

Santa Fe Main Office
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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

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 ☐		WELL API NO. 30-025-53337 5. Indicate Type of Lease STATE ☒ FEE ☐ 6. State Oil & Gas Lease No. VB2312002
2. Name of Operator Coterra Energy Operating Co.		7. Lease Name or Unit Agreement Name Rope State Com
3. Address of Operator 6001 Deauville Blvd, Midland, TX 79706		8. Well Number 302H 9. OGRID Number 215099
4. Well Location Unit Letter <u>M</u> : <u>335</u> feet from the <u>S</u> line and <u>2493</u> feet from the <u>E</u> line Section <u>30</u> Township <u>18S</u> Range <u>35E</u> NMPM SESE County <u>Lea</u>		10. Pool name or Wildcat Airstrip; Bone Spring, WC-025 G-06 S183518A; Bone Spring
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3939.2		

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐	CHANGE PLANS ☒	COMMENCE DRILLING OPNS. ☐	P AND A ☐
PULL OR ALTER CASING ☐	MULTIPLE COMPL ☐	CASING/CEMENT JOB ☐	
DOWNHOLE COMMINGLE ☐			
CLOSED-LOOP SYSTEM ☐			
OTHER: ☐		OTHER: ☐	

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.

Coterra Energy Operating Co. requests the following changes to the Rope State Com 302H:

Well number change from 302H to 503H
 SHL from 335 FSL 2493 FEL to 338 FSL 1153 FEL
 BHL from 100 FSL 2290 FEL to 2545 FSL 1490 FEL
 MD from 24794' to 28196'
 TVD from 9282' to 10060'
 Update Airstrip; Bone Spring spacing to 320 acres
 Update WC-025 G-06 S183518A; Bone Spring to 800 acres

Spud Date:

4/9/2026

Rig Release Date:

5/9/2026

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 3/25/2026

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:	☐ Initial Submittal
			☒ Amended Report
		☐ As Drilled	

WELL LOCATION INFORMATION

API Number 30-025-53337	Pool Code 960	Pool Name Airstrip; Bone Spring
Property Code 338213	Property Name ROPE STATE COM	Well Number 503H
OGRID No. 215099	Operator Name COTERRA ENERGY OPERATING CO.	Ground Level Elevation 3939.2'
Surface Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal		Mineral Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal

Surface Location

UL P	Section 30	Township 18S	Range 35E	Lot	Ft. from N/S 338 SOUTH	Ft. from E/W 1,153 EAST	Latitude (NAD 83) 32.712397°	Longitude (NAD 83) -103.491950°	County LEA
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Bottom Hole Location

UL J	Section 7	Township 18S	Range 35E	Lot	Ft. from N/S 2,545 SOUTH	Ft. from E/W 1,490 EAST	Latitude (NAD 83) 32.762096°	Longitude (NAD 83) -103.493212°	County LEA
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Dedicated Acres 320	Infill or Defining Well Defining	Defining Well API 30-025-53337	Overlapping Spacing Unit (Y/N) Y	Consolidation Code C
Order Numbers. NA - JOA		Well setbacks are under Common Ownership: ☐ Yes ☐ No NA		

Kick Off Point (KOP)

UL O	Section 30	Township 18S	Range 35E	Lot	Ft. from N/S 100 SOUTH	Ft. from E/W 1,490 EAST	Latitude (NAD 83) 32.711749°	Longitude (NAD 83) -103.493044°	County LEA
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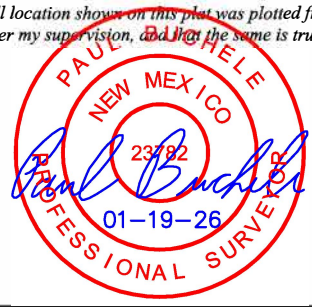
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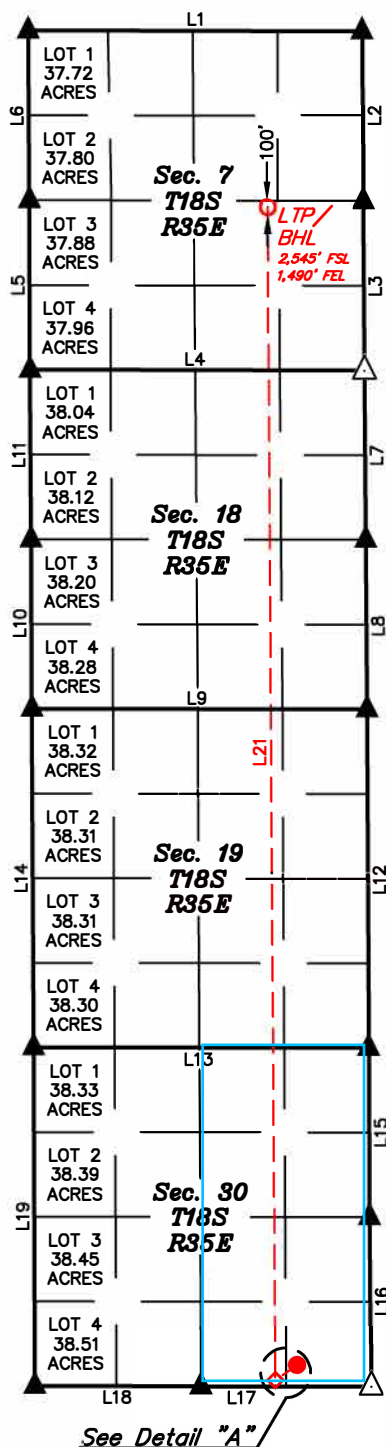
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Unitized Area or Area of Uniform Interest E2 Sec 30,19,18,7	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: 3939.2
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OPERATOR CERTIFICATIONS <i>I hereby certify that the information 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> <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> <i>Shelly Bowen</i> 3/18/2026 Signature Date Shelly Bowen Printed Name Shelly.Bowen@coterra.com Email Address	SURVEYOR CERTIFICATIONS <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>  Signature and Seal of Professional Surveyor 23782 February 21, 2024 Certificate Number Date of Survey
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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 ROPE STATE COM	Well Number 503H	Drawn By E.C. 11-12-25	Revised By REV. 1 T.I.R. 01-19-26 (UPDATE BHL)
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LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N89°52'35"W	5215.75'
L2	N00°20'12"W	2652.85'
L3	N00°29'20"W	2644.93'
L4	N89°50'52"W	5226.42'
L5	N00°14'19"W	2646.78'
L6	N00°21'23"W	2648.29'
L7	N00°25'18"W	2644.91'
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L10	N00°17'55"W	2647.91'
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L13	N89°55'29"W	5236.78'
L14	N00°17'02"W	5291.33'
L15	N00°17'51"W	2644.77'
L16	N00°23'11"W	2647.64'
L17	N89°52'25"W	2645.47'
L18	N89°51'48"W	2601.02'
L19	N00°14'14"W	5287.20'
L20	S54°46'32"W	410.83'
L21	N00°22'21"W	18321.09'

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°42'44.63" (32.712397°)
LONGITUDE = -103°29'31.02" (-103.491950°)

NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°42'44.18" (32.712273°)
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STATE PLANE NAD 83 (N.M. EAST)
N: 623928.44' E: 800123.29'
STATE PLANE NAD 27 (N.M. EAST)
N: 623864.13' E: 758943.56'

NAD 83 (KOP/LP/PTT)
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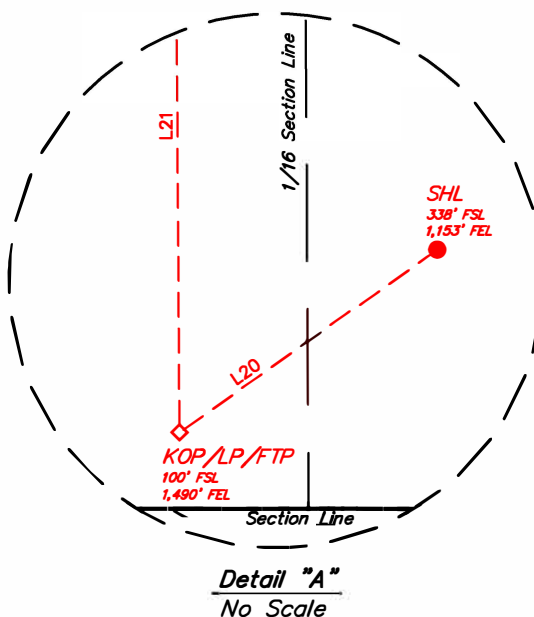
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- NOTE:**
- Distances referenced on plat to section lines are perpendicular.
 - Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)
 - Section breakdown information for this plan may be obtained from Uintah Engineering and Land Surveying.

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



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		Submittal Type:	☐ Initial Submittal
			☒ Amended Report
		☐ As Drilled	

WELL LOCATION INFORMATION

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Property Code 338213	Property Name ROPE STATE COM	Well Number 503H
OGRID No. 215099	Operator Name COTERRA ENERGY OPERATING CO.	Ground Level Elevation 3939.2'
Surface Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal		Mineral Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal

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Order Numbers. NA - JOA		Well setbacks are under Common Ownership: ☐ Yes ☐ No NA		

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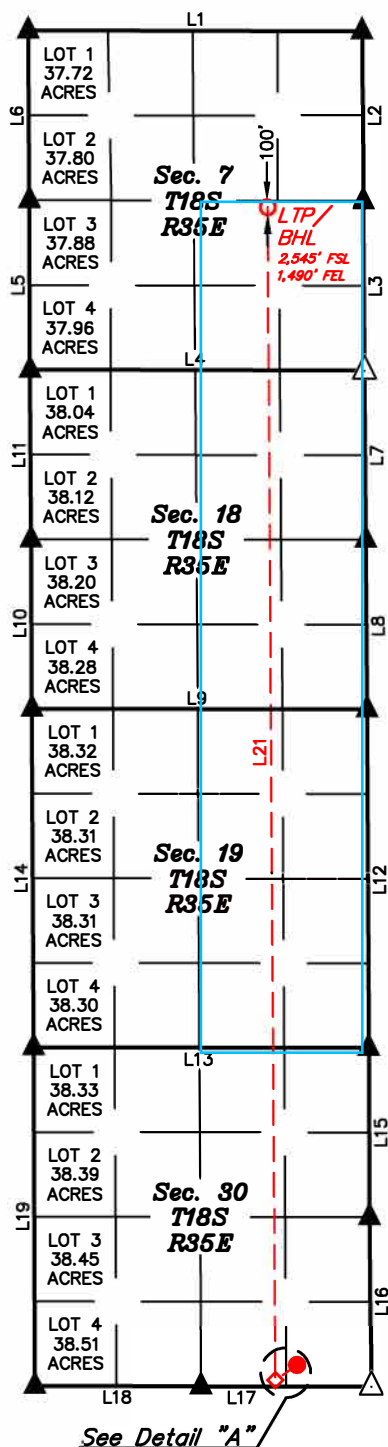
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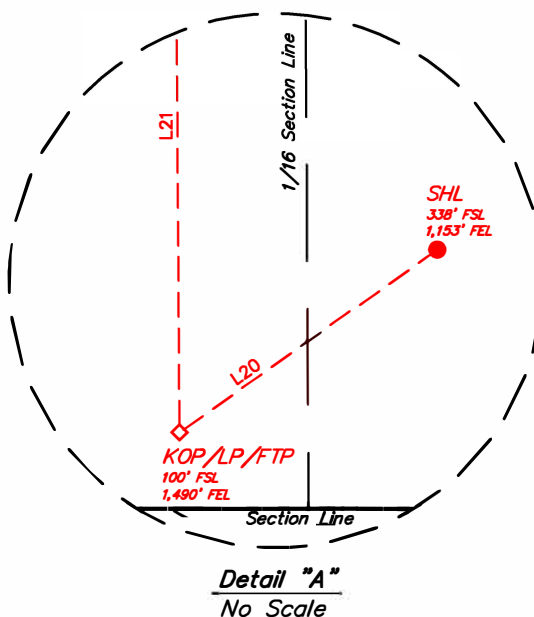
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1. Geological Formations

TVD of target

Pilot Hole TD N/A

MD at TD

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1894	N/A	
Top of Salt	2161	N/A	
Base of Salt/Lamar	5736	N/A	
Top Delaware Sands/Bell Canyon	5850	N/A	
Cherry Canyon	6120	N/A	
Brushy Canyon	6578	N/A	
Basal Brushy Canyon	7411	N/A	
Bone Spring Lime	7583	N/A	
Leonard/Avalon Sand	7809	N/A	
1st Bone Spring Sand	9103	Hydrocarbons	
2nd Bone Spring Sand	9630	Hydrocarbons	
2nd Bone Spring Sand - Target	10050	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	2005	2005	13-3/8"	54.50	J-55	BT&C	1.31	3.17	7.81
12 1/4	0	5761	5761	9-5/8"	40.00	HCK-55	LT&C	1.23	1.28	2.43
8 1/2	0	9492	9492	7"	29.00	P-110	BT&C	1.92	2.53	5.38
8 1/2	9492	28196	8640	5-1/2"	20.00	P-110	BT&C	2.75	3.06	(37.62)
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 43 CFR 3172.

Cimarex Energy Co., Rope State Com 503H

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

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	972	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	260	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	1076	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	292	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	204	10.30	3.64	22.18		Lead: Tuned Light + LCM
	4945	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	52
Production	5561	

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

4. Pressure Control Equipment

A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	10M	Annular	5M	100% of working pressure
			Blind Ram		10M
			Pipe Ram		
			Double Ram	X	
			Other		
8 1/2	13 5/8	10M	Annular	X	100% of working pressure
			Blind Ram		10M
			Pipe Ram	X	
			Double Ram	X	
			Other		

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

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 2005'	Fresh Water	7.80 - 8.30	28	N/C
2005' to 5761'	Brine Water	9.80 - 10.30	30-32	N/C
5761' to 28196'	Oil Based Mud	8.50 - 9.00	50-70	N/C

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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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	4043 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	H ₂ S is present
X	H ₂ S 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

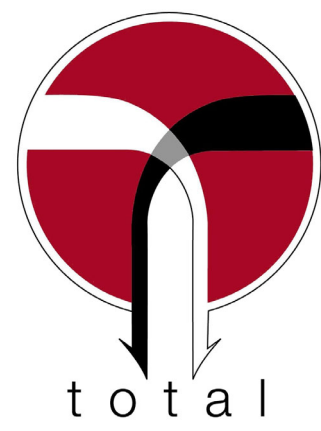
1. After running the first string of casing, a 10M BOP/BOPE system with 5M annular will be installed. BOPs will be tested according to Onshore Order #2. BOPE will be tested to full rated pressure (10K for all BOPE except the annular, which is tested to 5K). For the low test, the system will be tested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



Coterra Energy
Site: Rope State Com Pad
Well: Rope State Com 503H
Wellbore: OH
Design: Plan #2
Rig:



SHL

338' FSL, 1153' FEL
RKB Elevation: GE 3939.2' + KB 23' @ 3962.20usft

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	623928.44	800123.29	32.7123972	-103.4919504	

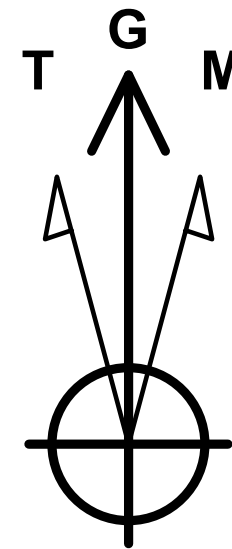
Formations

TVDPATH	MDPATH	Formation
1894.00	1894.02	Rustler
1980.00	1980.12	A3 Top
2078.00	2078.44	A3 Base (Tamarisk)
2161.00	2161.89	Top Salt/Salado
5736.00	5756.55	Base Salt/Lamar/CTRA_BASE_ANHYDRITE
5850.00	5870.89	Top Delaware Sands/Bell Canyon
6120.00	6140.97	Cherry Canyon
6578.00	6598.97	Brushy Canyon
7411.00	7431.97	Basal Brushy Canyon
7583.00	7603.97	Bone Spring Lime
7809.00	7829.97	Leonard/Avalon Sand
9103.00	9123.97	1st Bone Spring Sand
9630.00	9653.07	2nd Bone Spring Sand
10050.00	10364.54	2nd Bone Spring Sand Lower Target

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	0.00	Nudge, Build 2.00°/100'
2099.87	6.00	234.53	2099.33	-9.10	-12.77	2.00	234.53	-8.96	Hold - 2099.87' MD/2099.32' TVD
5731.10	6.00	234.53	5710.67	-229.24	-321.78	0.00	0.00	-225.75	Drop, 2.00°/100' DLS
6030.97	0.00	0.00	6010.00	-238.34	-334.55	2.00	180.00	-234.71	Hold - 6030.97' MD/6010.00' TVD
9492.24	0.00	0.00	9471.27	-238.34	-334.55	0.00	0.00	-234.71	KOP - Start 10.00°/100' DLS
10242.24	75.00	359.38	10024.70	186.30	-339.15	10.00	359.38	189.96	75° Inc - 10242.24' MD/10024.70' TVD
10635.00	94.64	359.38	10060.00	575.52	-343.34	5.00	0.01	579.20	LP - 10635.00' MD
28196.70	94.64	359.38	8640.00	18078.71	-531.42	0.00	0.00	18083.40	TD - 28196.70' MD

Azimuths to Grid North
True North: -0.45°
Magnetic North: 5.53°



Magnetic Field
Strength: 47286.3nT
Dip Angle: 60.42°
Date: 3/11/2026
Model: HDGM2026

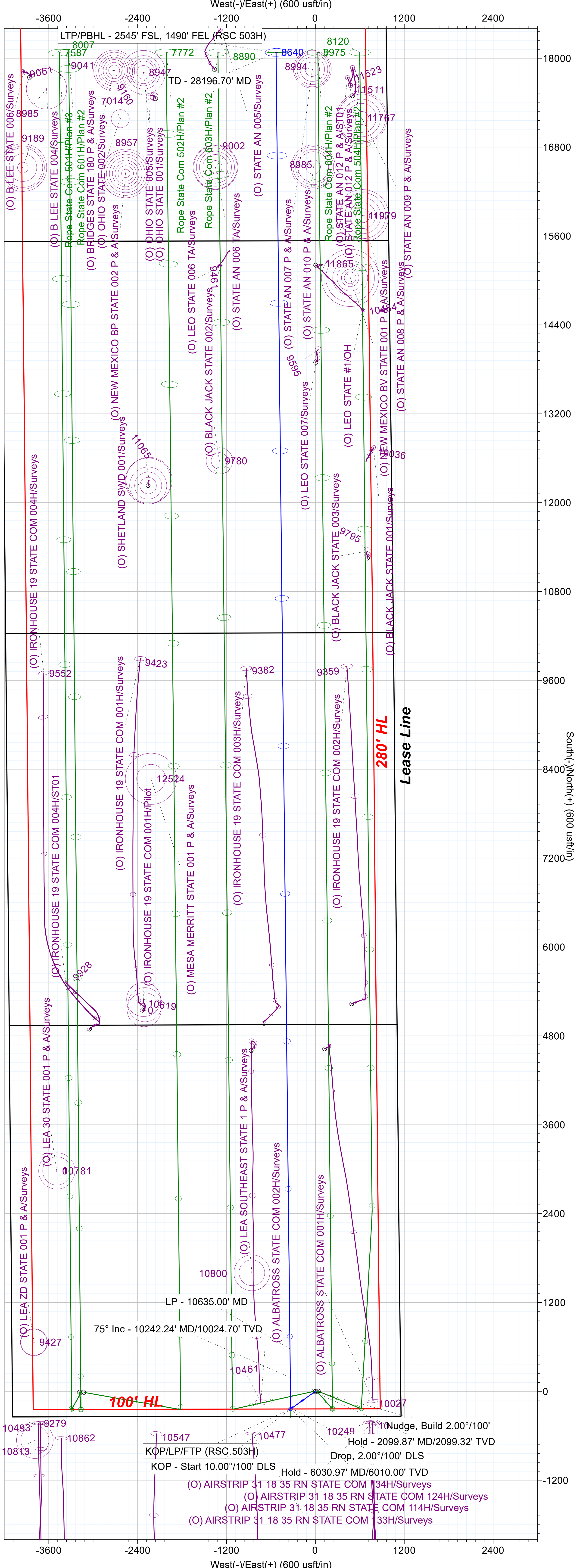
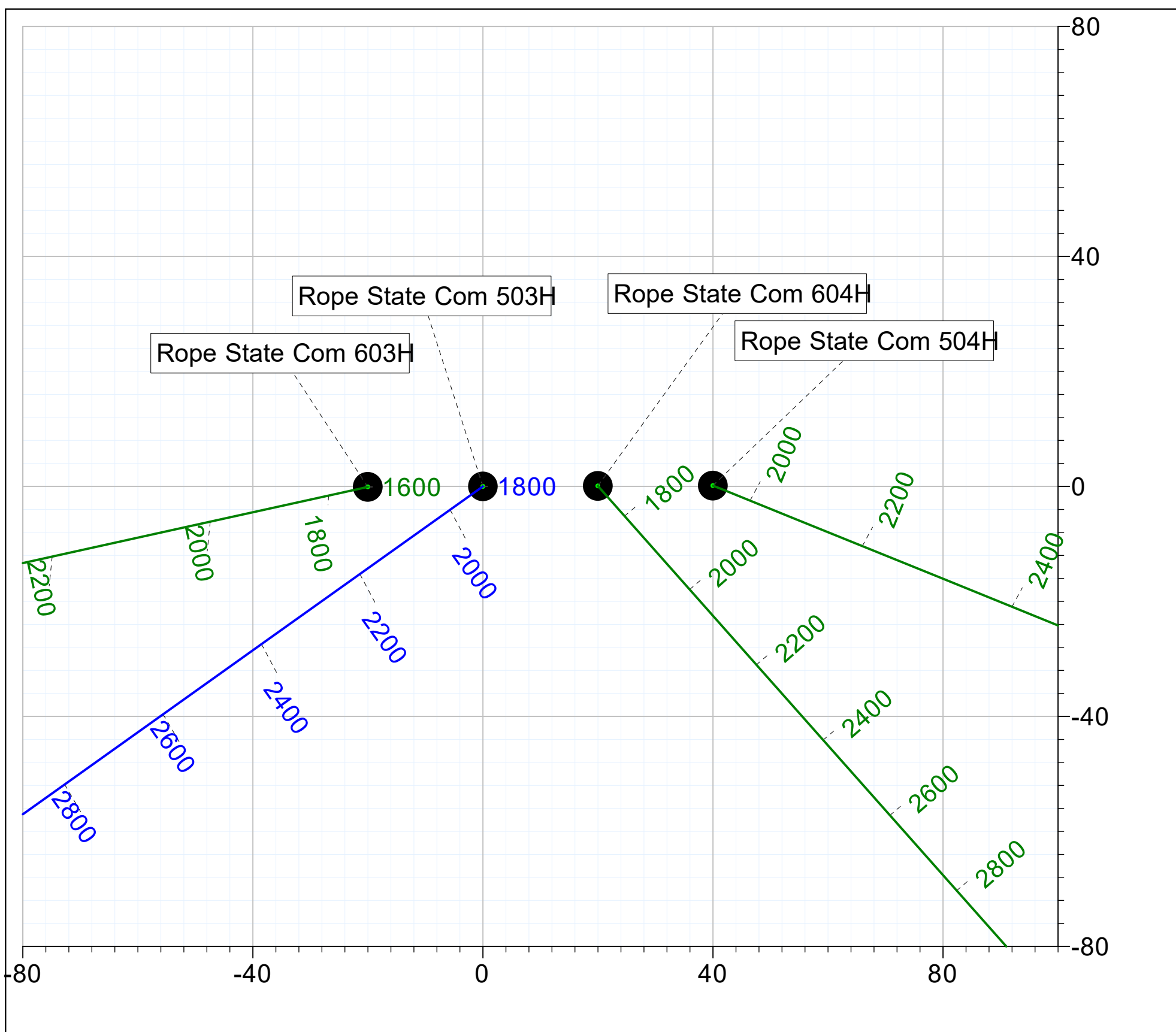
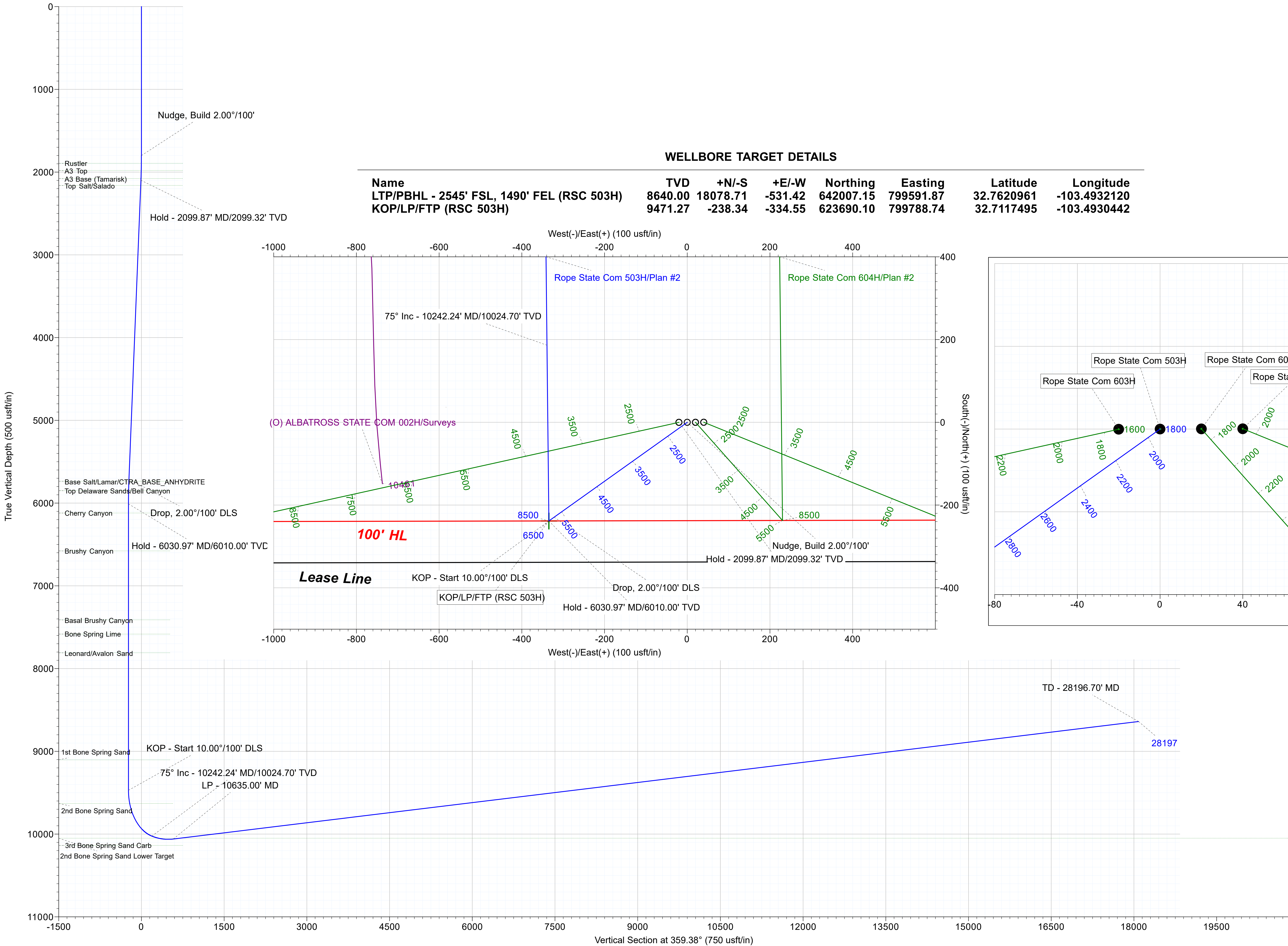
To convert a Magnetic Direction to a Grid Direction, Add 5.53°

PROJECT DETAILS: Lea County, NM (NAD 83)

Geodetic System: US State Plane 1983
Datum: North American Datum 1983
Ellipsoid: GRS 1980
Zone: New Mexico Eastern Zone

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LTP/PBHL - 2545' FSL, 1490' FEL (RSC 503H)	8640.00	18078.71	-531.42	642007.15	799591.87	32.7620961	-103.4932120
KOP/LP/FTP (RSC 503H)	9471.27	-238.34	-334.55	623690.10	799788.74	32.7117495	-103.4930442



Coterra Energy

Lea County, NM (NAD 83)

Rope State Com Pad

Rope State Com 503H

338' FSL, 1153' FEL

OH

Plan: Plan #2



Standard Plan Report

18 March, 2026

Total Report Version 1.80

COMPASS 5000.16 Build 97

ATTENTION

All annotation callouts related to distances are uncertified and are approximated footages using available software and measurement tools. They should not be mistaken as an official record, which can only be obtained via a certified land surveyor.

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Project	Lea County, NM (NAD 83)	System Datum:	Mean Sea Level
Map System:	US State Plane 1983		
Geo Datum:	North American Datum 1983		
Map Zone:	New Mexico Eastern Zone		

Site	Rope State Com Pad				
Site Position:		Northing:	623,928.44 usft	Latitude:	32.7123973
From:	Map	Easting:	800,123.29 usft	Longitude:	-103.4919504
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "		

Well	Rope State Com 503H					
Well Position	+N/-S	0.00 usft	Northing:	623,928.44 usft	Latitude:	32.7123973
	+E/-W	0.00 usft	Easting:	800,123.29 usft	Longitude:	-103.4919504
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,939.20 usft
Grid Convergence:		0.45 °				

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	HDGM2026	3/11/2026	5.98	60.42	47,286.30000000

Design	Plan #2				
Audit Notes:					
Version:	Phase:	PLAN	Tie On Depth:	0.00	
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.00	0.00	0.00	359.38	

Survey Tool Program	Date	3/18/2026			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	28,196.70	Plan #2 (OH)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction	

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Plan Summary

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1,800.00	0.00	0.00	1,800.00	0.00	0.00	0.00	0.00	0.00	0.00	
2,099.87	6.00	234.53	2,099.33	-9.10	-12.77	2.00	2.00	0.00	234.53	
5,731.10	6.00	234.53	5,710.67	-229.24	-321.78	0.00	0.00	0.00	0.00	
6,030.97	0.00	0.00	6,010.00	-238.34	-334.55	2.00	-2.00	0.00	180.00	
9,492.24	0.00	0.00	9,471.27	-238.34	-334.55	0.00	0.00	0.00	0.00	
10,242.24	75.00	359.38	10,024.70	186.30	-339.15	10.00	10.00	0.00	359.38	
10,635.00	94.64	359.38	10,060.00	575.52	-343.34	5.00	5.00	0.00	0.01	
28,196.70	94.64	359.38	8,640.00	18,078.71	-531.42	0.00	0.00	0.00	0.00	LTP/PBHL - 2545' F

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Map Coordinates Northing (usft)	Map Coordinates Easting (usft)	Geo Coordinates Latitude (°)	Geo Coordinates Longitude (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
600.00	0.00	0.00	600.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	623,928.44	800,123.29	32.7123973	-103.4919504	0.00	0.00	0.00	0.00
Nudge, Build 2.00°/100'													
1,894.02	1.88	234.53	1,894.00	-0.90	-1.26	623,927.54	800,122.03	32.7123948	-103.4919545	-0.88	2.00	2.00	0.00
Rustler													
1,900.00	2.00	234.53	1,899.98	-1.01	-1.42	623,927.43	800,121.87	32.7123945	-103.4919551	-1.00	2.00	2.00	0.00
1,980.12	3.60	234.53	1,980.00	-3.28	-4.61	623,925.16	800,118.68	32.7123883	-103.4919655	-3.23	2.00	2.00	0.00
A3 Top													

