 (m)	23.00	23.00					WRP
357.52	108.98	284.28	248.54	4.98	OSF1.50	1930.00	1929.96	OSF<=5.00				Enter Alert
239.35	239.45	79.13	-0.10	1.50	OSF1.50	4070.00	4054.82		OSF<=1.50			Enter Minor
238.97	247.29	73.52	-8.32	1.45	OSF1.50	4180.06	4164.07					MinPt-CiCt
256.62	384.57	-0.30	-127.95	1.00	OSF1.50	6010.00	5988.71		OSF<=1.00			Enter Major
256.62	575.55	-127.61	-318.92	0.67	OSF1.50	9170.00	9148.71					MinPts
314.12	474.39	-2.68	-160.27	0.99	OSF1.50	9350.00	9328.71		OSF>1.00			Exit Major
388.10	389.16	128.13	-1.05	1.50	OSF1.50	9460.00	9438.71		OSF>1.50			Exit Minor
737.25	224.66	586.94	512.60	4.95	OSF1.50	9860.00	9838.71	OSF>5.00				Exit Alert
3025.45	412.20	2750.15	2613.25	11.04	OSF1.50	13440.00	11330.29					MinPt-SF
10338.18	572.83	9955.79	9765.35	27.14	OSF1.50	21450.47	11330.00					TD

Coterra Coriander 1-12 State Com 154H Rev0 kFc 15Feb24 (DefinitivePlan) - **Fail Minor**

20.00	16.26	18.72	3.74	N/A	MAS = 4.96 (m)	0.00	0.00	CiCt<=15.00m				Enter Alert
20.00	16.26	18.72	3.74	N/A	MAS = 4.96 (m)	23.00	23.00					WRP
20.00	19.75	6.40	0.25	1.52	OSF1.50	1290.00	1290.00					MinPts
20.00	20.05	6.31	-0.05	1.50	OSF1.50	1330.00	1330.00	OSF<=1.50				Enter Minor
20.00	27.12	1.59	-7.12	1.09	OSF1.50	1800.00	1800.00					MinPt-CiCt
20.15	27.57	1.45	-7.41	1.08	OSF1.50	1830.00	1830.00					MinPts
20.27	27.71	1.46	-7.45	1.08	OSF1.50	1840.00	1840.00					MinPt-ADP
30.86	30.97	9.89	-0.10	1.49	OSF1.50	2060.00	2059.64	OSF>1.50				Exit Minor
166.13	145.34	68.91	20.79	1.72	OSF1.50	9850.00	9828.71					MinPts
166.16	145.38	68.91	20.78	1.72	OSF1.50	9860.00	9838.71					MinPts
384.90	117.08	306.52	267.83	4.96	OSF1.50	10390.00	10368.71	OSF>5.00				Exit Alert
1110.81	93.66	1048.04	1017.15	17.96	OSF1.50	11860.00	11330.34					MinPt-CiCt
1110.20	183.20	987.74	927.00	9.13	OSF1.50	16020.00	11330.20					MinPt-CiCt
1110.15	221.50	962.16	888.65	7.54	OSF1.50	17320.00	11330.15					MinPt-CiCt
1111.14	334.05	888.12	777.09	5.00	OSF1.50	20940.00	11330.02	OSF<=5.00				Enter Alert
1111.13	350.25	877.30	760.86	4.77	OSF1.50	21450.47	11330.00					MinPts

30-025-47636 - WILD SALSA FED COM 226H - MWD to 21865ft - A (DefinitiveSurvey) - **Fail Minor**

15228.13	212.10	15086.07	15016.03	108.70	OSF1.50	0.00	0.00					Surface
15211.36	212.04	15069.34	14999.32	108.61	OSF1.50	23.00	23.00					WRP
693.42	212.54	551.23	480.88	4.92	OSF1.50	20950.00	11330.02	OSF<=5.00				Enter Alert
295.71	302.27	93.70	-6.56	1.47	OSF1.50	21410.00	11330.00	OSF<=1.50				Enter Minor
270.35	320.37	56.27	-50.02	1.26	OSF1.50	21450.47	11330.00					MinPts

30-025-33688 - MULE DEER 36 STATE 7 - INC only to 9100ft - A (DefinitiveSurvey) - **Fail Minor**

515.13	32.81	513.15	482.32	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
514.87	32.81	512.86	482.06	16314.94	MAS = 10.00 (m)	10.00	10.00					MinPt-SF
514.81	32.81	512.74	482.00	6136.52	MAS = 10.00 (m)	23.00	23.00					WRP
499.80	151.32	398.34	348.49	5.00	OSF1.50	2460.00	2456.82	OSF<=5.00				Enter Alert
489.87	199.46	356.31	290.41	3.70	OSF1.50	3273.77	3264.53					MinPt-CiCt
530.70	531.26	175.98	-0.56	1.50	OSF1.50	8130.00	8108.71	OSF<=1.50				Enter Minor
530.70	590.99	136.17	-60.28	1.35	OSF1.50	9140.00	9118.71					MinPts
558.02	583.26	181.98	-5.24	1.49	OSF1.50	9310.00	9288.71	OSF>1.50				Exit Minor
1038.34	316.94	826.51	721.40	4.93	OSF1.50	10030.00	10008.71	OSF>5.00				Exit Alert
3074.99	422.30	2792.95	2652.69	10.96	OSF1.50	12800.00	11330.32					MinPt-SF
10993.52	588.72	10600.54	10404.80	28.08	OSF1.50	21450.47	11330.00					TD

Coterra Coriander 1-12 State Com 213H Rev1 kFc 15Feb24 (DefinitivePlan) - **Warning Alert**

39.99	32.25	38.71	7.74	N/A	MAS = 9.83 (m)	0.00	0.00	CiCt<=15.00m				Enter Alert
39.99	32.25	38.71	7.74	N/A	MAS = 9.83 (m)	23.00	23.00					WRP
39.99	32.25	26.40	7.74	3.14	MAS = 9.83 (m)	1290.00	1290.00					MinPt-EOU
39.99	32.25	21.59	7.74	2.24	MAS = 9.83 (m)	1800.00	1800.00					MinPts
40.11	32.25	21.50	7.86	2.22	MAS = 9.83 (m)	1820.00	1820.00					MinPt-EOU
40.45	32.25	21.65	8.20	2.22	MAS = 9.83 (m)	1840.00	1840.00					MinPt-SF
114.85	35.22	91.04	79.63	4.99	OSF1.50	2360.00	2357.57	OSF>5.00				Exit Alert
410.78	59.79	370.59	350.99	10.45	OSF1.50	3970.00	3955.57					MinPt-SF
508.66	153.46	406.02	355.20	4.99	OSF1.50	10400.00	10378.71	OSF<=5.00				Enter Alert
505.72	154.34	402.49	351.37	4.94	OSF1.50	10500.00	10478.71					MinPt-CiCt
505.76	154.41	402.49	351.35	4.94	OSF1.50	10510.00	10488.71					MinPts

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

Coterra Coriander 1-12 State Com 4H Corrected MWD to 22335ft (DefinitiveSurvey) - Warning Alert

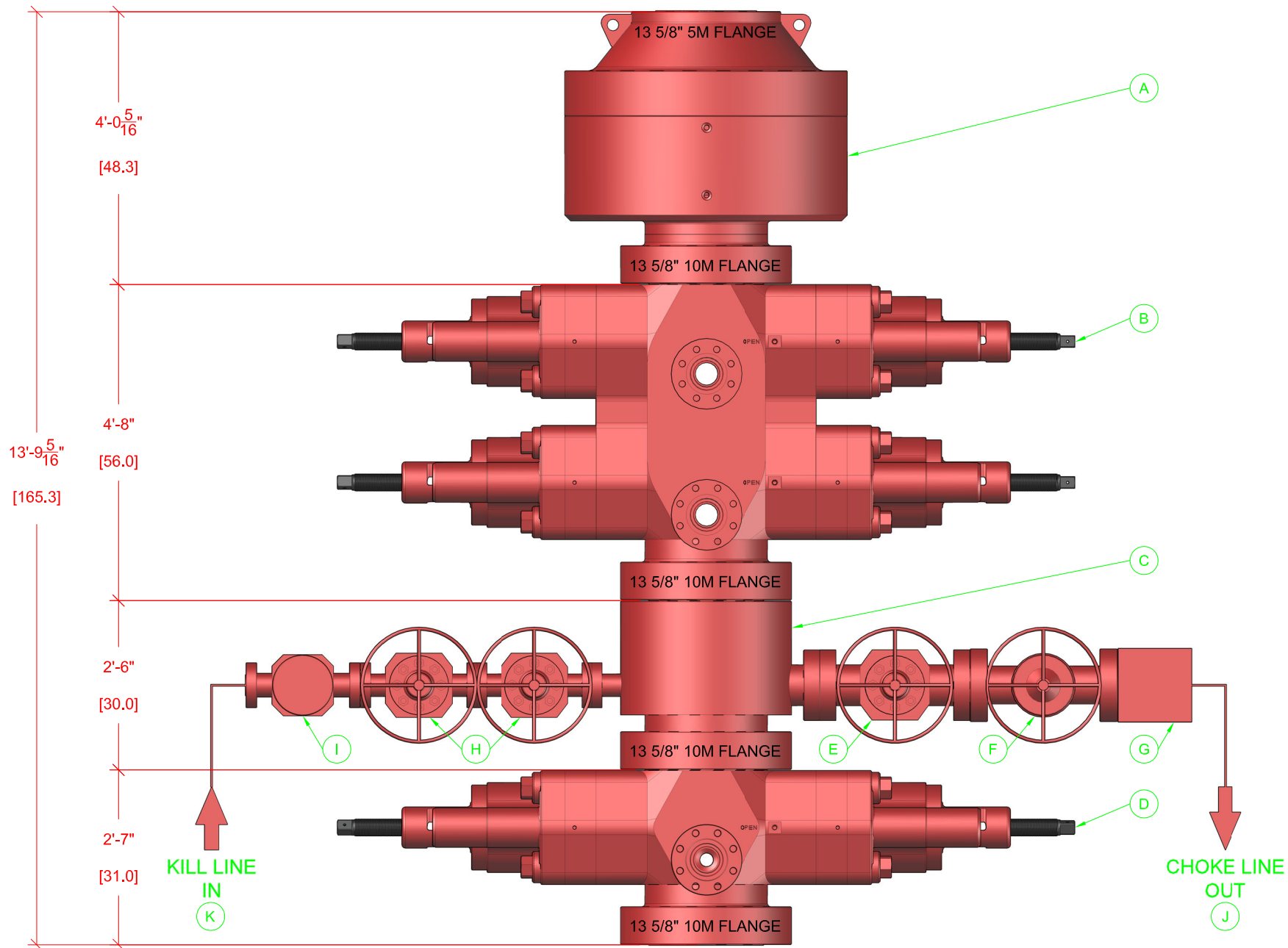
99.98	32.81	98.70	67.17	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
99.98	32.81	98.70	67.17	N/A	MAS = 10.00 (m)	10.00	10.00				MinPts
99.98	32.81	98.69	67.18	35559.00	MAS = 10.00 (m)	23.00	23.00				WRP
103.93	32.81	90.64	71.12	8.55	MAS = 10.00 (m)	1280.00	1280.00				MinPt-EOU
100.16	32.81	83.64	67.35	6.38	MAS = 10.00 (m)	1640.00	1640.00				MinPts
100.36	32.81	83.44	67.55	6.24	MAS = 10.00 (m)	1680.00	1680.00				MinPt-EOU
98.97	32.81	78.21	66.16	4.96	MAS = 10.00 (m)	2070.00	2069.60		OSF<=5.00		Enter Alert
80.17	42.09	51.78	38.08	2.89	OSF 1.50	2842.35	2836.32				MinPt-CiCt
80.38	42.64	51.62	37.73	2.86	OSF 1.50	2880.00	2873.69				MinPt-EOU
80.50	42.79	51.65	37.71	2.85	OSF 1.50	2890.00	2883.62				MinPt-ADP
81.53	43.52	52.19	38.01	2.84	OSF 1.50	2940.00	2933.24				MinPt-SF
207.84	63.16	165.40	144.67	4.99	OSF 1.50	4270.00	4253.33		OSF>5.00		Exit Alert
280.99	78.54	228.30	202.45	5.42	OSF 1.50	5310.00	5288.71				MinPt-CiCt
282.14	79.85	228.59	202.30	5.35	OSF 1.50	5400.00	5378.71				MinPt-ADP
287.66	84.72	230.85	202.93	5.14	OSF 1.50	5730.00	5708.71				MinPt-ADP
292.22	88.40	232.96	203.82	5.00	OSF 1.50	5980.00	5958.71		OSF<=5.00		Enter Alert
301.36	96.47	236.72	204.90	4.72	OSF 1.50	6520.00	6498.71				MinPt-CiCt
301.81	101.57	233.77	200.24	4.49	OSF 1.50	6870.00	6848.71				MinPt-CiCt
307.09	118.08	228.05	189.01	3.92	OSF 1.50	8000.00	7978.71				MinPt-EOU
309.66	121.00	228.67	188.86	3.86	OSF 1.50	8200.00	8178.71				MinPt-ADP
312.28	123.36	229.71	188.92	3.82	OSF 1.50	8360.00	8338.71				MinPt-ADP
337.71	143.25	241.88	194.46	3.55	OSF 1.50	9710.00	9688.71				MinPt-SF
340.15	160.51	232.81	179.64	3.19	OSF 1.50	10970.00	10943.96				MinPt-CiCt
340.15	160.59	232.77	179.57	3.19	OSF 1.50	10980.00	10953.26				MinPt-EOU
340.21	160.66	232.77	179.55	3.19	OSF 1.50	10990.00	10962.49				MinPt-ADP
340.32	160.74	232.83	179.58	3.19	OSF 1.50	11000.00	10971.65				MinPt-SF
541.28	164.22	431.47	377.05	4.96	OSF 1.50	11540.00	11298.62		OSF>5.00		Exit Alert
817.72	109.16	744.62	708.56	11.32	OSF 1.50	12160.00	11330.34				MinPt-SF
839.65	121.67	758.21	717.98	10.42	OSF 1.50	13050.00	11330.31				MinPt-EOU
840.57	122.74	758.42	717.83	10.34	OSF 1.50	13120.00	11330.30				MinPt-ADP
873.86	146.83	775.64	727.03	8.98	OSF 1.50	14280.00	11330.26				MinPt-CiCt
873.90	146.95	775.60	726.95	8.97	OSF 1.50	14290.00	11330.26				MinPt-EOU
873.99	147.08	775.61	726.91	8.96	OSF 1.50	14300.00	11330.26				MinPt-ADP
875.17	148.17	776.07	727.00	8.91	OSF 1.50	14360.00	11330.26				MinPt-EOU
878.02	153.14	775.60	724.88	8.65	OSF 1.50	14560.00	11330.25				MinPt-ADP