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longitude (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,000.00	4.00	234.53	1,999.84	-4.05	-5.68	623,924.39	800,117.61	32.7123863	-103.4919690	-3.99	2.00	2.00	0.00
2,078.44	5.57	234.53	2,078.00	-7.85	-11.01	623,920.59	800,112.28	32.7123759	-103.4919864	-7.73	2.00	2.00	0.00
A3 Base (Tamarisk)													
2,099.87	6.00	234.53	2,099.33	-9.10	-12.77	623,919.34	800,110.52	32.7123725	-103.4919922	-8.96	2.00	2.00	0.00
Hold - 2099.87' MD/2099.32' TVD													
2,161.89	6.00	234.53	2,161.00	-12.86	-18.05	623,915.58	800,105.24	32.7123623	-103.4920094	-12.66	0.00	0.00	0.00
Top Salt/Salado													
2,200.00	6.00	234.53	2,198.90	-15.17	-21.29	623,913.27	800,102.00	32.7123560	-103.4920200	-14.94	0.00	0.00	0.00
2,300.00	6.00	234.53	2,298.36	-21.23	-29.80	623,907.21	800,093.49	32.7123396	-103.4920479	-20.91	0.00	0.00	0.00
2,400.00	6.00	234.53	2,397.81	-27.29	-38.31	623,901.15	800,084.98	32.7123231	-103.4920757	-26.88	0.00	0.00	0.00
2,500.00	6.00	234.53	2,497.26	-33.36	-46.82	623,895.08	800,076.47	32.7123066	-103.4921035	-32.85	0.00	0.00	0.00
2,600.00	6.00	234.53	2,596.72	-39.42	-55.33	623,889.02	800,067.96	32.7122901	-103.4921313	-38.82	0.00	0.00	0.00
2,700.00	6.00	234.53	2,696.17	-45.48	-63.84	623,882.96	800,059.45	32.7122737	-103.4921592	-44.79	0.00	0.00	0.00
2,800.00	6.00	234.53	2,795.62	-51.54	-72.35	623,876.90	800,050.94	32.7122572	-103.4921870	-50.76	0.00	0.00	0.00
2,900.00	6.00	234.53	2,895.07	-57.61	-80.86	623,870.83	800,042.43	32.7122407	-103.4922148	-56.73	0.00	0.00	0.00
3,000.00	6.00	234.53	2,994.53	-63.67	-89.37	623,864.77	800,033.92	32.7122242	-103.4922426	-62.70	0.00	0.00	0.00
3,100.00	6.00	234.53	3,093.98	-69.73	-97.88	623,858.71	800,025.41	32.7122077	-103.4922704	-68.67	0.00	0.00	0.00
3,200.00	6.00	234.53	3,193.43	-75.79	-106.39	623,852.65	800,016.90	32.7121913	-103.4922983	-74.64	0.00	0.00	0.00
3,300.00	6.00	234.53	3,292.88	-81.86	-114.90	623,846.58	800,008.39	32.7121748	-103.4923261	-80.61	0.00	0.00	0.00
3,400.00	6.00	234.53	3,392.34	-87.92	-123.41	623,840.52	799,999.88	32.7121583	-103.4923539	-86.58	0.00	0.00	0.00
3,500.00	6.00	234.53	3,491.79	-93.98	-131.92	623,834.46	799,991.37	32.7121418	-103.4923817	-92.55	0.00	0.00	0.00
3,600.00	6.00	234.53	3,591.24	-100.04	-140.43	623,828.40	799,982.86	32.7121254	-103.4924095	-98.52	0.00	0.00	0.00
3,700.00	6.00	234.53	3,690.69	-106.11	-148.94	623,822.33	799,974.35	32.7121089	-103.4924374	-104.49	0.00	0.00	0.00
3,800.00	6.00	234.53	3,790.15	-112.17	-157.45	623,816.27	799,965.84	32.7120924	-103.4924652	-110.46	0.00	0.00	0.00
3,900.00	6.00	234.53	3,889.60	-118.23	-165.96	623,810.21	799,957.33	32.7120759	-103.4924930	-116.43	0.00	0.00	0.00
4,000.00	6.00	234.53	3,989.05	-124.29	-174.47	623,804.15	799,948.82	32.7120595	-103.4925208	-122.40	0.00	0.00	0.00
4,100.00	6.00	234.53	4,088.51	-130.36	-182.98	623,798.08	799,940.31	32.7120430	-103.4925487	-128.37	0.00	0.00	0.00
4,200.00	6.00	234.53	4,187.96	-136.42	-191.49	623,792.02	799,931.80	32.7120265	-103.4925765	-134.34	0.00	0.00	0.00
4,300.00	6.00	234.53	4,287.41	-142.48	-200.00	623,785.96	799,923.29	32.7120100	-103.4926043	-140.31	0.00	0.00	0.00
4,400.00	6.00	234.53	4,386.86	-148.54	-208.51	623,779.90	799,914.78	32.7119935	-103.4926321	-146.28	0.00	0.00	0.00
4,500.00	6.00	234.53	4,486.32	-154.61	-217.02	623,773.83	799,906.27	32.7119771	-103.4926599	-152.25	0.00	0.00	0.00
4,600.00	6.00	234.53	4,585.77	-160.67	-225.53	623,767.77	799,897.76	32.7119606	-103.4926878	-158.22	0.00	0.00	0.00
4,700.00	6.00	234.53	4,685.22	-166.73	-234.04	623,761.71	799,889.25	32.7119441	-103.4927156	-164.19	0.00	0.00	0.00
4,800.00	6.00	234.53	4,784.67	-172.79	-242.55	623,755.65	799,880.74	32.7119276	-103.4927434	-170.16	0.00	0.00	0.00
4,900.00	6.00	234.53	4,884.13	-178.86	-251.05	623,749.58	799,872.24	32.7119112	-103.4927712	-176.13	0.00	0.00	0.00
5,000.00	6.00	234.53	4,983.58	-184.92	-259.56	623,743.52	799,863.73	32.7118947	-103.4927990	-182.10	0.00	0.00	0.00
5,100.00	6.00	234.53	5,083.03	-190.98	-268.07	623,737.46	799,855.22	32.7118782	-103.4928269	-188.07	0.00	0.00	0.00
5,200.00	6.00	234.53	5,182.48	-197.04	-276.58	623,731.40	799,846.71	32.7118617	-103.4928547	-194.04	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longitude (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,300.00	6.00	234.53	5,281.94	-203.11	-285.09	623,725.33	799,838.20	32.7118453	-103.4928825	-200.01	0.00	0.00	0.00
5,400.00	6.00	234.53	5,381.39	-209.17	-293.60	623,719.27	799,829.69	32.7118288	-103.4929103	-205.98	0.00	0.00	0.00
5,500.00	6.00	234.53	5,480.84	-215.23	-302.11	623,713.21	799,821.18	32.7118123	-103.4929381	-211.95	0.00	0.00	0.00
5,600.00	6.00	234.53	5,580.29	-221.29	-310.62	623,707.15	799,812.67	32.7117958	-103.4929660	-217.92	0.00	0.00	0.00
5,700.00	6.00	234.53	5,679.75	-227.36	-319.13	623,701.08	799,804.16	32.7117794	-103.4929938	-223.89	0.00	0.00	0.00
5,731.10	6.00	234.53	5,710.67	-229.24	-321.78	623,699.20	799,801.51	32.7117742	-103.4930024	-225.75	0.00	0.00	0.00
Drop, 2.00°/100' DLS													
5,756.55	5.49	234.53	5,736.00	-230.72	-323.85	623,697.72	799,799.44	32.7117702	-103.4930092	-227.20	2.00	-2.00	0.00
Base Salt/Lamar/CTRA_BASE_ANHYDRITE													
5,800.00	4.62	234.53	5,779.28	-232.94	-326.97	623,695.50	799,796.32	32.7117642	-103.4930194	-229.39	2.00	-2.00	0.00
5,870.89	3.20	234.53	5,850.00	-235.75	-330.91	623,692.69	799,792.38	32.7117566	-103.4930323	-232.15	2.00	-2.00	0.00
Top Delaware Sands/Bell Canyon													
5,900.00	2.62	234.53	5,879.08	-236.60	-332.11	623,691.84	799,791.18	32.7117542	-103.4930362	-233.00	2.00	-2.00	0.00
6,000.00	0.62	234.53	5,979.03	-238.24	-334.41	623,690.20	799,788.88	32.7117498	-103.4930437	-234.61	2.00	-2.00	0.00
6,030.97	0.00	0.00	6,010.00	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	2.00	-2.00	0.00
Hold - 6030.97' MD/6010.00' TVD													
6,100.00	0.00	0.00	6,079.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
6,140.97	0.00	0.00	6,120.00	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
Cherry Canyon													
6,200.00	0.00	0.00	6,179.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
6,300.00	0.00	0.00	6,279.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
6,400.00	0.00	0.00	6,379.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
6,500.00	0.00	0.00	6,479.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
6,598.97	0.00	0.00	6,578.00	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
Brushy Canyon													
6,600.00	0.00	0.00	6,579.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
6,700.00	0.00	0.00	6,679.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
6,800.00	0.00	0.00	6,779.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
6,900.00	0.00	0.00	6,879.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,000.00	0.00	0.00	6,979.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,100.00	0.00	0.00	7,079.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,200.00	0.00	0.00	7,179.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,300.00	0.00	0.00	7,279.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,400.00	0.00	0.00	7,379.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,431.97	0.00	0.00	7,411.00	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
Basal Brushy Canyon													
7,500.00	0.00	0.00	7,479.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,600.00	0.00	0.00	7,579.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,603.97	0.00	0.00	7,583.00	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longitude (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Bone Spring Lime													
7,700.00	0.00	0.00	7,679.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,800.00	0.00	0.00	7,779.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
7,829.97	0.00	0.00	7,809.00	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
Leonard/Avalon Sand													
7,900.00	0.00	0.00	7,879.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,000.00	0.00	0.00	7,979.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,100.00	0.00	0.00	8,079.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,200.00	0.00	0.00	8,179.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,300.00	0.00	0.00	8,279.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,400.00	0.00	0.00	8,379.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,500.00	0.00	0.00	8,479.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,600.00	0.00	0.00	8,579.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,700.00	0.00	0.00	8,679.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,800.00	0.00	0.00	8,779.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
8,900.00	0.00	0.00	8,879.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
9,000.00	0.00	0.00	8,979.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
9,100.00	0.00	0.00	9,079.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
9,123.97	0.00	0.00	9,103.00	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
1st Bone Spring Sand													
9,200.00	0.00	0.00	9,179.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
9,300.00	0.00	0.00	9,279.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
9,400.00	0.00	0.00	9,379.03	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
9,492.24	0.00	0.00	9,471.27	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442	-234.71	0.00	0.00	0.00
KOP - Start 10.00°/100' DLS - KOP/LP/FTP (RSC 503H)													
9,500.00	0.78	359.38	9,479.03	-238.29	-334.55	623,690.15	799,788.74	32.7117496	-103.4930442	-234.65	10.00	10.00	0.00
9,550.00	5.78	359.38	9,528.93	-235.43	-334.58	623,693.01	799,788.71	32.7117575	-103.4930442	-231.80	10.00	10.00	0.00
9,600.00	10.78	359.38	9,578.40	-228.24	-334.66	623,700.20	799,788.63	32.7117773	-103.4930443	-224.60	10.00	10.00	0.00
9,650.00	15.78	359.38	9,627.04	-216.76	-334.78	623,711.68	799,788.51	32.7118088	-103.4930444	-213.12	10.00	10.00	0.00
9,653.07	16.08	359.38	9,630.00	-215.92	-334.79	623,712.52	799,788.50	32.7118111	-103.4930444	-212.28	10.00	10.00	0.00
2nd Bone Spring Sand													
9,700.00	20.78	359.38	9,674.51	-201.09	-334.95	623,727.35	799,788.34	32.7118519	-103.4930445	-197.45	10.00	10.00	0.00
9,750.00	25.78	359.38	9,720.42	-181.33	-335.17	623,747.11	799,788.12	32.7119062	-103.4930447	-177.70	10.00	10.00	0.00
9,800.00	30.78	359.38	9,764.44	-157.66	-335.42	623,770.78	799,787.87	32.7119713	-103.4930450	-154.02	10.00	10.00	0.00
9,850.00	35.78	359.38	9,806.23	-130.23	-335.72	623,798.21	799,787.57	32.7120466	-103.4930452	-126.59	10.00	10.00	0.00
9,900.00	40.78	359.38	9,845.47	-99.27	-336.05	623,829.17	799,787.24	32.7121317	-103.4930455	-95.63	10.00	10.00	0.00
9,950.00	45.78	359.38	9,881.86	-65.01	-336.43	623,863.43	799,786.86	32.7122259	-103.4930458	-61.37	10.00	10.00	0.00
10,000.00	50.78	359.38	9,915.13	-27.71	-336.83	623,900.73	799,786.46	32.7123285	-103.4930462	-24.06	10.00	10.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longitude (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,050.00	55.78	359.38	9,945.02	12.35	-337.26	623,940.79	799,786.03	32.7124386	-103.4930466	16.00	10.00	10.00	0.00
10,100.00	60.78	359.38	9,971.30	54.87	-337.72	623,983.31	799,785.57	32.7125554	-103.4930470	58.52	10.00	10.00	0.00
10,150.00	65.78	359.38	9,993.78	99.51	-338.21	624,027.95	799,785.08	32.7126781	-103.4930474	103.16	10.00	10.00	0.00
10,200.00	70.78	359.38	10,012.28	145.94	-338.71	624,074.38	799,784.58	32.7128057	-103.4930478	149.60	10.00	10.00	0.00
10,242.24	75.00	359.38	10,024.70	186.30	-339.15	624,114.74	799,784.14	32.7129167	-103.4930482	189.96	10.00	10.00	0.00
75° Inc - 10242.24' MD/10024.70' TVD													
10,300.00	77.89	359.38	10,038.24	242.44	-339.75	624,170.88	799,783.54	32.7130710	-103.4930487	246.10	5.00	5.00	0.00
10,364.54	81.11	359.38	10,050.00	305.89	-340.44	624,234.33	799,782.85	32.7132454	-103.4930493	309.55	5.00	5.00	0.00
2nd Bone Spring Sand Lower Target													
10,400.00	82.89	359.38	10,054.93	341.00	-340.82	624,269.44	799,782.47	32.7133419	-103.4930496	344.67	5.00	5.00	0.00
10,500.00	87.89	359.38	10,062.97	440.64	-341.89	624,369.08	799,781.40	32.7136158	-103.4930506	444.31	5.00	5.00	0.00
10,600.00	92.89	359.38	10,062.30	540.60	-342.97	624,469.04	799,780.32	32.7138905	-103.4930515	544.28	5.00	5.00	0.00
10,635.00	94.64	359.38	10,060.00	575.52	-343.34	624,503.96	799,779.95	32.7139865	-103.4930518	579.20	5.00	5.00	0.00
LP - 10635.00' MD													
10,700.00	94.64	359.38	10,054.74	640.30	-344.04	624,568.74	799,779.25	32.7141646	-103.4930524	643.99	0.00	0.00	0.00
10,800.00	94.64	359.38	10,046.66	739.97	-345.11	624,668.41	799,778.18	32.7144385	-103.4930533	743.66	0.00	0.00	0.00
10,900.00	94.64	359.38	10,038.57	839.64	-346.18	624,768.08	799,777.11	32.7147125	-103.4930542	843.34	0.00	0.00	0.00
11,000.00	94.64	359.38	10,030.49	939.31	-347.25	624,867.75	799,776.04	32.7149864	-103.4930551	943.01	0.00	0.00	0.00
11,100.00	94.64	359.38	10,022.40	1,038.97	-348.32	624,967.41	799,774.97	32.7152604	-103.4930561	1,042.68	0.00	0.00	0.00
11,200.00	94.64	359.38	10,014.31	1,138.64	-349.39	625,067.08	799,773.90	32.7155343	-103.4930570	1,142.35	0.00	0.00	0.00
11,300.00	94.64	359.38	10,006.23	1,238.31	-350.46	625,166.75	799,772.83	32.7158083	-103.4930579	1,242.03	0.00	0.00	0.00
11,400.00	94.64	359.38	9,998.14	1,337.97	-351.53	625,266.41	799,771.76	32.7160822	-103.4930588	1,341.70	0.00	0.00	0.00
11,500.00	94.64	359.38	9,990.06	1,437.64	-352.61	625,366.08	799,770.68	32.7163561	-103.4930597	1,441.37	0.00	0.00	0.00
11,600.00	94.64	359.38	9,981.97	1,537.31	-353.68	625,465.75	799,769.61	32.7166301	-103.4930606	1,541.04	0.00	0.00	0.00
11,700.00	94.64	359.38	9,973.89	1,636.97	-354.75	625,565.41	799,768.54	32.7169040	-103.4930615	1,640.72	0.00	0.00	0.00
11,800.00	94.64	359.38	9,965.80	1,736.64	-355.82	625,665.08	799,767.47	32.7171780	-103.4930624	1,740.39	0.00	0.00	0.00
11,900.00	94.64	359.38	9,957.71	1,836.31	-356.89	625,764.75	799,766.40	32.7174519	-103.4930634	1,840.06	0.00	0.00	0.00
12,000.00	94.64	359.38	9,949.63	1,935.97	-357.96	625,864.41	799,765.33	32.7177259	-103.4930643	1,939.73	0.00	0.00	0.00
12,100.00	94.64	359.38	9,941.54	2,035.64	-359.03	625,964.08	799,764.26	32.7179998	-103.4930652	2,039.41	0.00	0.00	0.00
12,200.00	94.64	359.38	9,933.46	2,135.31	-360.10	626,063.75	799,763.19	32.7182738	-103.4930661	2,139.08	0.00	0.00	0.00
12,300.00	94.64	359.38	9,925.37	2,234.97	-361.17	626,163.41	799,762.12	32.7185477	-103.4930670	2,238.75	0.00	0.00	0.00
12,400.00	94.64	359.38	9,917.28	2,334.64	-362.24	626,263.08	799,761.05	32.7188217	-103.4930679	2,338.42	0.00	0.00	0.00
12,500.00	94.64	359.38	9,909.20	2,434.31	-363.32	626,362.75	799,759.97	32.7190956	-103.4930688	2,438.10	0.00	0.00	0.00
12,600.00	94.64	359.38	9,901.11	2,533.97	-364.39	626,462.41	799,758.90	32.7193696	-103.4930697	2,537.77	0.00	0.00	0.00
12,700.00	94.64	359.38	9,893.03	2,633.64	-365.46	626,562.08	799,757.83	32.7196435	-103.4930707	2,637.44	0.00	0.00	0.00
12,800.00	94.64	359.38	9,884.94	2,733.31	-366.53	626,661.75	799,756.76	32.7199175	-103.4930716	2,737.11	0.00	0.00	0.00
12,900.00	94.64	359.38	9,876.86	2,832.97	-367.60	626,761.41	799,755.69	32.7201914	-103.4930725	2,836.79	0.00	0.00	0.00
13,000.00	94.64	359.38	9,868.77	2,932.64	-368.67	626,861.08	799,754.62	32.7204654	-103.4930734	2,936.46	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longitude (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,100.00	94.64	359.38	9,860.68	3,032.31	-369.74	626,960.75	799,753.55	32.7207393	-103.4930743	3,036.13	0.00	0.00	0.00
13,200.00	94.64	359.38	9,852.60	3,131.98	-370.81	627,060.42	799,752.48	32.7210132	-103.4930752	3,135.80	0.00	0.00	0.00
13,300.00	94.64	359.38	9,844.51	3,231.64	-371.88	627,160.08	799,751.41	32.7212872	-103.4930761	3,235.48	0.00	0.00	0.00
13,400.00	94.64	359.38	9,836.43	3,331.31	-372.95	627,259.75	799,750.34	32.7215611	-103.4930771	3,335.15	0.00	0.00	0.00
13,500.00	94.64	359.38	9,828.34	3,430.98	-374.02	627,359.42	799,749.27	32.7218351	-103.4930780	3,434.82	0.00	0.00	0.00
13,600.00	94.64	359.38	9,820.26	3,530.64	-375.10	627,459.08	799,748.19	32.7221090	-103.4930789	3,534.49	0.00	0.00	0.00
13,700.00	94.64	359.38	9,812.17	3,630.31	-376.17	627,558.75	799,747.12	32.7223830	-103.4930798	3,634.17	0.00	0.00	0.00
13,800.00	94.64	359.38	9,804.08	3,729.98	-377.24	627,658.42	799,746.05	32.7226569	-103.4930807	3,733.84	0.00	0.00	0.00
13,900.00	94.64	359.38	9,796.00	3,829.64	-378.31	627,758.08	799,744.98	32.7229309	-103.4930816	3,833.51	0.00	0.00	0.00
14,000.00	94.64	359.38	9,787.91	3,929.31	-379.38	627,857.75	799,743.91	32.7232048	-103.4930825	3,933.18	0.00	0.00	0.00
14,100.00	94.64	359.38	9,779.83	4,028.98	-380.45	627,957.42	799,742.84	32.7234788	-103.4930834	4,032.86	0.00	0.00	0.00
14,200.00	94.64	359.38	9,771.74	4,128.64	-381.52	628,057.08	799,741.77	32.7237527	-103.4930844	4,132.53	0.00	0.00	0.00
14,300.00	94.64	359.38	9,763.66	4,228.31	-382.59	628,156.75	799,740.70	32.7240267	-103.4930853	4,232.20	0.00	0.00	0.00
14,400.00	94.64	359.38	9,755.57	4,327.98	-383.66	628,256.42	799,739.63	32.7243006	-103.4930862	4,331.88	0.00	0.00	0.00
14,500.00	94.64	359.38	9,747.48	4,427.64	-384.73	628,356.08	799,738.56	32.7245746	-103.4930871	4,431.55	0.00	0.00	0.00
14,600.00	94.64	359.38	9,739.40	4,527.31	-385.81	628,455.75	799,737.48	32.7248485	-103.4930880	4,531.22	0.00	0.00	0.00
14,700.00	94.64	359.38	9,731.31	4,626.98	-386.88	628,555.42	799,736.41	32.7251224	-103.4930889	4,630.89	0.00	0.00	0.00
14,800.00	94.64	359.38	9,723.23	4,726.64	-387.95	628,655.08	799,735.34	32.7253964	-103.4930898	4,730.57	0.00	0.00	0.00
14,900.00	94.64	359.38	9,715.14	4,826.31	-389.02	628,754.75	799,734.27	32.7256703	-103.4930907	4,830.24	0.00	0.00	0.00
15,000.00	94.64	359.38	9,707.05	4,925.98	-390.09	628,854.42	799,733.20	32.7259443	-103.4930917	4,929.91	0.00	0.00	0.00
15,100.00	94.64	359.38	9,698.97	5,025.64	-391.16	628,954.08	799,732.13	32.7262182	-103.4930926	5,029.58	0.00	0.00	0.00
15,200.00	94.64	359.38	9,690.88	5,125.31	-392.23	629,053.75	799,731.06	32.7264922	-103.4930935	5,129.26	0.00	0.00	0.00
15,300.00	94.64	359.38	9,682.80	5,224.98	-393.30	629,153.42	799,729.99	32.7267661	-103.4930944	5,228.93	0.00	0.00	0.00
15,400.00	94.64	359.38	9,674.71	5,324.65	-394.37	629,253.08	799,728.92	32.7270401	-103.4930953	5,328.60	0.00	0.00	0.00
15,500.00	94.64	359.38	9,666.63	5,424.31	-395.44	629,352.75	799,727.85	32.7273140	-103.4930962	5,428.27	0.00	0.00	0.00
15,600.00	94.64	359.38	9,658.54	5,523.98	-396.52	629,452.42	799,726.77	32.7275880	-103.4930971	5,527.95	0.00	0.00	0.00
15,700.00	94.64	359.38	9,650.45	5,623.65	-397.59	629,552.09	799,725.70	32.7278619	-103.4930980	5,627.62	0.00	0.00	0.00
15,800.00	94.64	359.38	9,642.37	5,723.31	-398.66	629,651.75	799,724.63	32.7281359	-103.4930990	5,727.29	0.00	0.00	0.00
15,900.00	94.64	359.38	9,634.28	5,822.98	-399.73	629,751.42	799,723.56	32.7284098	-103.4930999	5,826.96	0.00	0.00	0.00
16,000.00	94.64	359.38	9,626.20	5,922.65	-400.80	629,851.09	799,722.49	32.7286838	-103.4931008	5,926.64	0.00	0.00	0.00
16,100.00	94.64	359.38	9,618.11	6,022.31	-401.87	629,950.75	799,721.42	32.7289577	-103.4931017	6,026.31	0.00	0.00	0.00
16,200.00	94.64	359.38	9,610.03	6,121.98	-402.94	630,050.42	799,720.35	32.7292316	-103.4931026	6,125.98	0.00	0.00	0.00
16,300.00	94.64	359.38	9,601.94	6,221.65	-404.01	630,150.09	799,719.28	32.7295056	-103.4931035	6,225.65	0.00	0.00	0.00
16,400.00	94.64	359.38	9,593.85	6,321.31	-405.08	630,249.75	799,718.21	32.7297795	-103.4931044	6,325.33	0.00	0.00	0.00
16,500.00	94.64	359.38	9,585.77	6,420.98	-406.15	630,349.42	799,717.14	32.7300535	-103.4931053	6,425.00	0.00	0.00	0.00
16,600.00	94.64	359.38	9,577.68	6,520.65	-407.22	630,449.09	799,716.07	32.7303274	-103.4931063	6,524.67	0.00	0.00	0.00
16,700.00	94.64	359.38	9,569.60	6,620.31	-408.30	630,548.75	799,714.99	32.7306014	-103.4931072	6,624.34	0.00	0.00	0.00
16,800.00	94.64	359.38	9,561.51	6,719.98	-409.37	630,648.42	799,713.92	32.7308753	-103.4931081	6,724.02	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longitude (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,900.00	94.64	359.38	9,553.43	6,819.65	-410.44	630,748.09	799,712.85	32.7311493	-103.4931090	6,823.69	0.00	0.00	0.00
17,000.00	94.64	359.38	9,545.34	6,919.31	-411.51	630,847.75	799,711.78	32.7314232	-103.4931099	6,923.36	0.00	0.00	0.00
17,100.00	94.64	359.38	9,537.25	7,018.98	-412.58	630,947.42	799,710.71	32.7316972	-103.4931108	7,023.03	0.00	0.00	0.00
17,200.00	94.64	359.38	9,529.17	7,118.65	-413.65	631,047.09	799,709.64	32.7319711	-103.4931117	7,122.71	0.00	0.00	0.00
17,300.00	94.64	359.38	9,521.08	7,218.31	-414.72	631,146.75	799,708.57	32.7322451	-103.4931126	7,222.38	0.00	0.00	0.00
17,400.00	94.64	359.38	9,513.00	7,317.98	-415.79	631,246.42	799,707.50	32.7325190	-103.4931136	7,322.05	0.00	0.00	0.00
17,500.00	94.64	359.38	9,504.91	7,417.65	-416.86	631,346.09	799,706.43	32.7327930	-103.4931145	7,421.72	0.00	0.00	0.00
17,600.00	94.64	359.38	9,496.82	7,517.31	-417.93	631,445.75	799,705.36	32.7330669	-103.4931154	7,521.40	0.00	0.00	0.00
17,700.00	94.64	359.38	9,488.74	7,616.98	-419.01	631,545.42	799,704.28	32.7333408	-103.4931163	7,621.07	0.00	0.00	0.00
17,800.00	94.64	359.38	9,480.65	7,716.65	-420.08	631,645.09	799,703.21	32.7336148	-103.4931172	7,720.74	0.00	0.00	0.00
17,900.00	94.64	359.38	9,472.57	7,816.32	-421.15	631,744.76	799,702.14	32.7338887	-103.4931181	7,820.41	0.00	0.00	0.00
18,000.00	94.64	359.38	9,464.48	7,915.98	-422.22	631,844.42	799,701.07	32.7341627	-103.4931190	7,920.09	0.00	0.00	0.00
18,100.00	94.64	359.38	9,456.40	8,015.65	-423.29	631,944.09	799,700.00	32.7344366	-103.4931199	8,019.76	0.00	0.00	0.00
18,200.00	94.64	359.38	9,448.31	8,115.32	-424.36	632,043.76	799,698.93	32.7347106	-103.4931209	8,119.43	0.00	0.00	0.00
18,300.00	94.64	359.38	9,440.22	8,214.98	-425.43	632,143.42	799,697.86	32.7349845	-103.4931218	8,219.11	0.00	0.00	0.00
18,400.00	94.64	359.38	9,432.14	8,314.65	-426.50	632,243.09	799,696.79	32.7352585	-103.4931227	8,318.78	0.00	0.00	0.00
18,500.00	94.64	359.38	9,424.05	8,414.32	-427.57	632,342.76	799,695.72	32.7355324	-103.4931236	8,418.45	0.00	0.00	0.00
18,600.00	94.64	359.38	9,415.97	8,513.98	-428.64	632,442.42	799,694.65	32.7358064	-103.4931245	8,518.12	0.00	0.00	0.00
18,700.00	94.64	359.38	9,407.88	8,613.65	-429.71	632,542.09	799,693.58	32.7360803	-103.4931254	8,617.80	0.00	0.00	0.00
18,800.00	94.64	359.38	9,399.80	8,713.32	-430.79	632,641.76	799,692.50	32.7363543	-103.4931263	8,717.47	0.00	0.00	0.00
18,900.00	94.64	359.38	9,391.71	8,812.98	-431.86	632,741.42	799,691.43	32.7366282	-103.4931272	8,817.14	0.00	0.00	0.00
19,000.00	94.64	359.38	9,383.62	8,912.65	-432.93	632,841.09	799,690.36	32.7369021	-103.4931282	8,916.81	0.00	0.00	0.00
19,100.00	94.64	359.38	9,375.54	9,012.32	-434.00	632,940.76	799,689.29	32.7371761	-103.4931291	9,016.49	0.00	0.00	0.00
19,200.00	94.64	359.38	9,367.45	9,111.98	-435.07	633,040.42	799,688.22	32.7374500	-103.4931300	9,116.16	0.00	0.00	0.00
19,300.00	94.64	359.38	9,359.37	9,211.65	-436.14	633,140.09	799,687.15	32.7377240	-103.4931309	9,215.83	0.00	0.00	0.00
19,400.00	94.64	359.38	9,351.28	9,311.32	-437.21	633,239.76	799,686.08	32.7379979	-103.4931318	9,315.50	0.00	0.00	0.00
19,500.00	94.64	359.38	9,343.20	9,410.98	-438.28	633,339.42	799,685.01	32.7382719	-103.4931327	9,415.18	0.00	0.00	0.00
19,600.00	94.64	359.38	9,335.11	9,510.65	-439.35	633,439.09	799,683.94	32.7385458	-103.4931336	9,514.85	0.00	0.00	0.00
19,700.00	94.64	359.38	9,327.02	9,610.32	-440.42	633,538.76	799,682.87	32.7388198	-103.4931345	9,614.52	0.00	0.00	0.00
19,800.00	94.64	359.38	9,318.94	9,709.98	-441.50	633,638.42	799,681.79	32.7390937	-103.4931355	9,714.19	0.00	0.00	0.00
19,900.00	94.64	359.38	9,310.85	9,809.65	-442.57	633,738.09	799,680.72	32.7393677	-103.4931364	9,813.87	0.00	0.00	0.00
20,000.00	94.64	359.38	9,302.77	9,909.32	-443.64	633,837.76	799,679.65	32.7396416	-103.4931373	9,913.54	0.00	0.00	0.00
20,100.00	94.64	359.38	9,294.68	10,008.99	-444.71	633,937.43	799,678.58	32.7399156	-103.4931382	10,013.21	0.00	0.00	0.00
20,200.00	94.64	359.38	9,286.60	10,108.65	-445.78	634,037.09	799,677.51	32.7401895	-103.4931391	10,112.88	0.00	0.00	0.00
20,300.00	94.64	359.38	9,278.51	10,208.32	-446.85	634,136.76	799,676.44	32.7404634	-103.4931400	10,212.56	0.00	0.00	0.00
20,400.00	94.64	359.38	9,270.42	10,307.99	-447.92	634,236.43	799,675.37	32.7407374	-103.4931409	10,312.23	0.00	0.00	0.00
20,500.00	94.64	359.38	9,262.34	10,407.65	-448.99	634,336.09	799,674.30	32.7410113	-103.4931418	10,411.90	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longitude (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,600.00	94.64	359.38	9,254.25	10,507.32	-450.06	634,435.76	799,673.23	32.7412853	-103.4931428	10,511.57	0.00	0.00	0.00
20,700.00	94.64	359.38	9,246.17	10,606.99	-451.13	634,535.43	799,672.16	32.7415592	-103.4931437	10,611.25	0.00	0.00	0.00
20,800.00	94.64	359.38	9,238.08	10,706.65	-452.20	634,635.09	799,671.09	32.7418332	-103.4931446	10,710.92	0.00	0.00	0.00
20,900.00	94.64	359.38	9,229.99	10,806.32	-453.28	634,734.76	799,670.01	32.7421071	-103.4931455	10,810.59	0.00	0.00	0.00
21,000.00	94.64	359.38	9,221.91	10,905.99	-454.35	634,834.43	799,668.94	32.7423811	-103.4931464	10,910.26	0.00	0.00	0.00
21,100.00	94.64	359.38	9,213.82	11,005.65	-455.42	634,934.09	799,667.87	32.7426550	-103.4931473	11,009.94	0.00	0.00	0.00
21,200.00	94.64	359.38	9,205.74	11,105.32	-456.49	635,033.76	799,666.80	32.7429290	-103.4931482	11,109.61	0.00	0.00	0.00
21,300.00	94.64	359.38	9,197.65	11,204.99	-457.56	635,133.43	799,665.73	32.7432029	-103.4931491	11,209.28	0.00	0.00	0.00
21,400.00	94.64	359.38	9,189.57	11,304.65	-458.63	635,233.09	799,664.66	32.7434769	-103.4931500	11,308.95	0.00	0.00	0.00
21,500.00	94.64	359.38	9,181.48	11,404.32	-459.70	635,332.76	799,663.59	32.7437508	-103.4931510	11,408.63	0.00	0.00	0.00
21,600.00	94.64	359.38	9,173.39	11,503.99	-460.77	635,432.43	799,662.52	32.7440247	-103.4931519	11,508.30	0.00	0.00	0.00
21,700.00	94.64	359.38	9,165.31	11,603.65	-461.84	635,532.09	799,661.45	32.7442987	-103.4931528	11,607.97	0.00	0.00	0.00
21,800.00	94.64	359.38	9,157.22	11,703.32	-462.91	635,631.76	799,660.38	32.7445726	-103.4931537	11,707.65	0.00	0.00	0.00
21,900.00	94.64	359.38	9,149.14	11,802.99	-463.99	635,731.43	799,659.30	32.7448466	-103.4931546	11,807.32	0.00	0.00	0.00
22,000.00	94.64	359.38	9,141.05	11,902.65	-465.06	635,831.09	799,658.23	32.7451205	-103.4931555	11,906.99	0.00	0.00	0.00
22,100.00	94.64	359.38	9,132.97	12,002.32	-466.13	635,930.76	799,657.16	32.7453945	-103.4931564	12,006.66	0.00	0.00	0.00
22,200.00	94.64	359.38	9,124.88	12,101.99	-467.20	636,030.43	799,656.09	32.7456684	-103.4931573	12,106.34	0.00	0.00	0.00
22,300.00	94.64	359.38	9,116.79	12,201.66	-468.27	636,130.09	799,655.02	32.7459424	-103.4931583	12,206.01	0.00	0.00	0.00
22,400.00	94.64	359.38	9,108.71	12,301.32	-469.34	636,229.76	799,653.95	32.7462163	-103.4931592	12,305.68	0.00	0.00	0.00
22,500.00	94.64	359.38	9,100.62	12,400.99	-470.41	636,329.43	799,652.88	32.7464903	-103.4931601	12,405.35	0.00	0.00	0.00
22,600.00	94.64	359.38	9,092.54	12,500.66	-471.48	636,429.10	799,651.81	32.7467642	-103.4931610	12,505.03	0.00	0.00	0.00
22,700.00	94.64	359.38	9,084.45	12,600.32	-472.55	636,528.76	799,650.74	32.7470382	-103.4931619	12,604.70	0.00	0.00	0.00
22,800.00	94.64	359.38	9,076.37	12,699.99	-473.62	636,628.43	799,649.67	32.7473121	-103.4931628	12,704.37	0.00	0.00	0.00
22,900.00	94.64	359.38	9,068.28	12,799.66	-474.69	636,728.10	799,648.60	32.7475860	-103.4931637	12,804.04	0.00	0.00	0.00
23,000.00	94.64	359.38	9,060.19	12,899.32	-475.77	636,827.76	799,647.52	32.7478600	-103.4931646	12,903.72	0.00	0.00	0.00
23,100.00	94.64	359.38	9,052.11	12,998.99	-476.84	636,927.43	799,646.45	32.7481339	-103.4931655	13,003.39	0.00	0.00	0.00
23,200.00	94.64	359.38	9,044.02	13,098.66	-477.91	637,027.10	799,645.38	32.7484079	-103.4931665	13,103.06	0.00	0.00	0.00
23,300.00	94.64	359.38	9,035.94	13,198.32	-478.98	637,126.76	799,644.31	32.7486818	-103.4931674	13,202.73	0.00	0.00	0.00
23,400.00	94.64	359.38	9,027.85	13,297.99	-480.05	637,226.43	799,643.24	32.7489558	-103.4931683	13,302.41	0.00	0.00	0.00
23,500.00	94.64	359.38	9,019.76	13,397.66	-481.12	637,326.10	799,642.17	32.7492297	-103.4931692	13,402.08	0.00	0.00	0.00
23,600.00	94.64	359.38	9,011.68	13,497.32	-482.19	637,425.76	799,641.10	32.7495037	-103.4931701	13,501.75	0.00	0.00	0.00
23,700.00	94.64	359.38	9,003.59	13,596.99	-483.26	637,525.43	799,640.03	32.7497776	-103.4931710	13,601.42	0.00	0.00	0.00
23,800.00	94.64	359.38	8,995.51	13,696.66	-484.33	637,625.10	799,638.96	32.7500516	-103.4931719	13,701.10	0.00	0.00	0.00
23,900.00	94.64	359.38	8,987.42	13,796.32	-485.40	637,724.76	799,637.89	32.7503255	-103.4931728	13,800.77	0.00	0.00	0.00
24,000.00	94.64	359.38	8,979.34	13,895.99	-486.48	637,824.43	799,636.81	32.7505994	-103.4931737	13,900.44	0.00	0.00	0.00
24,100.00	94.64	359.38	8,971.25	13,995.66	-487.55	637,924.10	799,635.74	32.7508734	-103.4931747	14,000.11	0.00	0.00	0.00
24,200.00	94.64	359.38	8,963.16	14,095.32	-488.62	638,023.76	799,634.67	32.7511473	-103.4931756	14,099.79	0.00	0.00	0.00
24,300.00	94.64	359.38	8,955.08	14,194.99	-489.69	638,123.43	799,633.60	32.7514213	-103.4931765	14,199.46	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longitude (°)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
24,400.00	94.64	359.38	8,946.99	14,294.66	-490.76	638,223.10	799,632.53	32.7516952	-103.4931774	14,299.13	0.00	0.00	0.00
24,500.00	94.64	359.38	8,938.91	14,394.33	-491.83	638,322.76	799,631.46	32.7519692	-103.4931783	14,398.80	0.00	0.00	0.00
24,600.00	94.64	359.38	8,930.82	14,493.99	-492.90	638,422.43	799,630.39	32.7522431	-103.4931792	14,498.48	0.00	0.00	0.00
24,700.00	94.64	359.38	8,922.74	14,593.66	-493.97	638,522.10	799,629.32	32.7525171	-103.4931801	14,598.15	0.00	0.00	0.00
24,800.00	94.64	359.38	8,914.65	14,693.33	-495.04	638,621.77	799,628.25	32.7527910	-103.4931810	14,697.82	0.00	0.00	0.00
24,900.00	94.64	359.38	8,906.56	14,792.99	-496.11	638,721.43	799,627.18	32.7530650	-103.4931820	14,797.49	0.00	0.00	0.00
25,000.00	94.64	359.38	8,898.48	14,892.66	-497.18	638,821.10	799,626.11	32.7533389	-103.4931829	14,897.17	0.00	0.00	0.00
25,100.00	94.64	359.38	8,890.39	14,992.33	-498.26	638,920.77	799,625.03	32.7536128	-103.4931838	14,996.84	0.00	0.00	0.00
25,200.00	94.64	359.38	8,882.31	15,091.99	-499.33	639,020.43	799,623.96	32.7538868	-103.4931847	15,096.51	0.00	0.00	0.00
25,300.00	94.64	359.38	8,874.22	15,191.66	-500.40	639,120.10	799,622.89	32.7541607	-103.4931856	15,196.18	0.00	0.00	0.00
25,400.00	94.64	359.38	8,866.14	15,291.33	-501.47	639,219.77	799,621.82	32.7544347	-103.4931865	15,295.86	0.00	0.00	0.00
25,500.00	94.64	359.38	8,858.05	15,390.99	-502.54	639,319.43	799,620.75	32.7547086	-103.4931874	15,395.53	0.00	0.00	0.00
25,600.00	94.64	359.38	8,849.96	15,490.66	-503.61	639,419.10	799,619.68	32.7549826	-103.4931883	15,495.20	0.00	0.00	0.00
25,700.00	94.64	359.38	8,841.88	15,590.33	-504.68	639,518.77	799,618.61	32.7552565	-103.4931892	15,594.88	0.00	0.00	0.00
25,800.00	94.64	359.38	8,833.79	15,689.99	-505.75	639,618.43	799,617.54	32.7555305	-103.4931902	15,694.55	0.00	0.00	0.00
25,900.00	94.64	359.38	8,825.71	15,789.66	-506.82	639,718.10	799,616.47	32.7558044	-103.4931911	15,794.22	0.00	0.00	0.00
26,000.00	94.64	359.38	8,817.62	15,889.33	-507.89	639,817.77	799,615.40	32.7560784	-103.4931920	15,893.89	0.00	0.00	0.00
26,100.00	94.64	359.38	8,809.53	15,988.99	-508.97	639,917.43	799,614.32	32.7563523	-103.4931929	15,993.57	0.00	0.00	0.00
26,200.00	94.64	359.38	8,801.45	16,088.66	-510.04	640,017.10	799,613.25	32.7566262	-103.4931938	16,093.24	0.00	0.00	0.00
26,300.00	94.64	359.38	8,793.36	16,188.33	-511.11	640,116.77	799,612.18	32.7569002	-103.4931947	16,192.91	0.00	0.00	0.00
26,400.00	94.64	359.38	8,785.28	16,287.99	-512.18	640,216.43	799,611.11	32.7571741	-103.4931956	16,292.58	0.00	0.00	0.00
26,500.00	94.64	359.38	8,777.19	16,387.66	-513.25	640,316.10	799,610.04	32.7574481	-103.4931965	16,392.26	0.00	0.00	0.00
26,600.00	94.64	359.38	8,769.11	16,487.33	-514.32	640,415.77	799,608.97	32.7577220	-103.4931974	16,491.93	0.00	0.00	0.00
26,700.00	94.64	359.38	8,761.02	16,587.00	-515.39	640,515.43	799,607.90	32.7579960	-103.4931984	16,591.60	0.00	0.00	0.00
26,800.00	94.64	359.38	8,752.93	16,686.66	-516.46	640,615.10	799,606.83	32.7582699	-103.4931993	16,691.27	0.00	0.00	0.00
26,900.00	94.64	359.38	8,744.85	16,786.33	-517.53	640,714.77	799,605.76	32.7585439	-103.4932002	16,790.95	0.00	0.00	0.00
27,000.00	94.64	359.38	8,736.76	16,886.00	-518.60	640,814.44	799,604.69	32.7588178	-103.4932011	16,890.62	0.00	0.00	0.00
27,100.00	94.64	359.38	8,728.68	16,985.66	-519.67	640,914.10	799,603.62	32.7590918	-103.4932020	16,990.29	0.00	0.00	0.00
27,200.00	94.64	359.38	8,720.59	17,085.33	-520.75	641,013.77	799,602.54	32.7593657	-103.4932029	17,089.96	0.00	0.00	0.00
27,300.00	94.64	359.38	8,712.51	17,185.00	-521.82	641,113.44	799,601.47	32.7596396	-103.4932038	17,189.64	0.00	0.00	0.00
27,400.00	94.64	359.38	8,704.42	17,284.66	-522.89	641,213.10	799,600.40	32.7599136	-103.4932047	17,289.31	0.00	0.00	0.00
27,500.00	94.64	359.38	8,696.33	17,384.33	-523.96	641,312.77	799,599.33	32.7601875	-103.4932056	17,388.98	0.00	0.00	0.00
27,600.00	94.64	359.38	8,688.25	17,484.00	-525.03	641,412.44	799,598.26	32.7604615	-103.4932066	17,488.65	0.00	0.00	0.00
27,700.00	94.64	359.38	8,680.16	17,583.66	-526.10	641,512.10	799,597.19	32.7607354	-103.4932075	17,588.33	0.00	0.00	0.00
27,800.00	94.64	359.38	8,672.08	17,683.33	-527.17	641,611.77	799,596.12	32.7610094	-103.4932084	17,688.00	0.00	0.00	0.00
27,900.00	94.64	359.38	8,663.99	17,783.00	-528.24	641,711.44	799,595.05	32.7612833	-103.4932093	17,787.67	0.00	0.00	0.00
28,000.00	94.64	359.38	8,655.91	17,882.66	-529.31	641,811.10	799,593.98	32.7615573	-103.4932102	17,887.34	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Planned Survey

Measured Depth (usft)	INC (°)	AZI (°)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	+E/-W (usft)	Map Coordinates Northing (usft)	Easting (usft)	Geo Coordinates Latitude (°)	Longituge (°)	Vertical Dogleg Section Rate (usft) (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
28,100.00	94.64	359.38	8,647.82	17,982.33	-530.38	641,910.77	799,592.91	32.7618312	-103.4932111	17,987.02	0.00	0.00
28,196.70	94.64	359.38	8,640.00	18,078.71	-531.42	642,007.15	799,591.87	32.7620961	-103.4932120	18,083.40	0.00	0.00
TD - 28196.70' MD - LTP/PBHL - 2545' FSL, 1490' FEL (RSC 503H)												

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP/PBHL - 2545' FSI - plan hits target center - Point	0.00	0.00	8,640.00	18,078.71	-531.42	642,007.15	799,591.87	32.7620961	-103.4932120
KOP/LP/FTP (RSC 503H) - plan hits target center - Point	0.00	0.00	9,471.27	-238.34	-334.55	623,690.10	799,788.74	32.7117495	-103.4930442

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,894.02	1,894.00	Rustler			
1,980.12	1,980.00	A3 Top			
2,078.44	2,078.00	A3 Base (Tamarisk)			
2,161.89	2,161.00	Top Salt/Salado			
5,756.55	5,736.00	Base Salt/Lamar/CTRA_BASE_ANH			
5,870.89	5,850.00	Top Delaware Sands/Bell Canyon			
6,140.97	6,120.00	Cherry Canyon			
6,598.97	6,578.00	Brushy Canyon			
7,431.97	7,411.00	Basal Brushy Canyon			
7,603.97	7,583.00	Bone Spring Lime			
7,829.97	7,809.00	Leonard/Avalon Sand			
9,123.97	9,103.00	1st Bone Spring Sand			
9,653.07	9,630.00	2nd Bone Spring Sand			
10,364.54	10,050.00	2nd Bone Spring Sand Lower Target			

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Well:	Rope State Com 503H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
1800	1800	0	0	Nudge, Build 2.00°/100'
2100	2099	-9	-13	Hold - 2099.87' MD/2099.32' TVD
5731	5711	-229	-322	Drop, 2.00°/100' DLS
6031	6010	-238	-335	Hold - 6030.97' MD/6010.00' TVD
9492	9471	-238	-335	KOP - Start 10.00°/100' DLS
10,242	10,025	186	-339	75° Inc - 10242.24' MD/10024.70' TVD
10,635	10,060	576	-343	LP - 10635.00' MD
28,197	8640	18,079	-531	TD - 28196.70' MD

Checked By: _____ Approved By: _____ Date: _____

COMPANY Coterra Energy
 FIELD Lea County, NM (NAD 83)
 SITE Rope State Com Pad
 WELL Rope State Com 503H
 WELLPATH OH
 DESIGN Plan #2
 DEPTHUNT (usft)

WELL INFO

MAP DATUM North American Datum 1983
 MAP SYSTEM US State Plane 1983
 MAP ZONE New Mexico Eastern Zone
 WELL LAT 32.712397
 WELL LON -103.49195
 WELL EW MAI 800123.29
 WELL NS MAP 623928.44
 CONVERGENC 0.45
 MAGMODEL HDGM2026
 DECLINATION 5.98
 NORTH REF Grid
 GROUND ELE\ 3939.2
 KB ELEVN 3962.2
 VS AZI 359.38

SURVEY PROGRAM

1 0.00 - 28196.70 PLAN #2 : MWD+IFR1+MS

SURVEY LIST

Measured Depth MD	Inclination INC	Azimuth AZI	Course Length CL	True Vertical TVD	SubSea TVD SSTVD	Local N/-S NS
0.00	0.00	0.00	0.00	0.00	3962.20	0.00
100.00	0.00	0.00	100.00	100.00	3862.20	0.00
200.00	0.00	0.00	100.00	200.00	3762.20	0.00
300.00	0.00	0.00	100.00	300.00	3662.20	0.00
400.00	0.00	0.00	100.00	400.00	3562.20	0.00
500.00	0.00	0.00	100.00	500.00	3462.20	0.00
600.00	0.00	0.00	100.00	600.00	3362.20	0.00
700.00	0.00	0.00	100.00	700.00	3262.20	0.00
800.00	0.00	0.00	100.00	800.00	3162.20	0.00
900.00	0.00	0.00	100.00	900.00	3062.20	0.00
1000.00	0.00	0.00	100.00	1000.00	2962.20	0.00
1100.00	0.00	0.00	100.00	1100.00	2862.20	0.00
1200.00	0.00	0.00	100.00	1200.00	2762.20	0.00
1300.00	0.00	0.00	100.00	1300.00	2662.20	0.00

1400.00	0.00	0.00	100.00	1400.00	2562.20	0.00
1500.00	0.00	0.00	100.00	1500.00	2462.20	0.00
1600.00	0.00	0.00	100.00	1600.00	2362.20	0.00
1700.00	0.00	0.00	100.00	1700.00	2262.20	0.00
1800.00	0.00	0.00	100.00	1800.00	2162.20	0.00
1900.00	2.00	234.53	100.00	1899.98	2062.22	-1.01
2000.00	4.00	234.53	100.00	1999.84	1962.36	-4.05
2099.87	6.00	234.53	99.87	2099.33	1862.87	-9.10
2200.00	6.00	234.53	100.13	2198.91	1763.30	-15.17
2300.00	6.00	234.53	100.00	2298.36	1663.84	-21.23
2400.00	6.00	234.53	100.00	2397.81	1564.39	-27.29
2500.00	6.00	234.53	100.00	2497.26	1464.94	-33.36
2600.00	6.00	234.53	100.00	2596.72	1365.49	-39.42
2700.00	6.00	234.53	100.00	2696.17	1266.03	-45.48
2800.00	6.00	234.53	100.00	2795.62	1166.58	-51.54
2900.00	6.00	234.53	100.00	2895.07	1067.13	-57.61
3000.00	6.00	234.53	100.00	2994.53	967.67	-63.67
3100.00	6.00	234.53	100.00	3093.98	868.22	-69.73
3200.00	6.00	234.53	100.00	3193.43	768.77	-75.79
3300.00	6.00	234.53	100.00	3292.88	669.32	-81.86
3400.00	6.00	234.53	100.00	3392.34	569.86	-87.92
3500.00	6.00	234.53	100.00	3491.79	470.41	-93.98
3600.00	6.00	234.53	100.00	3591.24	370.96	-100.04
3700.00	6.00	234.53	100.00	3690.69	271.51	-106.11
3800.00	6.00	234.53	100.00	3790.15	172.05	-112.17
3900.00	6.00	234.53	100.00	3889.60	72.60	-118.23
4000.00	6.00	234.53	100.00	3989.05	-26.85	-124.29
4100.00	6.00	234.53	100.00	4088.51	-126.31	-130.36
4200.00	6.00	234.53	100.00	4187.96	-225.76	-136.42
4300.00	6.00	234.53	100.00	4287.41	-325.21	-142.48
4400.00	6.00	234.53	100.00	4386.86	-424.66	-148.54
4500.00	6.00	234.53	100.00	4486.32	-524.12	-154.61
4600.00	6.00	234.53	100.00	4585.77	-623.57	-160.67
4700.00	6.00	234.53	100.00	4685.22	-723.02	-166.73
4800.00	6.00	234.53	100.00	4784.67	-822.47	-172.79
4900.00	6.00	234.53	100.00	4884.13	-921.93	-178.86
5000.00	6.00	234.53	100.00	4983.58	-1021.38	-184.92
5100.00	6.00	234.53	100.00	5083.03	-1120.83	-190.98
5200.00	6.00	234.53	100.00	5182.48	-1220.28	-197.04
5300.00	6.00	234.53	100.00	5281.94	-1319.74	-203.11
5400.00	6.00	234.53	100.00	5381.39	-1419.19	-209.17
5500.00	6.00	234.53	100.00	5480.84	-1518.64	-215.23
5600.00	6.00	234.53	100.00	5580.30	-1618.10	-221.29
5700.00	6.00	234.53	100.00	5679.75	-1717.55	-227.36

5731.10	6.00	234.53	31.10	5710.67	-1748.47	-229.24
5800.00	4.62	234.53	68.90	5779.28	-1817.08	-232.94
5900.00	2.62	234.53	100.00	5879.08	-1916.88	-236.60
6000.00	0.62	234.53	100.00	5979.03	-2016.83	-238.24
6030.97	0.00	0.00	30.97	6010.00	-2047.80	-238.34
6100.00	0.00	0.00	69.03	6079.03	-2116.83	-238.34
6200.00	0.00	0.00	100.00	6179.03	-2216.83	-238.34
6300.00	0.00	0.00	100.00	6279.03	-2316.83	-238.34
6400.00	0.00	0.00	100.00	6379.03	-2416.83	-238.34
6500.00	0.00	0.00	100.00	6479.03	-2516.83	-238.34
6600.00	0.00	0.00	100.00	6579.03	-2616.83	-238.34
6700.00	0.00	0.00	100.00	6679.03	-2716.83	-238.34
6800.00	0.00	0.00	100.00	6779.03	-2816.83	-238.34
6900.00	0.00	0.00	100.00	6879.03	-2916.83	-238.34
7000.00	0.00	0.00	100.00	6979.03	-3016.83	-238.34
7100.00	0.00	0.00	100.00	7079.03	-3116.83	-238.34
7200.00	0.00	0.00	100.00	7179.03	-3216.83	-238.34
7300.00	0.00	0.00	100.00	7279.03	-3316.83	-238.34
7400.00	0.00	0.00	100.00	7379.03	-3416.83	-238.34
7500.00	0.00	0.00	100.00	7479.03	-3516.83	-238.34
7600.00	0.00	0.00	100.00	7579.03	-3616.83	-238.34
7700.00	0.00	0.00	100.00	7679.03	-3716.83	-238.34
7800.00	0.00	0.00	100.00	7779.03	-3816.83	-238.34
7900.00	0.00	0.00	100.00	7879.03	-3916.83	-238.34
8000.00	0.00	0.00	100.00	7979.03	-4016.83	-238.34
8100.00	0.00	0.00	100.00	8079.03	-4116.83	-238.34
8200.00	0.00	0.00	100.00	8179.03	-4216.83	-238.34
8300.00	0.00	0.00	100.00	8279.03	-4316.83	-238.34
8400.00	0.00	0.00	100.00	8379.03	-4416.83	-238.34
8500.00	0.00	0.00	100.00	8479.03	-4516.83	-238.34
8600.00	0.00	0.00	100.00	8579.03	-4616.83	-238.34
8700.00	0.00	0.00	100.00	8679.03	-4716.83	-238.34
8800.00	0.00	0.00	100.00	8779.03	-4816.83	-238.34
8900.00	0.00	0.00	100.00	8879.03	-4916.83	-238.34
9000.00	0.00	0.00	100.00	8979.03	-5016.83	-238.34
9100.00	0.00	0.00	100.00	9079.03	-5116.83	-238.34
9200.00	0.00	0.00	100.00	9179.03	-5216.83	-238.34
9300.00	0.00	0.00	100.00	9279.03	-5316.83	-238.34
9400.00	0.00	0.00	100.00	9379.03	-5416.83	-238.34
9492.24	0.00	0.00	92.24	9471.27	-5509.07	-238.34
9500.00	0.78	359.38	7.76	9479.03	-5516.83	-238.29
9550.00	5.78	359.38	50.00	9528.93	-5566.73	-235.43
9600.00	10.78	359.38	50.00	9578.40	-5616.20	-228.24
9650.00	15.78	359.38	50.00	9627.04	-5664.84	-216.76

9700.00	20.78	359.38	50.00	9674.51	-5712.31	-201.09
9750.00	25.78	359.38	50.00	9720.42	-5758.22	-181.34
9800.00	30.78	359.38	50.00	9764.44	-5802.24	-157.66
9850.00	35.78	359.38	50.00	9806.23	-5844.03	-130.23
9900.00	40.78	359.38	50.00	9845.47	-5883.27	-99.27
9950.00	45.78	359.38	50.00	9881.86	-5919.66	-65.01
10000.00	50.78	359.38	50.00	9915.13	-5952.93	-27.71
10050.00	55.78	359.38	50.00	9945.02	-5982.82	12.35
10100.00	60.78	359.38	50.00	9971.30	-6009.10	54.87
10150.00	65.78	359.38	50.00	9993.78	-6031.58	99.51
10200.00	70.78	359.38	50.00	10012.28	-6050.08	145.94
10242.24	75.00	359.38	42.24	10024.71	-6062.51	186.30
10300.00	77.89	359.38	57.76	10038.24	-6076.04	242.44
10400.00	82.89	359.38	100.00	10054.93	-6092.73	341.00
10500.00	87.89	359.38	100.00	10062.97	-6100.77	440.64
10600.00	92.89	359.38	100.00	10062.30	-6100.10	540.60
10635.00	94.64	359.38	35.00	10060.00	-6097.80	575.52
10700.00	94.64	359.38	65.00	10054.74	-6092.54	640.31
10800.00	94.64	359.38	100.00	10046.66	-6084.46	739.97
10900.00	94.64	359.38	100.00	10038.57	-6076.37	839.64
11000.00	94.64	359.38	100.00	10030.49	-6068.29	939.31
11100.00	94.64	359.38	100.00	10022.40	-6060.20	1038.97
11200.00	94.64	359.38	100.00	10014.31	-6052.11	1138.64
11300.00	94.64	359.38	100.00	10006.23	-6044.03	1238.31
11400.00	94.64	359.38	100.00	9998.14	-6035.94	1337.97
11500.00	94.64	359.38	100.00	9990.06	-6027.86	1437.64
11600.00	94.64	359.38	100.00	9981.97	-6019.77	1537.31
11700.00	94.64	359.38	100.00	9973.89	-6011.69	1636.97
11800.00	94.64	359.38	100.00	9965.80	-6003.60	1736.64
11900.00	94.64	359.38	100.00	9957.71	-5995.51	1836.31
12000.00	94.64	359.38	100.00	9949.63	-5987.43	1935.97
12100.00	94.64	359.38	100.00	9941.54	-5979.34	2035.64
12200.00	94.64	359.38	100.00	9933.46	-5971.26	2135.31
12300.00	94.64	359.38	100.00	9925.37	-5963.17	2234.97
12400.00	94.64	359.38	100.00	9917.29	-5955.09	2334.64
12500.00	94.64	359.38	100.00	9909.20	-5947.00	2434.31
12600.00	94.64	359.38	100.00	9901.11	-5938.91	2533.97
12700.00	94.64	359.38	100.00	9893.03	-5930.83	2633.64
12800.00	94.64	359.38	100.00	9884.94	-5922.74	2733.31
12900.00	94.64	359.38	100.00	9876.86	-5914.66	2832.98
13000.00	94.64	359.38	100.00	9868.77	-5906.57	2932.64
13100.00	94.64	359.38	100.00	9860.68	-5898.48	3032.31
13200.00	94.64	359.38	100.00	9852.60	-5890.40	3131.98
13300.00	94.64	359.38	100.00	9844.51	-5882.31	3231.64

13400.00	94.64	359.38	100.00	9836.43	-5874.23	3331.31
13500.00	94.64	359.38	100.00	9828.34	-5866.14	3430.98
13600.00	94.64	359.38	100.00	9820.26	-5858.06	3530.64
13700.00	94.64	359.38	100.00	9812.17	-5849.97	3630.31
13800.00	94.64	359.38	100.00	9804.08	-5841.88	3729.98
13900.00	94.64	359.38	100.00	9796.00	-5833.80	3829.64
14000.00	94.64	359.38	100.00	9787.91	-5825.71	3929.31
14100.00	94.64	359.38	100.00	9779.83	-5817.63	4028.98
14200.00	94.64	359.38	100.00	9771.74	-5809.54	4128.64
14300.00	94.64	359.38	100.00	9763.66	-5801.46	4228.31
14400.00	94.64	359.38	100.00	9755.57	-5793.37	4327.98
14500.00	94.64	359.38	100.00	9747.48	-5785.28	4427.64
14600.00	94.64	359.38	100.00	9739.40	-5777.20	4527.31
14700.00	94.64	359.38	100.00	9731.31	-5769.11	4626.98
14800.00	94.64	359.38	100.00	9723.23	-5761.03	4726.64
14900.00	94.64	359.38	100.00	9715.14	-5752.94	4826.31
15000.00	94.64	359.38	100.00	9707.06	-5744.86	4925.98
15100.00	94.64	359.38	100.00	9698.97	-5736.77	5025.64
15200.00	94.64	359.38	100.00	9690.88	-5728.68	5125.31
15300.00	94.64	359.38	100.00	9682.80	-5720.60	5224.98
15400.00	94.64	359.38	100.00	9674.71	-5712.51	5324.65
15500.00	94.64	359.38	100.00	9666.63	-5704.43	5424.31
15600.00	94.64	359.38	100.00	9658.54	-5696.34	5523.98
15700.00	94.64	359.38	100.00	9650.45	-5688.25	5623.65
15800.00	94.64	359.38	100.00	9642.37	-5680.17	5723.31
15900.00	94.64	359.38	100.00	9634.28	-5672.08	5822.98
16000.00	94.64	359.38	100.00	9626.20	-5664.00	5922.65
16100.00	94.64	359.38	100.00	9618.11	-5655.91	6022.31
16200.00	94.64	359.38	100.00	9610.03	-5647.83	6121.98
16300.00	94.64	359.38	100.00	9601.94	-5639.74	6221.65
16400.00	94.64	359.38	100.00	9593.85	-5631.65	6321.31
16500.00	94.64	359.38	100.00	9585.77	-5623.57	6420.98
16600.00	94.64	359.38	100.00	9577.68	-5615.48	6520.65
16700.00	94.64	359.38	100.00	9569.60	-5607.40	6620.31
16800.00	94.64	359.38	100.00	9561.51	-5599.31	6719.98
16900.00	94.64	359.38	100.00	9553.43	-5591.23	6819.65
17000.00	94.64	359.38	100.00	9545.34	-5583.14	6919.31
17100.00	94.64	359.38	100.00	9537.25	-5575.05	7018.98
17200.00	94.64	359.38	100.00	9529.17	-5566.97	7118.65
17300.00	94.64	359.38	100.00	9521.08	-5558.88	7218.31
17400.00	94.64	359.38	100.00	9513.00	-5550.80	7317.98
17500.00	94.64	359.38	100.00	9504.91	-5542.71	7417.65
17600.00	94.64	359.38	100.00	9496.83	-5534.63	7517.32
17700.00	94.64	359.38	100.00	9488.74	-5526.54	7616.98

17800.00	94.64	359.38	100.00	9480.65	-5518.45	7716.65
17900.00	94.64	359.38	100.00	9472.57	-5510.37	7816.32
18000.00	94.64	359.38	100.00	9464.48	-5502.28	7915.98
18100.00	94.64	359.38	100.00	9456.40	-5494.20	8015.65
18200.00	94.64	359.38	100.00	9448.31	-5486.11	8115.32
18300.00	94.64	359.38	100.00	9440.22	-5478.02	8214.98
18400.00	94.64	359.38	100.00	9432.14	-5469.94	8314.65
18500.00	94.64	359.38	100.00	9424.05	-5461.85	8414.32
18600.00	94.64	359.38	100.00	9415.97	-5453.77	8513.98
18700.00	94.64	359.38	100.00	9407.88	-5445.68	8613.65
18800.00	94.64	359.38	100.00	9399.80	-5437.60	8713.32
18900.00	94.64	359.38	100.00	9391.71	-5429.51	8812.98
19000.00	94.64	359.38	100.00	9383.62	-5421.42	8912.65
19100.00	94.64	359.38	100.00	9375.54	-5413.34	9012.32
19200.00	94.64	359.38	100.00	9367.45	-5405.25	9111.98
19300.00	94.64	359.38	100.00	9359.37	-5397.17	9211.65
19400.00	94.64	359.38	100.00	9351.28	-5389.08	9311.32
19500.00	94.64	359.38	100.00	9343.20	-5381.00	9410.98
19600.00	94.64	359.38	100.00	9335.11	-5372.91	9510.65
19700.00	94.64	359.38	100.00	9327.02	-5364.82	9610.32
19800.00	94.64	359.38	100.00	9318.94	-5356.74	9709.99
19900.00	94.64	359.38	100.00	9310.85	-5348.65	9809.65
20000.00	94.64	359.38	100.00	9302.77	-5340.57	9909.32
20100.00	94.64	359.38	100.00	9294.68	-5332.48	10008.99
20200.00	94.64	359.38	100.00	9286.60	-5324.40	10108.65
20300.00	94.64	359.38	100.00	9278.51	-5316.31	10208.32
20400.00	94.64	359.38	100.00	9270.42	-5308.22	10307.99
20500.00	94.64	359.38	100.00	9262.34	-5300.14	10407.65
20600.00	94.64	359.38	100.00	9254.25	-5292.05	10507.32
20700.00	94.64	359.38	100.00	9246.17	-5283.97	10606.99
20800.00	94.64	359.38	100.00	9238.08	-5275.88	10706.65
20900.00	94.64	359.38	100.00	9229.99	-5267.79	10806.32
21000.00	94.64	359.38	100.00	9221.91	-5259.71	10905.99
21100.00	94.64	359.38	100.00	9213.82	-5251.62	11005.65
21200.00	94.64	359.38	100.00	9205.74	-5243.54	11105.32
21300.00	94.64	359.38	100.00	9197.65	-5235.45	11204.99
21400.00	94.64	359.38	100.00	9189.57	-5227.37	11304.65
21500.00	94.64	359.38	100.00	9181.48	-5219.28	11404.32
21600.00	94.64	359.38	100.00	9173.39	-5211.19	11503.99
21700.00	94.64	359.38	100.00	9165.31	-5203.11	11603.65
21800.00	94.64	359.38	100.00	9157.22	-5195.02	11703.32
21900.00	94.64	359.38	100.00	9149.14	-5186.94	11802.99
22000.00	94.64	359.38	100.00	9141.05	-5178.85	11902.65
22100.00	94.64	359.38	100.00	9132.97	-5170.77	12002.32

22200.00	94.64	359.38	100.00	9124.88	-5162.68	12101.99
22300.00	94.64	359.38	100.00	9116.79	-5154.59	12201.66
22400.00	94.64	359.38	100.00	9108.71	-5146.51	12301.32
22500.00	94.64	359.38	100.00	9100.62	-5138.42	12400.99
22600.00	94.64	359.38	100.00	9092.54	-5130.34	12500.66
22700.00	94.64	359.38	100.00	9084.45	-5122.25	12600.32
22800.00	94.64	359.38	100.00	9076.37	-5114.17	12699.99
22900.00	94.64	359.38	100.00	9068.28	-5106.08	12799.66
23000.00	94.64	359.38	100.00	9060.19	-5097.99	12899.32
23100.00	94.64	359.38	100.00	9052.11	-5089.91	12998.99
23200.00	94.64	359.38	100.00	9044.02	-5081.82	13098.66
23300.00	94.64	359.38	100.00	9035.94	-5073.74	13198.32
23400.00	94.64	359.38	100.00	9027.85	-5065.65	13297.99
23500.00	94.64	359.38	100.00	9019.76	-5057.56	13397.66
23600.00	94.64	359.38	100.00	9011.68	-5049.48	13497.32
23700.00	94.64	359.38	100.00	9003.59	-5041.39	13596.99
23800.00	94.64	359.38	100.00	8995.51	-5033.31	13696.66
23900.00	94.64	359.38	100.00	8987.42	-5025.22	13796.32
24000.00	94.64	359.38	100.00	8979.34	-5017.14	13895.99
24100.00	94.64	359.38	100.00	8971.25	-5009.05	13995.66
24200.00	94.64	359.38	100.00	8963.16	-5000.96	14095.32
24300.00	94.64	359.38	100.00	8955.08	-4992.88	14194.99
24400.00	94.64	359.38	100.00	8946.99	-4984.79	14294.66
24500.00	94.64	359.38	100.00	8938.91	-4976.71	14394.33
24600.00	94.64	359.38	100.00	8930.82	-4968.62	14493.99
24700.00	94.64	359.38	100.00	8922.74	-4960.54	14593.66
24800.00	94.64	359.38	100.00	8914.65	-4952.45	14693.33
24900.00	94.64	359.38	100.00	8906.56	-4944.36	14792.99
25000.00	94.64	359.38	100.00	8898.48	-4936.28	14892.66
25100.00	94.64	359.38	100.00	8890.39	-4928.19	14992.33
25200.00	94.64	359.38	100.00	8882.31	-4920.11	15091.99
25300.00	94.64	359.38	100.00	8874.22	-4912.02	15191.66
25400.00	94.64	359.38	100.00	8866.14	-4903.94	15291.33
25500.00	94.64	359.38	100.00	8858.05	-4895.85	15390.99
25600.00	94.64	359.38	100.00	8849.96	-4887.76	15490.66
25700.00	94.64	359.38	100.00	8841.88	-4879.68	15590.33
25800.00	94.64	359.38	100.00	8833.79	-4871.59	15689.99
25900.00	94.64	359.38	100.00	8825.71	-4863.51	15789.66
26000.00	94.64	359.38	100.00	8817.62	-4855.42	15889.33
26100.00	94.64	359.38	100.00	8809.53	-4847.33	15988.99
26200.00	94.64	359.38	100.00	8801.45	-4839.25	16088.66
26300.00	94.64	359.38	100.00	8793.36	-4831.16	16188.33
26400.00	94.64	359.38	100.00	8785.28	-4823.08	16287.99
26500.00	94.64	359.38	100.00	8777.19	-4814.99	16387.66

26600.00	94.64	359.38	100.00	8769.11	-4806.91	16487.33
26700.00	94.64	359.38	100.00	8761.02	-4798.82	16587.00
26800.00	94.64	359.38	100.00	8752.93	-4790.73	16686.66
26900.00	94.64	359.38	100.00	8744.85	-4782.65	16786.33
27000.00	94.64	359.38	100.00	8736.76	-4774.56	16886.00
27100.00	94.64	359.38	100.00	8728.68	-4766.48	16985.66
27200.00	94.64	359.38	100.00	8720.59	-4758.39	17085.33
27300.00	94.64	359.38	100.00	8712.51	-4750.31	17185.00
27400.00	94.64	359.38	100.00	8704.42	-4742.22	17284.66
27500.00	94.64	359.38	100.00	8696.33	-4734.13	17384.33
27600.00	94.64	359.38	100.00	8688.25	-4726.05	17484.00
27700.00	94.64	359.38	100.00	8680.16	-4717.96	17583.66
27800.00	94.64	359.38	100.00	8672.08	-4709.88	17683.33
27900.00	94.64	359.38	100.00	8663.99	-4701.79	17783.00
28000.00	94.64	359.38	100.00	8655.91	-4693.71	17882.66
28100.00	94.64	359.38	100.00	8647.82	-4685.62	17982.33
28196.70	94.64	359.38	96.70	8640.00	-4677.80	18078.71