878.50	153.71	775.70	724.79	8.62	OSF 1.50	14590.00	11330.25				MinPt-ADP
881.49	157.03	776.48	724.46	8.46	OSF 1.50	14730.00	11330.25				MinPt-ADP
886.15	163.91	776.55	722.24	8.15	OSF 1.50	14980.00	11330.24				MinPt-CiCt
886.50	165.06	776.13	721.44	8.10	OSF 1.50	15040.00	11330.23				MinPt-EOU
886.98	165.64	776.22	721.34	8.07	OSF 1.50	15070.00	11330.23				MinPt-ADP
883.94	177.11	765.54	706.83	7.52	OSF 1.50	15490.00	11330.22				MinPt-CiCt
884.29	178.05	765.26	706.24	7.48	OSF 1.50	15540.00	11330.22				MinPt-EOU
888.74	185.81	764.54	702.94	7.20	OSF 1.50	15830.00	11330.20				MinPt-EOU
889.25	186.57	764.54	702.68	7.18	OSF 1.50	15860.00	11330.20				MinPt-EOU
894.81	193.70	765.35	701.12	6.96	OSF 1.50	16120.00	11330.19				MinPt-EOU
895.21	194.15	765.44	701.05	6.94	OSF 1.50	16140.00	11330.19				MinPt-ADP
908.16	209.87	767.92	698.29	6.51	OSF 1.50	16690.00	11330.17				MinPt-EOU
909.14	211.05	768.11	698.09	6.48	OSF 1.50	16740.00	11330.17				MinPt-ADP
913.17	215.86	768.94	697.31	6.37	OSF 1.50	16900.00	11330.17				MinPt-EOU
914.43	217.33	769.22	697.10	6.33	OSF 1.50	16960.00	11330.16				MinPt-ADP
915.89	221.34	768.01	694.55	6.23	OSF 1.50	17070.00	11330.16				MinPt-CiCt
916.29	222.60	767.56	693.69	6.20	OSF 1.50	17130.00	11330.16				MinPt-EOU
916.83	223.23	767.68	693.60	6.18	OSF 1.50	17160.00	11330.16				MinPt-ADP
922.16	235.06	765.13	687.11	5.90	OSF 1.50	17540.00	11330.14				MinPt-CiCt
922.87	237.23	764.39	685.64	5.85	OSF 1.50	17630.00	11330.14				MinPt-EOU
924.11	247.22	758.98	676.90	5.62	OSF 1.50	17950.00	11330.13				MinPt-CiCt
925.02	249.97	758.04	675.05	5.57	OSF 1.50	18060.00	11330.12				MinPt-EOU
926.05	251.19	758.26	674.86	5.55	OSF 1.50	18110.00	11330.12				MinPt-ADP
923.38	263.11	747.65	660.27	5.28	OSF 1.50	18480.00	11330.11				MinPt-CiCt
923.66	263.91	747.39	659.75	5.26	OSF 1.50	18520.00	11330.11				MinPt-EOU
923.99	264.29	747.46	659.69	5.26	OSF 1.50	18540.00	11330.11				MinPt-ADP
926.25	278.74	740.09	647.51	5.00	OSF 1.50	18990.00	11330.09		OSF<=5.00		Enter Alert
925.85	284.72	735.71	641.13	4.89	OSF 1.50	19190.00	11330.08				MinPt-CiCt
924.79	296.06	727.08	628.72	4.70	OSF 1.50	19560.00	11330.07				MinPt-CiCt
925.15	297.14	726.73	628.01	4.68	OSF 1.50	19610.00	11330.07				MinPt-EOU
923.02	312.14	714.60	610.88	4.44	OSF 1.50	20080.00	11330.05				MinPt-CiCt
913.20	325.77	695.69	587.43	4.21	OSF 1.50	20520.00	11330.03				MinPt-CiCt
913.77	327.45	695.14	586.31	4.19	OSF 1.50	20590.00	11330.03				MinPt-EOU
914.32	328.14	695.23	586.18	4.19	OSF 1.50	20620.00	11330.03				MinPt-ADP
911.71	354.94	674.75	556.77	3.86	OSF 1.50	21440.00	11330.00				MinPt-SF
911.66	354.90	674.73	556.76	3.86	OSF 1.50	21450.00	11330.00				MinPts
911.66	354.90	674.73	556.76	3.86	OSF 1.50	21450.47	11330.00				TD