Local E/-W EW	Easting X	Northing Y	Latitude LAT	Longitude LON	Dogleg Severi DLS	Build Rate BLD
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00

0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
0.00	800123.29	623928.44	32.712397	-103.491950	0.00	0.00
-1.42	800121.87	623927.43	32.712394	-103.491955	2.00	2.00
-5.68	800117.61	623924.39	32.712386	-103.491969	2.00	2.00
-12.77	800110.52	623919.34	32.712373	-103.491992	2.00	2.00
-21.29	800102.00	623913.27	32.712356	-103.492020	0.00	0.00
-29.80	800093.49	623907.21	32.712340	-103.492048	0.00	0.00
-38.31	800084.98	623901.15	32.712323	-103.492076	0.00	0.00
-46.82	800076.47	623895.08	32.712307	-103.492104	0.00	0.00
-55.33	800067.96	623889.02	32.712290	-103.492131	0.00	0.00
-63.84	800059.45	623882.96	32.712274	-103.492159	0.00	0.00
-72.35	800050.94	623876.90	32.712257	-103.492187	0.00	0.00
-80.86	800042.43	623870.83	32.712241	-103.492215	0.00	0.00
-89.37	800033.92	623864.77	32.712224	-103.492243	0.00	0.00
-97.88	800025.41	623858.71	32.712208	-103.492270	0.00	0.00
-106.39	800016.90	623852.65	32.712191	-103.492298	0.00	0.00
-114.90	800008.39	623846.58	32.712175	-103.492326	0.00	0.00
-123.41	799999.88	623840.52	32.712158	-103.492354	0.00	0.00
-131.92	799991.37	623834.46	32.712142	-103.492382	0.00	0.00
-140.43	799982.86	623828.40	32.712125	-103.492410	0.00	0.00
-148.94	799974.35	623822.33	32.712109	-103.492437	0.00	0.00
-157.45	799965.84	623816.27	32.712092	-103.492465	0.00	0.00
-165.96	799957.33	623810.21	32.712076	-103.492493	0.00	0.00
-174.47	799948.82	623804.15	32.712059	-103.492521	0.00	0.00
-182.98	799940.31	623798.08	32.712043	-103.492549	0.00	0.00
-191.49	799931.80	623792.02	32.712026	-103.492576	0.00	0.00
-200.00	799923.29	623785.96	32.712010	-103.492604	0.00	0.00
-208.51	799914.78	623779.90	32.711994	-103.492632	0.00	0.00
-217.02	799906.27	623773.83	32.711977	-103.492660	0.00	0.00
-225.53	799897.76	623767.77	32.711961	-103.492688	0.00	0.00
-234.04	799889.26	623761.71	32.711944	-103.492716	0.00	0.00
-242.55	799880.75	623755.65	32.711928	-103.492743	0.00	0.00
-251.06	799872.24	623749.58	32.711911	-103.492771	0.00	0.00
-259.57	799863.73	623743.52	32.711895	-103.492799	0.00	0.00
-268.07	799855.22	623737.46	32.711878	-103.492827	0.00	0.00
-276.58	799846.71	623731.40	32.711862	-103.492855	0.00	0.00
-285.09	799838.20	623725.33	32.711845	-103.492883	0.00	0.00
-293.60	799829.69	623719.27	32.711829	-103.492910	0.00	0.00
-302.11	799821.18	623713.21	32.711812	-103.492938	0.00	0.00
-310.62	799812.67	623707.15	32.711796	-103.492966	0.00	0.00
-319.13	799804.16	623701.08	32.711779	-103.492994	0.00	0.00

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-334.95	799788.34	623727.36	32.711852	-103.493045	10.00	10.00
-335.17	799788.12	623747.11	32.711906	-103.493045	10.00	10.00
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-335.72	799787.57	623798.21	32.712047	-103.493045	10.00	10.00
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-336.83	799786.46	623900.73	32.712328	-103.493046	10.00	10.00
-337.26	799786.03	623940.79	32.712439	-103.493047	10.00	10.00
-337.72	799785.57	623983.31	32.712555	-103.493047	10.00	10.00
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-339.15	799784.15	624114.74	32.712917	-103.493048	10.00	10.00
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-385.81	799737.49	628455.75	32.724848	-103.493088	0.00	0.00
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-390.09	799733.20	628854.42	32.725944	-103.493092	0.00	0.00
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-400.80	799722.49	629851.09	32.728684	-103.493101	0.00	0.00
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-411.51	799711.78	630847.75	32.731423	-103.493110	0.00	0.00
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-414.72	799708.57	631146.75	32.732245	-103.493113	0.00	0.00
-415.79	799707.50	631246.42	32.732519	-103.493114	0.00	0.00
-416.86	799706.43	631346.09	32.732793	-103.493114	0.00	0.00
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-446.85	799676.44	634136.76	32.740463	-103.493140	0.00	0.00
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-456.49	799666.80	635033.76	32.742929	-103.493148	0.00	0.00
-457.56	799665.73	635133.43	32.743203	-103.493149	0.00	0.00
-458.63	799664.66	635233.09	32.743477	-103.493150	0.00	0.00
-459.70	799663.59	635332.76	32.743751	-103.493151	0.00	0.00
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-461.84	799661.45	635532.09	32.744299	-103.493153	0.00	0.00
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-463.99	799659.31	635731.43	32.744847	-103.493155	0.00	0.00
-465.06	799658.23	635831.09	32.745121	-103.493156	0.00	0.00
-466.13	799657.16	635930.76	32.745394	-103.493156	0.00	0.00

-467.20	799656.09	636030.43	32.745668	-103.493157	0.00	0.00
-468.27	799655.02	636130.10	32.745942	-103.493158	0.00	0.00
-469.34	799653.95	636229.76	32.746216	-103.493159	0.00	0.00
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-472.55	799650.74	636528.76	32.747038	-103.493162	0.00	0.00
-473.62	799649.67	636628.43	32.747312	-103.493163	0.00	0.00
-474.70	799648.60	636728.10	32.747586	-103.493164	0.00	0.00
-475.77	799647.52	636827.76	32.747860	-103.493165	0.00	0.00
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-477.91	799645.38	637027.10	32.748408	-103.493166	0.00	0.00
-478.98	799644.31	637126.76	32.748682	-103.493167	0.00	0.00
-480.05	799643.24	637226.43	32.748956	-103.493168	0.00	0.00
-481.12	799642.17	637326.10	32.749230	-103.493169	0.00	0.00
-482.19	799641.10	637425.76	32.749504	-103.493170	0.00	0.00
-483.26	799640.03	637525.43	32.749778	-103.493171	0.00	0.00
-484.33	799638.96	637625.10	32.750052	-103.493172	0.00	0.00
-485.40	799637.89	637724.76	32.750325	-103.493173	0.00	0.00
-486.48	799636.82	637824.43	32.750599	-103.493174	0.00	0.00
-487.55	799635.74	637924.10	32.750873	-103.493175	0.00	0.00
-488.62	799634.67	638023.76	32.751147	-103.493176	0.00	0.00
-489.69	799633.60	638123.43	32.751421	-103.493176	0.00	0.00
-490.76	799632.53	638223.10	32.751695	-103.493177	0.00	0.00
-491.83	799631.46	638322.77	32.751969	-103.493178	0.00	0.00
-492.90	799630.39	638422.43	32.752243	-103.493179	0.00	0.00
-493.97	799629.32	638522.10	32.752517	-103.493180	0.00	0.00
-495.04	799628.25	638621.77	32.752791	-103.493181	0.00	0.00
-496.11	799627.18	638721.43	32.753065	-103.493182	0.00	0.00
-497.19	799626.11	638821.10	32.753339	-103.493183	0.00	0.00
-498.26	799625.03	638920.77	32.753613	-103.493184	0.00	0.00
-499.33	799623.96	639020.43	32.753887	-103.493185	0.00	0.00
-500.40	799622.89	639120.10	32.754161	-103.493186	0.00	0.00
-501.47	799621.82	639219.77	32.754435	-103.493187	0.00	0.00
-502.54	799620.75	639319.43	32.754709	-103.493187	0.00	0.00
-503.61	799619.68	639419.10	32.754983	-103.493188	0.00	0.00
-504.68	799618.61	639518.77	32.755257	-103.493189	0.00	0.00
-505.75	799617.54	639618.43	32.755530	-103.493190	0.00	0.00
-506.82	799616.47	639718.10	32.755804	-103.493191	0.00	0.00
-507.89	799615.40	639817.77	32.756078	-103.493192	0.00	0.00
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-511.11	799612.18	640116.77	32.756900	-103.493195	0.00	0.00
-512.18	799611.11	640216.43	32.757174	-103.493196	0.00	0.00
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-520.75	799602.54	641013.77	32.759366	-103.493203	0.00	0.00
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-522.89	799600.40	641213.10	32.759914	-103.493205	0.00	0.00
-523.96	799599.33	641312.77	32.760188	-103.493206	0.00	0.00
-525.03	799598.26	641412.44	32.760461	-103.493207	0.00	0.00
-526.10	799597.19	641512.10	32.760735	-103.493207	0.00	0.00
-527.17	799596.12	641611.77	32.761009	-103.493208	0.00	0.00
-528.24	799595.05	641711.44	32.761283	-103.493209	0.00	0.00
-529.31	799593.98	641811.10	32.761557	-103.493210	0.00	0.00
-530.38	799592.91	641910.77	32.761831	-103.493211	0.00	0.00
-531.42	799591.87	642007.15	32.762096	-103.493212	0.00	0.00

Turn Rate	Vertical Section
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0.00	0.00
0.00	0.00
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0.00	0.00
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0.00	0.00
0.00	0.00

0.00	0.00
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0.00	0.00
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0.00	0.00
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0.00	-14.94
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0.00	-38.82
0.00	-44.79
0.00	-50.76
0.00	-56.73
0.00	-62.70
0.00	-68.67
0.00	-74.64
0.00	-80.61
0.00	-86.58
0.00	-92.55
0.00	-98.52
0.00	-104.49
0.00	-110.46
0.00	-116.43
0.00	-122.40
0.00	-128.37
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0.00	-140.31
0.00	-146.28
0.00	-152.25
0.00	-158.22
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0.00	-170.16
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Coterra Energy

Lea County, NM (NAD 83)

Rope State Com Pad

Rope State Com 503H

338' FSL, 1153' FEL

OH

Plan #2



Anticollision Report

Minimum Magnetic Interference Warning level is 20' center to center

18 March, 2026

Total Report Version 1.70

COMPASS 5000.16 Build 97

[Click here for our anticollision policy](#)

ATTENTION

All offset data provided was gathered using available software and resources . Total Directional Services cannot guarantee the accuracy of all offset data , which should be verified for accuracy by the Operator.

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Reference	Plan #2		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	MD Interval 100.00usft	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum centre distance of 1,663.40usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Well	Rope State Com 503H					
Well Position	+N/-S	0.00 usft	Northing:	623,928.44 usft	Latitude:	32.7123973
	+E/-W	0.00 usft	Easting:	800,123.29 usft	Longitude:	-103.4919504
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,939.20 usft
Grid Convergence:		0.45 °				

Survey Tool Program		Date	3/18/2026		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	28,196.70	Plan #2 (OH)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction	

Experimental: Summary Highlights: Rope State Com 503H

At 1,516.63 MD, Rope State Com 603H - OH - Plan #2 is 20.00 usft away with a 1.87 SF.
At 1,600.00 MD, Rope State Com 603H - OH - Plan #2 is 20.00 usft away with a 1.77 SF.
At 1,600.00 MD, Rope State Com 604H - OH - Plan #2 is 20.00 usft away with a 1.77 SF.
At 1,700.00 MD, Rope State Com 604H - OH - Plan #2 is 21.18 usft away with a 1.77 SF.
At 11,669.29 MD, (O) LEA SOUTHEAST STATE 1 P & A - Vertical - Surveys is 503.42 usft away with a 1.95 SF.
At 26,639.88 MD, (O) STATE AN 010 P & A - Vertical - Surveys is 486.62 usft away with a 1.16 SF.
At 26,651.02 MD, (O) STATE AN 006 TA - Vertical - Surveys is 834.10 usft away with a 1.98 SF.
At 27,964.23 MD, (O) STATE AN 007 P & A - Vertical - Surveys is 487.85 usft away with a 1.26 SF.

Offset Listing

Offset Customer - Project - Site Name			Map Coordinates		Geographical Coordinates		Surface Uncertainty	
Offset Well	Ground Level	KB Height	Northing	Easting	Latitude	Longitude	Site	Well
- - Rope State Com Pad								
(O) AIRSTRIP 31 18 35 RN STATE COM 111H -	3,948.00	3,977.00	618,499.40	796,383.01	32.6975570	-103.5042480	0.00	0.00
(O) AIRSTRIP 31 18 35 RN STATE COM 114H -	3,931.00	3,960.00	618,609.72	800,455.74	32.6977720	-103.4910070	0.00	0.00
(O) AIRSTRIP 31 18 35 RN STATE COM 124H -	3,930.00	3,959.00	618,639.91	800,455.51	32.6978550	-103.4910070	0.00	0.00
(O) AIRSTRIP 31 18 35 RN STATE COM 131H -	3,948.00	3,977.00	618,499.27	796,413.16	32.6975560	-103.5041500	0.00	0.00
(O) AIRSTRIP 31 18 35 RN STATE COM 132H -	3,937.00	3,955.00	619,144.37	797,713.76	32.6993010	-103.4999060	0.00	0.00
(O) AIRSTRIP 31 18 35 RN STATE COM 133H -	3,940.00	3,969.00	618,487.04	799,023.98	32.6974660	-103.4956640	0.00	0.00
(O) AIRSTRIP 31 18 35 RN STATE COM 134H -	3,930.00	3,959.00	618,639.68	800,425.66	32.6978550	-103.4911040	0.00	0.00
(O) AIRSTRIP 31 18 35 RN STATE COM 201H -	3,948.00	3,977.00	618,510.02	796,391.85	32.6975860	-103.5042190	0.00	0.00
(O) AIRSTRIP STATE 001 P & A -	3,951.00	3,966.00	623,270.15	796,335.87	32.7106700	-103.5042800	0.00	0.00
(O) ALBATROSS STATE COM 001H -	3,937.00	3,954.00	628,551.33	800,248.81	32.7251000	-103.4914230	0.00	0.00
(O) ALBATROSS STATE COM 002H -	3,949.00	3,967.00	628,528.18	799,256.51	32.7250580	-103.4946500	0.00	0.00
(O) B LEE STATE 004 -	3,965.00	3,977.00	641,515.13	796,493.15	32.7608110	-103.5033040	0.00	0.00
(O) B LEE STATE 005 P & A -	3,967.00	3,985.00	640,452.00	796,173.13	32.7578960	-103.5043720	0.00	0.00

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Listing

Offset Customer - Project - Site Name Offset Well	Ground Level	KB Height	Map Coordinates		Geographical Coordinates		Surface Uncertainty	
			Northing	Easting	Latitude	Longitude	Site	Well
- - Rope State Com Pad								
(O) B LEE STATE 006 -	3,976.00	3,993.00	641,668.68	796,262.29	32.7612380	-103.5040510	0.00	0.00
(O) BLACK JACK STATE 001 -	3,956.00	3,974.00	636,473.15	800,806.97	32.7468600	-103.4894030	0.00	0.00
(O) BLACK JACK STATE 002 -	3,964.00	3,981.00	636,492.36	798,826.94	32.7469560	-103.4958420	0.00	0.00
(O) BLACK JACK STATE 003 -	3,956.00	3,973.00	635,178.36	800,826.82	32.7433010	-103.4893720	0.00	0.00
(O) BRIDGES STATE 180 P & A -	3,970.00	3,983.00	641,762.44	797,406.13	32.7614710	-103.5003280	0.00	0.00
(O) IRONHOUSE 19 STATE COM 001H -	3,952.00	3,970.00	629,074.37	797,787.93	32.7265910	-103.4994110	0.00	0.00
(O) IRONHOUSE 19 STATE COM 002H -	3,932.00	3,950.00	629,159.32	800,614.89	32.7267630	-103.4902170	0.00	0.00
(O) IRONHOUSE 19 STATE COM 003H -	3,946.00	3,964.00	628,897.40	799,429.51	32.7260690	-103.4940780	0.00	0.00
(O) IRONHOUSE 19 STATE COM 004H -	3,954.00	3,958.00	628,819.14	797,072.11	32.7259050	-103.5017450	0.00	0.00
(O) LEA 30 STATE 001 P & A -	3,966.00	3,979.00	626,904.76	796,631.31	32.7206530	-103.5032270	0.00	0.00
(O) LEA SOUTHEAST STATE 1 P & A -	3,947.00	3,959.00	625,529.41	799,265.47	32.7168160	-103.4946980	0.00	0.00
(O) LEA ZD STATE 001 P & A -	3,971.00	3,984.00	624,591.55	796,323.07	32.7143020	-103.5042880	0.00	0.00
(O) LEO STATE #1 -	3,961.00	3,978.00	639,133.16	800,128.00	32.7541856	-103.4915424	0.00	0.00
(O) LEO STATE 006 TA -	3,963.00	3,981.00	639,316.50	798,957.11	32.7547150	-103.4953460	0.00	0.00
(O) LEO STATE 007 -	3,961.00	3,978.00	637,821.27	800,127.79	32.7505800	-103.4915770	0.00	0.00
(O) MESA MERRITT STATE 001 P & A -	3,959.00	3,976.00	632,198.92	797,903.57	32.7351760	-103.4989550	0.00	0.00
(O) NEW MEXICO BP STATE 002 P & A -	3,972.00	3,986.00	640,373.03	797,562.48	32.7576490	-103.4998550	0.00	0.00
(O) NEW MEXICO BV STATE 001 P & A -	3,945.00	3,968.00	638,963.09	800,592.51	32.7537080	-103.4900360	0.00	0.00
(O) OHIO STATE 001 -	3,969.00	3,985.00	641,739.00	797,802.59	32.7613980	-103.4990390	0.00	0.00
(O) OHIO STATE 002 -	3,969.00	3,988.00	641,112.16	797,488.72	32.7596820	-103.5000760	0.00	0.00
(O) OHIO STATE 005 -	3,969.00	3,986.00	641,383.71	797,964.95	32.7604180	-103.4985200	0.00	0.00
(O) SHETLAND SWD 001 -	3,964.00	3,976.00	636,158.39	797,865.31	32.7460590	-103.4989780	0.00	0.00
(O) STATE AN 005 -	3,977.00	3,995.00	641,777.14	798,761.78	32.7614820	-103.4959180	0.00	0.00
(O) STATE AN 006 TA -	3,966.00	3,972.00	640,457.55	798,774.37	32.7578550	-103.4959110	0.00	0.00
(O) STATE AN 007 P & A -	3,970.00	3,984.00	641,780.69	800,082.17	32.7614630	-103.4916230	0.00	0.00
(O) STATE AN 008 P & A -	3,950.00	3,970.00	639,802.75	800,761.69	32.7560120	-103.4894640	0.00	0.00
(O) STATE AN 009 P & A -	3,955.00	3,976.00	641,122.70	800,749.01	32.7596400	-103.4894710	0.00	0.00
(O) STATE AN 010 P & A -	3,966.00	3,980.00	640,460.74	800,095.13	32.7578350	-103.4916150	0.00	0.00
(O) STATE AN 012 P & A -	3,961.00	3,984.00	641,422.62	800,624.57	32.7604670	-103.4898680	0.00	0.00
Rope State Com 501H -	3,951.90	3,974.90	623,914.59	796,958.97	32.7124278	-103.5022379	0.00	0.00
Rope State Com 502H -	3,951.80	3,974.80	623,914.67	796,998.97	32.7124272	-103.5021079	0.00	0.00
Rope State Com 504H -	3,939.00	3,962.00	623,928.60	800,163.28	32.7123968	-103.4918204	0.00	0.00
Rope State Com 601H -	3,952.10	3,975.10	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00
Rope State Com 603H -	3,939.30	3,962.30	623,928.37	800,103.29	32.7123975	-103.4920155	0.00	0.00
Rope State Com 604H -	3,939.10	3,962.10	623,928.52	800,143.29	32.7123970	-103.4918854	0.00	0.00

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance		Separation Factor	Warning
			Between Centres (usft)	Between Ellipses (usft)		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Rope State Com Pad						
(O) AIRSTRIP 31 18 35 RN STATE COM 111H - Horizontal						Out of range
(O) AIRSTRIP 31 18 35 RN STATE COM 114H - Horizontal	9,252.89	14,300.00	1,117.51	999.52	9.47	CC, ES
(O) AIRSTRIP 31 18 35 RN STATE COM 114H - Horizontal	9,300.00	14,300.00	1,118.50	1,000.08	9.45	SF
(O) AIRSTRIP 31 18 35 RN STATE COM 124H - Horizontal	9,946.08	15,150.00	1,187.11	1,074.81	10.57	CC, ES
(O) AIRSTRIP 31 18 35 RN STATE COM 124H - Horizontal	10,000.00	15,150.00	1,189.44	1,076.65	10.55	SF
(O) AIRSTRIP 31 18 35 RN STATE COM 131H - Horizontal						Out of range
(O) AIRSTRIP 31 18 35 RN STATE COM 132H - Horizontal						Out of range
(O) AIRSTRIP 31 18 35 RN STATE COM 133H - Horizontal	9,973.76	15,366.00	937.38	851.56	10.92	CC, ES, SF
(O) AIRSTRIP 31 18 35 RN STATE COM 134H - Horizontal	10,003.82	15,475.00	1,285.03	1,176.11	11.80	CC, ES
(O) AIRSTRIP 31 18 35 RN STATE COM 134H - Horizontal	10,100.00	15,475.00	1,292.66	1,182.89	11.78	SF
(O) AIRSTRIP 31 18 35 RN STATE COM 201H - Horizontal						Out of range
(O) AIRSTRIP STATE 001 P & A - Vertical - Surveys						Out of range
(O) ALBATROSS STATE COM 001H - Horizontal - PROD	14,606.65	9,705.00	586.11	518.20	8.63	CC, ES, SF
(O) ALBATROSS STATE COM 002H - Horizontal - PROD	14,811.14	9,726.13	472.20	386.15	5.49	CC, ES, SF
(O) B LEE STATE 004 - Verticals - Surveys						Out of range
(O) B LEE STATE 005 P & A - Vertical - Surveys						Out of range
(O) B LEE STATE 006 - Verticals - Surveys						Out of range
(O) BLACK JACK STATE 001 - Verticals - Surveys	22,802.45	9,062.38	1,238.51	1,105.39	9.30	CC, ES, SF
(O) BLACK JACK STATE 002 - Verticals - Surveys	22,672.36	9,105.68	824.13	557.50	3.09	CC, ES, SF
(O) BLACK JACK STATE 003 - Verticals - Surveys	21,419.21	9,181.51	1,157.48	1,015.30	8.14	CC, ES, SF
(O) BRIDGES STATE 180 P & A - Vertical - Surveys						Out of range
(O) IRONHOUSE 19 STATE COM 001H - Horizontal - PR						Out of range
(O) IRONHOUSE 19 STATE COM 001H - Pilot - Pilot						Out of range
(O) IRONHOUSE 19 STATE COM 002H - Horizontal - PR	19,865.76	13,836.00	868.85	703.67	5.26	CC, ES, SF
(O) IRONHOUSE 19 STATE COM 003H - Horizontal - PR	15,622.87	9,757.44	177.67	91.05	2.05	CC, ES, SF
(O) IRONHOUSE 19 STATE COM 004H - Horizontal - PR						Out of range
(O) IRONHOUSE 19 STATE COM 004H - ST01 - ST01						Out of range
(O) LEA 30 STATE 001 P & A - Vertical - Surveys						Out of range
(O) LEA SOUTHEAST STATE 1 P & A - Vertical - Surveys	11,669.29	9,975.56	503.42	245.65	1.95	CC, ES, SF
(O) LEA ZD STATE 001 P & A - Vertical - Surveys						Out of range
(O) LEO STATE #1 - OH - OH	24,683.66	9,095.27	1,144.97	1,004.61	8.16	CC
(O) LEO STATE #1 - OH - OH	24,700.00	9,094.61	1,145.09	1,004.59	8.15	ES, SF
(O) LEO STATE 006 TA - Verticals - Surveys	25,312.52	8,921.36	785.98	648.37	5.71	CC, ES, SF
(O) LEO STATE 007 - Verticals - Surveys	24,145.90	8,981.54	508.71	352.75	3.26	CC, ES, SF
(O) MESA MERRITT STATE 001 P & A - Vertical - Surveys						Out of range
(O) NEW MEXICO BP STATE 002 P & A - Vertical - Surveys						Out of range
(O) NEW MEXICO BV STATE 001 P & A - Vertical - Surveys	25,132.02	8,900.01	967.88	592.59	2.58	CC, ES, SF
(O) OHIO STATE 001 - Verticals - Surveys						Out of range
(O) OHIO STATE 002 - Verticals - Surveys						Out of range
(O) OHIO STATE 005 - Verticals - Surveys						Out of range
(O) SHETLAND SWD 001 - Vertical - Surveys						Out of range
(O) STATE AN 005 - Verticals - Surveys	28,197.49	9,063.74	806.52	649.56	5.14	CC, ES, SF
(O) STATE AN 006 TA - Vertical - Surveys	26,651.02	8,784.73	834.10	412.22	1.98	CC, ES, SF
(O) STATE AN 007 P & A - Vertical - Surveys	27,964.23	8,686.34	487.85	100.18	1.26	Level 3, CC, ES, SF
(O) STATE AN 008 P & A - Vertical - Surveys	25,972.95	8,832.16	1,146.07	787.66	3.20	CC, ES, SF
(O) STATE AN 009 P & A - Vertical - Surveys	27,297.17	8,731.44	1,147.58	782.44	3.14	CC
(O) STATE AN 009 P & A - Vertical - Surveys	27,300.00	8,731.14	1,147.58	782.44	3.14	ES, SF
(O) STATE AN 010 P & A - Vertical - Surveys	26,639.88	8,792.59	486.62	66.46	1.16	Level 2, CC, ES, SF
(O) STATE AN 012 P & A - OH - Surveys	27,981.01	8,695.40	1,030.01	857.90	5.98	CC, ES

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Summary

Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
Rope State Com Pad						
(O) STATE AN 012 P & A - OH - Surveys	28,000.00	8,694.03	1,030.18	857.97	5.98	SF
(O) STATE AN 012 P & A - ST01 - ST01	27,981.01	8,695.40	1,030.01	857.90	5.98	CC, ES
(O) STATE AN 012 P & A - ST01 - ST01	28,000.00	8,694.03	1,030.18	857.97	5.98	SF
Rope State Com 501H - OH - Plan #3						Out of range
Rope State Com 502H - OH - Plan #2	23,540.45	23,622.56	1,483.15	1,260.37	6.66	CC
Rope State Com 502H - OH - Plan #2	24,800.00	24,870.72	1,491.34	1,251.16	6.21	ES
Rope State Com 502H - OH - Plan #2	27,200.00	27,212.20	1,610.38	1,338.71	5.93	SF
Rope State Com 504H - OH - Plan #2	1,800.00	1,799.80	39.99	27.25	3.14	CC, ES, SF
Rope State Com 601H - OH - Plan #2						Out of range
Rope State Com 603H - OH - Plan #2	1,516.63	1,516.73	20.00	9.29	1.87	CC
Rope State Com 603H - OH - Plan #2	1,600.00	1,600.00	20.00	8.69	1.77	ES, SF
Rope State Com 604H - OH - Plan #2	1,600.00	1,599.90	20.00	8.69	1.77	CC, ES
Rope State Com 604H - OH - Plan #2	1,700.00	1,699.40	21.18	9.18	1.77	SF

Offset Design: Rope State Com Pad - (O) AIRSTRIP 31 18 35 RN STATE COM 114H - Horizontal - PRODUCING - Surveys

Survey Program: 0-MWD OWSG Rev5										Rule Assigned:				Offset Site Error:	0.00 usft
Reference Offset										Offset Well Error:				0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,100.00	8,079.03	14,300.00	9,231.92	28.52	85.77	99.60		99.60	-424.70	767.31	1,605.61	1,520.91	84.70	18.956	
8,200.00	8,179.03	14,300.00	9,231.92	28.86	85.77	99.60		99.60	-424.70	767.31	1,535.38	1,447.88	87.50	17.548	
8,300.00	8,279.03	14,300.00	9,231.92	29.21	85.77	99.60		99.60	-424.70	767.31	1,468.61	1,378.12	90.49	16.229	
8,400.00	8,379.03	14,300.00	9,231.92	29.56	85.77	99.60		99.60	-424.70	767.31	1,405.79	1,312.12	93.67	15.008	
8,500.00	8,479.03	14,300.00	9,231.92	29.91	85.77	99.60		99.60	-424.70	767.31	1,347.47	1,250.47	97.00	13.892	
8,600.00	8,579.03	14,300.00	9,231.92	30.26	85.77	99.60		99.60	-424.70	767.31	1,294.25	1,193.83	100.42	12.888	
8,700.00	8,679.03	14,300.00	9,231.92	30.61	85.77	99.60		99.60	-424.70	767.31	1,246.80	1,142.94	103.86	12.005	
8,800.00	8,779.03	14,300.00	9,231.92	30.96	85.77	99.60		99.60	-424.70	767.31	1,205.79	1,098.57	107.22	11.246	
8,900.00	8,879.03	14,300.00	9,231.92	31.31	85.77	99.60		99.60	-424.70	767.31	1,171.90	1,061.53	110.38	10.617	
9,000.00	8,979.03	14,300.00	9,231.92	31.66	85.77	99.60		99.60	-424.70	767.31	1,145.76	1,032.57	113.20	10.122	
9,100.00	9,079.03	14,300.00	9,231.92	32.01	85.77	99.60		99.60	-424.70	767.31	1,127.92	1,012.37	115.55	9.762	
9,200.00	9,179.03	14,300.00	9,231.92	32.36	85.77	99.60		99.60	-424.70	767.31	1,118.76	1,001.44	117.31	9.536	
9,252.89	9,231.92	14,300.00	9,231.92	32.55	85.77	99.60		99.60	-424.70	767.31	1,117.51	999.52	117.98	9.472	CC, ES
9,300.00	9,279.03	14,300.00	9,231.92	32.71	85.77	99.60		99.60	-424.70	767.31	1,118.50	1,000.08	118.42	9.445	SF
9,400.00	9,379.03	14,300.00	9,231.92	33.06	85.77	99.60		99.60	-424.70	767.31	1,127.15	1,008.31	118.84	9.485	
9,500.00	9,479.03	14,300.00	9,231.92	33.41	85.77	100.05		100.05	-424.70	767.31	1,144.51	1,025.91	118.60	9.650	
9,600.00	9,578.40	14,300.00	9,231.92	33.76	85.77	97.25		97.25	-424.70	767.31	1,171.74	1,054.01	117.73	9.952	
9,700.00	9,674.51	14,300.00	9,231.92	34.09	85.77	93.29		93.29	-424.70	767.31	1,208.67	1,092.29	116.38	10.386	
9,800.00	9,764.44	14,300.00	9,231.92	34.38	85.77	88.29		88.29	-424.70	767.31	1,253.36	1,138.64	114.72	10.925	
9,900.00	9,845.47	14,300.00	9,231.92	34.64	85.77	82.48		82.48	-424.70	767.31	1,303.75	1,190.81	112.94	11.544	
10,000.00	9,915.13	14,300.00	9,231.92	34.86	85.77	76.17		76.17	-424.70	767.31	1,357.76	1,246.61	111.15	12.215	
10,100.00	9,971.30	14,300.00	9,231.92	35.04	85.77	69.77		69.77	-424.70	767.31	1,413.42	1,303.98	109.44	12.915	
10,200.00	10,012.28	14,300.00	9,231.92	35.19	85.77	63.64		63.64	-424.70	767.31	1,468.97	1,361.11	107.86	13.619	
10,300.00	10,038.24	14,300.00	9,231.92	35.31	85.77	59.57		59.57	-424.70	767.31	1,523.43	1,417.02	106.41	14.316	
10,400.00	10,054.93	14,300.00	9,231.92	35.42	85.77	56.77		56.77	-424.70	767.31	1,578.48	1,473.47	105.01	15.031	
10,500.00	10,062.97	14,300.00	9,231.92	35.51	85.77	54.03		54.03	-424.70	767.31	1,633.95	1,530.29	103.66	15.763	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) AIRSTRIP 31 18 35 RN STATE COM 124H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Survey Program: 0-MWD OWSG Rev5

Rule Assigned:

Offset Well Error: 0.00 usft

Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,100.00	9,079.03	15,150.00	10,248.78	32.01	87.01	99.69	-420.99	734.98	1,595.49	1,507.84	87.65	18.203	
9,200.00	9,179.03	15,150.00	10,248.78	32.36	87.01	99.69	-420.99	734.98	1,523.69	1,433.27	90.42	16.851	
9,300.00	9,279.03	15,150.00	10,248.78	32.71	87.01	99.69	-420.99	734.98	1,455.23	1,361.81	93.42	15.578	
9,400.00	9,379.03	15,150.00	10,248.78	33.06	87.01	99.69	-420.99	734.98	1,390.59	1,293.96	96.62	14.392	
9,500.00	9,479.03	15,150.00	10,248.78	33.41	87.01	100.85	-420.99	734.98	1,330.34	1,230.33	100.01	13.302	
9,600.00	9,578.40	15,150.00	10,248.78	33.76	87.01	106.98	-420.99	734.98	1,276.99	1,173.53	103.46	12.343	
9,700.00	9,674.51	15,150.00	10,248.78	34.09	87.01	111.48	-420.99	734.98	1,234.06	1,127.32	106.74	11.561	
9,800.00	9,764.44	15,150.00	10,248.78	34.38	87.01	114.39	-420.99	734.98	1,204.03	1,094.47	109.57	10.989	
9,900.00	9,845.47	15,150.00	10,248.78	34.64	87.01	115.79	-420.99	734.98	1,188.82	1,077.16	111.66	10.647	
9,946.08	9,879.12	15,150.00	10,248.78	34.74	87.01	115.94	-420.99	734.98	1,187.11	1,074.81	112.30	10.571	CC, ES
10,000.00	9,915.13	15,150.00	10,248.78	34.86	87.01	115.73	-420.99	734.98	1,189.44	1,076.65	112.79	10.545	SF
10,100.00	9,971.30	15,150.00	10,248.78	35.04	87.01	114.22	-420.99	734.98	1,205.88	1,092.98	112.89	10.682	
10,200.00	10,012.28	15,150.00	10,248.78	35.19	87.01	111.19	-420.99	734.98	1,237.00	1,124.98	112.02	11.043	
10,300.00	10,038.24	15,150.00	10,248.78	35.31	87.01	108.03	-420.99	734.98	1,280.44	1,170.06	110.38	11.600	
10,400.00	10,054.93	15,150.00	10,248.78	35.42	87.01	105.10	-420.99	734.98	1,332.50	1,224.16	108.33	12.300	
10,500.00	10,062.97	15,150.00	10,248.78	35.51	87.01	101.53	-420.99	734.98	1,391.61	1,285.57	106.04	13.124	
10,600.00	10,062.30	15,150.00	10,248.78	35.61	87.01	97.32	-420.99	734.98	1,456.51	1,352.88	103.62	14.056	
10,700.00	10,054.74	15,150.00	10,248.78	35.74	87.01	95.71	-420.99	734.98	1,525.87	1,424.67	101.20	15.078	
10,800.00	10,046.66	15,150.00	10,248.78	35.88	87.01	95.71	-420.99	734.98	1,598.53	1,499.65	98.87	16.167	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) AIRSTRIP 31 18 35 RN STATE COM 133H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Survey Program: 0-MWD OWSG Rev5

Rule Assigned:

Offset Well Error: 0.00 usft

Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,000.00	8,979.03	15,366.00	10,476.69	31.66	86.59	-122.59	-571.49	-855.72	1,620.37	1,548.68	71.69	22.604	
9,100.00	9,079.03	15,366.00	10,476.69	32.01	86.59	-122.59	-571.49	-855.72	1,528.42	1,455.45	72.96	20.948	
9,200.00	9,179.03	15,366.00	10,476.69	32.36	86.59	-122.59	-571.49	-855.72	1,437.54	1,363.15	74.39	19.324	
9,300.00	9,279.03	15,366.00	10,476.69	32.71	86.59	-122.59	-571.49	-855.72	1,347.96	1,271.96	76.00	17.736	
9,400.00	9,379.03	15,366.00	10,476.69	33.06	86.59	-122.59	-571.49	-855.72	1,259.95	1,182.12	77.82	16.190	
9,500.00	9,479.03	15,366.00	10,476.69	33.41	86.59	-123.02	-571.49	-855.72	1,173.87	1,093.97	79.90	14.693	
9,600.00	9,578.40	15,366.00	10,476.69	33.76	86.59	-133.59	-571.49	-855.72	1,093.74	1,011.68	82.06	13.329	
9,700.00	9,674.51	15,366.00	10,476.69	34.09	86.59	-140.01	-571.49	-855.72	1,025.62	941.60	84.02	12.207	
9,800.00	9,764.44	15,366.00	10,476.69	34.38	86.59	-143.73	-571.49	-855.72	974.30	888.82	85.48	11.397	
9,900.00	9,845.47	15,366.00	10,476.69	34.64	86.59	-145.57	-571.49	-855.72	944.18	858.09	86.09	10.967	
9,973.76	9,898.08	15,366.00	10,476.69	34.80	86.59	-145.96	-571.49	-855.72	937.38	851.56	85.82	10.923	CC, ES, SF
10,000.00	9,915.13	15,366.00	10,476.69	34.86	86.59	-145.91	-571.49	-855.72	938.24	852.67	85.57	10.964	
10,100.00	9,971.30	15,366.00	10,476.69	35.04	86.59	-144.81	-571.49	-855.72	957.11	873.19	83.93	11.404	
10,200.00	10,012.28	15,366.00	10,476.69	35.19	86.59	-142.05	-571.49	-855.72	998.84	917.41	81.43	12.266	
10,300.00	10,038.24	15,366.00	10,476.69	35.31	86.59	-138.75	-571.49	-855.72	1,058.75	980.20	78.55	13.479	
10,400.00	10,054.93	15,366.00	10,476.69	35.42	86.59	-135.33	-571.49	-855.72	1,129.45	1,053.74	75.70	14.919	
10,500.00	10,062.97	15,366.00	10,476.69	35.51	86.59	-130.65	-571.49	-855.72	1,208.14	1,135.08	73.06	16.537	
10,600.00	10,062.30	15,366.00	10,476.69	35.61	86.59	-124.31	-571.49	-855.72	1,292.82	1,222.15	70.67	18.293	
10,700.00	10,054.74	15,366.00	10,476.69	35.74	86.59	-121.62	-571.49	-855.72	1,381.42	1,312.83	68.58	20.142	
10,800.00	10,046.66	15,366.00	10,476.69	35.88	86.59	-121.62	-571.49	-855.72	1,471.59	1,404.83	66.76	22.043	
10,900.00	10,038.57	15,366.00	10,476.69	36.04	86.59	-121.62	-571.49	-855.72	1,562.97	1,497.80	65.17	23.984	
11,000.00	10,030.49	15,366.00	10,476.69	36.22	86.59	-121.62	-571.49	-855.72	1,655.34	1,591.56	63.77	25.956	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) AIRSTRIP 31 18 35 RN STATE COM 134H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Survey Program: 0-MWD OWSG Rev5

Rule Assigned:

Offset Well Error: 0.00 usft

Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,300.00	9,279.03	15,475.00	10,423.13	32.71	87.43	99.28	-419.85	776.49	1,605.09	1,516.41	88.68	18.099	
9,400.00	9,379.03	15,475.00	10,423.13	33.06	87.43	99.28	-419.85	776.49	1,535.42	1,443.77	91.65	16.754	
9,500.00	9,479.03	15,475.00	10,423.13	33.41	87.43	100.54	-419.85	776.49	1,469.25	1,374.43	94.82	15.494	
9,600.00	9,578.40	15,475.00	10,423.13	33.76	87.43	107.89	-419.85	776.49	1,408.88	1,310.74	98.15	14.355	
9,700.00	9,674.51	15,475.00	10,423.13	34.09	87.43	113.46	-419.85	776.49	1,357.79	1,256.35	101.44	13.385	
9,800.00	9,764.44	15,475.00	10,423.13	34.38	87.43	117.31	-419.85	776.49	1,318.70	1,214.20	104.50	12.620	
9,900.00	9,845.47	15,475.00	10,423.13	34.64	87.43	119.57	-419.85	776.49	1,293.92	1,186.86	107.05	12.087	
10,000.00	9,915.13	15,475.00	10,423.13	34.86	87.43	120.34	-419.85	776.49	1,285.04	1,176.17	108.87	11.804	
10,003.82	9,917.53	15,475.00	10,423.13	34.86	87.43	120.34	-419.85	776.49	1,285.03	1,176.11	108.92	11.798	CC, ES
10,100.00	9,971.30	15,475.00	10,423.13	35.04	87.43	119.68	-419.85	776.49	1,292.66	1,182.89	109.78	11.775	SF
10,200.00	10,012.28	15,475.00	10,423.13	35.19	87.43	117.54	-419.85	776.49	1,316.28	1,206.55	109.73	11.995	
10,300.00	10,038.24	15,475.00	10,423.13	35.31	87.43	115.03	-419.85	776.49	1,353.80	1,244.94	108.86	12.436	
10,400.00	10,054.93	15,475.00	10,423.13	35.42	87.43	112.57	-419.85	776.49	1,401.01	1,293.52	107.49	13.034	
10,500.00	10,062.97	15,475.00	10,423.13	35.51	87.43	109.47	-419.85	776.49	1,456.34	1,350.58	105.76	13.770	
10,600.00	10,062.30	15,475.00	10,423.13	35.61	87.43	105.68	-419.85	776.49	1,518.50	1,414.70	103.80	14.629	
10,700.00	10,054.74	15,475.00	10,423.13	35.74	87.43	104.19	-419.85	776.49	1,585.95	1,484.21	101.74	15.588	
10,800.00	10,046.66	15,475.00	10,423.13	35.88	87.43	104.19	-419.85	776.49	1,656.78	1,557.04	99.73	16.612	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) ALBATROSS STATE COM 001H - Horizontal - PRODUCING - Surveys

Survey Program: 100-NS-GYRO-MS, 7863-MWD OWSG Rev5

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Reference		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,900.00	8,879.03	14,469.00	10,026.64	31.31	84.49	84.55	-132.13	777.94	1,601.85	1,510.17	91.68	17.471	
9,000.00	8,979.03	14,469.00	10,026.64	31.66	84.49	84.55	-132.13	777.94	1,531.80	1,437.36	94.43	16.221	
9,100.00	9,079.03	14,469.00	10,026.64	32.01	84.49	84.55	-132.13	777.94	1,465.22	1,367.90	97.33	15.055	
9,200.00	9,179.03	14,469.00	10,026.64	32.36	84.49	84.55	-132.13	777.94	1,402.62	1,302.29	100.34	13.979	
9,300.00	9,279.03	14,469.00	10,026.64	32.71	84.49	84.55	-132.13	777.94	1,344.56	1,241.14	103.42	13.001	
9,400.00	9,379.03	14,469.00	10,026.64	33.06	84.49	84.55	-132.13	777.94	1,291.63	1,185.12	106.51	12.127	
9,500.00	9,479.03	14,469.00	10,026.64	33.41	84.49	85.55	-132.13	777.94	1,244.50	1,134.97	109.53	11.362	
9,600.00	9,578.40	14,469.00	10,026.64	33.76	84.49	90.06	-132.13	777.94	1,203.34	1,091.02	112.32	10.713	
9,700.00	9,674.51	14,469.00	10,026.64	34.09	84.49	93.68	-132.13	777.94	1,169.31	1,054.64	114.66	10.198	
9,800.00	9,764.44	14,437.47	10,025.38	34.38	83.98	94.87	-100.65	776.62	1,143.67	1,027.61	116.06	9.854	
9,900.00	9,845.47	14,383.80	10,023.03	34.64	83.11	94.40	-47.07	774.43	1,125.81	1,009.25	116.56	9.659	
10,000.00	9,915.13	14,317.97	10,019.22	34.86	82.05	93.04	18.60	772.00	1,114.67	998.35	116.32	9.582	
10,100.00	9,971.30	14,239.58	10,013.19	35.04	80.78	91.14	96.70	769.33	1,108.64	993.17	115.47	9.601	
10,200.00	10,012.28	14,141.51	10,004.92	35.19	79.20	89.02	194.36	765.51	1,105.30	991.22	114.08	9.688	
10,300.00	10,038.24	14,037.00	9,998.05	35.31	77.51	87.47	298.50	760.24	1,102.16	989.70	112.46	9.800	
10,400.00	10,054.93	13,940.03	9,992.12	35.42	75.94	86.47	395.16	755.24	1,099.19	988.31	110.88	9.913	
10,500.00	10,062.97	13,802.89	9,985.40	35.51	73.71	85.78	531.84	746.49	1,094.94	986.13	108.81	10.063	
10,600.00	10,062.30	13,640.00	9,983.02	35.61	71.01	86.15	693.48	726.70	1,083.44	977.17	106.27	10.195	
10,700.00	10,054.74	13,531.67	9,982.58	35.74	69.21	86.76	800.68	711.12	1,069.71	965.07	104.64	10.223	
10,800.00	10,046.66	13,435.71	9,981.97	35.88	67.62	87.10	895.51	696.48	1,055.12	951.88	103.24	10.221	
10,900.00	10,038.57	13,332.88	9,981.77	36.04	65.92	87.51	997.23	681.38	1,041.13	939.39	101.73	10.234	
11,000.00	10,030.49	13,212.41	9,979.06	36.22	63.92	87.86	1,116.06	661.80	1,025.70	925.81	99.90	10.268	
11,100.00	10,022.40	13,124.55	9,978.01	36.42	62.47	88.17	1,202.66	647.04	1,009.70	911.01	98.69	10.231	
11,200.00	10,014.31	13,035.12	9,976.89	36.63	61.00	88.50	1,290.96	632.89	994.73	897.26	97.47	10.205	
11,300.00	10,006.23	12,949.05	9,973.58	36.85	59.59	88.69	1,376.01	620.12	980.85	884.53	96.32	10.184	
11,400.00	9,998.14	12,858.12	9,967.81	37.09	58.11	88.76	1,465.89	607.63	968.13	873.05	95.08	10.182	
11,500.00	9,990.06	12,767.97	9,961.40	37.34	56.64	88.80	1,555.04	595.93	956.21	862.32	93.88	10.185	
11,600.00	9,981.97	12,670.33	9,953.28	37.61	55.07	88.77	1,651.61	583.98	945.04	852.47	92.57	10.209	
11,700.00	9,973.89	12,565.73	9,946.90	37.89	53.37	88.88	1,755.18	570.90	933.56	842.40	91.15	10.242	
11,800.00	9,965.80	12,460.36	9,940.53	38.19	51.65	88.99	1,859.44	557.05	921.44	831.71	89.73	10.269	
11,900.00	9,957.71	12,363.94	9,936.57	38.49	50.10	89.22	1,954.92	544.19	909.10	820.60	88.50	10.272	
12,000.00	9,949.63	12,260.41	9,935.62	38.82	48.45	89.68	2,057.52	530.44	896.78	809.59	87.19	10.285	
12,100.00	9,941.54	12,161.59	9,935.38	39.15	46.87	90.18	2,155.43	517.03	884.24	798.26	85.98	10.285	
12,200.00	9,933.46	12,065.64	9,934.82	39.49	45.36	90.66	2,250.51	504.20	871.94	787.12	84.83	10.279	
12,300.00	9,925.37	11,969.62	9,933.43	39.85	43.85	91.09	2,345.71	491.69	860.06	776.36	83.69	10.276	
12,400.00	9,917.28	11,869.74	9,931.48	40.22	42.29	91.52	2,444.74	478.92	848.46	765.95	82.51	10.283	
12,500.00	9,909.20	11,757.97	9,929.16	40.60	40.56	92.00	2,555.40	463.31	835.69	754.53	81.15	10.297	
12,600.00	9,901.11	11,659.70	9,927.15	40.99	39.05	92.45	2,652.64	449.31	822.71	742.67	80.04	10.278	
12,700.00	9,893.03	11,553.38	9,921.91	41.39	37.43	92.73	2,757.67	433.67	809.21	730.40	78.81	10.267	
12,800.00	9,884.94	11,438.45	9,913.90	41.81	35.69	92.87	2,870.87	415.48	794.55	717.10	77.44	10.260	
12,900.00	9,876.86	11,319.41	9,906.41	42.23	33.91	93.10	2,987.63	393.61	777.32	701.32	76.00	10.228	
13,000.00	9,868.77	11,224.97	9,902.12	42.66	32.53	93.42	3,080.16	375.19	759.08	684.02	75.06	10.113	
13,100.00	9,860.68	11,130.86	9,898.41	43.10	31.17	93.79	3,172.48	357.32	741.41	667.25	74.16	9.997	
13,200.00	9,852.60	11,039.71	9,895.21	43.55	29.88	94.20	3,262.04	340.67	724.53	651.17	73.36	9.877	
13,300.00	9,844.51	10,952.34	9,892.31	44.01	28.68	94.62	3,348.09	325.79	708.94	636.28	72.66	9.757	
13,400.00	9,836.43	10,855.58	9,888.46	44.48	27.38	95.04	3,443.53	310.37	694.43	622.59	71.84	9.666	
13,500.00	9,828.34	10,765.28	9,884.25	44.96	26.21	95.39	3,532.67	296.56	680.56	609.38	71.18	9.561	
13,600.00	9,820.26	10,672.89	9,880.75	45.44	25.05	95.82	3,624.06	283.49	667.93	597.39	70.53	9.470	
13,700.00	9,812.17	10,582.31	9,877.02	45.93	23.97	96.23	3,713.78	271.67	656.40	586.43	69.97	9.381	
13,800.00	9,804.08	10,494.58	9,871.67	46.43	22.98	96.47	3,800.78	261.75	646.44	576.93	69.51	9.300	
13,900.00	9,796.00	10,406.25	9,866.09	46.94	22.03	96.68	3,888.55	253.43	638.34	569.25	69.09	9.239	
14,000.00	9,787.91	10,314.35	9,862.66	47.46	21.10	97.11	3,980.07	246.02	631.89	563.20	68.69	9.199	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) ALBATROSS STATE COM 001H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Survey Program: 100-NS-GYRO-MS, 7863-MWD OWSG Rev5

Rule Assigned:

Offset Well Error: 0.00 usft

Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,100.00	9,779.83	10,207.42	9,857.58	47.98	20.15	97.52	4,086.54	237.62	625.60	557.34	68.25	9.166	
14,200.00	9,771.74	10,103.36	9,845.37	48.51	19.33	97.26	4,189.47	228.58	617.53	549.57	67.96	9.086	
14,300.00	9,763.66	10,010.93	9,829.88	49.04	18.72	96.57	4,280.33	222.16	610.59	542.71	67.88	8.995	
14,400.00	9,755.57	9,872.34	9,780.59	49.58	18.07	92.97	4,408.83	212.74	602.37	534.77	67.60	8.910	
14,500.00	9,747.48	9,775.22	9,722.07	50.13	17.81	87.94	4,485.59	203.34	591.46	523.78	67.69	8.738	
14,600.00	9,739.40	9,705.00	9,672.51	50.68	17.70	83.48	4,534.81	196.46	586.14	518.28	67.87	8.636	
14,606.65	9,738.86	9,705.00	9,672.51	50.72	17.70	83.48	4,534.81	196.46	586.11	518.20	67.90	8.632	CC, ES, SF
14,700.00	9,731.31	9,659.59	9,637.50	51.24	17.65	80.29	4,563.51	193.06	590.89	522.96	67.94	8.698	
14,800.00	9,723.23	9,618.12	9,603.51	51.80	17.61	77.20	4,587.14	190.87	607.31	539.64	67.67	8.975	
14,900.00	9,715.14	9,577.00	9,568.25	52.37	17.59	74.06	4,608.23	189.32	635.31	568.22	67.09	9.469	
15,000.00	9,707.05	9,545.00	9,539.95	52.94	17.57	71.58	4,623.14	188.31	673.93	607.62	66.30	10.164	
15,100.00	9,698.97	9,513.00	9,511.00	53.52	17.55	69.10	4,636.72	187.26	721.91	656.51	65.41	11.037	
15,200.00	9,690.88	9,482.00	9,482.38	54.10	17.54	66.70	4,648.55	186.11	777.98	713.47	64.50	12.061	
15,300.00	9,682.80	9,457.80	9,459.67	54.69	17.54	64.84	4,656.86	185.11	840.90	777.28	63.62	13.218	
15,400.00	9,674.71	9,435.82	9,438.81	55.29	17.53	63.16	4,663.71	184.10	909.46	846.65	62.80	14.481	
15,500.00	9,666.63	9,418.00	9,421.76	55.88	17.53	61.82	4,668.83	183.21	982.63	920.56	62.06	15.833	
15,600.00	9,658.54	9,394.05	9,398.71	56.48	17.53	60.04	4,675.21	181.91	1,059.48	998.02	61.46	17.239	
15,700.00	9,650.45	9,386.00	9,390.94	57.09	17.53	59.45	4,677.25	181.45	1,139.43	1,078.58	60.85	18.725	
15,800.00	9,642.37	9,369.24	9,374.68	57.70	17.52	58.24	4,681.18	180.49	1,221.93	1,161.55	60.37	20.240	
15,900.00	9,634.28	9,355.00	9,360.76	58.31	17.52	57.22	4,684.10	179.68	1,306.74	1,246.79	59.95	21.796	
16,000.00	9,626.20	9,355.00	9,360.76	58.93	17.52	57.22	4,684.10	179.68	1,393.35	1,333.84	59.51	23.414	
16,100.00	9,618.11	9,355.00	9,360.76	59.55	17.52	57.22	4,684.10	179.68	1,481.64	1,422.51	59.12	25.061	
16,200.00	9,610.03	9,355.00	9,360.76	60.17	17.52	57.22	4,684.10	179.68	1,571.33	1,512.55	58.78	26.731	
16,300.00	9,601.94	9,338.26	9,344.29	60.80	17.51	56.04	4,686.94	178.82	1,661.75	1,603.17	58.58	28.367	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) ALBATROSS STATE COM 002H - Horizontal - PRODUCING - Surveys

Survey Program: 100-r.5 GYRO-NS, 9783-3_MWD+HRGM

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Reference		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
8,900.00	8,879.03	14,962.00	10,460.88	31.31	79.12	-77.42	-148.46	-737.18	1,634.76	1,572.44	62.32	26.233	
9,000.00	8,979.03	14,962.00	10,460.88	31.66	79.12	-77.42	-148.46	-737.18	1,538.20	1,475.07	63.13	24.366	
9,100.00	9,079.03	14,962.00	10,460.88	32.01	79.12	-77.42	-148.46	-737.18	1,442.12	1,378.07	64.05	22.517	
9,200.00	9,179.03	14,962.00	10,460.88	32.36	79.12	-77.42	-148.46	-737.18	1,346.60	1,281.50	65.10	20.687	
9,300.00	9,279.03	14,962.00	10,460.88	32.71	79.12	-77.42	-148.46	-737.18	1,251.78	1,185.47	66.31	18.877	
9,400.00	9,379.03	14,962.00	10,460.88	33.06	79.12	-77.42	-148.46	-737.18	1,157.84	1,090.09	67.75	17.090	
9,500.00	9,479.03	14,962.00	10,460.88	33.41	79.12	-78.62	-148.46	-737.18	1,064.99	995.53	69.46	15.333	
9,600.00	9,578.40	14,962.00	10,460.88	33.76	79.12	-101.59	-148.46	-737.18	973.22	901.71	71.52	13.609	
9,700.00	9,674.51	14,962.00	10,460.88	34.09	79.12	-119.33	-148.46	-737.18	884.84	810.89	73.95	11.965	
9,800.00	9,764.44	14,962.00	10,460.88	34.38	79.12	-130.64	-148.46	-737.18	804.06	727.28	76.78	10.472	
9,900.00	9,845.47	14,933.56	10,459.89	34.64	78.74	-135.67	-120.20	-740.15	735.69	655.88	79.81	9.218	
10,000.00	9,915.13	14,873.52	10,458.33	34.86	77.95	-136.96	-60.48	-746.15	680.95	598.17	82.77	8.227	
10,100.00	9,971.30	14,800.90	10,459.43	35.04	76.99	-137.02	11.91	-751.79	641.54	556.33	85.20	7.529	
10,200.00	10,012.28	14,705.59	10,464.00	35.19	75.75	-136.35	107.01	-756.02	616.21	529.70	86.51	7.123	
10,300.00	10,038.24	14,598.32	10,470.15	35.31	74.37	-135.54	214.06	-758.85	602.49	515.76	86.73	6.947	
10,400.00	10,054.93	14,467.63	10,470.72	35.42	72.69	-134.35	344.68	-761.90	591.78	505.31	86.47	6.844	
10,500.00	10,062.97	14,381.82	10,467.08	35.51	71.59	-133.67	430.35	-765.02	585.19	498.70	86.49	6.766	
10,515.01	10,063.43	14,370.64	10,466.68	35.53	71.44	-133.59	441.50	-765.72	585.07	498.60	86.47	6.766	
10,600.00	10,062.30	14,291.51	10,463.92	35.61	70.43	-133.00	520.32	-772.14	588.14	502.01	86.13	6.829	
10,700.00	10,054.74	14,178.97	10,457.14	35.74	68.99	-132.43	632.17	-782.39	595.10	509.60	85.50	6.960	
10,800.00	10,046.66	14,078.16	10,448.27	35.88	67.71	-131.84	732.14	-791.90	600.81	515.76	85.06	7.064	
10,900.00	10,038.57	13,975.84	10,440.13	36.04	66.42	-131.35	833.75	-800.80	606.60	522.07	84.53	7.176	
11,000.00	10,030.49	13,873.56	10,432.31	36.22	65.14	-130.96	935.43	-808.74	611.92	527.96	83.96	7.289	
11,100.00	10,022.40	13,783.05	10,426.05	36.42	64.02	-130.66	1,025.43	-815.81	617.79	534.39	83.40	7.407	
11,200.00	10,014.31	13,682.52	10,420.90	36.63	62.78	-130.49	1,125.57	-823.15	624.44	541.73	82.72	7.549	
11,300.00	10,006.23	13,569.43	10,415.78	36.85	61.40	-130.50	1,238.39	-828.96	629.83	547.98	81.85	7.694	
11,400.00	9,998.14	13,462.84	10,412.32	37.09	60.12	-130.79	1,344.89	-831.26	633.82	552.95	80.87	7.838	
11,500.00	9,990.06	13,352.72	10,409.55	37.34	58.82	-131.30	1,454.98	-830.84	636.38	556.64	79.74	7.981	
11,600.00	9,981.97	13,253.88	10,405.83	37.61	57.67	-131.69	1,553.74	-830.13	637.91	559.11	78.80	8.095	
11,700.00	9,973.89	13,161.82	10,402.99	37.89	56.60	-132.04	1,645.75	-830.38	640.65	562.67	77.97	8.216	
11,800.00	9,965.80	13,056.83	10,399.80	38.19	55.40	-132.41	1,750.69	-831.31	643.92	566.84	77.09	8.353	
11,900.00	9,957.71	12,940.52	10,393.56	38.49	54.08	-132.67	1,866.83	-831.58	645.15	568.92	76.23	8.464	
11,954.59	9,953.30	12,886.18	10,389.96	38.67	53.48	-132.78	1,921.05	-831.26	645.03	569.17	75.86	8.503	
12,000.00	9,949.63	12,843.89	10,387.35	38.82	53.01	-132.87	1,963.25	-831.10	645.14	569.57	75.57	8.537	
12,100.00	9,941.54	12,758.36	10,382.28	39.15	52.07	-132.99	2,048.63	-832.03	646.64	571.58	75.06	8.615	
12,200.00	9,933.46	12,671.33	10,377.37	39.49	51.12	-132.97	2,135.44	-835.51	650.44	575.79	74.65	8.713	
12,300.00	9,925.37	12,570.93	10,373.61	39.85	50.04	-133.08	2,235.70	-839.45	655.49	581.37	74.11	8.844	
12,400.00	9,917.28	12,463.38	10,369.27	40.22	48.92	-133.25	2,343.12	-842.47	659.53	585.98	73.54	8.968	
12,500.00	9,909.20	12,367.52	10,365.63	40.60	47.93	-133.45	2,438.89	-844.43	663.18	590.14	73.04	9.079	
12,600.00	9,901.11	12,275.11	10,363.99	40.99	47.01	-133.79	2,531.27	-845.78	667.83	595.32	72.51	9.210	
12,700.00	9,893.03	12,173.42	10,363.34	41.39	46.01	-134.25	2,632.96	-846.98	673.09	601.18	71.91	9.360	
12,800.00	9,884.94	12,050.92	10,359.73	41.81	44.85	-134.66	2,755.39	-847.92	676.50	605.20	71.30	9.488	
12,900.00	9,876.86	11,936.16	10,353.19	42.23	43.80	-134.94	2,869.96	-847.26	677.00	606.16	70.84	9.557	
13,000.00	9,868.77	11,837.09	10,347.42	42.66	42.92	-135.29	2,968.82	-844.74	676.06	605.62	70.44	9.597	
13,015.50	9,867.52	11,824.03	10,346.84	42.73	42.81	-135.35	2,981.86	-844.36	676.03	605.64	70.39	9.604	
13,100.00	9,860.68	11,751.56	10,344.67	43.10	42.19	-135.73	3,054.27	-842.38	676.84	606.76	70.09	9.657	
13,200.00	9,852.60	11,664.41	10,343.30	43.55	41.47	-136.22	3,141.39	-840.83	679.55	609.81	69.74	9.744	
13,300.00	9,844.51	11,578.72	10,342.44	44.01	40.79	-136.59	3,227.08	-841.41	684.40	614.91	69.49	9.849	
13,400.00	9,836.43	11,481.05	10,340.58	44.48	40.04	-136.79	3,324.66	-844.84	690.57	621.24	69.33	9.960	
13,500.00	9,828.34	11,360.06	10,334.99	44.96	39.16	-136.80	3,445.41	-849.90	695.24	625.97	69.27	10.037	
13,600.00	9,820.26	11,241.61	10,326.19	45.44	38.36	-136.73	3,563.49	-853.15	696.84	627.53	69.31	10.054	
13,700.00	9,812.17	11,143.93	10,318.15	45.93	37.74	-136.68	3,660.82	-854.75	697.12	627.72	69.41	10.044	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) ALBATROSS STATE COM 002H - Horizontal - PRODUCING - Surveys

Survey Program: 100-r.5 GYRO-NS, 9783-3_MWD+HRGM										Rule Assigned:		Offset Site Error:	0.00 usft
Reference										Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Reference (usft)	Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,800.00	9,804.08	11,055.50	10,312.42	46.43	37.23	-136.74	3,749.05	-856.14	698.65	629.15	69.51	10.052	
13,900.00	9,796.00	10,963.38	10,308.38	46.94	36.73	-136.89	3,841.07	-857.74	701.79	632.20	69.60	10.083	
14,000.00	9,787.91	10,867.84	10,304.53	47.46	36.26	-137.03	3,936.50	-860.01	705.65	635.91	69.74	10.118	
14,100.00	9,779.83	10,766.62	10,300.78	47.98	35.81	-137.19	4,037.62	-862.63	709.90	639.98	69.93	10.152	
14,200.00	9,771.74	10,665.94	10,296.20	48.51	35.42	-137.28	4,138.16	-865.54	713.74	643.55	70.19	10.168	
14,300.00	9,763.66	9,779.27	9,771.99	49.04	34.36	-95.97	4,731.49	-860.65	694.12	617.71	76.40	9.085	
14,400.00	9,755.57	9,767.41	9,760.14	49.58	34.34	-94.55	4,731.76	-860.55	624.89	546.75	78.14	7.997	
14,500.00	9,747.48	9,756.34	9,749.07	50.13	34.32	-93.22	4,731.98	-860.45	564.74	484.52	80.22	7.040	
14,600.00	9,739.40	9,745.97	9,738.70	50.68	34.30	-91.97	4,732.16	-860.37	516.89	434.39	82.50	6.265	
14,700.00	9,731.31	9,736.25	9,728.99	51.24	34.29	-90.80	4,732.29	-860.30	485.00	400.40	84.59	5.733	
14,800.00	9,723.23	9,727.12	9,719.85	51.80	34.27	-89.70	4,732.38	-860.23	472.33	386.37	85.96	5.495	
14,811.14	9,722.33	9,726.13	9,718.87	51.86	34.27	-89.58	4,732.39	-860.22	472.20	386.15	86.04	5.488	CC, ES, SF
14,900.00	9,715.14	9,718.52	9,711.25	52.37	34.26	-88.66	4,732.45	-860.17	480.42	394.22	86.21	5.573	
15,000.00	9,707.05	9,710.41	9,703.14	52.94	34.24	-87.68	4,732.49	-860.11	508.30	422.90	85.40	5.952	
15,100.00	9,698.97	9,702.75	9,695.48	53.52	34.23	-86.75	4,732.52	-860.06	553.00	469.04	83.95	6.587	
15,200.00	9,690.88	9,695.50	9,688.23	54.10	34.22	-85.88	4,732.52	-860.02	610.83	528.53	82.30	7.422	
15,300.00	9,682.80	9,688.63	9,681.36	54.69	34.20	-85.05	4,732.51	-859.97	678.46	597.74	80.72	8.405	
15,400.00	9,674.71	9,682.11	9,674.84	55.29	34.19	-84.27	4,732.48	-859.94	753.26	673.92	79.34	9.494	
15,500.00	9,666.63	9,667.00	9,659.74	55.88	34.17	-82.47	4,732.38	-859.85	833.36	755.14	78.23	10.653	
15,600.00	9,658.54	9,667.00	9,659.74	56.48	34.17	-82.47	4,732.38	-859.85	917.23	840.00	77.24	11.875	
15,700.00	9,650.45	9,663.67	9,656.41	57.09	34.15	-82.07	4,732.35	-859.84	1,004.05	927.62	76.44	13.136	
15,800.00	9,642.37	9,656.54	9,649.28	57.70	34.13	-81.22	4,732.28	-859.80	1,093.09	1,017.30	75.79	14.422	
15,900.00	9,634.28	9,649.39	9,642.13	58.31	34.11	-80.38	4,732.22	-859.77	1,183.83	1,108.57	75.26	15.730	
16,000.00	9,626.20	9,642.23	9,634.97	58.93	34.08	-79.54	4,732.15	-859.74	1,275.92	1,201.10	74.82	17.053	
16,100.00	9,618.11	9,635.05	9,627.79	59.55	34.06	-78.70	4,732.09	-859.71	1,369.08	1,294.63	74.46	18.388	
16,200.00	9,610.03	9,627.86	9,620.60	60.17	34.03	-77.86	4,732.02	-859.68	1,463.11	1,388.96	74.15	19.731	
16,300.00	9,601.94	9,620.66	9,613.40	60.80	34.01	-77.03	4,731.96	-859.65	1,557.85	1,483.96	73.90	21.082	
16,400.00	9,593.85	9,613.44	9,606.18	61.43	33.98	-76.20	4,731.89	-859.62	1,653.18	1,579.50	73.68	22.437	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) BLACK JACK STATE 001 - Verticals - Surveys

Survey Program: 0-MWD OWSG Rev5												Offset Site Error: 0.00 usft				
Reference				Offset		Semi Major Axis				Offset Wellbore Centre		Rule Assigned:			Offset Well Error: 0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
21,700.00	9,165.31	9,141.05	9,126.43	97.77	33.55	92.31	12,714.67	766.15	1,656.46	1,545.64	110.82	14.947				
21,800.00	9,157.22	9,134.88	9,120.26	98.49	33.54	92.03	12,714.60	766.02	1,591.96	1,478.56	113.40	14.039				
21,900.00	9,149.14	9,132.01	9,117.39	99.21	33.53	91.89	12,714.55	765.96	1,531.25	1,415.18	116.07	13.192				
22,000.00	9,141.05	9,122.48	9,107.86	99.93	33.51	91.46	12,714.46	765.77	1,474.81	1,356.09	118.72	12.423				
22,100.00	9,132.97	9,113.49	9,098.87	100.65	33.50	91.04	12,714.36	765.59	1,423.13	1,301.77	121.35	11.727				
22,200.00	9,124.88	9,105.00	9,090.38	101.37	33.48	90.65	12,714.25	765.42	1,376.73	1,252.83	123.90	11.111				
22,300.00	9,116.79	9,096.96	9,082.35	102.09	33.46	90.28	12,714.12	765.25	1,336.18	1,209.88	126.30	10.580				
22,400.00	9,108.71	9,089.35	9,074.75	102.82	33.45	89.93	12,713.99	765.08	1,302.02	1,173.57	128.45	10.136				
22,500.00	9,100.62	9,082.13	9,067.53	103.54	33.43	89.59	12,713.86	764.93	1,274.77	1,144.49	130.28	9.785				
22,600.00	9,092.54	9,075.27	9,060.67	104.27	33.42	89.28	12,713.72	764.78	1,254.89	1,123.18	131.70	9.528				
22,700.00	9,084.45	9,068.74	9,054.15	104.99	33.41	88.98	12,713.58	764.63	1,242.73	1,110.07	132.66	9.368				
22,800.00	9,076.37	9,062.53	9,047.94	105.72	33.40	88.69	12,713.43	764.49	1,238.51	1,105.40	133.11	9.304				
22,802.45	9,076.17	9,062.38	9,047.79	105.74	33.40	88.68	12,713.43	764.49	1,238.51	1,105.39	133.12	9.304	CC, ES, SF			
22,900.00	9,068.28	9,056.60	9,042.01	106.45	33.38	88.42	12,713.28	764.36	1,242.34	1,109.29	133.05	9.337				
23,000.00	9,060.19	9,050.94	9,036.36	107.18	33.37	88.15	12,713.14	764.23	1,254.12	1,121.63	132.49	9.466				
23,100.00	9,052.11	9,045.54	9,030.95	107.90	33.36	87.90	12,712.99	764.10	1,273.64	1,142.16	131.49	9.686				
23,200.00	9,044.02	9,040.37	9,025.79	108.63	33.35	87.67	12,712.84	763.98	1,300.56	1,170.46	130.10	9.996				
23,300.00	9,035.94	9,035.41	9,020.84	109.36	33.34	87.44	12,712.70	763.86	1,334.43	1,206.01	128.42	10.391				
23,400.00	9,027.85	9,030.67	9,016.10	110.09	33.33	87.22	12,712.55	763.75	1,374.74	1,248.23	126.51	10.867				
23,500.00	9,019.76	9,027.00	9,012.43	110.82	33.33	87.05	12,712.44	763.66	1,420.93	1,296.48	124.45	11.418				
23,600.00	9,011.68	9,021.49	9,006.93	111.56	33.31	86.79	12,712.26	763.52	1,472.47	1,350.15	122.31	12.039				
23,700.00	9,003.59	9,017.05	9,002.48	112.29	33.30	86.59	12,712.11	763.41	1,528.80	1,408.65	120.14	12.725				
23,800.00	8,995.51	9,012.73	8,998.18	113.02	33.29	86.39	12,711.96	763.31	1,589.41	1,471.43	117.98	13.471				
23,900.00	8,987.42	9,008.55	8,994.00	113.75	33.28	86.20	12,711.82	763.20	1,653.85	1,537.97	115.88	14.273				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) BLACK JACK STATE 002 - Verticals - Surveys

Survey Program: 0-3_INC-Only										Rule Assigned:				Offset Site Error:
Reference		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)						0.00 usft
21,300.00	9,197.65	9,219.95	9,200.94	94.90	164.16	-97.87	12,564.46	-1,296.34	1,597.41	1,374.01	223.40	7.150		
21,400.00	9,189.57	9,210.24	9,191.23	95.61	163.97	-97.21	12,564.48	-1,296.34	1,512.92	1,287.51	225.41	6.712		
21,500.00	9,181.48	9,200.78	9,181.78	96.33	163.77	-96.56	12,564.48	-1,296.34	1,430.37	1,202.67	227.69	6.282		
21,600.00	9,173.39	9,192.39	9,173.39	97.05	163.60	-95.99	12,563.91	-1,296.34	1,349.68	1,119.36	230.32	5.860		
21,700.00	9,165.31	9,184.31	9,165.31	97.77	163.44	-95.43	12,563.91	-1,296.34	1,272.20	1,038.94	233.26	5.454		
21,800.00	9,157.22	9,176.22	9,157.22	98.49	163.28	-94.88	12,563.91	-1,296.34	1,198.01	961.48	236.53	5.065		
21,900.00	9,149.14	9,168.14	9,149.14	99.21	163.11	-94.32	12,563.91	-1,296.34	1,127.75	887.61	240.14	4.696		
22,000.00	9,141.05	9,160.05	9,141.05	99.93	162.95	-93.76	12,563.91	-1,296.34	1,062.22	818.16	244.06	4.352		
22,100.00	9,132.97	9,151.96	9,132.97	100.65	162.78	-93.20	12,563.91	-1,296.34	1,002.32	754.11	248.21	4.038		
22,200.00	9,124.88	9,143.88	9,124.88	101.37	162.62	-92.64	12,563.91	-1,296.34	949.13	696.66	252.48	3.759		
22,300.00	9,116.79	9,135.79	9,116.79	102.09	162.45	-92.09	12,563.91	-1,296.34	903.85	647.19	256.65	3.522		
22,400.00	9,108.71	9,127.71	9,108.71	102.82	162.29	-91.53	12,563.91	-1,296.34	867.69	607.21	260.48	3.331		
22,500.00	9,100.62	9,119.62	9,100.62	103.54	162.13	-90.97	12,563.91	-1,296.34	841.85	578.22	263.63	3.193		
22,600.00	9,092.54	9,111.54	9,092.54	104.27	161.96	-90.41	12,563.91	-1,296.34	827.28	561.48	265.80	3.112		
22,672.36	9,086.69	9,105.68	9,086.69	104.79	161.84	-90.00	12,563.91	-1,296.34	824.13	557.50	266.63	3.091	CC, ES, SF	
22,700.00	9,084.45	9,103.45	9,084.45	104.99	161.80	-89.85	12,563.91	-1,296.34	824.59	557.83	266.77	3.091		
22,800.00	9,076.37	9,093.95	9,075.01	105.72	161.60	-89.19	12,563.96	-1,296.34	833.89	567.45	266.44	3.130		
22,900.00	9,068.28	9,084.98	9,066.04	106.45	161.43	-88.57	12,564.04	-1,296.34	854.77	589.83	264.93	3.226		
23,000.00	9,060.19	9,076.12	9,057.18	107.18	161.25	-87.96	12,564.13	-1,296.34	886.40	623.94	262.46	3.377		
23,100.00	9,052.11	9,067.38	9,048.43	107.90	161.07	-87.35	12,564.20	-1,296.34	927.71	668.38	259.33	3.577		
23,200.00	9,044.02	9,058.74	9,039.80	108.63	160.90	-86.76	12,564.27	-1,296.34	977.46	721.65	255.80	3.821		
23,300.00	9,035.94	9,050.20	9,031.27	109.36	160.73	-86.17	12,564.34	-1,296.34	1,034.43	782.30	252.13	4.103		
23,400.00	9,027.85	9,041.78	9,022.84	110.09	160.56	-85.59	12,564.40	-1,296.34	1,097.50	849.02	248.49	4.417		
23,500.00	9,019.76	9,033.45	9,014.51	110.82	160.40	-85.01	12,564.46	-1,296.34	1,165.69	920.71	244.99	4.758		
23,600.00	9,011.68	9,025.23	9,006.29	111.56	160.23	-84.45	12,564.50	-1,296.34	1,238.15	996.46	241.69	5.123		
23,700.00	9,003.59	9,017.10	8,998.17	112.29	160.07	-83.89	12,564.55	-1,296.34	1,314.18	1,075.53	238.65	5.507		
23,800.00	8,995.51	9,009.08	8,990.14	113.02	159.91	-83.34	12,564.59	-1,296.34	1,393.19	1,157.34	235.85	5.907		
23,900.00	8,987.42	9,001.14	8,982.21	113.75	159.75	-82.80	12,564.63	-1,296.34	1,474.70	1,241.40	233.30	6.321		
24,000.00	8,979.34	8,993.31	8,974.37	114.49	159.59	-82.27	12,564.66	-1,296.34	1,558.32	1,327.34	230.98	6.746		
24,100.00	8,971.25	8,985.56	8,966.63	115.22	159.44	-81.74	12,564.68	-1,296.34	1,643.73	1,414.85	228.88	7.182		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) BLACK JACK STATE 003 - Verticals - Surveys

Survey Program: 243-3_INC-Only, 1797-MWD OWSG Rev5, 4047-INC-ONLY, 4548-MWD OWSG Rev5										Rule Assigned:		Offset Site Error:	0.00 usft
Reference										Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
				Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,300.00	9,278.51	9,291.06	9,278.32	87.78	46.97	94.44	11,335.63	699.24	1,607.59	1,491.27	116.32	13.820	
20,400.00	9,270.42	9,279.55	9,266.81	88.49	46.96	93.88	11,335.60	699.25	1,540.13	1,421.32	118.81	12.963	
20,500.00	9,262.34	9,268.42	9,255.68	89.20	46.95	93.33	11,335.55	699.24	1,476.30	1,354.87	121.43	12.157	
20,600.00	9,254.25	9,257.67	9,244.93	89.91	46.94	92.80	11,335.49	699.20	1,416.61	1,292.44	124.17	11.409	
20,700.00	9,246.17	9,247.27	9,234.53	90.62	46.93	92.29	11,335.42	699.16	1,361.59	1,234.62	126.97	10.724	
20,800.00	9,238.08	9,237.21	9,224.47	91.33	46.92	91.79	11,335.34	699.09	1,311.84	1,182.05	129.79	10.108	
20,900.00	9,229.99	9,227.47	9,214.73	92.04	46.91	91.31	11,335.25	699.02	1,267.98	1,135.44	132.54	9.567	
21,000.00	9,221.91	9,218.03	9,205.30	92.75	46.90	90.85	11,335.16	698.93	1,230.65	1,095.50	135.15	9.106	
21,100.00	9,213.82	9,208.89	9,196.15	93.47	46.89	90.40	11,335.05	698.82	1,200.45	1,062.95	137.50	8.731	
21,200.00	9,205.74	9,200.02	9,187.29	94.18	46.89	89.96	11,334.94	698.71	1,177.94	1,038.45	139.49	8.444	
21,300.00	9,197.65	9,191.43	9,178.69	94.90	46.88	89.53	11,334.82	698.59	1,163.57	1,022.54	141.04	8.250	
21,400.00	9,189.57	9,183.08	9,170.35	95.61	46.87	89.12	11,334.70	698.46	1,157.64	1,015.59	142.05	8.150	
21,419.21	9,188.01	9,181.51	9,168.78	95.75	46.87	89.04	11,334.68	698.44	1,157.48	1,015.30	142.18	8.141	CC, ES, SF
21,500.00	9,181.48	9,174.98	9,162.25	96.33	46.86	88.72	11,334.58	698.32	1,160.28	1,017.79	142.49	8.143	
21,600.00	9,173.39	9,167.11	9,154.39	97.05	46.85	88.33	11,334.45	698.18	1,171.44	1,029.08	142.36	8.228	
21,700.00	9,165.31	9,159.47	9,146.74	97.77	46.85	87.96	11,334.31	698.03	1,190.88	1,049.18	141.70	8.404	
21,800.00	9,157.22	9,152.03	9,139.31	98.49	46.84	87.59	11,334.18	697.88	1,218.21	1,077.65	140.56	8.667	
21,900.00	9,149.14	9,144.81	9,132.09	99.21	46.83	87.23	11,334.04	697.72	1,252.90	1,113.86	139.04	9.011	
22,000.00	9,141.05	9,137.78	9,125.06	99.93	46.82	86.89	11,333.90	697.56	1,294.38	1,157.15	137.23	9.432	
22,100.00	9,132.97	9,130.93	9,118.22	100.65	46.82	86.55	11,333.75	697.39	1,342.00	1,206.78	135.22	9.924	
22,200.00	9,124.88	9,124.27	9,111.57	101.37	46.81	86.22	11,333.61	697.22	1,395.15	1,262.05	133.11	10.481	
22,300.00	9,116.79	9,117.79	9,105.08	102.09	46.80	85.90	11,333.46	697.05	1,453.22	1,322.28	130.94	11.098	
22,400.00	9,108.71	9,111.47	9,098.77	102.82	46.80	85.59	11,333.31	696.87	1,515.65	1,386.86	128.79	11.769	
22,500.00	9,100.62	9,105.31	9,092.62	103.54	46.79	85.28	11,333.17	696.69	1,581.91	1,455.23	126.68	12.487	
22,600.00	9,092.54	9,099.31	9,086.62	104.27	46.79	84.99	11,333.02	696.52	1,651.56	1,526.90	124.65	13.249	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) IRONHOUSE 19 STATE COM 002H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Survey Program: 100-r.5 GYRO-NS, 9214-MWD OWSG Rev5

Offset Well Error: 0.00 usft

Reference		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
14,300.00	9,763.66	9,339.00	9,338.87	49.04	32.67	72.97	5,442.00	669.33	1,661.34	1,588.36	72.98	22.765	
14,400.00	9,755.57	9,339.00	9,338.87	49.58	32.67	72.97	5,442.00	669.33	1,588.55	1,514.79	73.76	21.535	
14,500.00	9,747.48	9,339.00	9,338.87	50.13	32.67	72.97	5,442.00	669.33	1,518.86	1,444.22	74.64	20.348	
14,600.00	9,739.40	9,339.00	9,338.87	50.68	32.67	72.97	5,442.00	669.33	1,452.72	1,377.10	75.62	19.211	
14,700.00	9,731.31	9,356.73	9,355.39	51.24	32.68	73.82	5,448.39	669.88	1,390.24	1,313.44	76.80	18.102	
14,800.00	9,723.23	9,370.00	9,367.59	51.80	32.68	74.45	5,453.60	670.37	1,332.29	1,254.24	78.04	17.071	
14,900.00	9,715.14	9,370.00	9,367.59	52.37	32.68	74.45	5,453.60	670.37	1,279.29	1,200.01	79.28	16.135	
15,000.00	9,707.05	9,390.15	9,385.79	52.94	32.70	75.41	5,462.20	671.22	1,231.72	1,151.01	80.71	15.262	
15,100.00	9,698.97	9,402.00	9,396.30	53.52	32.70	75.97	5,467.64	671.77	1,190.28	1,108.18	82.10	14.498	
15,200.00	9,690.88	9,433.00	9,423.05	54.10	32.72	77.40	5,483.24	673.08	1,155.31	1,071.72	83.59	13.822	
15,300.00	9,682.80	9,459.05	9,444.61	54.69	32.74	78.57	5,497.84	673.97	1,127.06	1,042.09	84.97	13.264	
15,400.00	9,674.71	9,498.94	9,475.71	55.29	32.77	80.29	5,522.77	674.94	1,105.57	1,019.27	86.30	12.811	
15,500.00	9,666.63	9,565.21	9,521.10	55.88	32.82	82.87	5,570.93	674.66	1,089.86	1,002.30	87.56	12.447	
15,600.00	9,658.54	9,623.00	9,554.62	56.48	32.85	84.83	5,617.94	672.93	1,078.58	989.95	88.63	12.170	
15,700.00	9,650.45	9,672.92	9,579.38	57.09	32.88	86.33	5,661.27	672.34	1,072.95	983.40	89.55	11.982	
15,800.00	9,642.37	9,793.81	9,626.06	57.70	32.97	89.29	5,772.58	669.51	1,069.43	978.80	90.63	11.800	
15,900.00	9,634.28	9,871.26	9,646.41	58.31	33.22	90.70	5,847.24	667.19	1,067.26	975.71	91.55	11.657	
16,000.00	9,626.20	9,993.47	9,667.41	58.93	33.71	92.36	5,967.45	662.45	1,064.99	972.29	92.70	11.489	
16,100.00	9,618.11	10,091.49	9,671.18	59.55	34.20	92.99	6,065.25	658.32	1,062.39	968.58	93.81	11.325	
16,200.00	9,610.03	10,190.46	9,667.75	60.17	34.77	93.25	6,164.09	654.64	1,059.99	964.99	95.00	11.158	
16,300.00	9,601.94	10,319.51	9,660.19	60.80	35.62	93.42	6,292.71	647.57	1,055.59	959.13	96.46	10.943	
16,400.00	9,593.85	10,444.84	9,651.42	61.43	36.55	93.52	6,417.42	638.76	1,049.84	951.87	97.97	10.716	
16,500.00	9,585.77	10,551.78	9,642.27	62.06	37.41	93.52	6,523.50	628.81	1,041.57	942.12	99.45	10.473	
16,600.00	9,577.68	10,647.19	9,633.25	62.70	38.24	93.47	6,618.09	620.12	1,033.45	932.53	100.92	10.240	
16,700.00	9,569.60	10,740.42	9,624.06	63.34	39.09	93.40	6,710.51	612.14	1,025.86	923.43	102.43	10.015	
16,800.00	9,561.51	10,831.78	9,614.84	63.98	39.97	93.32	6,801.13	604.99	1,018.99	915.02	103.97	9.801	
16,900.00	9,553.43	10,924.93	9,605.25	64.63	40.90	93.22	6,893.55	598.42	1,012.88	907.33	105.55	9.596	
17,000.00	9,545.34	11,025.45	9,594.65	65.28	41.95	93.09	6,993.28	591.67	1,007.11	899.86	107.25	9.391	
17,100.00	9,537.25	11,120.21	9,584.38	65.93	42.97	92.96	7,087.28	585.45	1,001.48	892.55	108.93	9.194	
17,200.00	9,529.17	11,215.84	9,574.56	66.58	44.04	92.85	7,182.23	579.63	996.35	885.69	110.65	9.004	
17,300.00	9,521.08	11,307.24	9,566.17	67.24	45.08	92.81	7,273.09	574.57	991.83	879.47	112.37	8.827	
17,400.00	9,513.00	11,396.15	9,557.78	67.89	46.13	92.74	7,361.52	570.54	988.31	874.23	114.08	8.664	
17,500.00	9,504.91	11,504.41	9,547.60	68.55	47.43	92.67	7,469.20	565.97	985.11	869.08	116.03	8.490	
17,600.00	9,496.82	11,620.09	9,537.83	69.22	48.86	92.66	7,584.26	559.20	980.28	862.18	118.10	8.300	
17,700.00	9,488.74	11,713.77	9,530.38	69.88	50.05	92.68	7,677.48	553.49	975.27	855.30	119.97	8.130	
17,800.00	9,480.65	11,813.47	9,522.52	70.55	51.33	92.70	7,776.69	547.58	970.42	848.51	121.92	7.960	
17,900.00	9,472.57	11,906.22	9,515.40	71.22	52.55	92.74	7,869.03	542.50	966.04	842.23	123.81	7.803	
18,000.00	9,464.48	12,006.56	9,507.98	71.89	53.88	92.79	7,968.97	537.67	962.33	836.52	125.81	7.649	
18,100.00	9,456.40	12,120.77	9,498.99	72.56	55.42	92.82	8,082.60	530.48	957.06	829.06	128.00	7.477	
18,200.00	9,448.31	12,219.14	9,490.23	73.24	56.77	92.79	8,180.37	524.16	951.68	821.66	130.02	7.320	
18,300.00	9,440.22	12,314.87	9,481.24	73.92	58.09	92.73	8,275.48	518.11	946.37	814.34	132.03	7.168	
18,400.00	9,432.14	12,412.23	9,472.57	74.60	59.45	92.69	8,372.31	512.57	941.71	807.64	134.07	7.024	
18,500.00	9,424.05	12,513.84	9,462.74	75.28	60.88	92.60	8,473.27	506.67	936.89	800.72	136.18	6.880	
18,600.00	9,415.97	12,617.25	9,451.72	75.96	62.35	92.45	8,575.90	500.50	931.89	793.57	138.32	6.737	
18,700.00	9,407.88	12,708.75	9,441.95	76.64	63.66	92.32	8,666.71	495.06	926.92	786.59	140.33	6.605	
18,800.00	9,399.80	12,804.21	9,433.01	77.33	65.04	92.25	8,761.63	490.32	922.97	780.57	142.40	6.482	
18,900.00	9,391.71	12,906.37	9,422.89	78.02	66.52	92.14	8,863.17	485.27	919.03	774.47	144.56	6.357	
19,000.00	9,383.62	13,008.52	9,415.01	78.70	68.02	92.18	8,964.86	479.84	914.80	768.05	146.75	6.234	
19,100.00	9,375.54	13,111.74	9,408.22	79.39	69.54	92.29	9,067.69	474.01	910.28	761.33	148.95	6.111	
19,200.00	9,367.45	13,214.20	9,403.26	80.09	71.07	92.51	9,169.84	467.81	905.44	754.27	151.16	5.990	
19,300.00	9,359.37	13,316.27	9,398.13	80.78	72.60	92.72	9,271.58	461.39	900.36	746.99	153.38	5.870	
19,400.00	9,351.28	13,420.72	9,392.27	81.47	74.17	92.91	9,375.62	454.35	894.82	739.19	155.62	5.750	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) IRONHOUSE 19 STATE COM 002H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Survey Program: 100-r.5 GYRO-NS, 9214-MWD OWSG Rev5

Rule Assigned:

Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
19,500.00	9,343.20	13,519.10	9,385.98	82.17	75.66	93.03	9,473.57	447.66	889.18	731.37	157.81	5.634	
19,600.00	9,335.11	13,621.71	9,378.24	82.87	77.22	93.09	9,575.66	440.80	883.61	723.55	160.05	5.521	
19,700.00	9,327.02	13,724.83	9,369.61	83.57	78.79	93.09	9,678.15	433.28	877.37	715.06	162.31	5.406	
19,800.00	9,318.94	13,823.21	9,360.59	84.27	80.30	93.04	9,775.86	426.26	871.24	706.72	164.52	5.296	
19,865.76	9,313.62	13,836.00	9,359.41	84.73	80.49	93.03	9,788.56	425.35	868.85	703.67	165.18	5.260	CC, ES, SF
19,900.00	9,310.85	13,836.00	9,359.41	84.97	80.49	93.03	9,788.56	425.35	869.53	704.37	165.16	5.265	
20,000.00	9,302.77	13,836.00	9,359.41	85.67	80.49	93.03	9,788.56	425.35	879.16	715.22	163.94	5.363	
20,100.00	9,294.68	13,836.00	9,359.41	86.37	80.49	93.03	9,788.56	425.35	899.87	738.74	161.14	5.585	
20,200.00	9,286.60	13,836.00	9,359.41	87.08	80.49	93.03	9,788.56	425.35	930.92	773.84	157.09	5.926	
20,300.00	9,278.51	13,836.00	9,359.41	87.78	80.49	93.03	9,788.56	425.35	971.32	819.14	152.18	6.383	
20,400.00	9,270.42	13,836.00	9,359.41	88.49	80.49	93.03	9,788.56	425.35	1,019.96	873.15	146.81	6.948	
20,500.00	9,262.34	13,836.00	9,359.41	89.20	80.49	93.03	9,788.56	425.35	1,075.72	934.43	141.29	7.614	
20,600.00	9,254.25	13,836.00	9,359.41	89.91	80.49	93.03	9,788.56	425.35	1,137.55	1,001.68	135.86	8.373	
20,700.00	9,246.17	13,836.00	9,359.41	90.62	80.49	93.03	9,788.56	425.35	1,204.52	1,073.82	130.69	9.216	
20,800.00	9,238.08	13,836.00	9,359.41	91.33	80.49	93.03	9,788.56	425.35	1,275.82	1,149.95	125.86	10.136	
20,900.00	9,229.99	13,836.00	9,359.41	92.04	80.49	93.03	9,788.56	425.35	1,350.76	1,229.34	121.42	11.124	
21,000.00	9,221.91	13,836.00	9,359.41	92.75	80.49	93.03	9,788.56	425.35	1,428.78	1,311.40	117.38	12.172	
21,100.00	9,213.82	13,836.00	9,359.41	93.47	80.49	93.03	9,788.56	425.35	1,509.39	1,395.67	113.72	13.273	
21,200.00	9,205.74	13,836.00	9,359.41	94.18	80.49	93.03	9,788.56	425.35	1,592.20	1,481.77	110.43	14.418	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) IRONHOUSE 19 STATE COM 003H - Horizontal - PRODUCING - Surveys

Survey Program: 100-r.5 GYRO-NS, 8272-3_MWD+HRGM

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Reference		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
13,800.00	9,804.08	9,296.00	9,280.88	46.43	29.52	-19.97	5,259.45	-538.19	1,624.48	1,561.30	63.19	25.709	
13,900.00	9,796.00	9,296.00	9,280.88	46.94	29.52	-19.97	5,259.45	-538.19	1,528.16	1,465.03	63.13	24.207	
14,000.00	9,787.91	9,296.00	9,280.88	47.46	29.52	-19.97	5,259.45	-538.19	1,432.34	1,369.27	63.07	22.712	
14,100.00	9,779.83	9,310.32	9,294.28	47.98	29.53	-20.82	5,264.24	-539.75	1,336.79	1,273.69	63.10	21.186	
14,200.00	9,771.74	9,327.00	9,309.67	48.51	29.54	-21.87	5,270.43	-541.58	1,242.10	1,178.94	63.16	19.667	
14,300.00	9,763.66	9,327.00	9,309.67	49.04	29.54	-21.87	5,270.43	-541.58	1,147.78	1,084.68	63.10	18.190	
14,400.00	9,755.57	9,337.31	9,319.07	49.58	29.54	-22.55	5,274.52	-542.67	1,054.40	991.27	63.13	16.702	
14,500.00	9,747.48	9,359.00	9,338.70	50.13	29.56	-24.03	5,283.52	-544.71	961.88	898.61	63.27	15.203	
14,600.00	9,739.40	9,370.21	9,348.75	50.68	29.56	-24.84	5,288.39	-545.66	870.28	806.92	63.36	13.736	
14,700.00	9,731.31	9,390.00	9,366.32	51.24	29.58	-26.33	5,297.35	-547.27	779.97	716.39	63.57	12.269	
14,800.00	9,723.23	9,407.53	9,381.65	51.80	29.59	-27.76	5,305.73	-548.63	691.25	627.40	63.85	10.826	
14,900.00	9,715.14	9,422.00	9,394.13	52.37	29.60	-29.00	5,312.98	-549.74	604.75	540.51	64.24	9.414	
15,000.00	9,707.05	9,453.00	9,420.24	52.94	29.62	-31.89	5,329.54	-551.94	520.89	455.90	64.99	8.015	
15,100.00	9,698.97	9,485.00	9,446.38	53.52	29.65	-35.22	5,347.89	-553.90	440.60	374.48	66.12	6.664	
15,200.00	9,690.88	9,517.00	9,471.62	54.10	29.67	-38.95	5,367.48	-555.55	365.23	297.37	67.86	5.382	
15,300.00	9,682.80	9,564.66	9,507.24	54.69	29.72	-45.33	5,399.05	-557.80	296.95	226.24	70.72	4.199	
15,400.00	9,674.71	9,620.66	9,547.14	55.29	29.80	-54.48	5,438.24	-560.68	238.40	163.22	75.19	3.171	
15,500.00	9,666.63	9,675.00	9,584.63	55.88	29.88	-65.39	5,477.34	-564.73	195.43	114.12	81.31	2.403	
15,600.00	9,658.54	9,738.02	9,622.92	56.48	30.00	-78.62	5,526.95	-571.05	178.16	92.05	86.10	2.069	
15,622.87	9,656.69	9,757.44	9,633.67	56.62	30.05	-82.53	5,543.01	-572.90	177.67	91.05	86.63	2.051	CC, ES, SF
15,700.00	9,650.45	9,825.71	9,668.88	57.09	30.21	-95.29	5,601.29	-577.75	182.47	95.75	86.73	2.104	
15,800.00	9,642.37	9,922.82	9,706.60	57.70	30.50	-108.33	5,690.33	-583.99	198.90	113.74	85.16	2.336	
15,900.00	9,634.28	10,026.95	9,730.34	58.31	30.88	-115.86	5,791.34	-591.96	217.21	132.91	84.30	2.577	
16,000.00	9,626.20	10,140.15	9,741.34	58.93	31.38	-119.51	5,903.56	-600.94	231.68	147.05	84.63	2.738	
16,100.00	9,618.11	10,241.90	9,742.55	59.55	31.90	-120.64	6,004.98	-609.04	242.29	156.88	85.41	2.837	
16,200.00	9,610.03	10,347.49	9,739.25	60.17	32.50	-120.72	6,110.08	-618.25	251.39	164.75	86.65	2.901	
16,300.00	9,601.94	10,448.06	9,731.22	60.80	33.13	-119.72	6,209.83	-628.32	259.17	171.00	88.17	2.939	
16,400.00	9,593.85	10,547.93	9,721.81	61.43	33.82	-118.45	6,308.69	-638.86	266.80	176.99	89.81	2.971	
16,500.00	9,585.77	10,646.98	9,712.33	62.06	34.54	-117.22	6,406.72	-649.41	274.58	183.11	91.47	3.002	
16,600.00	9,577.68	10,750.06	9,702.63	62.70	35.35	-116.05	6,508.75	-660.37	282.55	189.31	93.25	3.030	
16,700.00	9,569.60	10,858.99	9,689.68	63.34	36.24	-114.63	6,616.55	-669.19	287.22	192.01	95.21	3.017	
16,800.00	9,561.51	10,960.89	9,676.49	63.98	37.12	-113.24	6,717.33	-676.30	290.65	193.57	97.08	2.994	
16,900.00	9,553.43	11,063.71	9,662.47	64.63	38.04	-111.79	6,818.99	-682.82	293.40	194.38	99.01	2.963	
17,000.00	9,545.34	11,165.69	9,649.52	65.28	38.98	-110.66	6,920.02	-687.75	295.23	194.36	100.87	2.927	
17,100.00	9,537.25	11,267.99	9,636.51	65.93	39.96	-109.58	7,021.39	-692.00	296.54	193.80	102.74	2.886	
17,200.00	9,529.17	11,365.75	9,627.29	66.58	40.92	-109.23	7,118.67	-694.68	297.67	193.26	104.40	2.851	
17,300.00	9,521.08	11,464.45	9,619.30	67.24	41.92	-109.11	7,217.01	-697.73	299.57	193.53	106.05	2.825	
17,400.00	9,513.00	11,561.14	9,610.12	67.89	42.92	-108.67	7,313.17	-701.87	302.16	194.38	107.78	2.803	
17,500.00	9,504.91	11,661.10	9,600.79	68.55	43.99	-108.21	7,412.56	-706.76	305.39	195.80	109.58	2.787	
17,600.00	9,496.82	11,762.48	9,592.47	69.22	45.09	-108.01	7,513.52	-711.04	308.34	196.98	111.37	2.769	
17,700.00	9,488.74	11,864.09	9,583.59	69.88	46.21	-107.73	7,614.66	-714.88	310.72	197.52	113.19	2.745	
17,800.00	9,480.65	11,960.81	9,576.65	70.55	47.30	-107.75	7,711.07	-718.40	313.44	198.54	114.90	2.728	
17,900.00	9,472.57	12,057.20	9,571.47	71.22	48.40	-108.04	7,807.24	-722.31	317.11	200.58	116.53	2.721	
18,000.00	9,464.48	12,148.94	9,567.33	71.89	49.47	-108.35	7,898.72	-727.72	322.81	204.74	118.07	2.734	
18,100.00	9,456.40	12,245.47	9,562.32	72.56	50.61	-108.44	7,994.81	-735.50	330.35	210.57	119.78	2.758	
18,200.00	9,448.31	12,349.67	9,555.55	73.24	51.86	-108.31	8,098.44	-743.91	337.49	215.74	121.75	2.772	
18,300.00	9,440.22	12,448.64	9,547.86	73.92	53.07	-108.02	8,196.82	-751.43	343.79	220.13	123.66	2.780	
18,400.00	9,432.14	12,537.58	9,541.42	74.60	54.16	-107.76	8,285.14	-759.73	351.93	226.62	125.31	2.809	
18,500.00	9,424.05	12,622.46	9,536.79	75.28	55.22	-107.60	8,369.17	-770.70	363.98	237.27	126.71	2.873	
18,600.00	9,415.97	12,718.43	9,531.18	75.96	56.44	-107.27	8,463.83	-785.44	378.28	249.70	128.57	2.942	
18,700.00	9,407.88	12,816.82	9,523.88	76.64	57.70	-106.69	8,560.63	-801.49	393.05	262.42	130.63	3.009	
18,800.00	9,399.80	12,915.68	9,515.53	77.33	58.98	-106.01	8,657.77	-817.85	407.80	275.05	132.75	3.072	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) IRONHOUSE 19 STATE COM 003H - Horizontal - PRODUCING - Surveys

Survey Program: 100-r.5 GYRO-NS, 8272-3_MWD+HRGM							Rule Assigned:					Offset Well Error:		0.00 usft
Reference		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			Minimum Separation (usft)	
18,900.00	9,391.71	13,012.23	9,506.43	78.02	60.24	-105.23	8,752.44	-834.50	423.02	288.21	134.82	3.138		
19,000.00	9,383.62	13,117.84	9,495.64	78.70	61.62	-104.33	8,855.89	-852.78	438.23	300.94	137.29	3.192		
19,100.00	9,375.54	13,231.44	9,483.85	79.39	63.12	-103.54	8,967.75	-868.59	450.09	310.14	139.96	3.216		
19,200.00	9,367.45	13,339.71	9,474.81	80.09	64.54	-103.17	9,074.95	-880.88	460.05	317.78	142.27	3.234		
19,300.00	9,359.37	13,444.05	9,466.04	80.78	65.92	-102.88	9,178.43	-890.87	468.26	323.81	144.45	3.242		
19,400.00	9,351.28	13,545.45	9,455.40	81.47	67.26	-102.36	9,278.81	-900.48	475.94	329.32	146.61	3.246		
19,500.00	9,343.20	13,658.35	9,442.15	82.17	68.75	-101.66	9,390.52	-909.87	482.29	333.26	149.03	3.236		
19,600.00	9,335.11	13,762.31	9,429.16	82.87	70.13	-101.00	9,493.46	-916.55	486.68	335.42	151.26	3.218		
19,700.00	9,327.02	13,861.20	9,414.30	83.57	71.43	-100.08	9,590.99	-923.12	490.90	337.43	153.47	3.199		
19,800.00	9,318.94	13,963.01	9,396.33	84.27	72.78	-98.84	9,690.96	-930.12	495.08	339.29	155.79	3.178		
19,900.00	9,310.85	14,036.00	9,381.96	84.97	73.75	-97.79	9,762.35	-935.11	499.90	342.44	157.46	3.175		
20,000.00	9,302.77	14,036.00	9,381.96	85.67	73.75	-97.79	9,762.35	-935.11	519.06	364.66	154.40	3.362		
20,100.00	9,294.68	14,036.00	9,381.96	86.37	73.75	-97.79	9,762.35	-935.11	555.83	408.03	147.80	3.761		
20,200.00	9,286.60	14,036.00	9,381.96	87.08	73.75	-97.79	9,762.35	-935.11	607.02	467.49	139.52	4.351		
20,300.00	9,278.51	14,036.00	9,381.96	87.78	73.75	-97.79	9,762.35	-935.11	669.32	538.25	131.08	5.106		
20,400.00	9,270.42	14,036.00	9,381.96	88.49	73.75	-97.79	9,762.35	-935.11	739.94	616.66	123.28	6.002		
20,500.00	9,262.34	14,036.00	9,381.96	89.20	73.75	-97.79	9,762.35	-935.11	816.73	700.27	116.45	7.013		
20,600.00	9,254.25	14,036.00	9,381.96	89.91	73.75	-97.79	9,762.35	-935.11	898.09	787.46	110.63	8.118		
20,700.00	9,246.17	14,036.00	9,381.96	90.62	73.75	-97.79	9,762.35	-935.11	982.90	877.17	105.73	9.296		
20,800.00	9,238.08	14,036.00	9,381.96	91.33	73.75	-97.79	9,762.35	-935.11	1,070.33	968.71	101.62	10.532		
20,900.00	9,229.99	14,036.00	9,381.96	92.04	73.75	-97.79	9,762.35	-935.11	1,159.80	1,061.63	98.17	11.814		
21,000.00	9,221.91	14,036.00	9,381.96	92.75	73.75	-97.79	9,762.35	-935.11	1,250.86	1,155.59	95.27	13.129		
21,100.00	9,213.82	14,036.00	9,381.96	93.47	73.75	-97.79	9,762.35	-935.11	1,343.20	1,250.38	92.82	14.471		
21,200.00	9,205.74	14,036.00	9,381.96	94.18	73.75	-97.79	9,762.35	-935.11	1,436.56	1,345.82	90.74	15.832		
21,300.00	9,197.65	14,036.00	9,381.96	94.90	73.75	-97.79	9,762.35	-935.11	1,530.76	1,441.80	88.96	17.207		
21,400.00	9,189.57	14,036.00	9,381.96	95.61	73.75	-97.79	9,762.35	-935.11	1,625.66	1,538.22	87.43	18.593		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) LEA SOUTHEAST STATE 1 P & A - Vertical - Surveys