30-025-43737 Cimarex Coriander AOC 1-12 State 2H - Corrected MWD to 19642ft (DefinitiveSurvey) - Warning Alert

126.34	32.81	125.05	93.53	1295305.31	MAS = 10.00 (m)	0.00	0.00				Surface
126.33	32.81	125.04	93.52	14708.07	MAS = 10.00 (m)	23.00	23.00				WRP
125.77	32.81	121.82	92.96	46.72	MAS = 10.00 (m)	360.00	360.00				MinPts
124.65	32.81	112.37	91.84	11.22	MAS = 10.00 (m)	1200.00	1200.00				MinPt-EOU
124.54	32.81	111.51	91.73	10.37	MAS = 10.00 (m)	1290.00	1290.00				MinPt-EOU
124.32	32.81	110.22	91.51	9.40	MAS = 10.00 (m)	1412.16	1412.16				MinPts

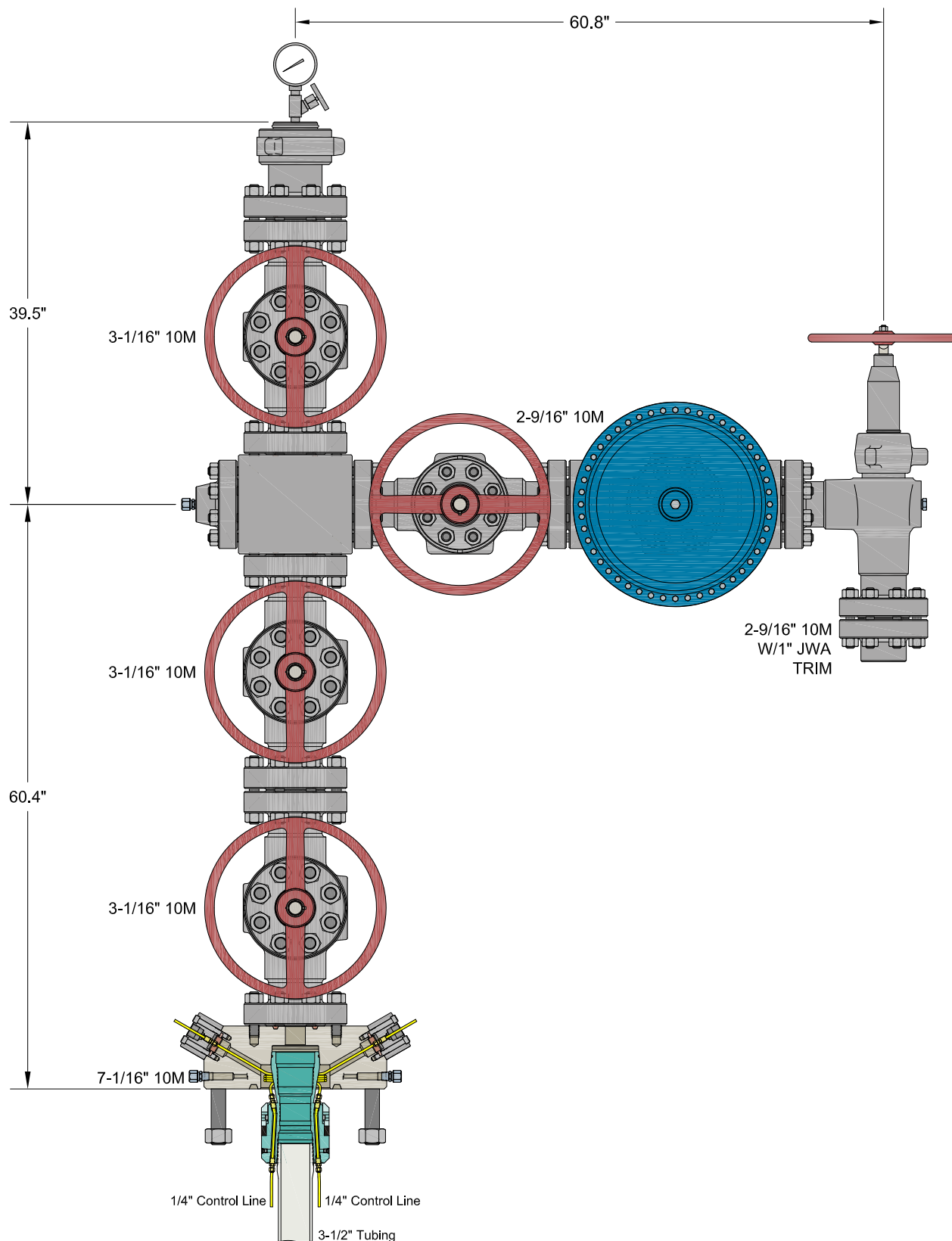
Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
5428.86	32.81		5410.13	5396.06	305.75	MAS = 10.00 (m)	1880.00	1879.99				MinPt-EOU
5527.58	102.53		5458.90	5425.05	81.64	OSF1.50	6870.00	6848.71				MinPt-CiCt
5527.60	103.83		5458.05	5423.76	80.60	OSF1.50	6960.00	6938.71				MinPt-CiCt
5528.25	111.87		5453.34	5416.38	74.77	OSF1.50	7510.00	7488.71				MinPt-CiCt
5528.24	113.48		5452.26	5414.77	73.70	OSF1.50	7620.00	7598.71				MinPt-CiCt
5531.35	133.10		5442.29	5398.26	62.79	OSF1.50	8980.00	8958.71				MinPt-EOU
5531.63	133.42		5442.36	5398.21	62.64	OSF1.50	9010.00	8988.71				MinPt-ADP
5532.91	134.54		5442.90	5398.38	62.13	OSF1.50	9100.00	9078.71				MinPt-ADP
5547.85	143.41		5451.92	5404.44	58.42	OSF1.50	9710.00	9688.71				MinPt-ADP
5549.34	144.88		5452.42	5404.45	57.84	OSF1.50	9800.00	9778.71				MinPt-ADP
5550.02	145.76		5452.52	5404.26	57.49	OSF1.50	9850.00	9828.71				MinPt-EOU
5550.96	146.89		5452.71	5404.07	57.06	OSF1.50	9930.00	9908.71				MinPt-ADP
5560.76	154.23		5457.62	5406.54	54.42	OSF1.50	10450.00	10428.71				MinPt-ADP
5566.45	159.02		5460.10	5407.42	52.82	OSF1.50	10750.00	10728.71				MinPt-EOU
508.68	153.75		405.86	354.93	4.99	OSF1.50	16390.00	11330.18	OSF<=5.00			Enter Alert
433.38	160.39		326.13	272.99	4.07	OSF1.50	16656.34	11330.17				MinPt-CiCt
433.60	160.96		325.97	272.64	4.06	OSF1.50	16670.00	11330.17				MinPts
436.69	162.63		327.94	274.06	4.04	OSF1.50	16710.00	11330.17				MinPt-SF
565.75	171.29		451.22	394.46	4.97	OSF1.50	17020.00	11330.16	OSF>5.00			Exit Alert
4813.68	175.80		4696.15	4637.88	41.30	OSF1.50	21450.47	11330.00				TD
30-025-33370 - Thyme APY Federal 1 INC Only to 10250ft (DefinitiveSurvey) - Warning Alert												
991.31	32.81		989.33	958.50	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
991.16	32.81		989.16	958.35	48695.78	MAS = 10.00 (m)	10.00	10.00				MinPt-WRP
991.10	32.81		989.07	958.30	19335.35	MAS = 10.00 (m)	23.00	23.00				WRP
991.10	99.40		924.25	891.71	15.20	OSF1.50	1800.00	1800.00				MinPt-CiCt
993.18	105.92		921.98	887.26	14.28	OSF1.50	1910.00	1909.97				MinPt-EOU
996.07	109.47		922.50	886.60	13.85	OSF1.50	1970.00	1969.90				MinPt-ADP
1340.15	291.84		1145.00	1048.30	6.92	OSF1.50	4890.00	4868.97				MinPt-ADP
1349.61	406.54		1078.04	943.07	4.99	OSF1.50	6660.00	6638.71	OSF<=5.00			Enter Alert
1349.61	630.97		928.42	718.64	3.21	OSF1.50	10290.00	10268.71				MinPts
1668.39	502.37		1332.97	1166.01	4.99	OSF1.50	11550.00	11300.90	OSF>5.00			Exit Alert
10244.22	633.68		9821.27	9610.55	24.30	OSF1.50	21450.47	11330.00				TD
30-025-47992 - WILD SALSA FED COM 406H - MWD to 23449ft - A (DefinitiveSurvey) - Warning Alert												
16202.74	225.78		16051.56	15976.96	108.58	OSF1.50	0.00	0.00				Surface
16185.11	225.74		16033.95	15959.37	108.49	OSF1.50	23.00	23.00				WRP
1165.92	351.24		931.25	814.67	4.99	OSF1.50	21200.00	11330.01	OSF<=5.00			Enter Alert
1107.03	367.80		861.34	739.24	4.53	OSF1.50	21450.47	11330.00				MinPts
30-025-47629 - WILD SALSA FED COM 215H - MWD to 21650ft - A (DefinitiveSurvey) - Warning Alert												
14921.28	206.69		14782.83	14714.60	109.32	OSF1.50	0.00	0.00				Surface
14904.82	206.61		14766.42	14698.21	109.24	OSF1.50	23.00	23.00				WRP
10554.71	176.89		10436.24	10377.82	90.31	OSF1.50	10710.00	10688.71				MinPt-CiCt
10554.80	177.20		10436.13	10377.61	90.16	OSF1.50	10750.00	10728.71				MinPts
1444.48	435.24		1153.82	1009.24	4.99	OSF1.50	20720.00	11330.03	OSF<=5.00			Enter Alert
1157.66	541.50		796.16	616.16	3.21	OSF1.50	21450.47	11330.00				MinPts
30-025-47638-0100 - WILD SALSA FED COM 324H ST01 - MWD to 22866ft - A (DefinitiveSurvey) - Warning Alert												
16280.03	211.97		16138.06	16068.07	116.28	OSF1.50	0.00	0.00				Surface
16262.78	211.92		16120.84	16050.86	116.18	OSF1.50	23.00	23.00				WRP
1264.62	381.68		1009.66	882.94	4.98	OSF1.50	21260.00	11330.01	OSF<=5.00			Enter Alert
1170.75	408.04		898.23	762.72	4.31	OSF1.50	21450.47	11330.00				MinPts
30-025-43738 Cimarex Coriander AOC 1-12 State 3H - Corrected MWD to 19431ft (DefinitiveSurvey) - Pass												
134.05	32.81		132.76	101.24	3442032.11	MAS = 10.00 (m)	0.00	0.00				MinPts
134.05	32.81		132.75	101.24	12227.41	MAS = 10.00 (m)	23.00	23.00				WRP
131.19	32.81		121.55	98.38	15.56	MAS = 10.00 (m)	910.81	910.81				MinPts
131.52	32.81		119.10	98.72	11.69	MAS = 10.00 (m)	1190.00	1190.00				MinPts
131.55	32.81		118.28	98.74	10.74	MAS = 10.00 (m)	1290.00	1290.00				MinPt-EOU
132.05	32.81		117.04	99.24	9.34	MAS = 10.00 (m)	1480.00	1480.00				MinPt-EOU
134.92	32.81		116.92	102.11	7.87	MAS = 10.00 (m)	1780.00	1780.00				MinPt-EOU
144.31	32.81		123.94	111.50	7.39	MAS = 10.00 (m)	2020.00	2019.78				MinPt-SF
703.91	109.97		630.26	593.94	9.67	OSF1.50	7430.00	7408.71				MinPt-CiCt
709.97	126.67		625.20	583.30	8.46	OSF1.50	8560.00	8538.71				MinPt-EOU
712.70	129.91		625.77	582.79	8.28	OSF1.50	8780.00	8758.71				MinPt-ADP
723.03	135.38		632.44	587.65	8.06	OSF1.50	9180.00	9158.71				MinPt-SF
1889.40	99.06		1823.03	1790.34	28.88	OSF1.50	12100.00	11330.34				MinPt-CiCt
1889.54	99.41		1822.94	1790.13	28.78	OSF1.50	12140.00	11330.34				MinPt-EOU
1889.70	99.60		1822.97	1790.10	28.73	OSF1.50	12160.00	11330.34				MinPt-ADP
1832.58	143.12		1736.84	1689.46	19.33	OSF1.50	14490.00	11330.25				MinPt-CiCt
1832.40	147.12		1733.99	1685.28	18.80	OSF1.50	14650.00	11330.25				MinPt-CiCt
1832.79	148.44		1733.50	1684.35	18.63	OSF1.50	14710.00	11330.25				MinPt-EOU
1833.31	149.10		1733.59	1684.21	18.56	OSF1.50	14740.00	11330.24				MinPt-ADP
1843.18	159.14		1736.75	1684.04	17.47	OSF1.50	15130.00	11330.23				MinPt-ADP
1856.60	187.62		1731.19	1668.98	14.91	OSF1.50	16170.00	11330.19				MinPt-CiCt
1861.18	197.02		1729.50	1664.16	14.23	OSF1.50	16510.00	11330.18				MinPt-EOU
1867.53	205.67		1730.09	1661.86	13.68	OSF1.50	16810.00	11330.17				MinPt-EOU
1882.49	223.08		1733.44	1659.40	12.71	OSF1.50	17410.00	11330.15				MinPt-ADP
1886.59	228.60		1733.86	1657.99	12.43	OSF1.50	17590.00	11330.14				MinPt-EOU
1891.38	234.69		1734.60	1656.69	12.13	OSF1.50	17800.00	11330.13				MinPt-ADP
1886.52	264.55		1709.83	1621.97	10.73	OSF1.50	18770.00	11330.10				MinPt-CiCt
1860.36	323.63		1644.28	1536.73	8.64	OSF1.50	20670.00	11330.03				MinPt-CiCt
1862.12	330.53		1641.44	1531.59	8.47	OSF1.50	20900.00	11330.02				MinPt-EOU
1859.10	348.27		1626.59	1510.83	8.03	OSF1.50	21450.47	11330.00				MinPts
Oxy Stack Cats 25_36 Fed Com 313H Gyro+Corrected MWD to 23025ft (DefinitiveSurvey) - Pass												
11906.65	32.81		11903.25	11873.84	8416.41	MAS = 10.00 (m)	0.00	0.00				Surface
11906.65	32.81		11903.25	11873.84	8416.13	MAS = 10.00 (m)	23.00	23.00				WRP
11906.47	32.81		11902.93	11873.67	7585.56	MAS = 10.00 (m)	150.00	150.00				MinPts