Survey Program: 0-3_INC-Only		Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,100.00	9,971.30	9,970.49	9,971.30	35.04	219.85	-33.60			1,600.96	-857.81	1,631.23	1,376.45	254.78	6.403	
10,200.00	10,012.28	10,011.47	10,012.28	35.19	220.87	-46.31			1,600.96	-857.81	1,544.85	1,288.96	255.89	6.037	
10,300.00	10,038.24	10,038.46	10,039.26	35.31	221.55	-60.45			1,601.81	-857.81	1,454.74	1,198.13	256.61	5.669	
10,400.00	10,054.93	10,057.51	10,058.30	35.42	222.02	-73.05			1,601.78	-857.81	1,362.66	1,105.54	257.12	5.300	
10,500.00	10,062.97	10,066.31	10,067.10	35.51	222.24	-85.59			1,601.75	-857.81	1,270.58	1,013.20	257.37	4.937	
10,600.00	10,062.30	10,065.15	10,065.95	35.61	222.21	-96.50			1,601.75	-857.81	1,179.46	922.08	257.38	4.583	
10,700.00	10,054.74	10,056.41	10,057.20	35.74	221.99	-99.10			1,601.78	-857.81	1,090.14	832.94	257.20	4.238	
10,800.00	10,046.66	10,047.27	10,048.07	35.88	221.77	-98.09			1,601.80	-857.81	1,002.80	745.77	257.03	3.901	
10,900.00	10,038.57	10,038.33	10,039.13	36.04	221.54	-97.09			1,601.81	-857.81	917.97	661.08	256.89	3.573	
11,000.00	10,030.49	10,029.68	10,030.49	36.22	221.33	-96.12			1,600.96	-857.81	835.74	578.94	256.80	3.254	
11,100.00	10,022.40	10,021.59	10,022.40	36.42	221.12	-95.21			1,600.96	-857.81	758.56	501.79	256.77	2.954	
11,200.00	10,014.31	10,013.51	10,014.31	36.63	220.92	-94.30			1,600.96	-857.81	687.19	430.39	256.80	2.676	
11,300.00	10,006.23	10,005.42	10,006.23	36.85	220.72	-93.38			1,600.96	-857.81	623.64	366.72	256.92	2.427	
11,400.00	9,998.14	9,997.34	9,998.14	37.09	220.52	-92.47			1,600.96	-857.81	570.51	313.38	257.13	2.219	
11,500.00	9,990.06	9,989.25	9,990.06	37.34	220.32	-91.55			1,600.96	-857.81	530.95	273.56	257.40	2.063	
11,600.00	9,981.97	9,981.16	9,981.97	37.61	220.11	-90.64			1,600.96	-857.81	508.14	250.48	257.66	1.972	
11,669.29	9,976.37	9,975.56	9,976.37	37.80	219.97	-90.00			1,600.96	-857.81	503.42	245.65	257.78	1.953	CC, ES, SF
11,700.00	9,973.89	9,973.08	9,973.89	37.89	219.91	-89.72			1,600.96	-857.81	504.35	246.55	257.80	1.956	
11,800.00	9,965.80	9,964.99	9,965.80	38.19	219.71	-88.80			1,600.96	-857.81	520.01	262.25	257.76	2.017	
11,900.00	9,957.71	9,956.91	9,957.71	38.49	219.51	-87.88			1,600.96	-857.81	553.45	295.92	257.53	2.149	
12,000.00	9,949.63	9,948.82	9,949.63	38.82	219.31	-86.97			1,600.96	-857.81	601.74	344.56	257.18	2.340	
12,100.00	9,941.54	9,940.73	9,941.54	39.15	219.10	-86.06			1,600.96	-857.81	661.61	404.84	256.78	2.577	
12,200.00	9,933.46	9,932.65	9,933.46	39.49	218.90	-85.14			1,600.96	-857.81	730.23	473.87	256.36	2.848	
12,300.00	9,925.37	9,924.56	9,925.37	39.85	218.70	-84.23			1,600.96	-857.81	805.37	549.40	255.97	3.146	
12,400.00	9,917.28	9,916.48	9,917.28	40.22	218.50	-83.33			1,600.96	-857.81	885.37	629.77	255.60	3.464	
12,500.00	9,909.20	9,908.39	9,909.20	40.60	218.30	-82.42			1,600.96	-857.81	969.02	713.76	255.26	3.796	
12,600.00	9,901.11	9,886.94	9,887.86	40.99	217.75	-80.06			1,601.17	-857.81	1,055.36	800.74	254.61	4.145	
12,700.00	9,893.03	9,878.05	9,878.98	41.39	217.52	-79.09			1,601.29	-857.81	1,143.83	889.54	254.29	4.498	
12,800.00	9,884.94	9,869.28	9,870.21	41.81	217.29	-78.13			1,601.41	-857.81	1,234.01	980.02	253.99	4.858	
12,900.00	9,876.86	9,860.62	9,861.55	42.23	217.07	-77.20			1,601.52	-857.81	1,325.53	1,071.82	253.71	5.225	
13,000.00	9,868.77	9,852.07	9,853.00	42.66	216.84	-76.28			1,601.62	-857.81	1,418.14	1,164.70	253.44	5.596	
13,100.00	9,860.68	9,843.62	9,844.56	43.10	216.63	-75.38			1,601.72	-857.81	1,511.64	1,258.45	253.19	5.970	
13,200.00	9,852.60	9,835.29	9,836.22	43.55	216.41	-74.50			1,601.81	-857.81	1,605.87	1,352.93	252.94	6.349	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) LEO STATE #1 - OH - OH

Survey Program:		34-MWD OWSG Rev5		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
23,500.00	9,019.76	9,163.01	9,032.25	110.82	23.12	95.42	14,595.01	648.08	1,645.87	1,542.07	103.81	15.855	
23,600.00	9,011.68	9,154.38	9,023.63	111.56	23.14	94.99	14,594.83	648.35	1,575.69	1,468.71	106.98	14.729	
23,700.00	9,003.59	9,146.52	9,015.77	112.29	23.15	94.59	14,594.65	648.61	1,508.84	1,398.50	110.34	13.675	
23,800.00	8,995.51	9,139.32	9,008.58	113.02	23.17	94.24	14,594.46	648.84	1,445.79	1,331.92	113.87	12.697	
23,900.00	8,987.42	9,132.70	9,001.97	113.75	23.19	93.91	14,594.28	649.06	1,387.07	1,269.54	117.53	11.802	
24,000.00	8,979.34	9,126.60	8,995.88	114.49	23.20	93.60	14,594.09	649.26	1,333.24	1,211.98	121.26	10.995	
24,100.00	8,971.25	9,120.96	8,990.24	115.22	23.22	93.32	14,593.91	649.46	1,284.93	1,159.94	124.99	10.280	
24,200.00	8,963.16	9,115.73	8,985.01	115.95	23.23	93.06	14,593.74	649.63	1,242.78	1,114.18	128.60	9.664	
24,300.00	8,955.08	9,110.86	8,980.15	116.69	23.24	92.81	14,593.56	649.80	1,207.45	1,075.46	131.98	9.148	
24,400.00	8,946.99	9,106.33	8,975.62	117.42	23.25	92.59	14,593.39	649.96	1,179.54	1,044.54	134.99	8.738	
24,500.00	8,938.91	9,102.08	8,971.38	118.16	23.26	92.38	14,593.23	650.11	1,159.59	1,022.09	137.49	8.434	
24,600.00	8,930.82	9,098.11	8,967.42	118.89	23.27	92.18	14,593.07	650.25	1,148.02	1,008.66	139.36	8.238	
24,683.66	8,924.06	9,095.27	8,964.58	119.51	23.28	92.04	14,592.96	650.35	1,144.97	1,004.61	140.36	8.157	CC
24,700.00	8,922.74	9,094.61	8,963.92	119.63	23.28	92.00	14,592.93	650.37	1,145.09	1,004.59	140.50	8.150	ES, SF
24,800.00	8,914.65	9,090.34	8,959.66	120.37	23.29	91.79	14,592.75	650.53	1,150.86	1,009.99	140.87	8.170	
24,900.00	8,906.56	9,085.71	8,955.04	121.11	23.30	91.56	14,592.56	650.69	1,165.20	1,024.72	140.48	8.294	
25,000.00	8,898.48	9,080.67	8,950.01	121.84	23.31	91.31	14,592.37	650.87	1,187.79	1,048.40	139.40	8.521	
25,100.00	8,890.39	9,075.17	8,944.51	122.58	23.32	91.03	14,592.17	651.06	1,218.19	1,080.47	137.71	8.846	
25,200.00	8,882.31	9,069.13	8,938.48	123.32	23.33	90.73	14,591.96	651.27	1,255.81	1,120.25	135.55	9.264	
25,300.00	8,874.22	9,062.47	8,931.83	124.06	23.34	90.40	14,591.74	651.49	1,300.03	1,166.98	133.05	9.771	
25,400.00	8,866.14	9,055.10	8,924.47	124.80	23.36	90.03	14,591.52	651.74	1,350.19	1,219.87	130.32	10.361	
25,500.00	8,858.05	9,046.90	8,916.26	125.54	23.37	89.62	14,591.30	652.01	1,405.66	1,278.19	127.47	11.027	
25,600.00	8,849.96	9,037.70	8,907.08	126.28	23.39	89.16	14,591.08	652.31	1,465.83	1,341.23	124.59	11.765	
25,700.00	8,841.88	9,027.33	8,896.71	127.02	23.41	88.64	14,590.87	652.64	1,530.13	1,408.38	121.75	12.568	
25,800.00	8,833.79	9,015.53	8,884.92	127.76	23.44	88.06	14,590.67	653.00	1,598.07	1,479.07	119.00	13.429	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) LEO STATE 006 TA - Verticals - Surveys

Survey Program:		0-MWD OWSG Rev5						Rule Assigned:				Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis				Offset Wellbore Centre		Distance					
Measured	Vertical	Measured	Vertical	Reference	Offset	Highside				Between	Between	Minimum	Separation	Warning	
Depth	Depth	Depth	Depth			Toolface	+N/-S	+E/-W		Centres	Ellipses	Separation	Factor		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)		(usft)	(usft)	(usft)			
23,900.00	8,987.42	9,043.59	9,009.87	113.75	13.60	-99.87	15,196.65	-1,283.66		1,612.03	1,532.66	79.37	20.311		
24,000.00	8,979.34	9,035.30	9,001.59	114.49	13.60	-99.28	15,196.68	-1,283.84		1,525.81	1,443.83	81.98	18.612		
24,100.00	8,971.25	9,027.05	8,993.34	115.22	13.60	-98.69	15,196.72	-1,284.02		1,441.32	1,356.41	84.91	16.975		
24,200.00	8,963.16	9,018.84	8,985.13	115.95	13.60	-98.11	15,196.74	-1,284.20		1,358.88	1,270.69	88.20	15.407		
24,300.00	8,955.08	9,010.65	8,976.95	116.69	13.60	-97.52	15,196.77	-1,284.39		1,278.91	1,187.03	91.88	13.919		
24,400.00	8,946.99	9,002.50	8,968.80	117.42	13.60	-96.93	15,196.80	-1,284.59		1,201.87	1,105.89	95.98	12.521		
24,500.00	8,938.91	8,994.28	8,960.58	118.16	13.60	-96.34	15,196.82	-1,284.78		1,128.38	1,027.86	100.53	11.225		
24,600.00	8,930.82	8,984.84	8,951.14	118.89	13.61	-95.66	15,196.85	-1,285.01		1,059.18	953.69	105.49	10.041		
24,700.00	8,922.74	8,975.54	8,941.84	119.63	13.61	-94.99	15,196.87	-1,285.23		995.14	884.33	110.82	8.980		
24,800.00	8,914.65	8,966.36	8,932.67	120.37	13.61	-94.32	15,196.88	-1,285.43		937.34	820.94	116.40	8.053		
24,900.00	8,906.56	8,957.32	8,923.63	121.11	13.61	-93.67	15,196.89	-1,285.63		886.99	764.98	122.02	7.269		
25,000.00	8,898.48	8,948.41	8,914.72	121.84	13.61	-93.02	15,196.89	-1,285.82		845.43	718.08	127.35	6.639		
25,100.00	8,890.39	8,939.63	8,905.94	122.58	13.62	-92.39	15,196.89	-1,285.99		814.01	682.02	131.99	6.167		
25,200.00	8,882.31	8,930.96	8,897.27	123.32	13.62	-91.76	15,196.88	-1,286.16		793.94	658.44	135.50	5.860		
25,300.00	8,874.22	8,922.42	8,888.73	124.06	13.62	-91.13	15,196.87	-1,286.32		786.08	648.60	137.48	5.718		
25,312.52	8,873.21	8,921.36	8,887.67	124.15	13.62	-91.06	15,196.87	-1,286.34		785.98	648.37	137.61	5.712	CC, ES, SF	
25,400.00	8,866.14	8,913.99	8,880.31	124.80	13.62	-90.52	15,196.85	-1,286.48		790.80	653.06	137.74	5.741		
25,500.00	8,858.05	8,905.68	8,872.00	125.54	13.62	-89.92	15,196.83	-1,286.62		807.89	671.56	136.33	5.926		
25,600.00	8,849.96	8,897.52	8,863.84	126.28	13.62	-89.33	15,196.81	-1,286.76		836.58	703.07	133.51	6.266		
25,700.00	8,841.88	8,889.30	8,855.62	127.02	13.63	-88.73	15,196.79	-1,286.90		875.74	746.06	129.69	6.753		
25,800.00	8,833.79	8,880.81	8,847.13	127.76	13.63	-88.11	15,196.78	-1,287.04		924.04	798.77	125.27	7.376		
25,900.00	8,825.71	8,872.04	8,838.36	128.50	13.63	-87.48	15,196.78	-1,287.19		980.12	859.50	120.62	8.126		
26,000.00	8,817.62	8,862.97	8,829.29	129.24	13.63	-86.82	15,196.80	-1,287.34		1,042.72	926.73	115.99	8.990		
26,100.00	8,809.53	8,853.59	8,819.91	129.98	13.63	-86.15	15,196.83	-1,287.51		1,110.75	999.19	111.56	9.957		
26,200.00	8,801.45	8,843.88	8,810.20	130.73	13.63	-85.45	15,196.88	-1,287.68		1,183.25	1,075.83	107.42	11.015		
26,300.00	8,793.36	8,833.82	8,800.15	131.47	13.63	-84.72	15,196.94	-1,287.85		1,259.46	1,155.84	103.62	12.155		
26,400.00	8,785.28	8,823.40	8,789.73	132.21	13.63	-83.98	15,197.02	-1,288.04		1,338.73	1,238.56	100.17	13.364		
26,500.00	8,777.19	8,813.50	8,779.83	132.96	13.64	-83.27	15,197.12	-1,288.21		1,420.55	1,323.50	97.05	14.637		
26,600.00	8,769.11	8,800.92	8,767.25	133.70	13.63	-82.38	15,197.26	-1,288.44		1,504.51	1,410.23	94.28	15.958		
26,700.00	8,761.02	8,787.64	8,753.98	134.44	13.63	-81.44	15,197.44	-1,288.68		1,590.25	1,498.45	91.80	17.323		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) LEO STATE 007 - Verticals - Surveys

Survey Program: 305-3_INC-Only, 1741-OWSG (Rev2) MWD										Rule Assigned:		Offset Site Error:	0.00 usft
Reference										Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
22,600.00	9,092.54	9,071.20	9,053.01	104.27	40.64	99.50	14,048.34	21.49	1,624.78	1,532.80	91.99	17.663	
22,700.00	9,084.45	9,065.70	9,047.51	104.99	40.62	98.90	14,048.22	21.43	1,530.29	1,436.96	93.33	16.396	
22,800.00	9,076.37	9,060.16	9,041.97	105.72	40.61	98.30	14,048.11	21.36	1,436.53	1,341.63	94.90	15.138	
22,900.00	9,068.28	9,054.59	9,036.41	106.45	40.60	97.68	14,047.99	21.29	1,343.64	1,246.92	96.72	13.892	
23,000.00	9,060.19	9,048.99	9,030.81	107.18	40.59	97.07	14,047.87	21.23	1,251.81	1,152.95	98.86	12.662	
23,100.00	9,052.11	9,043.35	9,025.17	107.90	40.57	96.44	14,047.76	21.17	1,161.31	1,059.92	101.39	11.454	
23,200.00	9,044.02	9,037.69	9,019.51	108.63	40.56	95.82	14,047.64	21.11	1,072.47	968.08	104.39	10.274	
23,300.00	9,035.94	9,031.99	9,013.81	109.36	40.55	95.18	14,047.52	21.05	985.73	877.77	107.96	9.131	
23,400.00	9,027.85	9,026.25	9,008.08	110.09	40.53	94.54	14,047.41	21.00	901.70	789.50	112.21	8.036	
23,500.00	9,019.76	9,020.49	9,002.31	110.82	40.52	93.90	14,047.29	20.94	821.22	703.97	117.25	7.004	
23,600.00	9,011.68	9,005.00	8,986.83	111.56	40.48	92.16	14,046.99	20.81	745.49	622.48	123.02	6.060	
23,700.00	9,003.59	9,005.00	8,986.83	112.29	40.48	92.16	14,046.99	20.81	675.92	546.01	129.91	5.203	
23,800.00	8,995.51	9,002.90	8,984.73	113.02	40.48	91.93	14,046.95	20.80	614.80	477.37	137.43	4.474	
23,900.00	8,987.42	8,996.75	8,978.58	113.75	40.46	91.24	14,046.83	20.75	564.82	419.90	144.92	3.897	
24,000.00	8,979.34	8,990.58	8,972.41	114.49	40.45	90.55	14,046.71	20.70	529.14	377.78	151.36	3.496	
24,100.00	8,971.25	8,984.39	8,966.22	115.22	40.44	89.85	14,046.59	20.65	510.77	355.46	155.31	3.289	
24,145.90	8,967.54	8,981.54	8,963.38	115.56	40.43	89.53	14,046.54	20.63	508.71	352.75	155.96	3.262	CC, ES, SF
24,200.00	8,963.16	8,978.18	8,960.01	115.95	40.42	89.15	14,046.47	20.60	511.56	355.88	155.68	3.286	
24,300.00	8,955.08	8,971.95	8,953.78	116.69	40.41	88.45	14,046.36	20.55	531.45	378.97	152.47	3.485	
24,400.00	8,946.99	8,965.69	8,947.53	117.42	40.39	87.75	14,046.24	20.50	568.42	421.68	146.74	3.874	
24,500.00	8,938.91	8,959.41	8,941.25	118.16	40.38	87.04	14,046.12	20.45	619.42	479.55	139.87	4.428	
24,600.00	8,930.82	8,953.11	8,934.95	118.89	40.37	86.34	14,046.01	20.40	681.31	548.35	132.96	5.124	
24,700.00	8,922.74	8,946.79	8,928.63	119.63	40.35	85.63	14,045.89	20.35	751.41	624.81	126.60	5.935	
24,800.00	8,914.65	8,940.45	8,922.29	120.37	40.34	84.92	14,045.77	20.30	827.62	706.61	121.01	6.839	
24,900.00	8,906.56	8,934.08	8,915.92	121.11	40.32	84.21	14,045.66	20.24	908.42	792.18	116.24	7.815	
25,000.00	8,898.48	8,927.69	8,909.54	121.84	40.31	83.50	14,045.54	20.19	992.68	880.47	112.20	8.847	
25,100.00	8,890.39	8,921.28	8,903.12	122.58	40.30	82.79	14,045.43	20.14	1,079.59	970.78	108.81	9.922	
25,200.00	8,882.31	8,914.85	8,896.69	123.32	40.28	82.07	14,045.31	20.09	1,168.56	1,062.61	105.95	11.029	
25,300.00	8,874.22	8,908.39	8,890.24	124.06	40.27	81.36	14,045.20	20.03	1,259.16	1,155.61	103.55	12.160	
25,400.00	8,866.14	8,901.91	8,883.76	124.80	40.25	80.65	14,045.08	19.98	1,351.05	1,249.54	101.51	13.309	
25,500.00	8,858.05	8,895.40	8,877.25	125.54	40.24	79.94	14,044.97	19.93	1,444.00	1,344.21	99.79	14.470	
25,600.00	8,849.96	8,888.88	8,870.73	126.28	40.22	79.23	14,044.85	19.87	1,537.80	1,439.48	98.32	15.641	
25,700.00	8,841.88	8,882.33	8,864.18	127.02	40.21	78.51	14,044.74	19.82	1,632.31	1,535.25	97.06	16.817	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) NEW MEXICO BV STATE 001 P & A - Vertical - Surveys

Survey Program: 0-3_INC-Only		Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	Offset Site Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				Offset Well Error:
23,800.00	8,995.51	9,032.47	9,020.16	113.02	258.51	113.02	258.51	97.77	15,035.82	469.22	1,644.15	1,309.80	334.35	4.917		0.00 usft
23,900.00	8,987.42	9,017.98	9,005.68	113.75	257.85	113.75	257.85	96.93	15,036.06	469.22	1,564.80	1,228.13	336.66	4.648		0.00 usft
24,000.00	8,979.34	9,004.52	8,992.23	114.49	257.23	114.49	257.23	96.15	15,036.24	469.22	1,487.84	1,148.54	339.31	4.385		
24,100.00	8,971.25	8,991.98	8,979.71	115.22	256.66	115.22	256.66	95.41	15,036.36	469.22	1,413.69	1,071.42	342.27	4.130		
24,200.00	8,963.16	8,980.28	8,968.01	115.95	256.13	115.95	256.13	94.73	15,036.43	469.22	1,342.82	997.26	345.56	3.886		
24,300.00	8,955.08	8,969.33	8,957.07	116.69	255.63	116.69	255.63	94.09	15,036.48	469.22	1,275.78	926.63	349.15	3.654		
24,400.00	8,946.99	8,959.20	8,946.99	117.42	255.17	117.42	255.17	93.49	15,034.64	469.22	1,212.08	859.02	353.06	3.433		
24,500.00	8,938.91	8,951.11	8,938.91	118.16	254.80	118.16	254.80	93.01	15,034.64	469.22	1,154.83	797.68	357.15	3.233		
24,600.00	8,930.82	8,943.03	8,930.82	118.89	254.43	118.89	254.43	92.54	15,034.64	469.22	1,103.62	742.38	361.25	3.055		
24,700.00	8,922.74	8,934.94	8,922.74	119.63	254.06	119.63	254.06	92.06	15,034.64	469.22	1,059.35	694.15	365.19	2.901		
24,800.00	8,914.65	8,926.86	8,914.65	120.37	253.69	120.37	253.69	91.58	15,034.64	469.22	1,022.89	654.11	368.79	2.774		
24,900.00	8,906.56	8,918.77	8,906.56	121.11	253.32	121.11	253.32	91.11	15,034.64	469.22	995.12	623.34	371.79	2.677		
25,000.00	8,898.48	8,910.68	8,898.48	121.84	252.96	121.84	252.96	90.63	15,034.64	469.22	976.78	602.81	373.97	2.612		
25,100.00	8,890.39	8,902.60	8,890.39	122.58	252.59	122.58	252.59	90.15	15,034.64	469.22	968.40	593.26	375.14	2.581		
25,132.02	8,887.80	8,900.01	8,887.80	122.82	252.47	122.82	252.47	90.00	15,034.64	469.22	967.88	592.59	375.28	2.579	CC, ES, SF	
25,200.00	8,882.31	8,894.51	8,882.31	123.32	252.22	123.32	252.22	89.68	15,034.64	469.22	970.25	595.05	375.20	2.586		
25,300.00	8,874.22	8,886.43	8,874.22	124.06	251.85	124.06	251.85	89.20	15,034.64	469.22	982.25	608.11	374.14	2.625		
25,400.00	8,866.14	8,878.34	8,866.14	124.80	251.48	124.80	251.48	88.72	15,034.64	469.22	1,004.06	631.98	372.07	2.699		
25,500.00	8,858.05	8,870.25	8,858.05	125.54	251.11	125.54	251.11	88.24	15,034.64	469.22	1,035.04	665.87	369.17	2.804		
25,600.00	8,849.96	8,862.17	8,849.96	126.28	250.74	126.28	250.74	87.77	15,034.64	469.22	1,074.41	708.75	365.66	2.938		
25,700.00	8,841.88	8,854.08	8,841.88	127.02	250.38	127.02	250.38	87.29	15,034.64	469.22	1,121.28	759.52	361.76	3.099		
25,800.00	8,833.79	8,846.00	8,833.79	127.76	250.01	127.76	250.01	86.82	15,034.64	469.22	1,174.76	817.09	357.66	3.285		
25,900.00	8,825.71	8,821.33	8,809.30	128.50	248.91	128.50	248.91	85.38	15,035.10	469.22	1,233.81	880.94	352.88	3.496		
26,000.00	8,817.62	8,814.11	8,802.08	129.24	248.59	129.24	248.59	84.96	15,035.25	469.22	1,297.86	948.99	348.87	3.720		
26,100.00	8,809.53	8,807.37	8,795.35	129.98	248.29	129.98	248.29	84.56	15,035.36	469.22	1,366.19	1,021.16	345.03	3.960		
26,200.00	8,801.45	8,801.08	8,789.06	130.73	248.01	130.73	248.01	84.20	15,035.44	469.22	1,438.18	1,096.79	341.40	4.213		
26,300.00	8,793.36	8,795.18	8,783.17	131.47	247.75	131.47	247.75	83.85	15,035.50	469.22	1,513.33	1,175.33	337.99	4.477		
26,400.00	8,785.28	8,789.65	8,777.63	132.21	247.50	132.21	247.50	83.53	15,035.54	469.22	1,591.18	1,256.35	334.83	4.752		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) STATE AN 005 - Verticals - Surveys

Survey Program: 100-r.5 GYRO-NS, 8478-MWD OWSG Rev5										Rule Assigned:		Offset Site Error:	0.00 usft
Reference										Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
26,900.00	8,744.85	8,515.00	8,473.75	135.93	30.12	-80.34	18,097.64	-1,491.12	1,655.57	1,538.91	116.66	14.192	
27,000.00	8,736.76	8,515.00	8,473.75	136.68	30.12	-80.34	18,097.64	-1,491.12	1,575.77	1,455.31	120.46	13.081	
27,100.00	8,728.68	8,515.00	8,473.75	137.42	30.12	-80.34	18,097.64	-1,491.12	1,498.40	1,373.81	124.59	12.026	
27,200.00	8,720.59	8,515.00	8,473.75	138.17	30.12	-80.34	18,097.64	-1,491.12	1,423.85	1,294.78	129.07	11.032	
27,300.00	8,712.51	8,530.36	8,488.03	138.91	30.15	-81.17	18,102.89	-1,489.07	1,352.21	1,218.66	133.55	10.125	
27,400.00	8,704.42	8,545.00	8,500.97	139.66	30.18	-81.93	18,109.19	-1,486.44	1,284.40	1,146.12	138.28	9.288	
27,500.00	8,696.33	8,545.00	8,500.97	140.40	30.18	-81.93	18,109.19	-1,486.44	1,220.64	1,076.97	143.67	8.496	
27,600.00	8,688.25	8,575.00	8,524.79	141.15	30.25	-83.36	18,125.86	-1,479.29	1,161.60	1,013.39	148.22	7.837	
27,700.00	8,680.16	8,767.00	8,569.08	141.90	30.44	-86.32	18,272.60	-1,376.64	1,100.18	957.66	142.52	7.720	
27,800.00	8,672.08	8,814.24	8,561.67	142.64	30.55	-85.87	18,308.80	-1,347.25	1,037.27	891.77	145.50	7.129	
27,900.00	8,663.99	8,862.00	8,549.00	143.39	30.70	-85.01	18,345.09	-1,318.95	976.93	828.15	148.77	6.567	
28,000.00	8,655.91	8,941.20	8,523.36	144.14	31.00	-83.10	18,404.47	-1,273.25	918.31	768.22	150.09	6.118	
28,100.00	8,647.82	9,004.72	8,501.35	144.89	31.28	-81.28	18,451.17	-1,236.24	859.94	707.15	152.80	5.628	
28,197.49	8,639.94	9,063.74	8,481.77	145.61	31.58	-79.53	18,496.25	-1,203.57	806.52	649.56	156.96	5.138	CC, ES, SF

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) STATE AN 006 TA - Vertical - Surveys

Survey Program: 0-3_INC-Only								Rule Assigned:		Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Distance		Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
25,300.00	8,874.22	8,894.79	8,874.22	124.06	294.77	-97.44	16,529.11	-1,348.92	1,583.90	1,214.62	369.28	4.289	
25,400.00	8,866.14	8,886.61	8,866.14	124.80	294.25	-96.89	16,529.11	-1,348.92	1,500.09	1,128.12	371.97	4.033	
25,500.00	8,858.05	8,878.51	8,858.05	125.54	293.73	-96.35	16,529.11	-1,348.92	1,418.33	1,043.33	375.00	3.782	
25,600.00	8,849.96	8,870.40	8,849.96	126.28	293.20	-95.80	16,529.11	-1,348.92	1,339.00	960.58	378.41	3.538	
25,700.00	8,841.88	8,862.31	8,841.88	127.02	292.68	-95.25	16,529.11	-1,348.92	1,262.55	880.31	382.24	3.303	
25,800.00	8,833.79	8,854.13	8,833.79	127.76	292.16	-94.70	16,529.11	-1,348.92	1,189.55	803.06	386.49	3.078	
25,900.00	8,825.71	8,846.03	8,825.71	128.50	291.66	-94.15	16,529.11	-1,348.92	1,120.67	729.51	391.16	2.865	
26,000.00	8,817.62	8,837.92	8,817.62	129.24	291.15	-93.60	16,529.11	-1,348.92	1,056.71	660.54	396.17	2.667	
26,100.00	8,809.53	8,829.84	8,809.53	129.98	290.65	-93.05	16,529.11	-1,348.92	998.62	597.20	401.41	2.488	
26,200.00	8,801.45	8,825.00	8,804.70	130.73	290.35	-92.72	16,529.11	-1,348.92	947.48	540.58	406.90	2.329	
26,300.00	8,793.36	8,825.00	8,804.70	131.47	290.35	-92.72	16,529.11	-1,348.92	904.53	492.10	412.43	2.193	
26,400.00	8,785.28	8,805.42	8,785.28	132.21	289.11	-91.39	16,529.11	-1,348.92	870.78	454.68	416.11	2.093	
26,500.00	8,777.19	8,797.33	8,777.19	132.96	288.60	-90.84	16,529.11	-1,348.92	847.55	428.06	419.50	2.020	
26,600.00	8,769.11	8,789.25	8,769.11	133.70	288.08	-90.28	16,529.11	-1,348.92	835.64	414.14	421.50	1.983	
26,651.02	8,764.98	8,784.73	8,764.69	134.08	287.80	-89.98	16,529.19	-1,348.92	834.10	412.22	421.87	1.977	CC, ES, SF
26,700.00	8,761.02	8,779.69	8,759.66	134.44	287.48	-89.64	16,529.35	-1,348.92	835.52	413.74	421.78	1.981	
26,800.00	8,752.93	8,772.34	8,752.32	135.19	287.01	-89.13	16,529.45	-1,348.92	847.17	426.63	420.54	2.014	
26,900.00	8,744.85	8,764.86	8,744.85	135.93	286.54	-88.62	16,529.11	-1,348.92	870.27	452.50	417.77	2.083	
27,000.00	8,736.76	8,756.77	8,736.76	136.68	286.03	-88.07	16,529.11	-1,348.92	903.76	489.97	413.79	2.184	
27,100.00	8,728.68	8,744.10	8,724.18	137.42	285.25	-87.21	16,529.39	-1,348.92	946.49	537.68	408.81	2.315	
27,200.00	8,720.59	8,740.49	8,720.59	138.17	285.04	-86.96	16,529.11	-1,348.92	997.62	593.78	403.84	2.470	
27,300.00	8,712.51	8,732.41	8,712.51	138.91	284.54	-86.41	16,529.11	-1,348.92	1,055.60	657.09	398.51	2.649	
27,400.00	8,704.42	8,709.81	8,690.10	139.66	283.19	-84.89	16,529.62	-1,348.92	1,119.20	726.64	392.56	2.851	
27,500.00	8,696.33	8,705.10	8,685.39	140.40	282.92	-84.57	16,529.69	-1,348.92	1,187.89	800.19	387.70	3.064	
27,600.00	8,688.25	8,700.95	8,681.24	141.15	282.67	-84.29	16,529.73	-1,348.92	1,260.73	877.59	383.15	3.290	
27,700.00	8,680.16	8,697.25	8,677.55	141.90	282.45	-84.04	16,529.75	-1,348.92	1,337.07	958.14	378.93	3.529	
27,800.00	8,672.08	8,691.75	8,672.08	142.64	282.12	-83.66	16,529.11	-1,348.92	1,416.86	1,041.92	374.94	3.779	
27,900.00	8,663.99	8,683.66	8,663.99	143.39	281.64	-83.12	16,529.11	-1,348.92	1,498.58	1,127.41	371.18	4.037	
28,000.00	8,655.91	8,675.58	8,655.91	144.14	281.16	-82.57	16,529.11	-1,348.92	1,582.36	1,214.64	367.72	4.303	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) STATE AN 007 P & A - Vertical - Surveys

Survey Program: 0-3_INC-Only										Rule Assigned:				Offset Site Error:
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)						0.00 usft
26,400.00	8,785.28	8,826.69	8,799.08	132.21	248.70	106.00	17,853.09	-41.11	1,634.51	1,326.48	308.03	5.306		
26,500.00	8,777.19	8,810.81	8,783.21	132.96	248.15	104.27	17,853.19	-41.11	1,539.72	1,230.63	309.09	4.982		
26,600.00	8,769.11	8,796.68	8,769.11	133.70	247.66	102.70	17,852.25	-41.11	1,444.62	1,134.11	310.51	4.652		
26,700.00	8,761.02	8,788.59	8,761.02	134.44	247.38	101.80	17,852.25	-41.11	1,351.23	1,038.67	312.56	4.323		
26,800.00	8,752.93	8,780.51	8,752.93	135.19	247.10	100.89	17,852.25	-41.11	1,258.79	943.79	315.00	3.996		
26,900.00	8,744.85	8,772.42	8,744.85	135.93	246.82	99.97	17,852.25	-41.11	1,167.55	849.62	317.92	3.672		
27,000.00	8,736.76	8,764.33	8,736.76	136.68	246.54	99.05	17,852.25	-41.11	1,077.80	756.36	321.43	3.353		
27,100.00	8,728.68	8,756.25	8,728.68	137.42	246.26	98.13	17,852.25	-41.11	989.95	664.29	325.65	3.040		
27,200.00	8,720.59	8,748.16	8,720.59	138.17	245.98	97.20	17,852.25	-41.11	904.55	573.82	330.74	2.735		
27,300.00	8,712.51	8,740.08	8,712.51	138.91	245.70	96.26	17,852.25	-41.11	822.38	485.54	336.84	2.441		
27,400.00	8,704.42	8,731.99	8,704.42	139.66	245.42	95.33	17,852.25	-41.11	744.49	400.39	344.10	2.164		
27,500.00	8,696.33	8,723.91	8,696.33	140.40	245.14	94.39	17,852.25	-41.11	672.38	319.81	352.56	1.907		
27,600.00	8,688.25	8,715.80	8,688.25	141.15	244.85	93.44	17,852.25	-41.11	608.10	246.06	362.04	1.680		
27,700.00	8,680.16	8,712.12	8,684.57	141.90	244.72	93.01	17,852.32	-41.11	554.45	182.37	372.08	1.490	Level 3	
27,800.00	8,672.08	8,699.62	8,672.08	142.64	244.27	91.55	17,852.25	-41.11	514.57	133.92	380.65	1.352	Level 3	
27,900.00	8,663.99	8,691.53	8,663.99	143.39	243.98	90.61	17,852.25	-41.11	492.03	105.61	386.42	1.273	Level 3	
27,964.23	8,658.80	8,686.34	8,658.80	143.87	243.80	90.00	17,852.25	-41.11	487.85	100.18	387.66	1.258	Level 3, CC, ES, SF	
28,000.00	8,655.91	8,682.79	8,655.27	144.14	243.67	89.59	17,852.30	-41.11	489.14	101.77	387.38	1.263	Level 3	
28,100.00	8,647.82	8,674.91	8,647.39	144.89	243.37	88.67	17,852.40	-41.11	506.23	122.96	383.27	1.321	Level 3	
28,197.49	8,639.94	8,667.45	8,639.94	145.61	243.10	87.79	17,852.25	-41.11	540.42	164.33	376.09	1.437	Level 3	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) STATE AN 008 P & A - Vertical - Surveys

Survey Program: 0-3_INC-Only										Rule Assigned:		Offset Site Error:	0.00 usft
Reference										Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Reference	Offset	Reference	Offset	Reference	Offset		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
24,800.00	8,914.65	8,941.36	8,929.12	120.37	233.63	95.43	15,874.95	638.40	1,637.42	1,313.18	324.23	5.050	
24,900.00	8,906.56	8,924.40	8,912.17	121.11	232.97	94.59	15,875.10	638.40	1,567.83	1,240.75	327.08	4.793	
25,000.00	8,898.48	8,910.68	8,898.48	121.84	232.44	93.91	15,874.31	638.40	1,501.06	1,170.76	330.30	4.545	
25,100.00	8,890.39	8,902.60	8,890.39	122.58	232.12	93.51	15,874.31	638.40	1,438.70	1,104.79	333.91	4.309	
25,200.00	8,882.31	8,894.51	8,882.31	123.32	231.81	93.11	15,874.31	638.40	1,380.74	1,043.11	337.63	4.090	
25,300.00	8,874.22	8,886.43	8,874.22	124.06	231.50	92.71	15,874.31	638.40	1,327.73	986.35	341.38	3.889	
25,400.00	8,866.14	8,878.34	8,866.14	124.80	231.18	92.31	15,874.31	638.40	1,280.30	935.23	345.07	3.710	
25,500.00	8,858.05	8,870.25	8,858.05	125.54	230.87	91.90	15,874.31	638.40	1,239.08	890.50	348.58	3.555	
25,600.00	8,849.96	8,862.17	8,849.96	126.28	230.55	91.50	15,874.31	638.40	1,204.73	852.95	351.78	3.425	
25,700.00	8,841.88	8,854.08	8,841.88	127.02	230.24	91.10	15,874.31	638.40	1,177.83	823.33	354.50	3.323	
25,800.00	8,833.79	8,851.51	8,833.79	127.76	230.14	90.97	15,874.23	638.40	1,158.90	802.07	356.83	3.248	
25,900.00	8,825.71	8,839.79	8,825.71	128.50	229.68	90.39	15,874.54	638.40	1,148.36	790.35	358.02	3.208	
25,972.95	8,819.81	8,832.16	8,820.06	129.04	229.37	90.01	15,874.69	638.40	1,146.07	787.66	358.41	3.198	CC, ES, SF
26,000.00	8,817.62	8,829.50	8,817.40	129.24	229.26	89.88	15,874.74	638.40	1,146.38	787.94	358.45	3.198	
26,100.00	8,809.53	8,820.38	8,808.29	129.98	228.90	89.43	15,874.87	638.40	1,153.03	794.95	358.07	3.220	
26,200.00	8,801.45	8,812.25	8,800.16	130.73	228.58	89.02	15,874.93	638.40	1,168.15	811.24	356.92	3.273	
26,300.00	8,793.36	8,804.95	8,792.86	131.47	228.29	88.66	15,874.96	638.40	1,191.45	836.40	355.05	3.356	
26,400.00	8,785.28	8,797.34	8,785.28	132.21	227.98	88.28	15,874.31	638.40	1,222.69	870.16	352.53	3.468	
26,500.00	8,777.19	8,789.26	8,777.19	132.96	227.66	87.88	15,874.31	638.40	1,260.88	911.35	349.53	3.607	
26,600.00	8,769.11	8,781.17	8,769.11	133.70	227.34	87.47	15,874.31	638.40	1,305.59	959.40	346.19	3.771	
26,700.00	8,761.02	8,773.09	8,761.02	134.44	227.01	87.07	15,874.31	638.40	1,356.15	1,013.52	342.64	3.958	
26,800.00	8,752.93	8,765.00	8,752.93	135.19	226.69	86.67	15,874.31	638.40	1,411.96	1,072.97	338.99	4.165	
26,900.00	8,744.85	8,756.91	8,744.85	135.93	226.37	86.27	15,874.31	638.40	1,472.40	1,137.06	335.34	4.391	
27,000.00	8,736.76	8,732.95	8,721.02	136.68	225.39	85.09	15,874.81	638.40	1,536.68	1,205.51	331.17	4.640	
27,100.00	8,728.68	8,726.99	8,715.05	137.42	225.14	84.80	15,874.89	638.40	1,604.72	1,276.96	327.76	4.896	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) STATE AN 009 P & A - Vertical - Surveys

Survey Program: 0-3_INC-Only										Rule Assigned:		Offset Site Error:	0.00 usft
Reference										Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
26,100.00	8,809.53	8,828.14	8,809.53	129.98	230.33	94.80	17,194.26	625.73	1,655.35	1,328.58	326.77	5.066	
26,200.00	8,801.45	8,820.05	8,801.45	130.73	229.99	94.41	17,194.26	625.73	1,585.02	1,254.76	330.27	4.799	
26,300.00	8,793.36	8,811.95	8,793.36	131.47	229.64	94.00	17,194.26	625.73	1,517.99	1,184.02	333.97	4.545	
26,400.00	8,785.28	8,803.86	8,785.28	132.21	229.30	93.60	17,194.26	625.73	1,454.70	1,116.84	337.85	4.306	
26,500.00	8,777.19	8,795.77	8,777.19	132.96	228.96	93.20	17,194.26	625.73	1,395.66	1,053.80	341.86	4.083	
26,600.00	8,769.11	8,787.62	8,769.11	133.70	228.62	92.80	17,194.26	625.73	1,341.44	995.52	345.91	3.878	
26,700.00	8,761.02	8,779.53	8,761.02	134.44	228.28	92.40	17,194.26	625.73	1,292.64	942.71	349.93	3.694	
26,800.00	8,752.93	8,776.63	8,752.93	135.19	228.15	92.26	17,194.57	625.73	1,250.04	896.03	354.01	3.531	
26,900.00	8,744.85	8,763.34	8,744.85	135.93	227.59	91.60	17,194.26	625.73	1,213.86	856.56	357.30	3.397	
27,000.00	8,736.76	8,755.26	8,736.76	136.68	227.25	91.19	17,194.26	625.73	1,185.12	824.77	360.35	3.289	
27,100.00	8,728.68	8,747.17	8,728.68	137.42	226.91	90.79	17,194.26	625.73	1,164.24	801.48	362.76	3.209	
27,200.00	8,720.59	8,742.45	8,720.59	138.17	226.71	90.56	17,194.24	625.73	1,151.64	787.10	364.54	3.159	
27,297.17	8,712.73	8,731.44	8,712.73	138.89	226.25	90.02	17,194.53	625.73	1,147.58	782.44	365.13	3.143	CC
27,300.00	8,712.51	8,731.14	8,712.74	138.91	226.23	90.00	17,194.54	625.73	1,147.58	782.44	365.14	3.143	ES, SF
27,400.00	8,704.42	8,721.63	8,703.23	139.66	225.83	89.53	17,194.70	625.73	1,152.13	787.23	364.90	3.157	
27,500.00	8,696.33	8,713.50	8,695.11	140.40	225.49	89.12	17,194.78	625.73	1,165.21	801.39	363.81	3.203	
27,600.00	8,688.25	8,706.48	8,688.10	141.15	225.20	88.78	17,194.81	625.73	1,186.54	824.59	361.94	3.278	
27,700.00	8,680.16	8,698.53	8,680.16	141.90	224.86	88.38	17,194.26	625.73	1,215.87	856.56	359.31	3.384	
27,800.00	8,672.08	8,690.45	8,672.08	142.64	224.52	87.98	17,194.26	625.73	1,252.34	896.22	356.13	3.517	
27,900.00	8,663.99	8,682.36	8,663.99	143.39	224.18	87.57	17,194.26	625.73	1,295.48	942.93	352.54	3.675	
28,000.00	8,655.91	8,674.27	8,655.91	144.14	223.84	87.17	17,194.26	625.73	1,344.63	995.93	348.70	3.856	
28,100.00	8,647.82	8,654.01	8,635.74	144.89	222.95	86.17	17,194.64	625.73	1,399.00	1,054.76	344.24	4.064	
28,197.49	8,639.94	8,649.23	8,630.96	145.61	222.74	85.94	17,194.70	625.73	1,456.69	1,115.17	341.52	4.265	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) STATE AN 010 P & A - Vertical - Surveys

Survey Program: 0-3_INC-Only		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
25,100.00	8,890.39	8,917.43	8,890.39	122.58	292.61	104.31	16,532.30	-28.16	1,610.13	1,261.02	349.11	4.612	
25,200.00	8,882.31	8,909.34	8,882.31	123.32	292.20	103.41	16,532.30	-28.16	1,515.42	1,165.10	350.32	4.326	
25,300.00	8,874.22	8,901.17	8,874.22	124.06	291.78	102.51	16,532.30	-28.16	1,421.38	1,069.61	351.78	4.041	
25,400.00	8,866.14	8,893.08	8,866.14	124.80	291.37	101.60	16,532.30	-28.16	1,328.17	974.63	353.54	3.757	
25,500.00	8,858.05	8,884.98	8,858.05	125.54	290.95	100.69	16,532.30	-28.16	1,235.97	880.28	355.69	3.475	
25,600.00	8,849.96	8,876.89	8,849.96	126.28	290.53	99.77	16,532.30	-28.16	1,145.02	786.73	358.29	3.196	
25,700.00	8,841.88	8,868.78	8,841.88	127.02	290.11	98.85	16,532.30	-28.16	1,055.65	694.18	361.47	2.920	
25,800.00	8,833.79	8,860.69	8,833.79	127.76	289.69	97.92	16,532.30	-28.16	968.29	602.96	365.33	2.650	
25,900.00	8,825.71	8,852.61	8,825.71	128.50	289.27	96.99	16,532.30	-28.16	883.53	513.51	370.02	2.388	
26,000.00	8,817.62	8,844.39	8,817.62	129.24	288.84	96.05	16,532.30	-28.16	802.22	426.53	375.69	2.135	
26,100.00	8,809.53	8,861.35	8,834.56	129.98	289.72	98.00	16,531.84	-28.16	725.59	341.44	384.15	1.889	
26,200.00	8,801.45	8,839.20	8,812.44	130.73	288.58	95.45	16,532.62	-28.16	655.30	264.24	391.06	1.676	
26,300.00	8,793.36	8,823.39	8,796.65	131.47	287.76	93.61	16,532.89	-28.16	593.27	194.01	399.27	1.486	Level 3
26,400.00	8,785.28	8,811.99	8,785.28	132.21	287.17	92.28	16,532.30	-28.16	542.18	134.24	407.94	1.329	Level 3
26,500.00	8,777.19	8,803.90	8,777.19	132.96	286.75	91.33	16,532.30	-28.16	506.19	90.74	415.45	1.218	Level 2
26,600.00	8,769.11	8,795.82	8,769.11	133.70	286.33	90.38	16,532.30	-28.16	488.24	68.52	419.72	1.163	Level 2
26,639.88	8,765.88	8,792.59	8,765.88	134.00	286.16	90.00	16,532.30	-28.16	486.62	66.46	420.15	1.158	Level 2, CC, ES, SF
26,700.00	8,761.02	8,787.73	8,761.02	134.44	285.91	89.43	16,532.30	-28.16	490.29	70.96	419.33	1.169	Level 2
26,800.00	8,752.93	8,779.65	8,752.93	135.19	285.49	88.48	16,532.30	-28.16	512.12	97.72	414.40	1.236	Level 2
26,900.00	8,744.85	8,767.82	8,741.17	135.93	284.88	87.10	16,532.54	-28.16	551.28	144.98	406.30	1.357	Level 3
27,000.00	8,736.76	8,762.73	8,736.08	136.68	284.62	86.51	16,532.58	-28.16	604.52	207.19	397.33	1.521	
27,100.00	8,728.68	8,755.31	8,728.68	137.42	284.23	85.64	16,532.30	-28.16	668.67	280.30	388.37	1.722	
27,200.00	8,720.59	8,747.23	8,720.59	138.17	283.82	84.70	16,532.30	-28.16	740.60	360.36	380.23	1.948	
27,300.00	8,712.51	8,730.46	8,703.94	138.91	282.93	82.77	16,532.71	-28.16	818.07	445.26	372.82	2.194	
27,400.00	8,704.42	8,725.96	8,699.45	139.66	282.69	82.26	16,532.76	-28.16	900.08	533.20	366.88	2.453	
27,500.00	8,696.33	8,722.06	8,695.54	140.40	282.48	81.81	16,532.77	-28.16	985.38	623.52	361.86	2.723	
27,600.00	8,688.25	8,714.74	8,688.25	141.15	282.10	80.96	16,532.30	-28.16	1,073.59	716.13	357.47	3.003	
27,700.00	8,680.16	8,706.66	8,680.16	141.90	281.67	80.04	16,532.30	-28.16	1,163.32	809.60	353.71	3.289	
27,800.00	8,672.08	8,698.57	8,672.08	142.64	281.24	79.12	16,532.30	-28.16	1,254.54	904.05	350.50	3.579	
27,900.00	8,663.99	8,679.49	8,653.09	143.39	280.23	77.00	16,532.68	-28.16	1,346.66	999.34	347.33	3.877	
28,000.00	8,655.91	8,676.80	8,650.40	144.14	280.09	76.70	16,532.69	-28.16	1,440.00	1,094.90	345.10	4.173	
28,100.00	8,647.82	8,674.20	8,647.82	144.89	279.95	76.41	16,532.30	-28.16	1,534.54	1,191.37	343.17	4.472	
28,197.49	8,639.94	8,666.31	8,639.94	145.61	279.53	75.53	16,532.30	-28.16	1,626.99	1,280.70	346.29	4.698	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) STATE AN 012 P & A - OH - Surveys