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
1232.99	168.66	1120.05	1064.33	11.05	OSF1.50	11320.00	11213.19				MinPt-SF	
1220.06	165.53	1109.21	1054.54	11.14	OSF1.50	11410.00	11257.30				MinPts	
1219.89	165.10	1109.32	1054.79	11.17	OSF1.50	11421.70	11262.11				MinPt-CtCt	
10567.08	160.37	10459.66	10406.70	99.75	OSF1.50	21450.47	11330.00				TD	
Oxy Stack Cats 25-36 Fed Com 25H Rev1 LP 16Jan24 (DefinitivePlan) - Pass												
10886.04	160.08	10758.96	10705.96	102.50	OSF1.50	0.00	0.00				Surface	
10843.14	160.23	10735.96	10682.91	102.19	OSF1.50	23.00	23.00				WRP	
1330.12	303.65	1127.36	1026.47	6.59	OSF1.50	10810.00	10788.64				MinPt-SF	
1329.85	303.55	1127.16	1026.30	6.59	OSF1.50	10830.00	10808.53				MinPts	
1329.83	303.49	1127.17	1026.33	6.59	OSF1.50	10837.31	10815.77				MinPt-CtCt	
10564.17	190.49	10436.85	10373.68	83.61	OSF1.50	21450.47	11330.00				TD	



BOP EQUIPMENT INFORMATION

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



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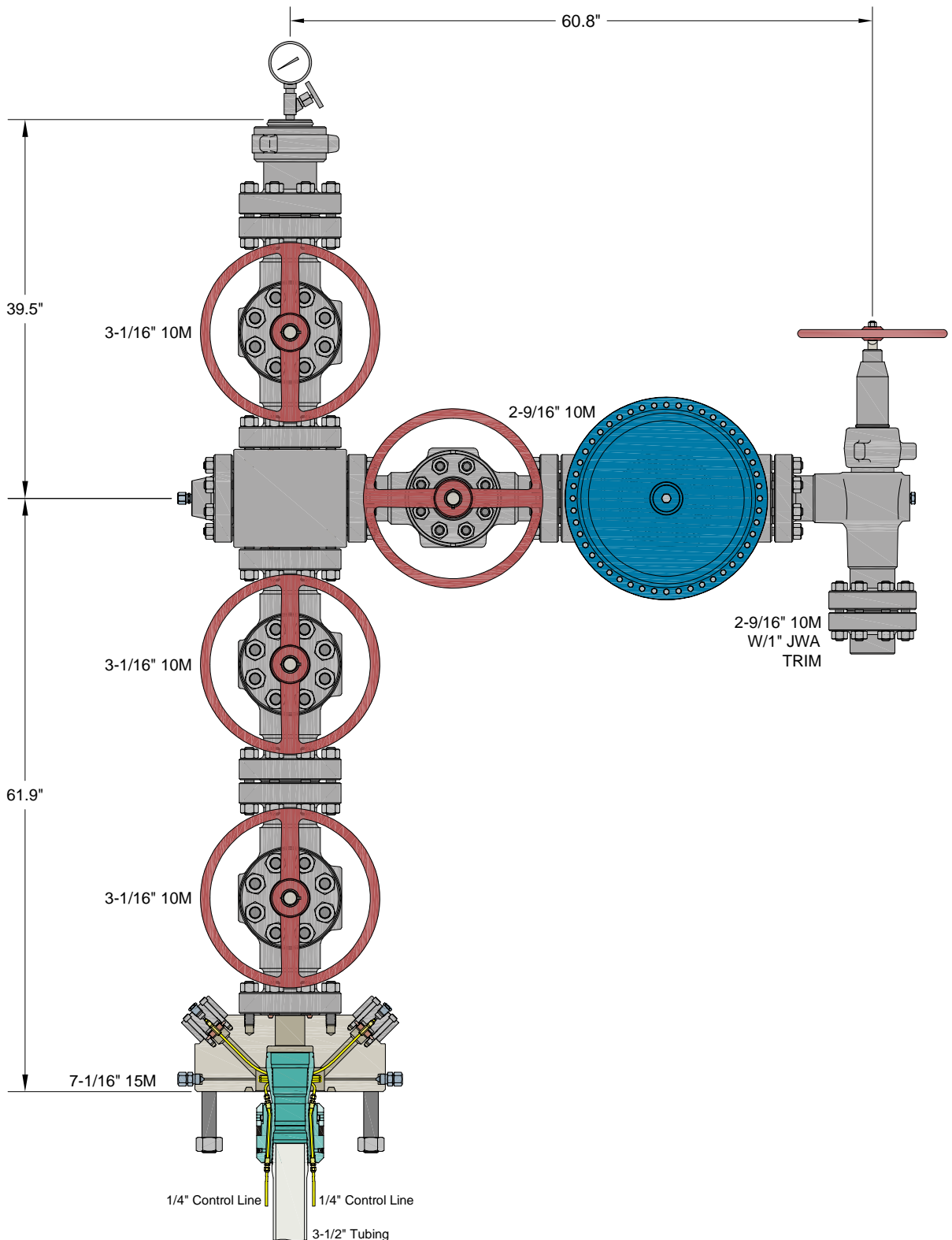
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