Survey Program: 100-r.5 GYRO-NS, 7960-MWD OWSG Rev5						Rule Assigned:				Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			Minimum Separation (usft)
26,700.00	8,761.02	8,803.00	8,766.99	134.44	28.22	96.05	17,874.16	500.89	1,640.02	1,519.47	120.55	13.605	
26,800.00	8,752.93	8,800.85	8,764.84	135.19	28.22	95.93	17,874.19	500.89	1,563.77	1,439.31	124.45	12.565	
26,900.00	8,744.85	8,790.07	8,754.06	135.93	28.22	95.34	17,874.29	500.89	1,490.28	1,361.71	128.56	11.592	
27,000.00	8,736.76	8,779.61	8,743.60	136.68	28.22	94.76	17,874.37	500.89	1,419.96	1,287.00	132.96	10.680	
27,100.00	8,728.68	8,769.45	8,733.44	137.42	28.23	94.20	17,874.44	500.88	1,353.32	1,215.71	137.61	9.834	
27,200.00	8,720.59	8,761.00	8,724.99	138.17	28.23	93.74	17,874.49	500.87	1,290.93	1,148.44	142.49	9.060	
27,300.00	8,712.51	8,752.10	8,716.09	138.91	28.23	93.25	17,874.54	500.86	1,233.44	1,085.94	147.49	8.363	
27,400.00	8,704.42	8,744.07	8,708.06	139.66	28.23	92.80	17,874.60	500.85	1,181.56	1,029.05	152.51	7.747	
27,500.00	8,696.33	8,735.77	8,699.76	140.40	28.23	92.34	17,874.68	500.84	1,136.08	978.69	157.39	7.218	
27,600.00	8,688.25	8,726.86	8,690.85	141.15	28.23	91.85	17,874.77	500.83	1,097.77	935.86	161.91	6.780	
27,700.00	8,680.16	8,717.74	8,681.73	141.90	28.23	91.35	17,874.84	500.83	1,067.41	901.54	165.87	6.435	
27,800.00	8,672.08	8,709.01	8,673.00	142.64	28.23	90.86	17,874.90	500.82	1,045.69	876.66	169.03	6.186	
27,900.00	8,663.99	8,701.31	8,665.30	143.39	28.23	90.44	17,874.94	500.82	1,033.17	861.97	171.19	6.035	
27,981.01	8,657.44	8,695.40	8,659.39	144.00	28.24	90.11	17,874.96	500.83	1,030.01	857.90	172.11	5.985	CC, ES
28,000.00	8,655.91	8,694.03	8,658.02	144.14	28.24	90.03	17,874.97	500.84	1,030.18	857.97	172.21	5.982	SF
28,100.00	8,647.82	8,686.93	8,650.92	144.89	28.24	89.64	17,874.99	500.85	1,036.82	864.79	172.02	6.027	
28,197.49	8,639.94	8,680.18	8,644.17	145.61	28.24	89.27	17,875.00	500.88	1,052.38	881.55	170.83	6.161	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - (O) STATE AN 012 P & A - ST01 - ST01

Survey Program: 100-r.5 GYRO-NS, 7960-MWD OWSG Rev5, 11516-MWD+IFR1+MS							Rule Assigned:					Offset Site Error:	0.00 usft
Reference							Offset Well Error:					Offset Well Error:	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
26,700.00	8,761.02	8,803.00	8,766.99	134.44	28.22	96.05	17,874.16	500.89	1,640.02	1,519.47	120.55	13.605	
26,800.00	8,752.93	8,800.85	8,764.84	135.19	28.22	95.93	17,874.19	500.89	1,563.77	1,439.31	124.45	12.565	
26,900.00	8,744.85	8,790.07	8,754.06	135.93	28.22	95.34	17,874.29	500.89	1,490.28	1,361.71	128.56	11.592	
27,000.00	8,736.76	8,779.61	8,743.60	136.68	28.22	94.76	17,874.37	500.89	1,419.96	1,287.00	132.96	10.680	
27,100.00	8,728.68	8,769.45	8,733.44	137.42	28.23	94.20	17,874.44	500.88	1,353.32	1,215.71	137.61	9.834	
27,200.00	8,720.59	8,761.00	8,724.99	138.17	28.23	93.74	17,874.49	500.87	1,290.93	1,148.44	142.49	9.060	
27,300.00	8,712.51	8,752.10	8,716.09	138.91	28.23	93.25	17,874.54	500.86	1,233.44	1,085.94	147.49	8.363	
27,400.00	8,704.42	8,744.07	8,708.06	139.66	28.23	92.80	17,874.60	500.85	1,181.56	1,029.05	152.51	7.747	
27,500.00	8,696.33	8,735.77	8,699.76	140.40	28.23	92.34	17,874.68	500.84	1,136.08	978.69	157.39	7.218	
27,600.00	8,688.25	8,726.86	8,690.85	141.15	28.23	91.85	17,874.77	500.83	1,097.77	935.86	161.91	6.780	
27,700.00	8,680.16	8,717.74	8,681.73	141.90	28.23	91.35	17,874.84	500.83	1,067.41	901.54	165.87	6.435	
27,800.00	8,672.08	8,709.01	8,673.00	142.64	28.23	90.86	17,874.90	500.82	1,045.69	876.66	169.03	6.186	
27,900.00	8,663.99	8,701.31	8,665.30	143.39	28.23	90.44	17,874.94	500.82	1,033.17	861.97	171.19	6.035	
27,981.01	8,657.44	8,695.40	8,659.39	144.00	28.24	90.11	17,874.96	500.83	1,030.01	857.90	172.11	5.985	CC, ES
28,000.00	8,655.91	8,694.03	8,658.02	144.14	28.24	90.03	17,874.97	500.84	1,030.18	857.97	172.21	5.982	SF
28,100.00	8,647.82	8,686.93	8,650.92	144.89	28.24	89.64	17,874.99	500.85	1,036.82	864.79	172.02	6.027	
28,197.49	8,639.94	8,680.18	8,644.17	145.61	28.24	89.27	17,875.00	500.88	1,052.38	881.55	170.83	6.161	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 502H - OH - Plan #2

Survey Program: Reference		0-MWD+IFR1+MS Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,300.00	8,279.03	8,675.44	8,560.99	29.21	31.86	-89.39	-221.13	-1,960.63	1,650.43	1,590.03	60.40	27.325	
8,400.00	8,379.03	8,773.93	8,657.99	29.56	32.23	-89.49	-224.12	-1,943.84	1,633.35	1,572.23	61.12	26.724	
8,500.00	8,479.03	8,872.42	8,755.00	29.91	32.60	-89.60	-227.11	-1,927.05	1,616.27	1,554.43	61.84	26.137	
8,600.00	8,579.03	8,970.91	8,852.00	30.26	32.98	-89.70	-230.10	-1,910.26	1,599.20	1,536.64	62.56	25.564	
8,700.00	8,679.03	9,069.40	8,949.00	30.61	33.35	-89.81	-233.09	-1,893.47	1,582.13	1,518.86	63.28	25.003	
8,800.00	8,779.03	9,167.89	9,046.00	30.96	33.72	-89.92	-236.08	-1,876.68	1,565.07	1,501.08	64.00	24.455	
8,900.00	8,879.03	9,266.38	9,143.00	31.31	34.09	-90.03	-239.07	-1,859.89	1,548.02	1,483.30	64.72	23.919	
9,000.00	8,979.03	9,342.82	9,218.34	31.66	34.38	-90.11	-241.12	-1,847.09	1,531.36	1,465.93	65.43	23.404	
9,100.00	9,079.03	9,400.00	9,274.92	32.01	34.60	-90.10	-240.99	-1,838.88	1,517.03	1,450.92	66.11	22.945	
9,200.00	9,179.03	9,460.92	9,335.38	32.36	34.82	-90.02	-238.93	-1,831.73	1,505.32	1,438.56	66.76	22.547	
9,300.00	9,279.03	9,520.29	9,394.37	32.71	35.03	-89.87	-235.01	-1,826.37	1,496.27	1,428.90	67.37	22.209	
9,400.00	9,379.03	9,579.59	9,453.26	33.06	35.23	-89.65	-229.23	-1,822.59	1,489.92	1,421.98	67.94	21.930	
9,500.00	9,479.03	9,638.63	9,511.76	33.41	35.43	-88.75	-221.62	-1,820.42	1,486.32	1,417.86	68.46	21.711	
9,600.00	9,578.40	9,700.00	9,572.33	33.76	35.64	-88.72	-211.74	-1,819.83	1,485.28	1,416.33	68.95	21.543	
9,700.00	9,674.51	9,794.65	9,663.52	34.09	35.94	-88.75	-186.78	-1,820.10	1,485.25	1,415.70	69.56	21.353	
9,800.00	9,764.44	9,889.46	9,749.50	34.38	36.22	-88.82	-147.09	-1,820.52	1,485.21	1,415.08	70.13	21.179	
9,900.00	9,845.47	9,984.60	9,828.02	34.64	36.47	-88.92	-93.57	-1,821.09	1,485.15	1,414.50	70.65	21.022	
10,000.00	9,915.13	10,080.20	9,896.92	34.86	36.68	-89.06	-27.46	-1,821.79	1,485.08	1,413.96	71.11	20.883	
10,100.00	9,971.30	10,176.37	9,954.19	35.04	36.85	-89.22	49.66	-1,822.61	1,485.00	1,413.48	71.51	20.765	
10,200.00	10,012.28	10,273.25	9,998.03	35.19	36.97	-89.40	135.92	-1,823.53	1,484.93	1,413.08	71.85	20.668	
10,300.00	10,038.24	10,371.21	10,027.27	35.31	37.04	-89.56	229.29	-1,824.53	1,484.87	1,412.76	72.11	20.591	
10,400.00	10,054.93	10,470.30	10,046.47	35.42	37.10	-89.67	326.47	-1,825.56	1,484.84	1,412.50	72.34	20.525	
10,500.00	10,062.97	10,569.63	10,057.22	35.51	37.15	-89.78	425.18	-1,826.61	1,484.81	1,412.26	72.55	20.465	
10,600.00	10,062.30	10,669.20	10,059.38	35.61	37.20	-89.89	524.70	-1,827.68	1,484.80	1,412.04	72.76	20.407	
10,695.99	10,056.05	10,765.10	10,057.34	35.73	37.28	-90.05	620.57	-1,828.70	1,484.79	1,411.79	73.00	20.341	
10,700.00	10,054.74	10,769.05	10,057.25	35.74	37.28	-90.10	624.52	-1,828.74	1,484.79	1,411.78	73.01	20.337	
10,800.00	10,046.66	10,868.87	10,055.13	35.88	37.39	-90.33	724.31	-1,829.81	1,484.80	1,411.51	73.29	20.258	
10,900.00	10,038.57	10,968.69	10,053.01	36.04	37.53	-90.56	824.10	-1,830.87	1,484.84	1,411.23	73.61	20.172	
11,000.00	10,030.49	11,068.52	10,050.89	36.22	37.69	-90.79	923.90	-1,831.93	1,484.90	1,410.95	73.96	20.078	
11,100.00	10,022.40	11,168.34	10,048.77	36.42	37.87	-91.02	1,023.69	-1,833.00	1,484.99	1,410.65	74.34	19.976	
11,200.00	10,014.31	11,268.16	10,046.65	36.63	38.07	-91.25	1,123.49	-1,834.06	1,485.10	1,410.35	74.75	19.869	
11,300.00	10,006.23	11,367.98	10,044.53	36.85	38.28	-91.48	1,223.28	-1,835.13	1,485.23	1,410.05	75.19	19.754	
11,400.00	9,998.14	11,467.80	10,042.41	37.09	38.51	-91.71	1,323.07	-1,836.19	1,485.39	1,409.74	75.65	19.634	
11,500.00	9,990.06	11,567.63	10,040.29	37.34	38.75	-91.94	1,422.87	-1,837.26	1,485.58	1,409.42	76.15	19.508	
11,600.00	9,981.97	11,667.45	10,038.17	37.61	39.00	-92.16	1,522.66	-1,838.32	1,485.78	1,409.11	76.68	19.377	
11,700.00	9,973.89	11,767.27	10,036.05	37.89	39.27	-92.39	1,622.45	-1,839.39	1,486.01	1,408.78	77.23	19.242	
11,800.00	9,965.80	11,867.09	10,033.93	38.19	39.55	-92.62	1,722.25	-1,840.45	1,486.27	1,408.46	77.81	19.102	
11,900.00	9,957.71	11,966.91	10,031.81	38.49	39.84	-92.85	1,822.04	-1,841.52	1,486.54	1,408.13	78.41	18.957	
12,000.00	9,949.63	12,066.73	10,029.69	38.82	40.14	-93.08	1,921.83	-1,842.58	1,486.85	1,407.80	79.05	18.810	
12,100.00	9,941.54	12,166.56	10,027.57	39.15	40.46	-93.31	2,021.63	-1,843.65	1,487.17	1,407.47	79.70	18.659	
12,200.00	9,933.46	12,266.38	10,025.44	39.49	40.78	-93.54	2,121.42	-1,844.71	1,487.52	1,407.13	80.39	18.505	
12,300.00	9,925.37	12,366.20	10,023.32	39.85	41.12	-93.77	2,221.22	-1,845.78	1,487.89	1,406.80	81.09	18.348	
12,400.00	9,917.28	12,466.02	10,021.20	40.22	41.47	-94.00	2,321.01	-1,846.84	1,488.29	1,406.47	81.82	18.189	
12,500.00	9,909.20	12,565.84	10,019.08	40.60	41.83	-94.23	2,420.80	-1,847.91	1,488.71	1,406.14	82.57	18.029	
12,600.00	9,901.11	12,666.56	10,016.86	40.99	42.20	-94.45	2,521.48	-1,848.98	1,489.15	1,405.80	83.35	17.866	
12,700.00	9,893.03	12,769.88	10,012.12	41.39	42.60	-94.59	2,624.69	-1,850.08	1,489.41	1,405.25	84.17	17.696	
12,800.00	9,884.94	12,869.85	10,006.42	41.81	43.00	-94.68	2,724.49	-1,851.13	1,489.59	1,404.61	84.99	17.527	
12,900.00	9,876.86	12,969.82	10,000.73	42.23	43.42	-94.78	2,824.29	-1,852.19	1,489.78	1,403.95	85.83	17.357	
13,000.00	9,868.77	13,069.79	9,995.04	42.66	43.84	-94.87	2,924.10	-1,853.25	1,489.97	1,403.28	86.69	17.187	
13,100.00	9,860.68	13,169.76	9,989.35	43.10	44.27	-94.96	3,023.90	-1,854.31	1,490.16	1,402.59	87.57	17.016	
13,200.00	9,852.60	13,269.73	9,983.66	43.55	44.71	-95.05	3,123.70	-1,855.37	1,490.35	1,401.88	88.47	16.846	
13,300.00	9,844.51	13,369.70	9,977.96	44.01	45.16	-95.14	3,223.51	-1,856.43	1,490.55	1,401.16	89.39	16.675	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 502H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS								Rule Assigned:		Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
13,400.00	9,836.43	13,469.68	9,972.27	44.48	45.61	-95.24	3,323.31	-1,857.49	1,490.76	1,400.43	90.32	16.505			
13,500.00	9,828.34	13,569.65	9,966.58	44.96	46.08	-95.33	3,423.11	-1,858.54	1,490.96	1,399.69	91.27	16.335			
13,600.00	9,820.26	13,669.62	9,960.89	45.44	46.55	-95.42	3,522.92	-1,859.60	1,491.17	1,398.93	92.24	16.166			
13,700.00	9,812.17	13,769.59	9,955.20	45.93	47.03	-95.51	3,622.72	-1,860.66	1,491.39	1,398.16	93.23	15.998			
13,800.00	9,804.08	13,869.56	9,949.50	46.43	47.52	-95.60	3,722.52	-1,861.72	1,491.61	1,397.38	94.22	15.830			
13,900.00	9,796.00	13,969.53	9,943.81	46.94	48.01	-95.69	3,822.33	-1,862.78	1,491.83	1,396.59	95.24	15.664			
14,000.00	9,787.91	14,069.50	9,938.12	47.46	48.51	-95.79	3,922.13	-1,863.84	1,492.06	1,395.79	96.27	15.499			
14,100.00	9,779.83	14,169.47	9,932.43	47.98	49.02	-95.88	4,021.93	-1,864.90	1,492.29	1,394.98	97.31	15.336			
14,200.00	9,771.74	14,269.45	9,926.74	48.51	49.54	-95.97	4,121.74	-1,865.96	1,492.52	1,394.16	98.36	15.174			
14,300.00	9,763.66	14,369.42	9,921.04	49.04	50.06	-96.06	4,221.54	-1,867.01	1,492.76	1,393.32	99.43	15.013			
14,400.00	9,755.57	14,469.39	9,915.35	49.58	50.59	-96.15	4,321.35	-1,868.07	1,493.00	1,392.49	100.51	14.854			
14,500.00	9,747.48	14,569.36	9,909.66	50.13	51.12	-96.24	4,421.15	-1,869.13	1,493.24	1,391.64	101.61	14.696			
14,600.00	9,739.40	14,669.33	9,903.97	50.68	51.66	-96.34	4,520.95	-1,870.19	1,493.49	1,390.78	102.71	14.541			
14,700.00	9,731.31	14,769.30	9,898.28	51.24	52.21	-96.43	4,620.76	-1,871.25	1,493.75	1,389.92	103.83	14.387			
14,800.00	9,723.23	14,869.27	9,892.58	51.80	52.76	-96.52	4,720.56	-1,872.31	1,494.00	1,389.05	104.96	14.235			
14,900.00	9,715.14	14,969.24	9,886.89	52.37	53.32	-96.61	4,820.36	-1,873.37	1,494.26	1,388.17	106.09	14.084			
15,000.00	9,707.05	15,069.22	9,881.20	52.94	53.88	-96.70	4,920.17	-1,874.42	1,494.53	1,387.28	107.24	13.936			
15,100.00	9,698.97	15,169.19	9,875.51	53.52	54.45	-96.79	5,019.97	-1,875.48	1,494.79	1,386.39	108.40	13.789			
15,200.00	9,690.88	15,269.16	9,869.82	54.10	55.02	-96.88	5,119.77	-1,876.54	1,495.07	1,385.50	109.57	13.645			
15,300.00	9,682.80	15,369.13	9,864.12	54.69	55.59	-96.97	5,219.58	-1,877.60	1,495.34	1,384.59	110.75	13.502			
15,400.00	9,674.71	15,470.82	9,857.79	55.29	56.19	-97.05	5,321.06	-1,878.68	1,495.56	1,383.61	111.95	13.359			
15,500.00	9,666.63	15,570.81	9,851.16	55.88	56.77	-97.10	5,420.83	-1,879.73	1,495.72	1,382.58	113.14	13.220			
15,600.00	9,658.54	15,670.80	9,844.54	56.48	57.37	-97.16	5,520.59	-1,880.79	1,495.89	1,381.54	114.35	13.082			
15,700.00	9,650.45	15,770.79	9,837.91	57.09	57.96	-97.21	5,620.35	-1,881.85	1,496.06	1,380.50	115.56	12.946			
15,800.00	9,642.37	15,870.78	9,831.28	57.70	58.56	-97.27	5,720.12	-1,882.91	1,496.23	1,379.45	116.78	12.812			
15,900.00	9,634.28	15,970.77	9,824.65	58.31	59.17	-97.32	5,819.88	-1,883.97	1,496.40	1,378.39	118.01	12.680			
16,000.00	9,626.20	16,070.76	9,818.02	58.93	59.78	-97.38	5,919.64	-1,885.03	1,496.58	1,377.33	119.25	12.550			
16,100.00	9,618.11	16,170.74	9,811.40	59.55	60.39	-97.44	6,019.41	-1,886.08	1,496.75	1,376.26	120.49	12.422			
16,200.00	9,610.03	16,270.73	9,804.77	60.17	61.00	-97.49	6,119.17	-1,887.14	1,496.93	1,375.19	121.74	12.296			
16,300.00	9,601.94	16,370.72	9,798.14	60.80	61.62	-97.55	6,218.94	-1,888.20	1,497.10	1,374.11	123.00	12.172			
16,400.00	9,593.85	16,470.71	9,791.51	61.43	62.24	-97.60	6,318.70	-1,889.26	1,497.28	1,373.02	124.26	12.050			
16,500.00	9,585.77	16,570.70	9,784.88	62.06	62.87	-97.66	6,418.46	-1,890.32	1,497.46	1,371.93	125.53	11.929			
16,600.00	9,577.68	16,670.69	9,778.26	62.70	63.50	-97.71	6,518.23	-1,891.38	1,497.65	1,370.84	126.81	11.811			
16,700.00	9,569.60	16,770.68	9,771.63	63.34	64.13	-97.77	6,617.99	-1,892.43	1,497.83	1,369.74	128.09	11.694			
16,800.00	9,561.51	16,870.67	9,765.00	63.98	64.76	-97.82	6,717.76	-1,893.49	1,498.01	1,368.64	129.38	11.579			
16,900.00	9,553.43	16,970.66	9,758.37	64.63	65.40	-97.88	6,817.52	-1,894.55	1,498.20	1,367.53	130.67	11.466			
17,000.00	9,545.34	17,070.65	9,751.74	65.28	66.04	-97.94	6,917.28	-1,895.61	1,498.39	1,366.42	131.97	11.354			
17,100.00	9,537.25	17,170.64	9,745.12	65.93	66.68	-97.99	7,017.05	-1,896.67	1,498.58	1,365.30	133.27	11.244			
17,200.00	9,529.17	17,270.63	9,738.49	66.58	67.33	-98.05	7,116.81	-1,897.73	1,498.77	1,364.18	134.58	11.136			
17,300.00	9,521.08	17,370.62	9,731.86	67.24	67.98	-98.10	7,216.57	-1,898.78	1,498.96	1,363.06	135.90	11.030			
17,400.00	9,513.00	17,470.61	9,725.23	67.89	68.63	-98.16	7,316.34	-1,899.84	1,499.15	1,361.93	137.22	10.925			
17,500.00	9,504.91	17,570.60	9,718.60	68.55	69.28	-98.21	7,416.10	-1,900.90	1,499.35	1,360.80	138.54	10.822			
17,600.00	9,496.82	17,670.58	9,711.97	69.22	69.94	-98.27	7,515.87	-1,901.96	1,499.54	1,359.67	139.87	10.721			
17,700.00	9,488.74	17,770.57	9,705.35	69.88	70.59	-98.32	7,615.63	-1,903.02	1,499.74	1,358.53	141.21	10.621			
17,800.00	9,480.65	17,870.56	9,698.72	70.55	71.25	-98.38	7,715.39	-1,904.08	1,499.94	1,357.39	142.55	10.523			
17,900.00	9,472.57	17,970.55	9,692.09	71.22	71.92	-98.43	7,815.16	-1,905.13	1,500.14	1,356.25	143.89	10.426			
18,000.00	9,464.48	18,070.54	9,685.46	71.89	72.58	-98.49	7,914.92	-1,906.19	1,500.34	1,355.10	145.23	10.330			
18,100.00	9,456.40	18,170.53	9,678.83	72.56	73.25	-98.54	8,014.68	-1,907.25	1,500.54	1,353.96	146.58	10.237			
18,200.00	9,448.31	18,270.52	9,672.21	73.24	73.92	-98.60	8,114.45	-1,908.31	1,500.75	1,352.81	147.94	10.144			
18,300.00	9,440.22	18,370.51	9,665.58	73.92	74.59	-98.65	8,214.21	-1,909.37	1,500.95	1,351.65	149.30	10.053			
18,400.00	9,432.14	18,470.50	9,658.95	74.60	75.26	-98.71	8,313.98	-1,910.43	1,501.16	1,350.50	150.66	9.964			
18,500.00	9,424.05	18,570.49	9,652.32	75.28	75.93	-98.76	8,413.74	-1,911.48	1,501.37	1,349.34	152.03	9.876			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 502H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS								Rule Assigned:		Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
18,600.00	9,415.97	18,670.48	9,645.69	75.96	76.61	-98.82	8,513.50	-1,912.54	1,501.58	1,348.18	153.39	9.789			
18,700.00	9,407.88	18,770.47	9,639.07	76.64	77.29	-98.87	8,613.27	-1,913.60	1,501.79	1,347.02	154.77	9.704			
18,800.00	9,399.80	18,870.46	9,632.44	77.33	77.97	-98.93	8,713.03	-1,914.66	1,502.00	1,345.86	156.14	9.619			
18,900.00	9,391.71	18,970.45	9,625.81	78.02	78.65	-98.98	8,812.79	-1,915.72	1,502.21	1,344.69	157.52	9.537			
19,000.00	9,383.62	19,070.43	9,619.18	78.70	79.33	-99.04	8,912.56	-1,916.78	1,502.43	1,343.53	158.91	9.455			
19,100.00	9,375.54	19,171.58	9,612.44	79.39	80.02	-99.09	9,013.47	-1,917.85	1,502.64	1,342.34	160.30	9.374			
19,200.00	9,367.45	19,276.44	9,603.44	80.09	80.74	-99.07	9,117.93	-1,918.96	1,502.55	1,340.82	161.73	9.290			
19,300.00	9,359.37	19,376.43	9,594.29	80.78	81.43	-99.03	9,217.50	-1,920.01	1,502.36	1,339.25	163.12	9.210			
19,400.00	9,351.28	19,476.42	9,585.14	81.47	82.13	-98.99	9,317.07	-1,921.07	1,502.18	1,337.68	164.50	9.132			
19,500.00	9,343.20	19,576.42	9,575.98	82.17	82.82	-98.95	9,416.64	-1,922.13	1,502.00	1,336.11	165.90	9.054			
19,600.00	9,335.11	19,676.41	9,566.83	82.87	83.52	-98.91	9,516.21	-1,923.18	1,501.82	1,334.53	167.29	8.977			
19,700.00	9,327.02	19,776.41	9,557.68	83.57	84.21	-98.87	9,615.78	-1,924.24	1,501.64	1,332.96	168.68	8.902			
19,800.00	9,318.94	19,876.40	9,548.52	84.27	84.91	-98.83	9,715.35	-1,925.29	1,501.47	1,331.38	170.08	8.828			
19,900.00	9,310.85	19,976.39	9,539.37	84.97	85.61	-98.79	9,814.92	-1,926.35	1,501.29	1,329.80	171.48	8.755			
20,000.00	9,302.77	20,076.39	9,530.22	85.67	86.31	-98.75	9,914.48	-1,927.41	1,501.11	1,328.22	172.89	8.683			
20,100.00	9,294.68	20,177.64	9,520.91	86.37	87.02	-98.71	10,015.30	-1,928.48	1,500.93	1,326.63	174.30	8.611			
20,200.00	9,286.60	20,284.36	9,508.65	87.08	87.77	-98.57	10,121.30	-1,929.60	1,500.40	1,324.64	175.76	8.536			
20,300.00	9,278.51	20,384.25	9,495.98	87.78	88.48	-98.40	10,220.38	-1,930.65	1,499.70	1,322.54	177.16	8.465			
20,400.00	9,270.42	20,484.15	9,483.31	88.49	89.18	-98.22	10,319.47	-1,931.70	1,499.02	1,320.46	178.56	8.395			
20,500.00	9,262.34	20,584.04	9,470.64	89.20	89.89	-98.05	10,418.55	-1,932.76	1,498.35	1,318.39	179.96	8.326			
20,600.00	9,254.25	20,683.93	9,457.97	89.91	90.60	-97.87	10,517.63	-1,933.81	1,497.70	1,316.33	181.36	8.258			
20,700.00	9,246.17	20,783.83	9,445.31	90.62	91.31	-97.70	10,616.71	-1,934.86	1,497.06	1,314.29	182.77	8.191			
20,800.00	9,238.08	20,883.72	9,432.64	91.33	92.02	-97.52	10,715.79	-1,935.91	1,496.43	1,312.26	184.17	8.125			
20,900.00	9,229.99	20,983.61	9,419.97	92.04	92.73	-97.35	10,814.87	-1,936.96	1,495.82	1,310.24	185.58	8.060			
21,000.00	9,221.91	21,083.51	9,407.30	92.75	93.45	-97.17	10,913.95	-1,938.01	1,495.22	1,308.23	186.99	7.996			
21,100.00	9,213.82	21,183.40	9,394.63	93.47	94.16	-97.00	11,013.03	-1,939.06	1,494.64	1,306.24	188.40	7.933			
21,200.00	9,205.74	21,283.29	9,381.96	94.18	94.88	-96.82	11,112.11	-1,940.11	1,494.07	1,304.26	189.81	7.871			
21,300.00	9,197.65	21,383.19	9,369.29	94.90	95.59	-96.65	11,211.19	-1,941.16	1,493.51	1,302.29	191.22	7.810			
21,400.00	9,189.57	21,486.48	9,355.48	95.61	96.33	-96.44	11,313.55	-1,942.25	1,492.89	1,300.23	192.66	7.749			
21,500.00	9,181.48	21,586.26	9,340.82	96.33	97.05	-96.18	11,412.24	-1,943.30	1,492.15	1,298.08	194.07	7.689			
21,600.00	9,173.39	21,686.04	9,326.17	97.05	97.77	-95.93	11,510.93	-1,944.34	1,491.43	1,295.96	195.48	7.630			
21,700.00	9,165.31	21,785.82	9,311.51	97.77	98.49	-95.68	11,609.63	-1,945.39	1,490.75	1,293.86	196.88	7.572			
21,800.00	9,157.22	21,885.60	9,296.86	98.49	99.21	-95.42	11,708.32	-1,946.44	1,490.09	1,291.80	198.29	7.515			
21,900.00	9,149.14	21,985.37	9,282.21	99.21	99.93	-95.17	11,807.01	-1,947.48	1,489.46	1,289.76	199.70	7.458			
22,000.00	9,141.05	22,085.15	9,267.55	99.93	100.65	-94.92	11,905.70	-1,948.53	1,488.86	1,287.75	201.11	7.403			
22,100.00	9,132.97	22,184.93	9,252.90	100.65	101.37	-94.66	12,004.39	-1,949.58	1,488.29	1,285.77	202.52	7.349			
22,200.00	9,124.88	22,284.71	9,238.24	101.37	102.09	-94.41	12,103.08	-1,950.63	1,487.75	1,283.82	203.94	7.295			
22,300.00	9,116.79	22,384.49	9,223.59	102.09	102.81	-94.15	12,201.78	-1,951.67	1,487.24	1,281.90	205.35	7.243			
22,400.00	9,108.71	22,484.27	9,208.94	102.82	103.54	-93.90	12,300.47	-1,952.72	1,486.76	1,280.00	206.76	7.191			
22,500.00	9,100.62	22,584.05	9,194.28	103.54	104.26	-93.65	12,399.16	-1,953.77	1,486.31	1,278.13	208.18	7.140			
22,600.00	9,092.54	22,683.83	9,179.63	104.27	104.99	-93.39	12,497.85	-1,954.81	1,485.89	1,276.30	209.59	7.089			
22,700.00	9,084.45	22,786.10	9,162.89	104.99	105.73	-93.06	12,598.73	-1,955.88	1,485.40	1,274.38	211.02	7.039			
22,800.00	9,076.37	22,885.62	9,145.22	105.72	106.46	-92.69	12,696.67	-1,956.92	1,484.90	1,272.48	212.42	6.990			
22,900.00	9,068.28	22,985.15	9,127.56	106.45	107.18	-92.32	12,794.61	-1,957.96	1,484.46	1,270.64	213.82	6.943			
23,000.00	9,060.19	23,084.68	9,109.90	107.18	107.91	-91.94	12,892.55	-1,959.00	1,484.08	1,268.87	215.21	6.896			
23,100.00	9,052.11	23,184.20	9,092.24	107.90	108.63	-91.57	12,990.49	-1,960.04	1,483.77	1,267.16	216.61	6.850			
23,200.00	9,044.02	23,283.73	9,074.58	108.63	109.36	-91.19	13,088.43	-1,961.08	1,483.52	1,265.51	218.01	6.805			
23,300.00	9,035.94	23,383.25	9,056.92	109.36	110.09	-90.82	13,186.37	-1,962.12	1,483.34	1,263.92	219.41	6.760			
23,400.00	9,027.85	23,482.78	9,039.25	110.09	110.82	-90.45	13,284.31	-1,963.16	1,483.21	1,262.40	220.81	6.717			
23,500.00	9,019.76	23,582.30	9,021.59	110.82	111.55	-90.07	13,382.25	-1,964.20	1,483.16	1,260.94	222.21	6.674			
23,540.45	9,016.49	23,622.56	9,014.45	111.12	111.84	-89.92	13,421.87	-1,964.62	1,483.15	1,260.37	222.78	6.657	CC		
23,600.00	9,011.68	23,681.83	9,003.93	111.56	112.27	-89.70	13,480.19	-1,965.23	1,483.16	1,259.55	223.61	6.633			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 502H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Reference		Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
23,700.00	9,003.59	23,781.35	8,986.27	112.29	113.00	-89.32	-89.32	13,578.13	-1,966.27	1,483.23	1,258.22	225.02	6.592				
23,800.00	8,995.51	23,880.88	8,968.61	113.02	113.73	-88.95	-88.95	13,676.07	-1,967.31	1,483.37	1,256.95	226.42	6.551				
23,900.00	8,987.42	23,980.08	8,950.90	113.75	114.46	-88.57	-88.57	13,773.68	-1,968.35	1,483.57	1,255.75	227.82	6.512				
24,000.00	8,979.34	24,078.08	8,931.06	114.49	115.18	-88.11	-88.11	13,869.63	-1,969.37	1,483.91	1,254.72	229.19	6.475				
24,100.00	8,971.25	24,177.16	8,909.76	115.22	115.91	-87.59	-87.59	13,966.39	-1,970.39	1,484.41	1,253.85	230.56	6.438				
24,200.00	8,963.16	24,276.24	8,888.46	115.95	116.64	-87.08	-87.08	14,063.15	-1,971.42	1,485.03	1,253.10	231.93	6.403				
24,300.00	8,955.08	24,375.32	8,867.16	116.69	117.36	-86.56	-86.56	14,159.91	-1,972.45	1,485.78	1,252.47	233.31	6.368				
24,400.00	8,946.99	24,474.40	8,845.86	117.42	118.09	-86.04	-86.04	14,256.67	-1,973.47	1,486.64	1,251.96	234.68	6.335				
24,500.00	8,938.91	24,573.48	8,824.57	118.16	118.82	-85.53	-85.53	14,353.43	-1,974.50	1,487.63	1,251.58	236.05	6.302				
24,600.00	8,930.82	24,672.56	8,803.27	118.89	119.55	-85.01	-85.01	14,450.18	-1,975.53	1,488.75	1,251.32	237.43	6.270				
24,700.00	8,922.74	24,771.64	8,781.97	119.63	120.28	-84.50	-84.50	14,546.94	-1,976.55	1,489.98	1,251.18	238.80	6.239				
24,800.00	8,914.65	24,870.72	8,760.67	120.37	121.01	-83.99	-83.99	14,643.70	-1,977.58	1,491.34	1,251.16	240.18	6.209	ES			
24,900.00	8,906.56	24,969.80	8,739.37	121.11	121.74	-83.48	-83.48	14,740.46	-1,978.60	1,492.81	1,251.26	241.55	6.180				
25,000.00	8,898.48	25,068.88	8,718.07	121.84	122.47	-82.96	-82.96	14,837.22	-1,979.63	1,494.41	1,251.49	242.93	6.152				
25,100.00	8,890.39	25,167.96	8,696.77	122.58	123.20	-82.45	-82.45	14,933.98	-1,980.66	1,496.13	1,251.83	244.30	6.124				
25,200.00	8,882.31	25,264.82	8,675.79	123.32	123.92	-81.95	-81.95	15,028.53	-1,981.66	1,498.00	1,252.34	245.65	6.098				
25,300.00	8,874.22	25,356.47	8,653.73	124.06	124.59	-81.39	-81.39	15,117.48	-1,982.60	1,500.35	1,253.43	246.92	6.076				
25,400.00	8,866.14	25,447.08	8,629.13	124.80	125.26	-80.73	-80.73	15,204.68	-1,983.53	1,503.39	1,255.25	248.14	6.059				
25,500.00	8,858.05	25,543.10	8,601.05	125.54	125.96	-79.96	-79.96	15,296.50	-1,984.50	1,507.05	1,257.64	249.41	6.042				
25,600.00	8,849.96	25,640.77	8,572.43	126.28	126.68	-79.18	-79.18	15,389.87	-1,985.49	1,511.01	1,260.31	250.70	6.027				
25,700.00	8,841.88	25,738.44	8,543.81	127.02	127.40	-78.40	-78.40	15,483.24	-1,986.48	1,515.27	1,263.28	251.99	6.013				
25,800.00	8,833.79	25,836.10	8,515.19	127.76	128.11	-77.62	-77.62	15,576.62	-1,987.47	1,519.82	1,266.54	253.28	6.000				
25,900.00	8,825.71	25,933.77	8,486.57	128.50	128.83	-76.85	-76.85	15,669.99	-1,988.46	1,524.66	1,270.09	254.57	5.989				
26,000.00	8,817.62	26,031.43	8,457.94	129.24	129.55	-76.08	-76.08	15,763.36	-1,989.46	1,529.79	1,273.92	255.87	5.979				
26,100.00	8,809.53	26,129.10	8,429.32	129.98	130.27	-75.32	-75.32	15,856.73	-1,990.45	1,535.20	1,278.04	257.16	5.970				
26,200.00	8,801.45	26,226.77	8,400.70	130.73	130.99	-74.57	-74.57	15,950.11	-1,991.44	1,540.89	1,282.44	258.45	5.962				
26,300.00	8,793.36	26,324.43	8,372.08	131.47	131.70	-73.82	-73.82	16,043.48	-1,992.43	1,546.86	1,287.11	259.74	5.955				
26,400.00	8,785.28	26,422.10	8,343.46	132.21	132.42	-73.07	-73.07	16,136.85	-1,993.42	1,553.10	1,292.06	261.04	5.950				
26,500.00	8,777.19	26,519.76	8,314.84	132.96	133.14	-72.33	-72.33	16,230.23	-1,994.41	1,559.61	1,297.28	262.34	5.945				
26,600.00	8,769.11	26,617.43	8,286.22	133.70	133.86	-71.60	-71.60	16,323.60	-1,995.40	1,566.39	1,302.76	263.63	5.942				
26,700.00	8,761.02	26,715.10	8,257.59	134.44	134.58	-70.87	-70.87	16,416.97	-1,996.39	1,573.44	1,308.50	264.93	5.939				
26,800.00	8,752.93	26,815.53	8,228.20	135.19	135.32	-70.13	-70.13	16,513.00	-1,997.41	1,580.73	1,314.44	266.29	5.936				
26,900.00	8,744.85	26,918.34	8,199.33	135.93	136.08	-69.43	-69.43	16,611.67	-1,998.45	1,587.84	1,320.14	267.69	5.932				
27,000.00	8,736.76	27,016.29	8,171.93	136.68	136.80	-68.76	-68.76	16,705.71	-1,999.45	1,595.13	1,326.11	269.02	5.929				
27,100.00	8,728.68	27,114.25	8,144.53	137.42	137.52	-68.10	-68.10	16,799.75	-2,000.45	1,602.65	1,332.30	270.35	5.928				
27,200.00	8,720.59	27,212.20	8,117.13	138.17	138.25	-67.45	-67.45	16,893.79	-2,001.45	1,610.38	1,338.71	271.68	5.928	SF			
27,300.00	8,712.51	27,310.16	8,089.73	138.91	138.97	-66.80	-66.80	16,987.83	-2,002.44	1,618.33	1,345.32	273.01	5.928				
27,400.00	8,704.42	27,408.11	8,062.33	139.66	139.69	-66.16	-66.16	17,081.87	-2,003.44	1,626.48	1,352.14	274.34	5.929				
27,500.00	8,696.33	27,506.07	8,034.93	140.40	140.42	-65.53	-65.53	17,175.90	-2,004.44	1,634.85	1,359.17	275.68	5.930				
27,600.00	8,688.25	27,604.03	8,007.53	141.15	141.14	-64.90	-64.90	17,269.94	-2,005.44	1,643.41	1,366.39	277.02	5.932				
27,700.00	8,680.16	27,701.98	7,980.12	141.90	141.87	-64.28	-64.28	17,363.98	-2,006.44	1,652.18	1,373.82	278.36	5.935				
27,800.00	8,672.08	27,799.94	7,952.72	142.64	142.59	-63.66	-63.66	17,458.02	-2,007.43	1,661.15	1,381.44	279.71	5.939				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 504H - OH - Plan #2

Survey Program: Reference		0-MWD+IFR1+MS Offset		Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.00	0.00	0.00	0.20	0.00	0.00	89.77	0.16	39.99	39.99				
100.00	100.00	99.80	100.00	0.28	0.28	89.77	0.16	39.99	39.99	39.44	0.55	72.513	
200.00	200.00	199.80	200.00	0.63	0.63	89.77	0.16	39.99	39.99	38.72	1.27	31.531	
300.00	300.00	299.80	300.00	0.99	0.99	89.77	0.16	39.99	39.99	38.01	1.99	20.144	
400.00	400.00	399.80	400.00	1.35	1.35	89.77	0.16	39.99	39.99	37.29	2.70	14.799	
500.00	500.00	499.80	500.00	1.71	1.71	89.77	0.16	39.99	39.99	36.57	3.42	11.696	
600.00	600.00	599.80	600.00	2.07	2.07	89.77	0.16	39.99	39.99	35.85	4.14	9.669	
700.00	700.00	699.80	700.00	2.43	2.43	89.77	0.16	39.99	39.99	35.14	4.85	8.240	
800.00	800.00	799.80	800.00	2.79	2.78	89.77	0.16	39.99	39.99	34.42	5.57	7.180	
900.00	900.00	899.80	900.00	3.14	3.14	89.77	0.16	39.99	39.99	33.70	6.29	6.361	
1,000.00	1,000.00	999.80	1,000.00	3.50	3.50	89.77	0.16	39.99	39.99	32.99	7.00	5.710	
1,100.00	1,100.00	1,099.80	1,100.00	3.86	3.86	89.77	0.16	39.99	39.99	32.27	7.72	5.180	
1,200.00	1,200.00	1,199.80	1,200.00	4.22	4.22	89.77	0.16	39.99	39.99	31.55	8.44	4.739	
1,300.00	1,300.00	1,299.80	1,300.00	4.58	4.58	89.77	0.16	39.99	39.99	30.84	9.15	4.368	
1,400.00	1,400.00	1,399.80	1,400.00	4.94	4.94	89.77	0.16	39.99	39.99	30.12	9.87	4.051	
1,500.00	1,500.00	1,499.80	1,500.00	5.29	5.29	89.77	0.16	39.99	39.99	29.40	10.59	3.777	
1,600.00	1,600.00	1,599.80	1,600.00	5.65	5.65	89.77	0.16	39.99	39.99	28.68	11.31	3.537	
1,700.00	1,700.00	1,699.80	1,700.00	6.01	6.01	89.77	0.16	39.99	39.99	27.97	12.02	3.326	
1,800.00	1,800.00	1,799.80	1,800.00	6.37	6.37	89.77	0.16	39.99	39.99	27.25	12.74	3.139	CC, ES, SF
1,900.00	1,899.98	1,898.44	1,898.62	6.71	6.71	-145.20	-0.48	41.56	43.00	29.58	13.42	3.205	
2,000.00	1,999.84	1,996.53	1,996.57	7.05	7.04	-146.18	-2.37	46.24	52.05	37.98	14.06	3.701	
2,100.00	2,099.45	2,093.55	2,093.24	7.38	7.37	-147.20	-5.48	53.92	67.09	52.39	14.70	4.565	
2,200.00	2,198.90	2,189.31	2,188.31	7.72	7.70	-147.60	-9.76	64.47	86.58	71.27	15.31	5.654	
2,300.00	2,298.36	2,286.73	2,284.79	8.06	8.03	-147.40	-14.84	77.01	107.86	91.89	15.97	6.753	
2,400.00	2,397.81	2,384.43	2,381.54	8.40	8.37	-147.27	-19.94	89.61	129.16	112.52	16.64	7.762	
2,500.00	2,497.26	2,482.14	2,478.30	8.75	8.71	-147.17	-25.05	102.21	150.46	133.15	17.31	8.690	
2,600.00	2,596.72	2,579.84	2,575.05	9.09	9.05	-147.09	-30.15	114.81	171.76	153.77	17.99	9.546	
2,700.00	2,696.17	2,677.55	2,671.81	9.44	9.40	-147.03	-35.26	127.40	193.06	174.39	18.67	10.339	
2,800.00	2,795.62	2,775.25	2,768.56	9.79	9.74	-146.99	-40.36	140.00	214.36	195.00	19.36	11.073	
2,900.00	2,895.07	2,872.96	2,865.32	10.14	10.09	-146.95	-45.47	152.60	235.66	215.62	20.05	11.756	
3,000.00	2,994.53	2,970.66	2,962.07	10.49	10.44	-146.92	-50.57	165.20	256.96	236.23	20.74	12.392	
3,100.00	3,093.98	3,068.37	3,058.83	10.85	10.79	-146.89	-55.68	177.80	278.26	256.83	21.43	12.986	
3,200.00	3,193.43	3,166.07	3,155.58	11.20	11.14	-146.87	-60.78	190.39	299.56	277.44	22.12	13.541	
3,300.00	3,292.88	3,263.78	3,252.34	11.55	11.49	-146.85	-65.88	202.99	320.86	298.05	22.82	14.061	
3,400.00	3,392.34	3,361.48	3,349.09	11.91	11.84	-146.83	-70.99	215.59	342.17	318.65	23.52	14.549	
3,500.00	3,491.79	3,459.19	3,445.85	12.27	12.19	-146.81	-76.09	228.19	363.47	339.25	24.22	15.009	
3,600.00	3,591.24	3,556.89	3,542.60	12.62	12.54	-146.80	-81.20	240.79	384.77	359.85	24.92	15.441	
3,700.00	3,690.69	3,654.60	3,639.35	12.98	12.90	-146.79	-86.30	253.38	406.07	380.45	25.62	15.849	
3,800.00	3,790.15	3,752.30	3,736.11	13.34	13.25	-146.78	-91.41	265.98	427.37	401.04	26.33	16.234	
3,900.00	3,889.60	3,850.01	3,832.86	13.70	13.60	-146.77	-96.51	278.58	448.67	421.64	27.03	16.599	
4,000.00	3,989.05	3,947.71	3,929.62	14.05	13.96	-146.76	-101.61	291.18	469.97	442.23	27.74	16.944	
4,100.00	4,088.51	4,045.42	4,026.37	14.41	14.31	-146.75	-106.72	303.78	491.27	462.83	28.44	17.271	
4,200.00	4,187.96	4,143.12	4,123.13	14.77	14.67	-146.74	-111.82	316.37	512.57	483.42	29.15	17.582	
4,300.00	4,287.41	4,240.83	4,219.88	15.13	15.03	-146.74	-116.93	328.97	533.87	504.01	29.86	17.878	
4,400.00	4,386.86	4,338.53	4,316.64	15.49	15.38	-146.73	-122.03	341.57	555.17	524.60	30.57	18.160	
4,500.00	4,486.32	4,436.24	4,413.39	15.85	15.74	-146.72	-127.14	354.17	576.48	545.19	31.28	18.428	
4,600.00	4,585.77	4,533.94	4,510.15	16.22	16.10	-146.72	-132.24	366.77	597.78	565.78	31.99	18.684	
4,700.00	4,685.22	4,631.65	4,606.90	16.58	16.45	-146.71	-137.35	379.36	619.08	586.37	32.71	18.929	
4,800.00	4,784.67	4,729.35	4,703.66	16.94	16.81	-146.71	-142.45	391.96	640.38	606.96	33.42	19.162	
4,900.00	4,884.13	4,827.06	4,800.41	17.30	17.17	-146.70	-147.55	404.56	661.68	627.55	34.13	19.386	
5,000.00	4,983.58	4,924.76	4,897.17	17.66	17.53	-146.70	-152.66	417.16	682.98	648.13	34.85	19.600	
5,100.00	5,083.03	5,022.47	4,993.92	18.02	17.89	-146.69	-157.76	429.76	704.28	668.72	35.56	19.805	

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 504H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Reference		Semi Major Axis		Offset		Highside		Offset Wellbore Centre		Distance		Minimum		Separation		Warning	
Measured	Vertical	Measured	Vertical	Reference	Offset	Reference	Offset	Reference	Offset	Toolface	Highside	+N/-S	+E/-W	Between	Between	Separation	Factor	Factor	Factor	Factor	Factor
Depth	Depth	Depth	Depth	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(usft)
5,200.00	5,182.48	5,120.17	5,090.68	18.39	18.25	-146.69	-146.69	-162.87	442.35	725.58	689.31	36.27	20.002								
5,300.00	5,281.94	5,217.88	5,187.43	18.75	18.60	-146.69	-146.69	-167.97	454.95	746.88	709.89	36.99	20.191								
5,400.00	5,381.39	5,315.58	5,284.19	19.11	18.96	-146.68	-146.68	-173.08	467.55	768.18	730.48	37.71	20.373								
5,500.00	5,480.84	5,413.29	5,380.94	19.48	19.32	-146.68	-146.68	-178.18	480.15	789.48	751.06	38.42	20.548								
5,600.00	5,580.29	5,510.99	5,477.70	19.84	19.68	-146.68	-146.68	-183.28	492.75	810.79	771.65	39.14	20.715								
5,700.00	5,679.75	5,608.70	5,574.45	20.20	20.04	-146.67	-146.67	-188.39	505.34	832.09	792.23	39.86	20.877								
5,800.00	5,779.28	5,706.54	5,671.35	20.57	20.40	-146.80	-146.80	-193.50	517.96	852.71	812.14	40.57	21.017								
5,900.00	5,879.08	5,804.90	5,768.74	20.93	20.77	-146.84	-146.84	-198.64	530.64	870.61	829.32	41.29	21.085								
6,000.00	5,979.03	5,903.67	5,866.55	21.28	21.13	-146.74	-146.74	-203.80	543.38	885.64	843.63	42.01	21.084								
6,100.00	6,079.03	6,002.68	5,964.61	21.62	21.49	88.11	88.11	-208.97	556.14	898.49	855.79	42.71	21.038								
6,200.00	6,179.03	6,101.71	6,062.67	21.96	21.86	88.47	88.47	-214.15	568.91	911.25	867.83	43.41	20.991								
6,300.00	6,279.03	6,200.74	6,160.74	22.30	22.23	88.81	88.81	-219.32	581.68	924.03	879.92	44.12	20.946								
6,400.00	6,379.03	6,300.71	6,259.73	22.65	22.59	89.15	89.15	-224.54	594.57	936.85	892.02	44.83	20.899								
6,500.00	6,479.03	6,443.40	6,401.49	22.99	23.12	89.53	89.53	-230.61	609.56	947.32	901.48	45.84	20.667								
6,600.00	6,579.03	6,587.37	6,545.15	23.33	23.63	89.74	89.74	-234.05	618.03	953.19	906.43	46.76	20.383								
6,700.00	6,679.03	6,721.27	6,679.03	23.67	24.10	89.79	89.79	-234.84	619.99	954.55	906.98	47.57	20.067								
6,800.00	6,779.03	6,821.27	6,779.03	24.02	24.44	89.79	89.79	-234.84	619.99	954.55	906.30	48.25	19.785								
6,900.00	6,879.03	6,921.27	6,879.03	24.36	24.77	89.79	89.79	-234.84	619.99	954.55	905.62	48.93	19.510								
7,000.00	6,979.03	7,021.27	6,979.03	24.70	25.11	89.79	89.79	-234.84	619.99	954.55	904.94	49.61	19.242								
7,100.00	7,079.03	7,121.27	7,079.03	25.05	25.45	89.79	89.79	-234.84	619.99	954.55	904.26	50.29	18.980								
7,200.00	7,179.03	7,221.27	7,179.03	25.39	25.80	89.79	89.79	-234.84	619.99	954.55	903.57	50.97	18.726								
7,300.00	7,279.03	7,321.27	7,279.03	25.74	26.14	89.79	89.79	-234.84	619.99	954.55	902.89	51.66	18.478								
7,400.00	7,379.03	7,421.27	7,379.03	26.09	26.48	89.79	89.79	-234.84	619.99	954.55	902.20	52.34	18.236								
7,500.00	7,479.03	7,521.27	7,479.03	26.43	26.82	89.79	89.79	-234.84	619.99	954.55	901.52	53.03	18.000								
7,600.00	7,579.03	7,621.27	7,579.03	26.78	27.16	89.79	89.79	-234.84	619.99	954.55	900.83	53.72	17.770								
7,700.00	7,679.03	7,721.27	7,679.03	27.13	27.51	89.79	89.79	-234.84	619.99	954.55	900.14	54.41	17.545								
7,800.00	7,779.03	7,821.27	7,779.03	27.47	27.85	89.79	89.79	-234.84	619.99	954.55	899.45	55.09	17.326								
7,900.00	7,879.03	7,921.27	7,879.03	27.82	28.19	89.79	89.79	-234.84	619.99	954.55	898.76	55.78	17.112								
8,000.00	7,979.03	8,021.27	7,979.03	28.17	28.54	89.79	89.79	-234.84	619.99	954.55	898.07	56.47	16.903								
8,100.00	8,079.03	8,121.27	8,079.03	28.52	28.88	89.79	89.79	-234.84	619.99	954.55	897.38	57.16	16.699								
8,200.00	8,179.03	8,221.27	8,179.03	28.86	29.23	89.79	89.79	-234.84	619.99	954.55	896.69	57.85	16.499								
8,300.00	8,279.03	8,321.27	8,279.03	29.21	29.57	89.79	89.79	-234.84	619.99	954.55	896.00	58.55	16.304								
8,400.00	8,379.03	8,421.27	8,379.03	29.56	29.92	89.79	89.79	-234.84	619.99	954.55	895.31	59.24	16.114								
8,500.00	8,479.03	8,521.27	8,479.03	29.91	30.27	89.79	89.79	-234.84	619.99	954.55	894.61	59.93	15.927								
8,600.00	8,579.03	8,621.27	8,579.03	30.26	30.61	89.79	89.79	-234.84	619.99	954.55	893.92	60.63	15.745								
8,700.00	8,679.03	8,721.27	8,679.03	30.61	30.96	89.79	89.79	-234.84	619.99	954.55	893.23	61.32	15.567								
8,800.00	8,779.03	8,821.27	8,779.03	30.96	31.31	89.79	89.79	-234.84	619.99	954.55	892.53	62.01	15.392								
8,900.00	8,879.03	8,921.27	8,879.03	31.31	31.65	89.79	89.79	-234.84	619.99	954.55	891.84	62.71	15.222								
9,000.00	8,979.03	9,021.27	8,979.03	31.66	32.00	89.79	89.79	-234.84	619.99	954.55	891.14	63.40	15.055								
9,100.00	9,079.03	9,121.27	9,079.03	32.01	32.35	89.79	89.79	-234.84	619.99	954.55	890.45	64.10	14.891								
9,200.00	9,179.03	9,221.27	9,179.03	32.36	32.70	89.79	89.79	-234.84	619.99	954.55	889.75	64.80	14.731								
9,300.00	9,279.03	9,321.27	9,279.03	32.71	33.04	89.79	89.79	-234.84	619.99	954.55	889.05	65.49	14.575								
9,400.00	9,379.03	9,421.27	9,379.03	33.06	33.39	89.79	89.79	-234.84	619.99	954.55	888.35	66.19	14.421								
9,408.32	9,387.35	9,429.60	9,387.35	33.09	33.42	90.41	90.41	-234.84	619.99	954.55	888.30	66.25	14.408								
9,500.00	9,479.03	9,521.27	9,479.03	33.41	33.74	90.41	90.41	-234.84	619.99	954.55	887.66	66.89	14.271								
9,600.00	9,578.40	9,615.62	9,573.27	33.76	34.07	90.76	90.76	-231.77	620.16	954.84	887.28	67.56	14.133								
9,700.00	9,674.51	9,707.93	9,663.92	34.09	34.38	91.13	91.13	-214.91	621.09	956.21	888.00	68.20	14.020								
9,800.00	9,764.44	9,801.57	9,751.90	34.38	34.68	91.46	91.46	-183.20	622.85	958.70	889.89	68.80	13.934								
9,900.00	9,845.47	9,886.77	9,834.83	34.64	34.95	91.75	91.75	-136.75	625.42	962.27	892.91	69.35	13.875								
10,000.00	9,915.13	9,993.73	9,910.20	34.86	35.18	91.98	91.98	-76.03	628.79	966.84	896.99	69.85	13.843								
10,100.00	9,971.30	10,092.66	9,975.42	35.04	35.38	92.15	92.15	-1.93	632.89	972.28	902.02	70.26	13.838								
10,200.00	10,012.28	10,193.71	10,027.87	35.19	35.53	92.26	92.26	84.17	637.66	978.44	907.84	70.60	13.859								

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 504H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Reference		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Offset Site Error:	
Reference		Offset		Reference		Offset		+N/-S		Between		Minimum		Offset Well Error:	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)		+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor	Warning	
10,300.00	10,038.24	10,297.11	10,065.02	35.31	35.66	92.42		180.37	642.99	985.06	914.20	70.86	13.902		
10,400.00	10,054.93	10,399.69	10,087.93	35.42	35.75	92.41		280.16	648.51	991.75	920.68	71.07	13.954		
10,500.00	10,062.97	10,502.56	10,101.81	35.51	35.84	92.38		381.90	654.15	998.53	927.27	71.26	14.012		
10,600.00	10,062.30	10,605.94	10,106.50	35.61	35.93	92.33		484.98	659.87	1,005.35	933.91	71.44	14.073		
10,700.00	10,054.74	10,708.55	10,102.32	35.74	36.03	92.40		587.33	665.54	1,012.09	940.43	71.66	14.123		
10,800.00	10,046.66	10,808.32	10,096.00	35.88	36.16	92.48		686.75	671.06	1,018.75	946.83	71.93	14.163		
10,900.00	10,038.57	10,908.09	10,089.68	36.04	36.30	92.56		786.16	676.57	1,025.42	953.20	72.23	14.197		
11,000.00	10,030.49	11,007.85	10,083.36	36.22	36.46	92.64		885.57	682.09	1,032.09	959.54	72.56	14.225		
11,100.00	10,022.40	11,107.62	10,077.04	36.42	36.64	92.72		984.99	687.60	1,038.77	965.85	72.92	14.246		
11,200.00	10,014.31	11,207.39	10,070.72	36.63	36.84	92.80		1,084.40	693.11	1,045.44	972.13	73.31	14.261		
11,300.00	10,006.23	11,307.16	10,064.39	36.85	37.05	92.88		1,183.81	698.63	1,052.12	978.39	73.73	14.271		
11,400.00	9,998.14	11,406.92	10,058.07	37.09	37.27	92.95		1,283.23	704.14	1,058.79	984.62	74.18	14.274		
11,500.00	9,990.06	11,506.69	10,051.75	37.34	37.51	93.03		1,382.64	709.66	1,065.47	990.82	74.65	14.272		
11,600.00	9,981.97	11,606.46	10,045.43	37.61	37.76	93.10		1,482.06	715.17	1,072.15	997.00	75.16	14.265		
11,700.00	9,973.89	11,706.22	10,039.11	37.89	38.02	93.17		1,581.47	720.68	1,078.84	1,003.15	75.69	14.253		
11,800.00	9,965.80	11,805.99	10,032.79	38.19	38.30	93.25		1,680.88	726.20	1,085.52	1,009.27	76.25	14.236		
11,900.00	9,957.71	11,905.76	10,026.47	38.49	38.59	93.32		1,780.30	731.71	1,092.21	1,015.37	76.84	14.214		
12,000.00	9,949.63	12,005.52	10,020.15	38.82	38.89	93.39		1,879.71	737.23	1,098.90	1,021.45	77.45	14.188		
12,100.00	9,941.54	12,105.29	10,013.83	39.15	39.21	93.46		1,979.12	742.74	1,105.59	1,027.50	78.09	14.158		
12,200.00	9,933.46	12,205.06	10,007.50	39.49	39.54	93.53		2,078.54	748.26	1,112.28	1,033.53	78.75	14.124		
12,300.00	9,925.37	12,304.83	10,001.18	39.85	39.88	93.59		2,177.95	753.77	1,118.97	1,039.53	79.44	14.086		
12,400.00	9,917.28	12,404.59	9,994.86	40.22	40.23	93.66		2,277.37	759.28	1,125.67	1,045.52	80.15	14.045		
12,500.00	9,909.20	12,541.90	9,986.16	40.60	40.73	93.76		2,414.26	765.29	1,131.41	1,050.38	81.03	13.963		
12,600.00	9,901.11	12,678.80	9,977.54	40.99	41.25	93.88		2,550.88	765.36	1,132.46	1,050.54	81.91	13.825		
12,700.00	9,893.03	12,778.79	9,971.32	41.39	41.64	93.97		2,650.66	764.29	1,132.58	1,049.89	82.70	13.696		
12,800.00	9,884.94	12,878.77	9,965.11	41.81	42.04	94.07		2,750.45	763.22	1,132.71	1,049.21	83.50	13.565		
12,900.00	9,876.86	12,978.75	9,958.90	42.23	42.45	94.16		2,850.23	762.14	1,132.85	1,048.52	84.33	13.434		
13,000.00	9,868.77	13,078.73	9,952.68	42.66	42.88	94.25		2,950.01	761.07	1,132.99	1,047.81	85.17	13.302		
13,100.00	9,860.68	13,178.71	9,946.47	43.10	43.31	94.35		3,049.80	760.00	1,133.13	1,047.09	86.04	13.170		
13,200.00	9,852.60	13,278.70	9,940.25	43.55	43.75	94.44		3,149.58	758.92	1,133.27	1,046.35	86.92	13.038		
13,300.00	9,844.51	13,378.68	9,934.04	44.01	44.20	94.54		3,249.36	757.85	1,133.41	1,045.60	87.82	12.906		
13,400.00	9,836.43	13,478.66	9,927.83	44.48	44.66	94.63		3,349.15	756.78	1,133.56	1,044.83	88.74	12.774		
13,500.00	9,828.34	13,578.64	9,921.61	44.96	45.12	94.73		3,448.93	755.71	1,133.72	1,044.05	89.67	12.643		
13,600.00	9,820.26	13,678.63	9,915.40	45.44	45.60	94.82		3,548.71	754.63	1,133.87	1,043.25	90.62	12.512		
13,700.00	9,812.17	13,778.61	9,909.18	45.93	46.08	94.92		3,648.50	753.56	1,134.03	1,042.44	91.59	12.382		
13,800.00	9,804.08	13,878.59	9,902.97	46.43	46.57	95.01		3,748.28	752.49	1,134.19	1,041.62	92.57	12.252		
13,900.00	9,796.00	13,978.57	9,896.76	46.94	47.07	95.10		3,848.06	751.42	1,134.36	1,040.79	93.57	12.123		
14,000.00	9,787.91	14,078.56	9,890.54	47.46	47.57	95.20		3,947.85	750.34	1,134.53	1,039.94	94.58	11.995		
14,100.00	9,779.83	14,178.54	9,884.33	47.98	48.09	95.29		4,047.63	749.27	1,134.70	1,039.09	95.61	11.868		
14,200.00	9,771.74	14,278.52	9,878.11	48.51	48.61	95.39		4,147.41	748.20	1,134.87	1,038.23	96.65	11.743		
14,300.00	9,763.66	14,378.50	9,871.90	49.04	49.13	95.48		4,247.20	747.12	1,135.05	1,037.35	97.70	11.618		
14,400.00	9,755.57	14,478.49	9,865.68	49.58	49.66	95.58		4,346.98	746.05	1,135.23	1,036.47	98.76	11.495		
14,500.00	9,747.48	14,578.47	9,859.47	50.13	50.20	95.67		4,446.76	744.98	1,135.41	1,035.57	99.84	11.372		
14,600.00	9,739.40	14,678.45	9,853.26	50.68	50.75	95.76		4,546.55	743.91	1,135.60	1,034.67	100.93	11.252		
14,700.00	9,731.31	14,778.43	9,847.04	51.24	51.30	95.86		4,646.33	742.83	1,135.79	1,033.76	102.03	11.132		
14,800.00	9,723.23	14,878.07	9,840.96	51.80	51.85	95.96		4,745.77	741.76	1,135.99	1,032.85	103.14	11.014		
14,900.00	9,715.14	14,978.04	9,835.06	52.37	52.41	96.07		4,845.57	740.69	1,136.22	1,031.96	104.26	10.898		
15,000.00	9,707.05	15,078.02	9,829.16	52.94	52.97	96.18		4,945.36	739.61	1,136.45	1,031.06	105.39	10.784		
15,100.00	9,698.97	15,177.99	9,823.27	53.52	53.54	96.29		5,045.16	738.54	1,136.68	1,030.16	106.53	10.670		
15,200.00	9,690.88	15,277.97	9,817.37	54.10	54.12	96.40		5,144.96	737.46	1,136.92	1,029.25	107.68	10.559		
15,300.00	9,682.80	15,377.95	9,811.48	54.69	54.70	96.51		5,244.75	736.39	1,137.17	1,028.33	108.84	10.448		
15,400.00	9,674.71	15,477.92	9,805.58	55.29	55.28	96.62		5,344.55	735.31	1,137.41	1,027.41	110.01	10.340		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 504H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.00	9,666.63	15,577.90	9,799.68	55.88	55.87	96.73	5,444.34	734.24	1,137.67	1,026.48	111.18	10.232	
15,600.00	9,658.54	15,677.87	9,793.79	56.48	56.47	96.84	5,544.14	733.16	1,137.92	1,025.55	112.37	10.126	
15,700.00	9,650.45	15,777.85	9,787.89	57.09	57.07	96.95	5,643.94	732.09	1,138.18	1,024.62	113.57	10.022	
15,800.00	9,642.37	15,877.83	9,782.00	57.70	57.67	97.06	5,743.73	731.01	1,138.45	1,023.68	114.77	9.919	
15,900.00	9,634.28	15,979.64	9,775.75	58.31	58.28	97.15	5,845.35	729.92	1,138.69	1,022.70	115.99	9.817	
16,000.00	9,626.20	16,081.42	9,767.36	58.93	58.91	97.15	5,946.78	728.83	1,138.67	1,021.44	117.23	9.713	
16,100.00	9,618.11	16,181.42	9,758.89	59.55	59.53	97.13	6,046.41	727.76	1,138.62	1,020.14	118.48	9.611	
16,200.00	9,610.03	16,281.42	9,750.43	60.17	60.15	97.11	6,146.04	726.69	1,138.57	1,018.85	119.73	9.510	
16,300.00	9,601.94	16,381.42	9,741.96	60.80	60.78	97.09	6,245.68	725.62	1,138.53	1,017.54	120.98	9.411	
16,400.00	9,593.85	16,481.42	9,733.49	61.43	61.41	97.07	6,345.31	724.55	1,138.48	1,016.23	122.25	9.313	
16,500.00	9,585.77	16,581.42	9,725.03	62.06	62.04	97.05	6,444.95	723.48	1,138.43	1,014.92	123.52	9.217	
16,600.00	9,577.68	16,681.42	9,716.56	62.70	62.67	97.03	6,544.58	722.41	1,138.39	1,013.59	124.79	9.122	
16,700.00	9,569.60	16,781.42	9,708.10	63.34	63.31	97.01	6,644.22	721.34	1,138.34	1,012.27	126.07	9.029	
16,800.00	9,561.51	16,881.42	9,699.63	63.98	63.95	96.99	6,743.85	720.27	1,138.29	1,010.93	127.36	8.937	
16,900.00	9,553.43	16,981.41	9,691.16	64.63	64.60	96.98	6,843.49	719.19	1,138.25	1,009.59	128.66	8.847	
17,000.00	9,545.34	17,081.41	9,682.70	65.28	65.24	96.96	6,943.12	718.12	1,138.20	1,008.25	129.95	8.758	
17,100.00	9,537.25	17,181.41	9,674.23	65.93	65.89	96.94	7,042.76	717.05	1,138.16	1,006.90	131.26	8.671	
17,200.00	9,529.17	17,281.41	9,665.77	66.58	66.54	96.92	7,142.39	715.98	1,138.11	1,005.54	132.57	8.585	
17,300.00	9,521.08	17,381.90	9,657.15	67.24	67.20	96.89	7,242.50	714.91	1,138.05	1,004.17	133.88	8.500	
17,400.00	9,513.00	17,481.89	9,648.34	67.89	67.86	96.86	7,342.10	713.84	1,137.96	1,002.76	135.20	8.417	
17,500.00	9,504.91	17,581.89	9,639.52	68.55	68.52	96.82	7,441.70	712.77	1,137.88	1,001.35	136.53	8.334	
17,600.00	9,496.82	17,681.89	9,630.70	69.22	69.18	96.78	7,541.30	711.70	1,137.79	999.93	137.86	8.253	
17,700.00	9,488.74	17,781.89	9,621.88	69.88	69.85	96.75	7,640.91	710.63	1,137.70	998.51	139.19	8.173	
17,800.00	9,480.65	17,881.88	9,613.07	70.55	70.51	96.71	7,740.51	709.56	1,137.62	997.08	140.53	8.095	
17,900.00	9,472.57	17,981.88	9,604.25	71.22	71.18	96.67	7,840.11	708.49	1,137.53	995.66	141.88	8.018	
18,000.00	9,464.48	18,081.88	9,595.43	71.89	71.85	96.64	7,939.71	707.42	1,137.45	994.22	143.22	7.942	
18,100.00	9,456.40	18,181.88	9,586.61	72.56	72.52	96.60	8,039.32	706.35	1,137.36	992.79	144.57	7.867	
18,200.00	9,448.31	18,281.87	9,577.79	73.24	73.20	96.56	8,138.92	705.28	1,137.28	991.35	145.93	7.793	
18,300.00	9,440.22	18,381.87	9,568.98	73.92	73.88	96.53	8,238.52	704.21	1,137.19	989.91	147.29	7.721	
18,400.00	9,432.14	18,481.87	9,560.16	74.60	74.55	96.49	8,338.12	703.14	1,137.11	988.46	148.65	7.650	
18,500.00	9,424.05	18,581.86	9,551.34	75.28	75.23	96.45	8,437.72	702.07	1,137.03	987.01	150.01	7.579	
18,600.00	9,415.97	18,681.86	9,542.52	75.96	75.92	96.42	8,537.33	701.00	1,136.95	985.56	151.38	7.510	
18,700.00	9,407.88	18,781.86	9,533.70	76.64	76.60	96.38	8,636.93	699.92	1,136.86	984.11	152.76	7.442	
18,800.00	9,399.80	18,881.86	9,524.89	77.33	77.28	96.34	8,736.53	698.85	1,136.78	982.65	154.13	7.375	
18,900.00	9,391.71	18,981.85	9,516.07	78.02	77.97	96.31	8,836.13	697.78	1,136.70	981.19	155.51	7.310	
19,000.00	9,383.62	19,081.85	9,507.25	78.70	78.66	96.27	8,935.73	696.71	1,136.62	979.73	156.89	7.245	
19,100.00	9,375.54	19,181.85	9,498.43	79.39	79.35	96.23	9,035.34	695.64	1,136.54	978.27	158.27	7.181	
19,200.00	9,367.45	19,281.85	9,489.62	80.09	80.04	96.19	9,134.94	694.57	1,136.46	976.80	159.66	7.118	
19,300.00	9,359.37	19,381.84	9,480.80	80.78	80.73	96.16	9,234.54	693.50	1,136.38	975.33	161.05	7.056	
19,400.00	9,351.28	19,481.84	9,471.98	81.47	81.43	96.12	9,334.14	692.43	1,136.30	973.86	162.44	6.995	
19,500.00	9,343.20	19,581.84	9,463.16	82.17	82.12	96.08	9,433.74	691.36	1,136.23	972.39	163.84	6.935	
19,600.00	9,335.11	19,681.84	9,454.34	82.87	82.82	96.05	9,533.35	690.29	1,136.15	970.91	165.24	6.876	
19,700.00	9,327.02	19,781.83	9,445.53	83.57	83.52	96.01	9,632.95	689.22	1,136.07	969.43	166.64	6.818	
19,800.00	9,318.94	19,881.83	9,436.71	84.27	84.22	95.97	9,732.55	688.15	1,135.99	967.95	168.04	6.760	
19,900.00	9,310.85	19,981.83	9,427.89	84.97	84.92	95.94	9,832.15	687.08	1,135.92	966.47	169.45	6.704	
20,000.00	9,302.77	20,082.85	9,418.87	85.67	85.63	95.89	9,932.76	686.00	1,135.83	964.97	170.86	6.648	
20,100.00	9,294.68	20,183.49	9,408.59	86.37	86.33	95.79	10,032.87	684.93	1,135.61	963.33	172.28	6.592	
20,200.00	9,286.60	20,283.46	9,398.34	87.08	87.04	95.68	10,132.31	683.86	1,135.40	961.70	173.70	6.537	
20,300.00	9,278.51	20,383.44	9,388.08	87.78	87.75	95.57	10,231.75	682.79	1,135.18	960.06	175.12	6.482	
20,400.00	9,270.42	20,483.41	9,377.82	88.49	88.45	95.46	10,331.20	681.72	1,134.97	958.43	176.55	6.429	
20,500.00	9,262.34	20,583.39	9,367.56	89.20	89.16	95.35	10,430.64	680.65	1,134.77	956.80	177.97	6.376	
20,600.00	9,254.25	20,683.37	9,357.30	89.91	89.87	95.24	10,530.08	679.59	1,134.57	955.17	179.40	6.324	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 504H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.00	9,246.17	20,783.34	9,347.04	90.62	90.58	95.13	10,629.53	678.52	1,134.37	953.54	180.83	6.273	
20,800.00	9,238.08	20,883.32	9,336.79	91.33	91.29	95.02	10,728.97	677.45	1,134.18	951.92	182.26	6.223	
20,900.00	9,229.99	20,983.30	9,326.53	92.04	92.01	94.91	10,828.41	676.38	1,133.99	950.30	183.69	6.173	
21,000.00	9,221.91	21,083.27	9,316.27	92.75	92.72	94.80	10,927.85	675.31	1,133.80	948.68	185.12	6.125	
21,100.00	9,213.82	21,183.25	9,306.01	93.47	93.44	94.69	11,027.30	674.25	1,133.62	947.06	186.56	6.076	
21,200.00	9,205.74	21,283.22	9,295.75	94.18	94.15	94.58	11,126.74	673.18	1,133.45	945.45	188.00	6.029	
21,300.00	9,197.65	21,383.20	9,285.50	94.90	94.87	94.47	11,226.18	672.11	1,133.28	943.84	189.44	5.982	
21,400.00	9,189.57	21,483.18	9,275.24	95.61	95.58	94.36	11,325.62	671.04	1,133.11	942.23	190.88	5.936	
21,500.00	9,181.48	21,583.15	9,264.98	96.33	96.30	94.25	11,425.07	669.97	1,132.95	940.62	192.32	5.891	
21,600.00	9,173.39	21,683.13	9,254.72	97.05	97.02	94.14	11,524.51	668.90	1,132.79	939.02	193.77	5.846	
21,700.00	9,165.31	21,783.10	9,244.46	97.77	97.74	94.03	11,623.95	667.84	1,132.63	937.42	195.21	5.802	
21,800.00	9,157.22	21,883.08	9,234.20	98.49	98.46	93.92	11,723.40	666.77	1,132.48	935.82	196.66	5.759	
21,900.00	9,149.14	21,983.06	9,223.95	99.21	99.18	93.81	11,822.84	665.70	1,132.33	934.23	198.11	5.716	
22,000.00	9,141.05	22,083.42	9,213.61	99.93	99.90	93.69	11,922.66	664.63	1,132.19	932.63	199.56	5.673	
22,100.00	9,132.97	22,183.77	9,203.36	100.65	100.64	93.56	12,024.19	663.54	1,131.99	930.88	201.03	5.631	
22,200.00	9,124.88	22,283.58	9,193.11	101.37	101.37	93.43	12,122.99	662.48	1,131.55	929.06	202.50	5.588	
22,300.00	9,116.79	22,383.39	9,182.86	102.09	102.09	93.30	12,221.78	661.41	1,131.23	927.27	203.96	5.546	
22,400.00	9,108.71	22,483.20	9,172.61	102.82	102.82	93.17	12,320.57	660.35	1,130.94	925.51	205.43	5.505	
22,500.00	9,100.62	22,583.01	9,162.36	103.54	103.55	93.04	12,419.36	659.29	1,130.68	923.78	206.90	5.465	
22,600.00	9,092.54	22,682.82	9,152.11	104.27	104.27	92.91	12,518.15	658.23	1,130.46	922.09	208.37	5.425	
22,700.00	9,084.45	22,782.63	9,141.86	104.99	105.00	92.78	12,616.94	657.17	1,130.27	920.43	209.84	5.386	
22,800.00	9,076.37	22,882.44	9,131.61	105.72	105.73	92.65	12,715.74	656.11	1,130.12	918.80	211.31	5.348	
22,900.00	9,068.28	22,982.25	9,121.36	106.45	106.46	92.52	12,814.53	655.04	1,130.00	917.21	212.79	5.310	
23,000.00	9,060.19	23,082.06	9,111.11	107.18	107.19	92.39	12,913.32	653.98	1,129.91	915.65	214.26	5.274	
23,100.00	9,052.11	23,181.87	9,100.86	107.90	107.92	92.26	13,012.11	652.92	1,129.85	914.12	215.73	5.237	
23,200.00	9,044.02	23,281.68	9,090.61	108.63	108.65	92.13	13,110.90	651.86	1,129.83	912.62	217.21	5.202	
23,212.35	9,043.02	23,296.01	9,042.99	108.72	108.74	90.00	13,123.10	651.73	1,129.83	912.44	217.39	5.197	
23,300.00	9,035.94	23,383.50	9,030.56	109.36	109.38	89.73	13,209.69	650.80	1,129.85	911.16	218.68	5.167	
23,400.00	9,027.85	23,483.31	9,016.38	110.09	110.11	89.41	13,308.48	649.74	1,129.89	909.73	220.16	5.132	
23,500.00	9,019.76	23,583.12	9,002.19	110.82	110.84	89.10	13,407.28	648.67	1,129.97	908.33	221.64	5.098	
23,600.00	9,011.68	23,682.93	8,988.01	111.56	111.57	88.79	13,506.07	647.61	1,130.08	906.97	223.12	5.065	
23,700.00	9,003.59	23,782.74	8,973.83	112.29	112.31	88.48	13,604.86	646.55	1,130.23	905.64	224.60	5.032	
23,800.00	8,995.51	23,882.55	8,959.64	113.02	113.04	88.17	13,703.65	645.49	1,130.41	904.34	226.07	5.000	
23,900.00	8,987.42	23,982.36	8,945.46	113.75	113.77	87.86	13,802.44	644.43	1,130.63	903.07	227.55	4.969	
24,000.00	8,979.34	24,082.17	8,931.28	114.49	114.51	87.54	13,901.23	643.36	1,130.87	901.84	229.04	4.938	
24,100.00	8,971.25	24,181.17	8,916.90	115.22	115.23	87.22	13,999.18	642.31	1,131.17	900.66	230.51	4.907	
24,200.00	8,963.16	24,278.70	8,899.99	115.95	115.95	86.76	14,095.23	641.28	1,131.66	899.67	231.99	4.878	
24,300.00	8,955.08	24,375.51	8,879.98	116.69	116.67	86.14	14,189.93	640.26	1,132.45	898.99	233.46	4.851	
24,400.00	8,946.99	24,471.37	8,857.01	117.42	117.37	85.36	14,283.00	639.26	1,133.66	898.72	234.93	4.825	
24,500.00	8,938.91	24,568.18	8,831.19	118.16	118.08	84.45	14,376.28	638.26	1,135.36	898.95	236.41	4.802	
24,600.00	8,930.82	24,666.33	8,804.71	118.89	118.81	83.51	14,470.80	637.24	1,137.40	899.50	237.89	4.781	
24,700.00	8,922.74	24,764.49	8,778.23	119.63	119.53	82.57	14,565.31	636.23	1,139.76	900.38	239.37	4.761	
24,800.00	8,914.65	24,862.65	8,751.74	120.37	120.25	81.64	14,659.82	635.21	1,142.43	901.58	240.85	4.743	
24,900.00	8,906.56	24,960.81	8,725.26	121.11	120.97	80.71	14,754.33	634.20	1,145.41	903.09	242.32	4.727	
25,000.00	8,898.48	25,058.96	8,698.78	121.84	121.70	79.79	14,848.84	633.18	1,148.71	904.91	243.79	4.712	
25,100.00	8,890.39	25,157.12	8,672.29	122.58	122.42	78.87	14,943.36	632.17	1,152.31	907.05	245.26	4.698	
25,200.00	8,882.31	25,255.28	8,645.81	123.32	123.14	77.95	15,037.87	631.15	1,156.22	909.49	246.73	4.686	
25,300.00	8,874.22	25,353.44	8,619.33	124.06	123.87	77.05	15,132.38	630.14	1,160.43	912.24	248.19	4.676	
25,400.00	8,866.14	25,451.60	8,592.84	124.80	124.59	76.15	15,226.89	629.12	1,164.94	915.29	249.64	4.666	
25,500.00	8,858.05	25,549.75	8,566.36	125.54	125.32	75.26	15,321.41	628.11	1,169.74	918.64	251.10	4.658	
25,600.00	8,849.96	25,647.91	8,539.88	126.28	126.04	74.37	15,415.92	627.09	1,174.83	922.28	252.55	4.652	
25,700.00	8,841.88	25,746.07	8,513.39	127.02	126.76	73.49	15,510.43	626.08	1,180.21	926.21	254.00	4.646	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 504H - OH - Plan #2

Survey Program: 0-MWD+IFR1+MS										Rule Assigned:				Offset Site Error:
Reference										Offset Well Error:				0.00 usft
Offset										Warning				0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)		Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
25,800.00	8,833.79	25,844.23	8,486.91	127.76	127.49	72.62	15,604.94	625.06	1,185.87	930.43	255.45	4.642		
25,900.00	8,825.71	25,942.38	8,460.43	128.50	128.21	71.76	15,699.45	624.05	1,191.82	934.92	256.89	4.639		
26,000.00	8,817.62	26,055.02	8,431.87	129.24	129.05	70.87	15,808.40	622.87	1,197.49	938.94	258.55	4.632		
26,100.00	8,809.53	26,170.36	8,407.09	129.98	129.90	70.16	15,921.03	621.66	1,202.04	941.82	260.22	4.619		
26,200.00	8,801.45	26,286.78	8,386.68	130.73	130.77	69.67	16,035.63	620.43	1,205.32	943.45	261.87	4.603		
26,300.00	8,793.36	26,403.92	8,370.87	131.47	131.64	69.38	16,151.68	619.19	1,207.23	943.74	263.49	4.582		
26,400.00	8,785.28	26,519.55	8,359.91	132.21	132.49	69.31	16,266.78	617.95	1,207.72	942.67	265.05	4.557		
26,500.00	8,777.19	26,619.55	8,352.09	132.96	133.23	69.32	16,366.47	616.88	1,207.62	941.08	266.54	4.531		
26,600.00	8,769.11	26,719.55	8,344.27	133.70	133.97	69.34	16,466.15	615.81	1,207.53	939.49	268.04	4.505		
26,700.00	8,761.02	26,819.55	8,336.46	134.44	134.71	69.35	16,565.84	614.74	1,207.43	937.90	269.53	4.480		
26,750.19	8,756.96	26,868.63	8,332.61	134.82	135.07	69.35	16,614.77	614.21	1,207.39	937.11	270.28	4.467		
26,800.00	8,752.93	26,911.99	8,328.78	135.19	135.40	69.34	16,657.96	613.75	1,207.52	936.53	270.99	4.456		
26,900.00	8,744.85	27,000.00	8,319.00	135.93	136.05	69.22	16,745.41	612.81	1,208.59	936.17	272.42	4.436		
27,000.00	8,736.76	27,089.30	8,306.46	136.68	136.71	68.98	16,833.83	611.86	1,210.71	936.87	273.84	4.421		
27,100.00	8,728.68	27,189.08	8,291.72	137.42	137.46	68.69	16,932.50	610.80	1,213.15	937.82	275.33	4.406		
27,200.00	8,720.59	27,288.85	8,276.97	138.17	138.20	68.39	17,031.17	609.74	1,215.62	938.79	276.83	4.391		
27,300.00	8,712.51	27,388.62	8,262.22	138.91	138.94	68.10	17,129.84	608.68	1,218.12	939.80	278.32	4.377		
27,400.00	8,704.42	27,488.40	8,247.47	139.66	139.69	67.80	17,228.51	607.62	1,220.65	940.83	279.82	4.362		
27,500.00	8,696.33	27,588.17	8,232.73	140.40	140.43	67.51	17,327.18	606.56	1,223.22	941.90	281.32	4.348		
27,600.00	8,688.25	27,687.94	8,217.98	141.15	141.18	67.22	17,425.85	605.50	1,225.82	943.00	282.81	4.334		
27,700.00	8,680.16	27,787.71	8,203.23	141.90	141.92	66.93	17,524.53	604.44	1,228.44	944.13	284.31	4.321		
27,800.00	8,672.08	27,887.49	8,188.49	142.64	142.67	66.65	17,623.20	603.38	1,231.10	945.29	285.81	4.307		
27,900.00	8,663.99	27,987.26	8,173.74	143.39	143.41	66.36	17,721.87	602.32	1,233.80	946.48	287.31	4.294		
28,000.00	8,655.91	28,087.03	8,158.99	144.14	144.16	66.07	17,820.54	601.26	1,236.52	947.71	288.81	4.281		
28,100.00	8,647.82	28,186.81	8,144.24	144.89	144.90	65.79	17,919.21	600.20	1,239.27	948.96	290.31	4.269		
28,197.49	8,639.94	28,284.08	8,129.87	145.61	145.63	65.51	18,015.41	599.16	1,241.98	950.24	291.75	4.257		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 603H - OH - Plan #2

Survey Program: Reference		0-MWD+IFR1+MS Offset		Semi Major Axis		Highside		Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error:		0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.00	0.00	0.10	0.00	0.00	0.00	-90.20	-0.07	-20.00	20.00							
100.00	100.00	100.10	100.00	0.28	0.28	-90.20	-0.07	-20.00	20.00	19.45	0.55	36.206				
200.00	200.00	200.10	200.00	0.63	0.63	-90.20	-0.07	-20.00	20.00	18.73	1.27	15.756				
300.00	300.00	300.10	300.00	0.99	0.99	-90.20	-0.07	-20.00	20.00	18.01	1.99	10.069				
400.00	400.00	400.10	400.00	1.35	1.35	-90.20	-0.07	-20.00	20.00	17.30	2.70	7.399				
500.00	500.00	500.10	500.00	1.71	1.71	-90.20	-0.07	-20.00	20.00	16.58	3.42	5.848				
600.00	600.00	600.10	600.00	2.07	2.07	-90.20	-0.07	-20.00	20.00	15.86	4.14	4.834				
700.00	700.00	700.10	700.00	2.43	2.43	-90.20	-0.07	-20.00	20.00	15.15	4.85	4.120				
800.00	800.00	800.10	800.00	2.79	2.79	-90.20	-0.07	-20.00	20.00	14.43	5.57	3.590				
900.00	900.00	900.10	900.00	3.14	3.14	-90.20	-0.07	-20.00	20.00	13.71	6.29	3.181				
1,000.00	1,000.00	1,000.10	1,000.00	3.50	3.50	-90.20	-0.07	-20.00	20.00	13.00	7.00	2.855				
1,100.00	1,100.00	1,100.10	1,100.00	3.86	3.86	-90.20	-0.07	-20.00	20.00	12.28	7.72	2.590				
1,200.00	1,200.00	1,200.10	1,200.00	4.22	4.22	-90.20	-0.07	-20.00	20.00	11.56	8.44	2.370				
1,300.00	1,300.00	1,300.10	1,300.00	4.58	4.58	-90.20	-0.07	-20.00	20.00	10.84	9.16	2.184				
1,400.00	1,400.00	1,400.10	1,400.00	4.94	4.94	-90.20	-0.07	-20.00	20.00	10.13	9.87	2.026				
1,500.00	1,500.00	1,500.10	1,500.00	5.29	5.29	-90.20	-0.07	-20.00	20.00	9.41	10.59	1.889				
1,516.63	1,516.63	1,516.73	1,516.63	5.35	5.35	-90.20	-0.07	-20.00	20.00	9.29	10.71	1.868	CC			
1,600.00	1,600.00	1,600.00	1,599.90	5.65	5.65	-90.20	-0.07	-20.00	20.00	8.69	11.31	1.769	ES, SF			
1,700.00	1,700.00	1,699.38	1,699.26	6.01	6.00	-91.17	-0.44	-21.68	21.70	9.70	12.00	1.808				
1,800.00	1,800.00	1,798.43	1,798.17	6.37	6.34	-93.32	-1.55	-26.71	26.82	14.14	12.68	2.115				
1,900.00	1,899.98	1,897.14	1,896.51	6.71	6.67	31.33	-3.39	-35.03	33.88	20.55	13.33	2.542				
2,000.00	1,999.84	1,995.58	1,994.22	7.05	7.01	32.58	-5.95	-46.63	41.37	27.42	13.95	2.966				
2,100.00	2,099.45	2,095.27	2,092.94	7.38	7.36	35.34	-8.94	-60.19	47.85	33.23	14.62	3.272				
2,200.00	2,198.90	2,195.09	2,191.79	7.72	7.71	38.64	-11.94	-73.77	53.06	37.75	15.31	3.466				
2,300.00	2,298.36	2,294.92	2,290.64	8.06	8.06	41.34	-14.94	-87.35	58.41	42.41	16.00	3.651				
2,400.00	2,397.81	2,394.74	2,389.49	8.40	8.41	43.58	-17.93	-100.93	63.86	47.17	16.69	3.826				
2,500.00	2,497.26	2,494.56	2,488.34	8.75	8.77	45.47	-20.93	-114.52	69.40	52.01	17.39	3.991				
2,600.00	2,596.72	2,594.38	2,587.19	9.09	9.12	47.08	-23.93	-128.10	75.01	56.91	18.09	4.145				
2,700.00	2,696.17	2,694.21	2,686.04	9.44	9.48	48.46	-26.93	-141.68	80.66	61.86	18.80	4.291				
2,800.00	2,795.62	2,794.03	2,784.88	9.79	9.84	49.66	-29.92	-155.26	86.36	66.85	19.51	4.427				
2,900.00	2,895.07	2,893.85	2,883.73	10.14	10.20	50.72	-32.92	-168.84	92.08	71.87	20.22	4.555				
3,000.00	2,994.53	2,993.67	2,982.58	10.49	10.56	51.64	-35.92	-182.43	97.84	76.91	20.93	4.674				
3,100.00	3,093.98	3,093.50	3,081.43	10.85	10.92	52.47	-38.92	-196.01	103.62	81.97	21.65	4.787				
3,200.00	3,193.43	3,193.32	3,180.28	11.20	11.28	53.21	-41.91	-209.59	109.41	87.05	22.36	4.893				
3,300.00	3,292.88	3,293.14	3,279.13	11.55	11.64	53.87	-44.91	-223.17	115.23	92.15	23.08	4.993				
3,400.00	3,392.34	3,392.96	3,377.98	11.91	12.00	54.47	-47.91	-236.76	121.06	97.26	23.80	5.087				
3,500.00	3,491.79	3,492.78	3,476.82	12.27	12.37	55.02	-50.91	-250.34	126.90	102.38	24.52	5.175				
3,600.00	3,591.24	3,592.61	3,575.67	12.62	12.73	55.52	-53.91	-263.92	132.75	107.50	25.24	5.259				
3,700.00	3,690.69	3,692.43	3,674.52	12.98	13.09	55.97	-56.90	-277.50	138.60	112.64	25.96	5.338				
3,800.00	3,790.15	3,792.25	3,773.37	13.34	13.46	56.39	-59.90	-291.08	144.47	117.78	26.69	5.413				
3,900.00	3,889.60	3,892.07	3,872.22	13.70	13.82	56.77	-62.90	-304.67	150.35	122.93	27.41	5.485				
4,000.00	3,989.05	3,991.90	3,971.07	14.05	14.19	57.13	-65.90	-318.25	156.23	128.09	28.14	5.552				
4,100.00	4,088.51	4,091.72	4,069.92	14.41	14.56	57.46	-68.89	-331.83	162.11	133.25	28.86	5.616				
4,200.00	4,187.96	4,191.54	4,168.76	14.77	14.92	57.77	-71.89	-345.41	168.00	138.41	29.59	5.677				
4,300.00	4,287.41	4,291.36	4,267.61	15.13	15.29	58.05	-74.89	-358.99	173.90	143.58	30.32	5.736				
4,400.00	4,386.86	4,391.19	4,366.46	15.49	15.65	58.32	-77.89	-372.58	179.80	148.75	31.05	5.791				
4,500.00	4,486.32	4,491.01	4,465.31	15.85	16.02	58.57	-80.88	-386.16	185.70	153.93	31.78	5.844				
4,600.00	4,585.77	4,590.83	4,564.16	16.22	16.39	58.81	-83.88	-399.74	191.61	159.10	32.51	5.895				
4,700.00	4,685.22	4,690.65	4,663.01	16.58	16.76	59.03	-86.88	-413.32	197.52	164.28	33.24	5.943				
4,800.00	4,784.67	4,790.48	4,761.86	16.94	17.12	59.24	-89.88	-426.91	203.43	169.46	33.97	5.989				
4,900.00	4,884.13	4,890.30	4,860.71	17.30	17.49	59.43	-92.88	-440.49	209.35	174.65	34.70	6.033				
5,000.00	4,983.58	4,990.12	4,959.55	17.66	17.86	59.62	-95.87	-454.07	215.26	179.83	35.43	6.076				

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Total Directional Anticollision Report



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Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 603H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,100.00	5,083.03	5,089.94	5,058.40	18.02	18.23	59.80	-98.87	-467.65	221.18	185.02	36.16	6.117	
5,200.00	5,182.48	5,189.77	5,157.25	18.39	18.60	59.96	-101.87	-481.23	227.11	190.21	36.89	6.156	
5,300.00	5,281.94	5,289.59	5,256.10	18.75	18.96	60.12	-104.87	-494.82	233.03	195.40	37.63	6.193	
5,400.00	5,381.39	5,389.41	5,354.95	19.11	19.33	60.27	-107.86	-508.40	238.95	200.59	38.36	6.229	
5,500.00	5,480.84	5,489.23	5,453.80	19.48	19.70	60.41	-110.86	-521.98	244.88	205.79	39.09	6.264	
5,600.00	5,580.29	5,589.06	5,552.65	19.84	20.07	60.55	-113.86	-535.56	250.81	210.98	39.83	6.298	
5,700.00	5,679.75	5,688.88	5,651.49	20.20	20.44	60.68	-116.86	-549.14	256.74	216.18	40.56	6.330	
5,800.00	5,779.28	5,788.67	5,750.32	20.57	20.81	60.73	-119.85	-562.72	263.07	221.78	41.29	6.371	
5,900.00	5,879.08	5,888.31	5,848.98	20.93	21.18	60.22	-122.85	-576.28	271.04	229.03	42.02	6.451	
6,000.00	5,979.03	5,987.65	5,947.35	21.28	21.54	59.17	-125.83	-589.80	280.82	238.08	42.74	6.571	
6,100.00	6,079.03	6,086.69	6,045.43	21.62	21.91	-67.82	-128.80	-603.27	292.13	248.69	43.44	6.725	
6,200.00	6,179.03	6,185.72	6,143.49	21.96	22.28	-69.31	-131.78	-616.75	303.73	259.60	44.14	6.882	
6,300.00	6,279.03	6,284.74	6,241.55	22.30	22.64	-70.69	-134.75	-630.22	315.53	270.69	44.84	7.037	
6,400.00	6,379.03	6,383.77	6,339.60	22.65	23.01	-71.97	-137.72	-643.69	327.49	281.95	45.54	7.192	
6,500.00	6,479.03	6,482.79	6,437.66	22.99	23.38	-73.16	-140.70	-657.17	339.60	293.36	46.24	7.344	
6,600.00	6,579.03	6,581.82	6,535.72	23.33	23.75	-74.27	-143.67	-670.64	351.84	304.90	46.94	7.495	
6,700.00	6,679.03	6,680.84	6,633.78	23.67	24.11	-75.30	-146.65	-684.11	364.21	316.57	47.64	7.644	
6,800.00	6,779.03	6,779.86	6,731.84	24.02	24.48	-76.27	-149.62	-697.59	376.69	328.34	48.35	7.791	
6,900.00	6,879.03	6,878.89	6,829.90	24.36	24.85	-77.17	-152.59	-711.06	389.27	340.21	49.05	7.936	
7,000.00	6,979.03	6,977.91	6,927.95	24.70	25.21	-78.02	-155.57	-724.54	401.93	352.17	49.76	8.078	
7,100.00	7,079.03	7,076.94	7,026.01	25.05	25.58	-78.81	-158.54	-738.01	414.68	364.21	50.46	8.217	
7,200.00	7,179.03	7,175.96	7,124.07	25.39	25.95	-79.56	-161.51	-751.48	427.50	376.33	51.17	8.355	
7,300.00	7,279.03	7,274.99	7,222.13	25.74	26.32	-80.26	-164.49	-764.96	440.39	388.51	51.88	8.489	
7,400.00	7,379.03	7,374.01	7,320.19	26.09	26.68	-80.93	-167.46	-778.43	453.34	400.75	52.58	8.621	
7,500.00	7,479.03	7,473.04	7,418.25	26.43	27.05	-81.55	-170.44	-791.90	466.34	413.05	53.29	8.751	
7,600.00	7,579.03	7,572.06	7,516.31	26.78	27.42	-82.15	-173.41	-805.38	479.40	425.40	54.00	8.878	
7,700.00	7,679.03	7,671.08	7,614.36	27.13	27.79	-82.71	-176.38	-818.85	492.51	437.80	54.71	9.002	
7,800.00	7,779.03	7,770.11	7,712.42	27.47	28.15	-83.24	-179.36	-832.32	505.66	450.24	55.42	9.124	
7,900.00	7,879.03	7,869.13	7,810.48	27.82	28.52	-83.75	-182.33	-845.80	518.85	462.73	56.13	9.244	
8,000.00	7,979.03	7,968.16	7,908.54	28.17	28.89	-84.23	-185.30	-859.27	532.08	475.25	56.84	9.361	
8,100.00	8,079.03	8,067.18	8,006.60	28.52	29.26	-84.69	-188.28	-872.74	545.35	487.80	57.55	9.476	
8,200.00	8,179.03	8,166.21	8,104.66	28.86	29.63	-85.12	-191.25	-886.22	558.65	500.39	58.26	9.589	
8,300.00	8,279.03	8,265.23	8,202.72	29.21	29.99	-85.54	-194.23	-899.69	571.97	513.00	58.97	9.699	
8,400.00	8,379.03	8,364.26	8,300.77	29.56	30.36	-85.93	-197.20	-913.17	585.33	525.65	59.68	9.807	
8,500.00	8,479.03	8,463.28	8,398.83	29.91	30.73	-86.31	-200.17	-926.64	598.71	538.32	60.40	9.913	
8,600.00	8,579.03	8,562.31	8,496.89	30.26	31.10	-86.67	-203.15	-940.11	612.12	551.01	61.11	10.017	
8,700.00	8,679.03	8,661.33	8,594.95	30.61	31.47	-87.02	-206.12	-953.59	625.55	563.73	61.82	10.119	
8,800.00	8,779.03	8,760.35	8,693.01	30.96	31.83	-87.35	-209.09	-967.06	639.00	576.47	62.53	10.218	
8,900.00	8,879.03	8,859.38	8,791.07	31.31	32.20	-87.67	-212.07	-980.53	652.47	589.23	63.25	10.316	
9,000.00	8,979.03	8,958.40	8,889.12	31.66	32.57	-87.98	-215.04	-994.01	665.96	602.00	63.96	10.412	
9,100.00	9,079.03	9,057.43	8,987.18	32.01	32.94	-88.27	-218.02	-1,007.48	679.47	614.80	64.68	10.506	
9,200.00	9,179.03	9,156.45	9,085.24	32.36	33.31	-88.55	-220.99	-1,020.95	693.00	627.61	65.39	10.598	
9,300.00	9,279.03	9,255.48	9,183.30	32.71	33.68	-88.82	-223.96	-1,034.43	706.54	640.44	66.10	10.688	
9,400.00	9,379.03	9,354.50	9,281.36	33.06	34.04	-89.08	-226.94	-1,047.90	720.10	653.28	66.82	10.777	
9,500.00	9,479.03	9,453.52	9,379.42	33.41	34.41	-88.61	-229.91	-1,061.37	733.67	666.13	67.53	10.863	
9,600.00	9,578.40	9,551.63	9,476.57	33.76	34.78	-88.27	-232.86	-1,074.72	747.05	678.81	68.24	10.948	
9,700.00	9,674.51	9,646.03	9,570.05	34.09	35.13	-89.06	-235.69	-1,087.57	760.62	691.72	68.90	11.040	
9,800.00	9,764.44	9,739.18	9,662.29	34.38	35.47	-90.75	-238.44	-1,100.20	775.78	706.24	69.55	11.155	
9,900.00	9,845.47	9,814.11	9,796.47	34.64	35.96	-94.81	-236.46	-1,113.83	791.30	720.95	70.35	11.248	
10,000.00	9,915.13	10,007.16	9,928.84	34.86	36.42	-99.40	-224.78	-1,119.53	807.25	736.47	70.78	11.405	
10,100.00	9,971.30	10,129.82	10,048.83	35.04	36.82	-103.48	-200.29	-1,119.97	826.46	755.65	70.81	11.672	
10,200.00	10,012.28	10,284.61	10,188.47	35.19	37.28	-108.06	-134.62	-1,120.69	849.26	779.23	70.04	12.126	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 603H - OH - Plan #2