CIMAREX
HOBBS, NM

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

DRAWN	VJK	05SEP23
APPRV		
DRAWING NO.	HBE0001018	



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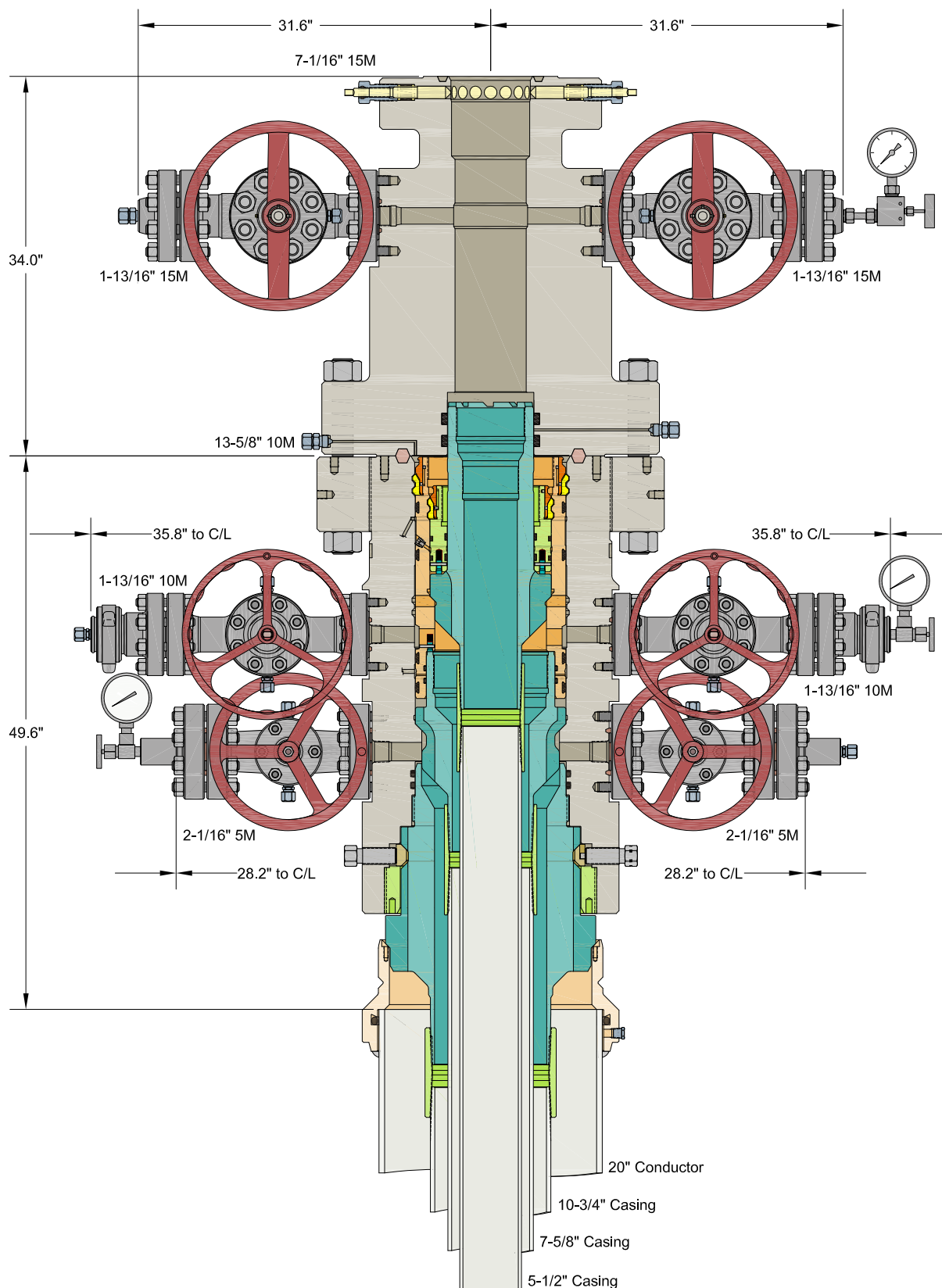
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

CIMAREX
HOBBS, NM

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

DRAWN	VJK	13DEC23
APPRV		
DRAWING NO.	HBE0001018	



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ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

**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	

Technical Specifications

Connection Type: DW/C-IS PLUS Casing STANDARD
Size(O.D.): 5-1/2 in
Weight (Wall): 23.00 lb/ft (0.415 in)
Grade: VST P110 RY

Material
 VST P110 RY Grade
 110,000 Minimum Yield Strength (psi.)
 125,000 Minimum Ultimate Strength (psi.)



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 Houston, TX 77042
 Phone: 713-479-3200
 Fax: 713-479-3234
 E-mail: VAMUSAsales@vam-usa.com

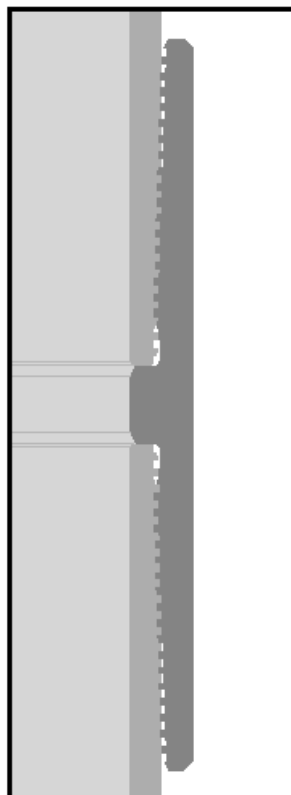
Pipe Dimensions
 5.500 Nominal Pipe Body O.D. (in.)
 4.670 Nominal Pipe Body I.D. (in.)
 0.415 Nominal Wall Thickness (in.)
 23.00 Nominal Weight (lbs./ft.)
 22.56 Plain End Weight (lbs./ft.)
 6.630 Nominal Pipe Body Area (sq. in.)

Pipe Body Performance Properties
 729,000 Minimum Pipe Body Yield Strength (lbs.)
 14,540 Minimum Collapse Pressure (psi.)
 14,530 Minimum Internal Yield Pressure (psi.)
 13,300 Hydrostatic Test Pressure (psi.)

Connection Dimensions
 6.300 Connection O.D. (in.)
 4.670 Connection I.D. (in.)
 4.545 Connection Drift Diameter (in.)
 4.13 Make-up Loss (in.)
 6.630 Critical Area (sq. in.)
 100.0 Joint Efficiency (%)

Connection Performance Properties
 729,000 Joint Strength (lbs.)
 22,640 Reference String Length (ft) 1.4 Design Factor
 759,000 API Joint Strength (lbs.)
 729,000 Compression Rating (lbs.)
 14,540 API Collapse Pressure Rating (psi.)
 14,530 API Internal Pressure Resistance (psi.)
 91.7 Maximum Uniaxial Bend Rating [degrees/100 ft]

Approximated Field End Torque Values
 17,700 Minimum Final Torque (ft.-lbs.)
 20,400 Maximum Final Torque (ft.-lbs.)
 23,000 Connection Yield Torque (ft.-lbs.)



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

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

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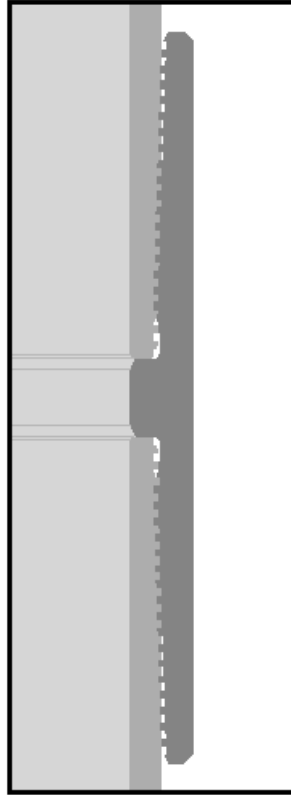
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VAM USA
 2107 CityWest Boulevard Suite 1300
 Houston, TX 77042
 Phone: 713-479-3200
 Fax: 713-479-3234
 E-mail: VAMUSAsales@vam-usa.com

DWC Connection Data Notes:

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



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Coterra: H2S Plan



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

Coterra: H2S Plan

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

Well Control Equipment

1. See the pressure control section of this submission.

Communication

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

Drillstem Testing

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

Coterra: H2S Plan

H2S Contingency Plan

Emergency Procedures

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

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

Ignition of the Gas Source

1. Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO₂). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas

Contacting Authorities

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

Coterra: H2S Plan

Emergency Contacts

Coterra Energy

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

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

Third Party

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

Coterra: Well Control Plan



Well Control Plan

Warning Signs of a Kick

If a kick is ever suspected, perform flow check.

While Drilling:

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

While Tripping:

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

While Out of the Hole:

1. Flow
2. Pit gain

Well Control Procedures with Diverter

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

If rotating head is installed:

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

Coterra: Well Control Plan

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

If rotating head is not installed:

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

Well Control Procedures

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

General Well Control

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

Hard Shut-In

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

Coterra: Well Control Plan

Flow Check when on Bottom

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

Shutting in while Drilling

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

Flow Check while Tripping

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

Shutting in while Tripping

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

Shutting in while Out of Hole

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

Information to Record while Shut-In

1. Shut in drill pipe pressure every 5 minutes

Coterra: Well Control Plan

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

H2S with Annular Diverter:

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

H2S with BOP's:

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

Procedure for Closing Blind Rams

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

Procedure for Opening Blind Rams

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

Coterra: Well Control Plan

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

BOP Drills

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

Choke Manifold Freeze Prevention

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

State of New Mexico
 Energy, Minerals and Natural Resources Department

Submit Electronically
 Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description Effective May 25, 2021

I. Operator: Cimarex Energy Company **OGRID:** 215099 **Date:** 1/2/24

II. Type: Original Amendment due to 19.15.27.9.D(6)(a) NMAC 19.15.27.9.D(6)(b) NMAC Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Coriander 1-12 State Com 303H		1, Sec 1 T23S, R32E	211 FNL/670 FEL	1834	3117	4782

IV. Central Delivery Point Name: Coriander CTB [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Coriander 1-12 State Com 303H		7/1/25	8/16/25	1/1/26	3/15/26	3/15/26

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	<i>Sarah Jordan</i>
Printed Name:	Sarah Jordan
Title:	Regulatory Analyst
E-mail Address:	sarah.jordan@coterra.com
Date:	1/2/24
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.

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General Information
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Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 453908

CONDITIONS

Operator: Coterra Energy Operating Co. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 453908
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
matthew.gomez	For future reference, please report the addition of a pool in the description of changes when going from one pool to two.	5/9/2025
matthew.gomez	Any previous COA's not addressed within the updated COA's still apply.	5/9/2025