Survey Program: Reference		0-MWD+IFR1+MS Offset		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Rule Assigned: Distance		Offset Well Error:		Warning	0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,300.00	10,038.24	10,506.64	10,347.12	35.31	37.77	-113.86	18.72	-1,122.34	870.58	802.73	67.85	12.831		
10,400.00	10,054.93	10,755.47	10,442.38	35.42	38.04	-116.72	246.66	-1,124.81	879.58	813.52	66.06	13.315		
10,500.00	10,062.97	10,908.89	10,465.46	35.51	38.14	-117.20	398.22	-1,126.45	882.79	817.00	65.80	13.417		
10,600.00	10,062.30	11,063.63	10,468.04	35.61	38.25	-117.36	552.81	-1,128.11	883.87	817.98	65.89	13.414		
10,700.00	10,054.74	11,179.48	10,458.51	35.74	38.38	-117.31	668.25	-1,129.35	883.48	817.32	66.15	13.356		
10,800.00	10,046.66	11,279.47	10,449.54	35.88	38.53	-117.26	767.84	-1,130.42	883.07	816.67	66.40	13.300		
10,900.00	10,038.57	11,379.47	10,440.57	36.04	38.70	-117.21	867.42	-1,131.49	882.66	815.98	66.68	13.238		
11,000.00	10,030.49	11,479.46	10,431.59	36.22	38.89	-117.16	967.01	-1,132.56	882.25	815.26	66.99	13.170		
11,100.00	10,022.40	11,579.46	10,422.62	36.42	39.09	-117.11	1,066.60	-1,133.63	881.85	814.51	67.34	13.096		
11,200.00	10,014.31	11,679.46	10,413.65	36.63	39.31	-117.06	1,166.18	-1,134.70	881.44	813.72	67.72	13.015		
11,300.00	10,006.23	11,779.45	10,404.68	36.85	39.54	-117.00	1,265.77	-1,135.77	881.03	812.90	68.14	12.930		
11,400.00	9,998.14	11,879.45	10,395.70	37.09	39.79	-116.95	1,365.36	-1,136.84	880.63	812.04	68.59	12.840		
11,500.00	9,990.06	11,979.44	10,386.73	37.34	40.05	-116.90	1,464.94	-1,137.91	880.23	811.16	69.07	12.744		
11,600.00	9,981.97	12,079.44	10,377.76	37.61	40.32	-116.85	1,564.53	-1,138.98	879.82	810.24	69.58	12.645		
11,700.00	9,973.89	12,179.44	10,368.79	37.89	40.61	-116.80	1,664.12	-1,140.05	879.42	809.30	70.12	12.541		
11,800.00	9,965.80	12,279.43	10,359.81	38.19	40.90	-116.75	1,763.70	-1,141.12	879.02	808.32	70.70	12.434		
11,900.00	9,957.71	12,379.43	10,350.84	38.49	41.21	-116.69	1,863.29	-1,142.19	878.62	807.32	71.30	12.323		
12,000.00	9,949.63	12,479.42	10,341.87	38.82	41.53	-116.64	1,962.88	-1,143.26	878.22	806.29	71.93	12.209		
12,100.00	9,941.54	12,579.42	10,332.89	39.15	41.86	-116.59	2,062.47	-1,144.33	877.82	805.23	72.59	12.093		
12,200.00	9,933.46	12,679.42	10,323.92	39.49	42.20	-116.54	2,162.05	-1,145.40	877.42	804.15	73.27	11.975		
12,300.00	9,925.37	12,779.41	10,314.95	39.85	42.56	-116.49	2,261.64	-1,146.47	877.02	803.04	73.99	11.854		
12,400.00	9,917.28	12,879.41	10,305.98	40.22	42.92	-116.43	2,361.23	-1,147.54	876.63	801.90	74.72	11.732		
12,500.00	9,909.20	12,979.40	10,297.00	40.60	43.30	-116.38	2,460.81	-1,148.61	876.23	800.75	75.48	11.608		
12,600.00	9,901.11	13,079.40	10,288.03	40.99	43.68	-116.33	2,560.40	-1,149.68	875.83	799.56	76.27	11.483		
12,700.00	9,893.03	13,179.40	10,279.06	41.39	44.08	-116.28	2,659.99	-1,150.75	875.44	798.36	77.08	11.358		
12,800.00	9,884.94	13,279.39	10,270.09	41.81	44.48	-116.23	2,759.57	-1,151.82	875.05	797.13	77.91	11.231		
12,900.00	9,876.86	13,379.39	10,261.11	42.23	44.89	-116.17	2,859.16	-1,152.89	874.65	795.89	78.77	11.105		
13,000.00	9,868.77	13,479.38	10,252.14	42.66	45.32	-116.12	2,958.75	-1,153.96	874.26	794.62	79.64	10.978		
13,100.00	9,860.68	13,579.38	10,243.17	43.10	45.75	-116.07	3,058.33	-1,155.03	873.87	793.33	80.54	10.851		
13,200.00	9,852.60	13,679.38	10,234.19	43.55	46.19	-116.02	3,157.92	-1,156.10	873.48	792.03	81.45	10.724		
13,300.00	9,844.51	13,779.37	10,225.22	44.01	46.64	-115.96	3,257.51	-1,157.17	873.09	790.70	82.38	10.598		
13,400.00	9,836.43	13,879.37	10,216.25	44.48	47.09	-115.91	3,357.09	-1,158.24	872.70	789.36	83.34	10.472		
13,500.00	9,828.34	13,979.36	10,207.28	44.96	47.56	-115.86	3,456.68	-1,159.31	872.31	788.00	84.31	10.347		
13,600.00	9,820.26	14,079.36	10,198.30	45.44	48.03	-115.81	3,556.27	-1,160.38	871.92	786.62	85.30	10.222		
13,700.00	9,812.17	14,179.36	10,189.33	45.93	48.51	-115.75	3,655.86	-1,161.45	871.53	785.23	86.30	10.099		
13,800.00	9,804.08	14,279.35	10,180.36	46.43	49.00	-115.70	3,755.44	-1,162.52	871.14	783.82	87.32	9.976		
13,900.00	9,796.00	14,379.35	10,171.39	46.94	49.49	-115.65	3,855.03	-1,163.58	870.76	782.40	88.36	9.855		
14,000.00	9,787.91	14,479.34	10,162.41	47.46	50.00	-115.59	3,954.62	-1,164.65	870.37	780.96	89.41	9.735		
14,100.00	9,779.83	14,579.34	10,153.44	47.98	50.50	-115.54	4,054.20	-1,165.72	869.99	779.51	90.47	9.616		
14,200.00	9,771.74	14,679.34	10,144.47	48.51	51.02	-115.49	4,153.79	-1,166.79	869.60	778.05	91.55	9.498		
14,300.00	9,763.66	14,779.33	10,135.49	49.04	51.54	-115.44	4,253.38	-1,167.86	869.22	776.58	92.64	9.382		
14,400.00	9,755.57	14,879.33	10,126.52	49.58	52.07	-115.38	4,352.96	-1,168.93	868.84	775.09	93.75	9.268		
14,500.00	9,747.48	14,979.32	10,117.55	50.13	52.60	-115.33	4,452.55	-1,170.00	868.46	773.59	94.87	9.154		
14,600.00	9,739.40	15,079.32	10,108.58	50.68	53.14	-115.28	4,552.14	-1,171.07	868.08	772.08	96.00	9.043		
14,700.00	9,731.31	15,179.32	10,099.60	51.24	53.68	-115.22	4,651.72	-1,172.14	867.70	770.55	97.14	8.932		
14,800.00	9,723.23	15,279.31	10,090.63	51.80	54.23	-115.17	4,751.31	-1,173.21	867.32	769.02	98.29	8.824		
14,900.00	9,715.14	15,379.31	10,081.66	52.37	54.79	-115.12	4,850.90	-1,174.28	866.94	767.48	99.46	8.717		
15,000.00	9,707.05	15,479.30	10,072.69	52.94	55.35	-115.06	4,950.49	-1,175.35	866.56	765.93	100.63	8.611		
15,100.00	9,698.97	15,579.30	10,063.71	53.52	55.91	-115.01	5,050.07	-1,176.42	866.18	764.36	101.82	8.507		
15,200.00	9,690.88	15,679.30	10,054.74	54.10	56.48	-114.96	5,149.66	-1,177.49	865.81	762.79	103.01	8.405		
15,300.00	9,682.80	15,779.29	10,045.77	54.69	57.06	-114.90	5,249.25	-1,178.56	865.43	761.21	104.22	8.304		
15,400.00	9,674.71	15,879.29	10,036.79	55.29	57.64	-114.85	5,348.83	-1,179.63	865.05	759.62	105.43	8.205		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 603H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Reference		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,500.00	9,666.63	15,979.28	10,027.82	55.88	58.22	-114.80			5,448.42	-1,180.70	864.68	758.03	106.65	8.107	
15,600.00	9,658.54	16,079.28	10,018.85	56.48	58.81	-114.74			5,548.01	-1,181.77	864.31	756.42	107.88	8.012	
15,700.00	9,650.45	16,179.28	10,009.88	57.09	59.40	-114.69			5,647.59	-1,182.84	863.93	754.81	109.12	7.917	
15,800.00	9,642.37	16,279.27	10,000.90	57.70	60.00	-114.64			5,747.18	-1,183.91	863.56	753.19	110.37	7.824	
15,900.00	9,634.28	16,379.27	9,991.93	58.31	60.59	-114.58			5,846.77	-1,184.98	863.19	751.57	111.62	7.733	
16,000.00	9,626.20	16,479.27	9,982.96	58.93	61.20	-114.53			5,946.35	-1,186.05	862.82	749.94	112.88	7.643	
16,100.00	9,618.11	16,579.26	9,973.99	59.55	61.81	-114.47			6,045.94	-1,187.12	862.45	748.30	114.15	7.555	
16,200.00	9,610.03	16,679.26	9,965.01	60.17	62.42	-114.42			6,145.53	-1,188.19	862.08	746.65	115.43	7.468	
16,300.00	9,601.94	16,779.25	9,956.04	60.80	63.03	-114.37			6,245.12	-1,189.26	861.71	745.00	116.71	7.383	
16,400.00	9,593.85	16,879.25	9,947.07	61.43	63.65	-114.31			6,344.70	-1,190.33	861.35	743.35	118.00	7.299	
16,500.00	9,585.77	16,979.25	9,938.09	62.06	64.27	-114.26			6,444.29	-1,191.40	860.98	741.68	119.30	7.217	
16,600.00	9,577.68	17,079.24	9,929.12	62.70	64.89	-114.20			6,543.88	-1,192.47	860.61	740.02	120.60	7.136	
16,700.00	9,569.60	17,179.24	9,920.15	63.34	65.52	-114.15			6,643.46	-1,193.54	860.25	738.34	121.91	7.057	
16,800.00	9,561.51	17,279.23	9,911.18	63.98	66.15	-114.10			6,743.05	-1,194.61	859.89	736.67	123.22	6.979	
16,900.00	9,553.43	17,379.23	9,902.20	64.63	66.79	-114.04			6,842.64	-1,195.68	859.52	734.99	124.54	6.902	
17,000.00	9,545.34	17,479.23	9,893.23	65.28	67.42	-113.99			6,942.22	-1,196.75	859.16	733.30	125.86	6.826	
17,100.00	9,537.25	17,579.22	9,884.26	65.93	68.06	-113.93			7,041.81	-1,197.82	858.80	731.61	127.19	6.752	
17,200.00	9,529.17	17,679.22	9,875.29	66.58	68.70	-113.88			7,141.40	-1,198.89	858.44	729.91	128.52	6.679	
17,300.00	9,521.08	17,779.21	9,866.31	67.24	69.35	-113.83			7,240.98	-1,199.96	858.08	728.21	129.86	6.608	
17,400.00	9,513.00	17,879.21	9,857.34	67.89	69.99	-113.77			7,340.57	-1,201.03	857.72	726.51	131.21	6.537	
17,500.00	9,504.91	17,979.21	9,848.37	68.55	70.64	-113.72			7,440.16	-1,202.10	857.36	724.80	132.55	6.468	
17,600.00	9,496.82	18,079.20	9,839.39	69.22	71.29	-113.66			7,539.75	-1,203.17	857.00	723.09	133.91	6.400	
17,700.00	9,488.74	18,179.20	9,830.42	69.88	71.95	-113.61			7,639.33	-1,204.24	856.64	721.38	135.26	6.333	
17,800.00	9,480.65	18,279.19	9,821.45	70.55	72.60	-113.55			7,738.92	-1,205.31	856.28	719.66	136.62	6.267	
17,900.00	9,472.57	18,379.19	9,812.48	71.22	73.26	-113.50			7,838.51	-1,206.38	855.93	717.94	137.99	6.203	
18,000.00	9,464.48	18,479.19	9,803.50	71.89	73.92	-113.44			7,938.09	-1,207.45	855.57	716.22	139.36	6.139	
18,100.00	9,456.40	18,579.18	9,794.53	72.56	74.58	-113.39			8,037.68	-1,208.52	855.22	714.49	140.73	6.077	
18,200.00	9,448.31	18,679.18	9,785.56	73.24	75.25	-113.33			8,137.27	-1,209.59	854.87	712.76	142.11	6.016	
18,300.00	9,440.22	18,779.17	9,776.59	73.92	75.92	-113.28			8,236.85	-1,210.65	854.51	711.03	143.49	5.955	
18,400.00	9,432.14	18,879.17	9,767.61	74.60	76.58	-113.22			8,336.44	-1,211.72	854.16	709.29	144.87	5.896	
18,500.00	9,424.05	18,979.17	9,758.64	75.28	77.26	-113.17			8,436.03	-1,212.79	853.81	707.55	146.26	5.838	
18,600.00	9,415.97	19,079.16	9,749.67	75.96	77.93	-113.11			8,535.61	-1,213.86	853.46	705.81	147.65	5.780	
18,700.00	9,407.88	19,179.16	9,740.69	76.64	78.60	-113.06			8,635.20	-1,214.93	853.11	704.07	149.04	5.724	
18,800.00	9,399.80	19,279.15	9,731.72	77.33	79.28	-113.00			8,734.79	-1,216.00	852.76	702.32	150.44	5.668	
18,900.00	9,391.71	19,379.15	9,722.75	78.02	79.96	-112.95			8,834.38	-1,217.07	852.41	700.58	151.84	5.614	
19,000.00	9,383.62	19,479.15	9,713.78	78.70	80.63	-112.89			8,933.96	-1,218.14	852.07	698.83	153.24	5.560	
19,100.00	9,375.54	19,579.14	9,704.80	79.39	81.32	-112.84			9,033.55	-1,219.21	851.72	697.07	154.65	5.508	
19,200.00	9,367.45	19,679.14	9,695.83	80.09	82.00	-112.78			9,133.14	-1,220.28	851.38	695.32	156.05	5.456	
19,300.00	9,359.37	19,779.13	9,686.86	80.78	82.68	-112.73			9,232.72	-1,221.35	851.03	693.57	157.47	5.405	
19,400.00	9,351.28	19,879.13	9,677.89	81.47	83.37	-112.67			9,332.31	-1,222.42	850.69	691.81	158.88	5.354	
19,500.00	9,343.20	19,979.13	9,668.91	82.17	84.05	-112.62			9,431.90	-1,223.49	850.34	690.05	160.30	5.305	
19,600.00	9,335.11	20,079.12	9,659.94	82.87	84.74	-112.56			9,531.48	-1,224.56	850.00	688.29	161.71	5.256	
19,700.00	9,327.02	20,179.12	9,650.97	83.57	85.43	-112.51			9,631.07	-1,225.63	849.66	686.52	163.13	5.208	
19,800.00	9,318.94	20,279.11	9,641.99	84.27	86.12	-112.45			9,730.66	-1,226.70	849.32	684.76	164.56	5.161	
19,900.00	9,310.85	20,379.11	9,633.02	84.97	86.82	-112.40			9,830.24	-1,227.77	848.98	683.00	165.98	5.115	
20,000.00	9,302.77	20,479.11	9,624.05	85.67	87.51	-112.34			9,929.83	-1,228.84	848.64	681.23	167.41	5.069	
20,100.00	9,294.68	20,579.10	9,615.08	86.37	88.20	-112.28			10,029.42	-1,229.91	848.30	679.46	168.84	5.024	
20,200.00	9,286.60	20,679.10	9,606.10	87.08	88.90	-112.23			10,129.00	-1,230.98	847.96	677.69	170.27	4.980	
20,300.00	9,278.51	20,779.09	9,597.13	87.78	89.60	-112.17			10,228.59	-1,232.05	847.63	675.92	171.71	4.936	
20,400.00	9,270.42	20,879.09	9,588.16	88.49	90.30	-112.12			10,328.18	-1,233.12	847.29	674.15	173.14	4.894	
20,500.00	9,262.34	20,979.09	9,579.19	89.20	91.00	-112.06			10,427.77	-1,234.19	846.96	672.37	174.58	4.851	
20,600.00	9,254.25	21,079.08	9,570.21	89.91	91.70	-112.01			10,527.35	-1,235.26	846.62	670.60	176.02	4.810	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 603H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.00	9,246.17	21,179.08	9,561.24	90.62	92.40	-111.95	10,626.94	-1,236.33	846.29	668.82	177.46	4.769	
20,800.00	9,238.08	21,279.07	9,552.27	91.33	93.10	-111.89	10,726.53	-1,237.40	845.95	667.05	178.91	4.728	
20,900.00	9,229.99	21,379.07	9,543.29	92.04	93.81	-111.84	10,826.11	-1,238.47	845.62	665.27	180.35	4.689	
21,000.00	9,221.91	21,479.07	9,534.32	92.75	94.51	-111.78	10,925.70	-1,239.54	845.29	663.49	181.80	4.650	
21,100.00	9,213.82	21,579.06	9,525.35	93.47	95.22	-111.73	11,025.29	-1,240.61	844.96	661.71	183.25	4.611	
21,200.00	9,205.74	21,679.06	9,516.38	94.18	95.93	-111.67	11,124.87	-1,241.68	844.63	659.93	184.70	4.573	
21,300.00	9,197.65	21,779.06	9,507.40	94.90	96.63	-111.61	11,224.46	-1,242.75	844.30	658.15	186.15	4.536	
21,400.00	9,189.57	21,879.05	9,498.43	95.61	97.34	-111.56	11,324.05	-1,243.82	843.97	656.37	187.61	4.499	
21,500.00	9,181.48	21,979.05	9,489.46	96.33	98.05	-111.50	11,423.63	-1,244.89	843.65	654.58	189.06	4.462	
21,600.00	9,173.39	22,079.04	9,480.49	97.05	98.77	-111.45	11,523.22	-1,245.96	843.32	652.80	190.52	4.426	
21,700.00	9,165.31	22,179.04	9,471.51	97.77	99.48	-111.39	11,622.81	-1,247.03	843.00	651.02	191.98	4.391	
21,800.00	9,157.22	22,279.04	9,462.54	98.49	100.19	-111.33	11,722.40	-1,248.10	842.67	649.23	193.44	4.356	
21,900.00	9,149.14	22,379.03	9,453.57	99.21	100.90	-111.28	11,821.98	-1,249.17	842.35	647.45	194.90	4.322	
22,000.00	9,141.05	22,479.03	9,444.59	99.93	101.62	-111.22	11,921.57	-1,250.24	842.02	645.66	196.36	4.288	
22,100.00	9,132.97	22,579.02	9,435.62	100.65	102.33	-111.16	12,021.16	-1,251.31	841.70	643.87	197.83	4.255	
22,200.00	9,124.88	22,679.02	9,426.65	101.37	103.05	-111.11	12,120.74	-1,252.38	841.38	642.09	199.29	4.222	
22,300.00	9,116.79	22,779.02	9,417.68	102.09	103.77	-111.05	12,220.33	-1,253.45	841.06	640.30	200.76	4.189	
22,400.00	9,108.71	22,879.01	9,408.70	102.82	104.48	-110.99	12,319.92	-1,254.52	840.74	638.51	202.23	4.157	
22,500.00	9,100.62	22,979.01	9,399.73	103.54	105.20	-110.94	12,419.50	-1,255.59	840.42	636.72	203.70	4.126	
22,600.00	9,092.54	23,079.00	9,390.76	104.27	105.92	-110.88	12,519.09	-1,256.66	840.10	634.94	205.17	4.095	
22,700.00	9,084.45	23,179.00	9,381.79	104.99	106.64	-110.82	12,618.68	-1,257.72	839.79	633.15	206.64	4.064	
22,800.00	9,076.37	23,279.00	9,372.81	105.72	107.36	-110.77	12,718.26	-1,258.79	839.47	631.36	208.11	4.034	
22,900.00	9,068.28	23,378.99	9,363.84	106.45	108.08	-110.71	12,817.85	-1,259.86	839.15	629.57	209.59	4.004	
23,000.00	9,060.19	23,478.99	9,354.87	107.18	108.80	-110.65	12,917.44	-1,260.93	838.84	627.78	211.06	3.974	
23,100.00	9,052.11	23,578.98	9,345.89	107.90	109.53	-110.60	13,017.03	-1,262.00	838.52	625.99	212.54	3.945	
23,200.00	9,044.02	23,678.98	9,336.92	108.63	110.25	-110.54	13,116.61	-1,263.07	838.21	624.20	214.01	3.917	
23,300.00	9,035.94	23,778.98	9,327.95	109.36	110.97	-110.48	13,216.20	-1,264.14	837.90	622.41	215.49	3.888	
23,400.00	9,027.85	23,878.97	9,318.98	110.09	111.70	-110.42	13,315.79	-1,265.21	837.59	620.62	216.97	3.860	
23,500.00	9,019.76	23,978.97	9,310.00	110.82	112.42	-110.37	13,415.37	-1,266.28	837.28	618.83	218.45	3.833	
23,600.00	9,011.68	24,078.96	9,301.03	111.56	113.15	-110.31	13,514.96	-1,267.35	836.97	617.03	219.93	3.806	
23,700.00	9,003.59	24,178.96	9,292.06	112.29	113.87	-110.25	13,614.55	-1,268.42	836.66	615.24	221.42	3.779	
23,800.00	8,995.51	24,278.96	9,283.09	113.02	114.60	-110.20	13,714.13	-1,269.49	836.35	613.45	222.90	3.752	
23,900.00	8,987.42	24,378.95	9,274.11	113.75	115.33	-110.14	13,813.72	-1,270.56	836.04	611.66	224.38	3.726	
24,000.00	8,979.34	24,478.95	9,265.14	114.49	116.06	-110.08	13,913.31	-1,271.63	835.74	609.87	225.87	3.700	
24,100.00	8,971.25	24,578.94	9,256.17	115.22	116.78	-110.02	14,012.89	-1,272.70	835.43	608.08	227.35	3.675	
24,200.00	8,963.16	24,678.94	9,247.19	115.95	117.51	-109.97	14,112.48	-1,273.77	835.13	606.29	228.84	3.649	
24,300.00	8,955.08	24,778.94	9,238.22	116.69	118.24	-109.91	14,212.07	-1,274.84	834.82	604.49	230.33	3.624	
24,400.00	8,946.99	24,878.93	9,229.25	117.42	118.97	-109.85	14,311.66	-1,275.91	834.52	602.70	231.82	3.600	
24,500.00	8,938.91	24,978.93	9,220.28	118.16	119.70	-109.79	14,411.24	-1,276.98	834.22	600.91	233.31	3.576	
24,600.00	8,930.82	25,078.92	9,211.30	118.89	120.44	-109.74	14,510.83	-1,278.05	833.91	599.12	234.80	3.552	
24,700.00	8,922.74	25,178.92	9,202.33	119.63	121.17	-109.68	14,610.42	-1,279.12	833.61	597.33	236.29	3.528	
24,800.00	8,914.65	25,278.92	9,193.36	120.37	121.90	-109.62	14,710.00	-1,280.19	833.31	595.54	237.78	3.505	
24,900.00	8,906.56	25,378.91	9,184.39	121.11	122.63	-109.56	14,809.59	-1,281.26	833.02	593.75	239.27	3.481	
25,000.00	8,898.48	25,478.91	9,175.41	121.84	123.36	-109.51	14,909.18	-1,282.33	832.72	591.95	240.76	3.459	
25,100.00	8,890.39	25,578.90	9,166.44	122.58	124.10	-109.45	15,008.76	-1,283.40	832.42	590.16	242.26	3.436	
25,200.00	8,882.31	25,678.90	9,157.47	123.32	124.83	-109.39	15,108.35	-1,284.47	832.12	588.37	243.75	3.414	
25,300.00	8,874.22	25,778.90	9,148.49	124.06	125.57	-109.33	15,207.94	-1,285.54	831.83	586.58	245.25	3.392	
25,400.00	8,866.14	25,878.89	9,139.52	124.80	126.30	-109.27	15,307.52	-1,286.61	831.53	584.79	246.74	3.370	
25,500.00	8,858.05	25,978.89	9,130.55	125.54	127.04	-109.22	15,407.11	-1,287.68	831.24	583.00	248.24	3.349	
25,600.00	8,849.96	26,078.88	9,121.58	126.28	127.77	-109.16	15,506.70	-1,288.75	830.95	581.21	249.74	3.327	
25,700.00	8,841.88	26,178.88	9,112.60	127.02	128.51	-109.10	15,606.29	-1,289.82	830.65	579.42	251.23	3.306	
25,800.00	8,833.79	26,278.88	9,103.63	127.76	129.24	-109.04	15,705.87	-1,290.89	830.36	577.63	252.73	3.286	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 603H - OH - Plan #2

Survey Program: 0-MWD+IFR1+MS										Rule Assigned:		Offset Site Error:	0.00 usft
Reference										Offset Well Error:		0.00 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
				Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
25,900.00	8,825.71	26,378.87	9,094.66	128.50	129.98	-108.98	15,805.46	-1,291.96	830.07	575.84	254.23	3.265	
26,000.00	8,817.62	26,478.87	9,085.69	129.24	130.72	-108.93	15,905.05	-1,293.03	829.78	574.05	255.73	3.245	
26,100.00	8,809.53	26,578.86	9,076.71	129.98	131.45	-108.87	16,004.63	-1,294.10	829.49	572.26	257.23	3.225	
26,200.00	8,801.45	26,678.86	9,067.74	130.73	132.19	-108.81	16,104.22	-1,295.17	829.21	570.47	258.73	3.205	
26,300.00	8,793.36	26,778.86	9,058.77	131.47	132.93	-108.75	16,203.81	-1,296.24	828.92	568.69	260.23	3.185	
26,400.00	8,785.28	26,878.85	9,049.79	132.21	133.67	-108.69	16,303.39	-1,297.31	828.63	566.90	261.74	3.166	
26,500.00	8,777.19	26,978.85	9,040.82	132.96	134.41	-108.64	16,402.98	-1,298.38	828.35	565.11	263.24	3.147	
26,600.00	8,769.11	27,078.85	9,031.85	133.70	135.15	-108.58	16,502.57	-1,299.45	828.06	563.32	264.74	3.128	
26,700.00	8,761.02	27,178.84	9,022.88	134.44	135.89	-108.52	16,602.15	-1,300.52	827.78	561.54	266.24	3.109	
26,800.00	8,752.93	27,278.84	9,013.90	135.19	136.63	-108.46	16,701.74	-1,301.59	827.50	559.75	267.75	3.091	
26,900.00	8,744.85	27,378.83	9,004.93	135.93	137.37	-108.40	16,801.33	-1,302.66	827.22	557.96	269.25	3.072	
27,000.00	8,736.76	27,478.83	8,995.96	136.68	138.11	-108.34	16,900.92	-1,303.73	826.93	556.18	270.76	3.054	
27,100.00	8,728.68	27,578.83	8,986.99	137.42	138.85	-108.28	17,000.50	-1,304.79	826.65	554.39	272.26	3.036	
27,200.00	8,720.59	27,678.82	8,978.01	138.17	139.59	-108.23	17,100.09	-1,305.86	826.38	552.60	273.77	3.018	
27,300.00	8,712.51	27,778.82	8,969.04	138.91	140.33	-108.17	17,199.68	-1,306.93	826.10	550.82	275.28	3.001	
27,400.00	8,704.42	27,878.81	8,960.07	139.66	141.07	-108.11	17,299.26	-1,308.00	825.82	549.03	276.79	2.984	
27,500.00	8,696.33	27,978.81	8,951.09	140.40	141.82	-108.05	17,398.85	-1,309.07	825.54	547.25	278.29	2.966	
27,600.00	8,688.25	28,078.81	8,942.12	141.15	142.56	-107.99	17,498.44	-1,310.14	825.27	545.47	279.80	2.949	
27,700.00	8,680.16	28,178.80	8,933.15	141.90	143.30	-107.93	17,598.02	-1,311.21	824.99	543.68	281.31	2.933	
27,800.00	8,672.08	28,278.80	8,924.18	142.64	144.05	-107.87	17,697.61	-1,312.28	824.72	541.90	282.82	2.916	
27,900.00	8,663.99	28,378.79	8,915.20	143.39	144.79	-107.81	17,797.20	-1,313.35	824.44	540.12	284.33	2.900	
28,000.00	8,655.91	28,478.79	8,906.23	144.14	145.53	-107.76	17,896.78	-1,314.42	824.17	538.33	285.84	2.883	
28,100.00	8,647.82	28,578.79	8,897.26	144.89	146.28	-107.70	17,996.37	-1,315.49	823.90	536.55	287.35	2.867	
28,184.21	8,641.01	28,660.79	8,889.90	145.51	146.89	-107.65	18,078.04	-1,316.37	823.68	535.06	288.61	2.854	
28,197.49	8,639.94	28,660.79	8,889.90	145.61	146.89	-107.65	18,078.04	-1,316.37	823.78	535.04	288.74	2.853	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 604H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS								Rule Assigned:		Offset Well Error:		0.00 usft	
Reference		Offset		Semi Major Axis				Offset Wellbore Centre		Distance					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
0.00	0.00	0.00	0.10	0.00	0.00	89.77	0.08	20.00	20.00						
100.00	100.00	99.90	100.00	0.28	0.28	89.77	0.08	20.00	20.00	19.45	0.55	36.247			
200.00	200.00	199.90	200.00	0.63	0.63	89.77	0.08	20.00	20.00	18.73	1.27	15.765			
300.00	300.00	299.90	300.00	0.99	0.99	89.77	0.08	20.00	20.00	18.01	1.99	10.073			
400.00	400.00	399.90	400.00	1.35	1.35	89.77	0.08	20.00	20.00	17.30	2.70	7.401			
500.00	500.00	499.90	500.00	1.71	1.71	89.77	0.08	20.00	20.00	16.58	3.42	5.849			
600.00	600.00	599.90	600.00	2.07	2.07	89.77	0.08	20.00	20.00	15.86	4.14	4.835			
700.00	700.00	699.90	700.00	2.43	2.43	89.77	0.08	20.00	20.00	15.15	4.85	4.121			
800.00	800.00	799.90	800.00	2.79	2.78	89.77	0.08	20.00	20.00	14.43	5.57	3.591			
900.00	900.00	899.90	900.00	3.14	3.14	89.77	0.08	20.00	20.00	13.71	6.29	3.181			
1,000.00	1,000.00	999.90	1,000.00	3.50	3.50	89.77	0.08	20.00	20.00	13.00	7.00	2.855			
1,100.00	1,100.00	1,099.90	1,100.00	3.86	3.86	89.77	0.08	20.00	20.00	12.28	7.72	2.590			
1,200.00	1,200.00	1,199.90	1,200.00	4.22	4.22	89.77	0.08	20.00	20.00	11.56	8.44	2.370			
1,300.00	1,300.00	1,299.90	1,300.00	4.58	4.58	89.77	0.08	20.00	20.00	10.85	9.16	2.185			
1,400.00	1,400.00	1,399.90	1,400.00	4.94	4.94	89.77	0.08	20.00	20.00	10.13	9.87	2.026			
1,500.00	1,500.00	1,499.90	1,500.00	5.29	5.29	89.77	0.08	20.00	20.00	9.41	10.59	1.889			
1,600.00	1,600.00	1,599.90	1,600.00	5.65	5.65	89.77	0.08	20.00	20.00	8.69	11.31	1.769	CC, ES SF		
1,700.00	1,700.00	1,699.40	1,699.48	6.01	5.99	93.28	-1.21	21.14	21.18	9.18	12.00	1.765			
1,800.00	1,800.00	1,798.66	1,798.60	6.37	6.32	101.66	-5.07	24.57	25.13	12.45	12.67	1.982			
1,900.00	1,899.98	1,897.89	1,897.49	6.71	6.65	-126.43	-11.20	30.00	33.13	19.79	13.33	2.484			
2,000.00	1,999.84	1,997.32	1,996.54	7.05	6.99	-126.01	-17.68	35.75	43.74	29.75	14.00	3.125			
2,100.00	2,099.45	2,096.47	2,095.32	7.38	7.32	-128.54	-24.15	41.48	56.46	41.80	14.67	3.850			
2,200.00	2,198.90	2,195.45	2,193.92	7.72	7.66	-131.36	-30.60	47.21	70.39	55.05	15.34	4.589			
2,300.00	2,298.36	2,294.43	2,292.52	8.06	8.00	-133.24	-37.06	52.93	84.43	68.42	16.01	5.272			
2,400.00	2,397.81	2,393.41	2,391.12	8.40	8.34	-134.59	-43.51	58.65	98.54	81.84	16.69	5.903			
2,500.00	2,497.26	2,492.38	2,489.72	8.75	8.68	-135.60	-49.96	64.37	112.68	95.30	17.38	6.485			
2,600.00	2,596.72	2,591.36	2,588.32	9.09	9.03	-136.38	-56.42	70.10	126.85	108.79	18.06	7.023			
2,700.00	2,696.17	2,690.34	2,686.92	9.44	9.37	-137.01	-62.87	75.82	141.04	122.29	18.75	7.521			
2,800.00	2,795.62	2,789.32	2,785.53	9.79	9.72	-137.52	-69.33	81.54	155.24	135.80	19.44	7.984			
2,900.00	2,895.07	2,888.29	2,884.13	10.14	10.07	-137.95	-75.78	87.26	169.46	149.32	20.14	8.415			
3,000.00	2,994.53	2,987.27	2,982.73	10.49	10.42	-138.31	-82.24	92.99	183.68	162.84	20.83	8.816			
3,100.00	3,093.98	3,086.25	3,081.33	10.85	10.76	-138.61	-88.69	98.71	197.90	176.37	21.53	9.191			
3,200.00	3,193.43	3,185.23	3,179.93	11.20	11.11	-138.88	-95.14	104.43	212.14	189.90	22.23	9.542			
3,300.00	3,292.88	3,284.20	3,278.53	11.55	11.47	-139.12	-101.60	110.15	226.37	203.44	22.93	9.870			
3,400.00	3,392.34	3,383.18	3,377.13	11.91	11.82	-139.32	-108.05	115.88	240.61	216.97	23.64	10.179			
3,500.00	3,491.79	3,482.16	3,475.73	12.27	12.17	-139.50	-114.51	121.60	254.85	230.51	24.34	10.469			
3,600.00	3,591.24	3,581.14	3,574.33	12.62	12.52	-139.67	-120.96	127.32	269.10	244.05	25.05	10.743			
3,700.00	3,690.69	3,680.11	3,672.93	12.98	12.87	-139.81	-127.41	133.04	283.34	257.59	25.76	11.001			
3,800.00	3,790.15	3,779.09	3,771.54	13.34	13.23	-139.95	-133.87	138.77	297.59	271.13	26.46	11.245			
3,900.00	3,889.60	3,878.07	3,870.14	13.70	13.58	-140.07	-140.32	144.49	311.84	284.67	27.17	11.476			
4,000.00	3,989.05	3,977.05	3,968.74	14.05	13.94	-140.18	-146.78	150.21	326.09	298.21	27.88	11.695			
4,100.00	4,088.51	4,076.02	4,067.34	14.41	14.29	-140.28	-153.23	155.93	340.34	311.75	28.59	11.903			
4,200.00	4,187.96	4,175.00	4,165.94	14.77	14.65	-140.37	-159.68	161.66	354.59	325.29	29.31	12.100			
4,300.00	4,287.41	4,273.98	4,264.54	15.13	15.00	-140.46	-166.14	167.38	368.85	338.83	30.02	12.288			
4,400.00	4,386.86	4,372.96	4,363.14	15.49	15.36	-140.54	-172.59	173.10	383.10	352.37	30.73	12.466			
4,500.00	4,486.32	4,471.93	4,461.74	15.85	15.71	-140.61	-179.05	178.83	397.36	365.91	31.44	12.637			
4,600.00	4,585.77	4,570.91	4,560.34	16.22	16.07	-140.68	-185.50	184.55	411.61	379.45	32.16	12.799			
4,700.00	4,685.22	4,669.89	4,658.94	16.58	16.43	-140.74	-191.95	190.27	425.87	392.99	32.87	12.955			
4,800.00	4,784.67	4,768.87	4,757.55	16.94	16.78	-140.80	-198.41	195.99	440.12	406.53	33.59	13.103			
4,900.00	4,884.13	4,867.85	4,856.15	17.30	17.14	-140.86	-204.86	201.72	454.38	420.07	34.30	13.246			
5,000.00	4,983.58	4,966.82	4,954.75	17.66	17.50	-140.91	-211.32	207.44	468.64	433.62	35.02	13.382			
5,100.00	5,083.03	5,065.80	5,053.35	18.02	17.85	-140.96	-217.77	213.16	482.89	447.16	35.74	13.512			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 604H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
5,200.00	5,182.48	5,164.78	5,151.95	18.39	18.21	-141.01	-224.22	218.88	497.15	460.70	36.45	13.638	
5,300.00	5,281.94	5,267.38	5,254.17	18.75	18.58	-141.06	-230.81	224.72	511.32	474.12	37.20	13.746	
5,400.00	5,381.39	5,367.63	5,354.42	19.11	18.99	-141.38	-235.68	229.04	523.50	485.49	38.01	13.774	
5,500.00	5,480.84	5,467.27	5,454.04	19.48	19.38	-142.02	-237.19	230.38	532.95	494.17	38.78	13.743	
5,600.00	5,580.29	5,566.72	5,553.51	19.84	19.72	-142.70	-237.19	230.38	541.24	501.76	39.48	13.710	
5,700.00	5,679.75	5,666.17	5,653.45	20.20	20.06	-143.36	-237.19	230.38	549.60	509.42	40.18	13.679	
5,800.00	5,779.28	5,765.71	5,752.99	20.57	20.40	-144.01	-237.19	230.38	557.37	516.49	40.88	13.635	
5,900.00	5,879.08	5,865.50	5,852.78	20.93	20.74	-144.45	-237.19	230.38	562.49	520.92	41.57	13.530	
6,000.00	5,979.03	5,965.46	5,952.74	21.28	21.08	-144.64	-237.19	230.38	564.79	522.52	42.27	13.361	
6,100.00	6,079.03	6,065.46	6,052.74	21.62	21.42	-89.88	-237.19	230.38	564.93	521.98	42.95	13.152	
6,200.00	6,179.03	6,165.46	6,152.74	21.96	21.77	-89.88	-237.19	230.38	564.93	521.30	43.64	12.947	
6,300.00	6,279.03	6,265.46	6,252.74	22.30	22.11	-89.88	-237.19	230.38	564.93	520.61	44.32	12.747	
6,400.00	6,379.03	6,365.46	6,352.74	22.65	22.45	-89.88	-237.19	230.38	564.93	519.93	45.00	12.553	
6,500.00	6,479.03	6,465.46	6,452.74	22.99	22.80	-89.88	-237.19	230.38	564.93	519.24	45.69	12.365	
6,600.00	6,579.03	6,565.46	6,552.74	23.33	23.14	-89.88	-237.19	230.38	564.93	518.56	46.37	12.182	
6,700.00	6,679.03	6,665.46	6,652.74	23.67	23.49	-89.88	-237.19	230.38	564.93	517.87	47.06	12.005	
6,800.00	6,779.03	6,765.46	6,752.74	24.02	23.83	-89.88	-237.19	230.38	564.93	517.18	47.75	11.832	
6,900.00	6,879.03	6,865.46	6,852.74	24.36	24.18	-89.88	-237.19	230.38	564.93	516.50	48.44	11.664	
7,000.00	6,979.03	6,965.46	6,952.74	24.70	24.53	-89.88	-237.19	230.38	564.93	515.81	49.12	11.500	
7,100.00	7,079.03	7,065.46	7,052.74	25.05	24.87	-89.88	-237.19	230.38	564.93	515.12	49.81	11.341	
7,200.00	7,179.03	7,165.46	7,152.74	25.39	25.22	-89.88	-237.19	230.38	564.93	514.43	50.51	11.186	
7,300.00	7,279.03	7,265.46	7,252.74	25.74	25.57	-89.88	-237.19	230.38	564.93	513.73	51.20	11.034	
7,400.00	7,379.03	7,365.46	7,352.74	26.09	25.91	-89.88	-237.19	230.38	564.93	513.04	51.89	10.887	
7,500.00	7,479.03	7,465.46	7,452.74	26.43	26.26	-89.88	-237.19	230.38	564.93	512.35	52.58	10.744	
7,600.00	7,579.03	7,565.46	7,552.74	26.78	26.61	-89.88	-237.19	230.38	564.93	511.66	53.28	10.604	
7,700.00	7,679.03	7,665.46	7,652.74	27.13	26.96	-89.88	-237.19	230.38	564.93	510.96	53.97	10.468	
7,800.00	7,779.03	7,765.46	7,752.74	27.47	27.31	-89.88	-237.19	230.38	564.93	510.27	54.66	10.335	
7,900.00	7,879.03	7,865.46	7,852.74	27.82	27.66	-89.88	-237.19	230.38	564.93	509.57	55.36	10.205	
8,000.00	7,979.03	7,965.46	7,952.74	28.17	28.01	-89.88	-237.19	230.38	564.93	508.88	56.06	10.078	
8,100.00	8,079.03	8,065.46	8,052.74	28.52	28.36	-89.88	-237.19	230.38	564.93	508.18	56.75	9.954	
8,200.00	8,179.03	8,165.46	8,152.74	28.86	28.71	-89.88	-237.19	230.38	564.93	507.48	57.45	9.834	
8,300.00	8,279.03	8,265.46	8,252.74	29.21	29.06	-89.88	-237.19	230.38	564.93	506.79	58.15	9.716	
8,400.00	8,379.03	8,365.46	8,352.74	29.56	29.41	-89.88	-237.19	230.38	564.93	506.09	58.84	9.600	
8,500.00	8,479.03	8,465.46	8,452.74	29.91	29.76	-89.88	-237.19	230.38	564.93	505.39	59.54	9.488	
8,600.00	8,579.03	8,565.46	8,552.74	30.26	30.11	-89.88	-237.19	230.38	564.93	504.69	60.24	9.378	
8,700.00	8,679.03	8,665.46	8,652.74	30.61	30.46	-89.88	-237.19	230.38	564.93	503.99	60.94	9.270	
8,800.00	8,779.03	8,765.46	8,752.74	30.96	30.81	-89.88	-237.19	230.38	564.93	503.29	61.64	9.165	
8,900.00	8,879.03	8,865.46	8,852.74	31.31	31.16	-89.88	-237.19	230.38	564.93	502.59	62.34	9.062	
9,000.00	8,979.03	8,965.46	8,952.74	31.66	31.51	-89.88	-237.19	230.38	564.93	501.89	63.04	8.961	
9,100.00	9,079.03	9,065.46	9,052.74	32.01	31.86	-89.88	-237.19	230.38	564.93	501.19	63.74	8.863	
9,200.00	9,179.03	9,165.46	9,152.74	32.36	32.22	-89.88	-237.19	230.38	564.93	500.49	64.44	8.767	
9,300.00	9,279.03	9,265.46	9,252.74	32.71	32.57	-89.88	-237.19	230.38	564.93	499.79	65.14	8.672	
9,400.00	9,379.03	9,365.46	9,352.74	33.06	32.92	-89.88	-237.19	230.38	564.93	499.09	65.84	8.580	
9,408.33	9,387.36	9,400.78	9,387.36	33.09	32.95	90.50	-237.19	230.38	564.93	499.03	65.90	8.572	
9,500.00	9,479.03	9,492.46	9,479.03	33.41	33.27	90.51	-237.19	230.38	564.93	498.38	66.55	8.489	
9,600.00	9,578.40	9,591.82	9,578.40	33.76	33.62	91.50	-237.19	230.38	565.11	497.87	67.24	8.404	
9,700.00	9,674.51	9,687.93	9,674.51	34.09	33.96	94.00	-237.19	230.38	566.48	498.57	67.91	8.342	
9,800.00	9,764.44	9,777.87	9,764.44	34.38	34.28	97.42	-237.19	230.38	571.37	502.83	68.54	8.337	
9,900.00	9,845.47	9,859.77	9,846.35	34.64	34.57	100.98	-237.18	230.38	582.98	513.88	69.11	8.436	
10,000.00	9,915.13	9,970.62	9,956.43	34.86	34.95	105.92	-225.82	230.26	602.11	532.50	69.62	8.649	
10,100.00	9,971.30	10,106.82	10,085.49	35.04	35.39	111.18	-183.28	229.80	625.97	556.42	69.54	9.001	
10,200.00	10,012.28	10,283.14	10,231.31	35.19	35.87	116.77	-85.41	228.74	650.77	582.61	68.16	9.548	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 604H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Reference		Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Offset Site Error:
Reference		Offset		Reference		Offset		+N/-S		Between		Minimum		Offset Well Error:
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)		+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Separation (usft)	Factor	Warning
10,300.00	10,038.24	10,490.23	10,354.84	35.31	36.29	121.42		79.31	226.95	669.33	603.49	65.85	10.165	
10,400.00	10,054.93	10,703.47	10,417.44	35.42	36.57	123.06		282.27	224.76	674.34	609.80	64.54	10.448	
10,500.00	10,062.97	10,851.08	10,434.01	35.51	36.72	123.33		428.84	223.18	676.10	611.59	64.51	10.481	
10,600.00	10,062.30	10,998.98	10,431.59	35.61	36.87	123.25		576.61	221.59	675.57	610.68	64.90	10.410	
10,698.15	10,055.88	11,097.90	10,423.39	35.73	37.00	123.14		675.18	220.53	674.63	609.38	65.25	10.340	
10,700.00	10,054.74	11,099.76	10,423.24	35.74	37.00	123.21		677.04	220.51	675.17	609.95	65.22	10.352	
10,800.00	10,046.66	11,199.76	10,414.95	35.88	37.15	123.19		776.68	219.44	675.06	609.49	65.56	10.296	
10,900.00	10,038.57	11,299.76	10,406.65	36.04	37.31	123.18		876.33	218.37	674.94	609.00	65.94	10.236	
11,000.00	10,030.49	11,399.76	10,398.36	36.22	37.49	123.16		975.98	217.30	674.83	608.48	66.35	10.171	
11,100.00	10,022.40	11,499.76	10,390.07	36.42	37.68	123.15		1,075.63	216.23	674.72	607.92	66.79	10.101	
11,200.00	10,014.31	11,599.76	10,381.78	36.63	37.89	123.13		1,175.28	215.16	674.60	607.33	67.27	10.028	
11,300.00	10,006.23	11,699.76	10,373.49	36.85	38.11	123.12		1,274.93	214.08	674.49	606.71	67.78	9.951	
11,400.00	9,998.14	11,799.76	10,365.19	37.09	38.35	123.10		1,374.58	213.01	674.38	606.06	68.32	9.871	
11,500.00	9,990.06	11,899.76	10,356.90	37.34	38.60	123.09		1,474.23	211.94	674.26	605.37	68.89	9.788	
11,600.00	9,981.97	11,999.76	10,348.61	37.61	38.87	123.07		1,573.88	210.87	674.15	604.66	69.49	9.701	
11,700.00	9,973.89	12,099.76	10,340.32	37.89	39.15	123.06		1,673.53	209.80	674.04	603.92	70.12	9.613	
11,800.00	9,965.80	12,199.76	10,332.02	38.19	39.44	123.05		1,773.18	208.73	673.92	603.15	70.78	9.522	
11,900.00	9,957.71	12,299.76	10,323.73	38.49	39.74	123.03		1,872.83	207.66	673.81	602.35	71.46	9.429	
12,000.00	9,949.63	12,399.76	10,315.44	38.82	40.06	123.02		1,972.48	206.59	673.70	601.52	72.17	9.335	
12,100.00	9,941.54	12,499.76	10,307.15	39.15	40.39	123.00		2,072.13	205.52	673.58	600.67	72.91	9.239	
12,200.00	9,933.46	12,599.76	10,298.85	39.49	40.73	122.99		2,171.78	204.45	673.47	599.80	73.67	9.141	
12,300.00	9,925.37	12,699.76	10,290.56	39.85	41.08	122.97		2,271.43	203.38	673.36	598.90	74.46	9.043	
12,400.00	9,917.28	12,799.76	10,282.27	40.22	41.45	122.96		2,371.08	202.31	673.25	597.98	75.27	8.945	
12,500.00	9,909.20	12,899.76	10,273.98	40.60	41.82	122.94		2,470.73	201.24	673.13	597.03	76.10	8.845	
12,600.00	9,901.11	12,999.76	10,265.68	40.99	42.21	122.93		2,570.38	200.17	673.02	596.06	76.96	8.745	
12,700.00	9,893.03	13,099.76	10,257.39	41.39	42.61	122.91		2,670.03	199.09	672.91	595.07	77.83	8.645	
12,800.00	9,884.94	13,199.76	10,249.10	41.81	43.01	122.90		2,769.68	198.02	672.79	594.06	78.73	8.545	
12,900.00	9,876.86	13,299.76	10,240.81	42.23	43.43	122.88		2,869.33	196.95	672.68	593.03	79.65	8.446	
13,000.00	9,868.77	13,399.76	10,232.52	42.66	43.85	122.87		2,968.98	195.88	672.57	591.99	80.58	8.346	
13,100.00	9,860.68	13,499.76	10,224.22	43.10	44.29	122.85		3,068.63	194.81	672.46	590.92	81.54	8.247	
13,200.00	9,852.60	13,599.76	10,215.93	43.55	44.73	122.84		3,168.28	193.74	672.35	589.83	82.51	8.148	
13,300.00	9,844.51	13,699.76	10,207.64	44.01	45.19	122.82		3,267.93	192.67	672.23	588.73	83.50	8.050	
13,400.00	9,836.43	13,799.76	10,199.35	44.48	45.65	122.81		3,367.58	191.60	672.12	587.61	84.51	7.953	
13,500.00	9,828.34	13,899.76	10,191.05	44.96	46.12	122.79		3,467.22	190.53	672.01	586.48	85.53	7.857	
13,600.00	9,820.26	13,999.76	10,182.76	45.44	46.60	122.78		3,566.87	189.46	671.90	585.32	86.57	7.761	
13,700.00	9,812.17	14,099.76	10,174.47	45.93	47.08	122.76		3,666.52	188.39	671.78	584.16	87.63	7.667	
13,800.00	9,804.08	14,199.76	10,166.18	46.43	47.57	122.75		3,766.17	187.32	671.67	582.98	88.69	7.573	
13,900.00	9,796.00	14,299.76	10,157.88	46.94	48.07	122.73		3,865.82	186.25	671.56	581.78	89.78	7.480	
14,000.00	9,787.91	14,399.76	10,149.59	47.46	48.58	122.72		3,965.47	185.17	671.45	580.58	90.87	7.389	
14,100.00	9,779.83	14,499.76	10,141.30	47.98	49.10	122.70		4,065.12	184.10	671.34	579.36	91.98	7.299	
14,200.00	9,771.74	14,599.76	10,133.01	48.51	49.62	122.69		4,164.77	183.03	671.22	578.12	93.10	7.210	
14,300.00	9,763.66	14,699.76	10,124.71	49.04	50.15	122.67		4,264.42	181.96	671.11	576.88	94.23	7.122	
14,400.00	9,755.57	14,799.76	10,116.42	49.58	50.68	122.66		4,364.07	180.89	671.00	575.62	95.38	7.035	
14,500.00	9,747.48	14,899.76	10,108.13	50.13	51.22	122.64		4,463.72	179.82	670.89	574.35	96.53	6.950	
14,600.00	9,739.40	14,999.76	10,099.84	50.68	51.76	122.63		4,563.37	178.75	670.78	573.08	97.70	6.866	
14,700.00	9,731.31	15,099.76	10,091.55	51.24	52.32	122.61		4,663.02	177.68	670.66	571.79	98.88	6.783	
14,800.00	9,723.23	15,199.76	10,083.25	51.80	52.87	122.60		4,762.67	176.61	670.55	570.49	100.07	6.701	
14,900.00	9,715.14	15,299.76	10,074.96	52.37	53.43	122.58		4,862.32	175.54	670.44	569.18	101.26	6.621	
15,000.00	9,707.05	15,399.76	10,066.67	52.94	54.00	122.57		4,961.97	174.47	670.33	567.86	102.47	6.542	
15,100.00	9,698.97	15,499.76	10,058.38	53.52	54.57	122.55		5,061.62	173.40	670.22	566.53	103.68	6.464	
15,200.00	9,690.88	15,599.76	10,050.08	54.10	55.15	122.54		5,161.27	172.33	670.11	565.20	104.91	6.388	
15,300.00	9,682.80	15,699.76	10,041.79	54.69	55.73	122.52		5,260.92	171.26	669.99	563.86	106.14	6.312	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 604H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Semi Major Axis		Highside Toolface (")	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
15,400.00	9,674.71	15,799.75	10,033.50	55.29	56.32	122.51	5,360.57	170.18	669.88	562.50	107.38	6.238	
15,500.00	9,666.63	15,899.75	10,025.21	55.88	56.91	122.50	5,460.22	169.11	669.77	561.14	108.63	6.166	
15,600.00	9,658.54	15,999.75	10,016.91	56.48	57.50	122.48	5,559.87	168.04	669.66	559.78	109.88	6.094	
15,700.00	9,650.45	16,099.75	10,008.62	57.09	58.10	122.47	5,659.52	166.97	669.55	558.40	111.15	6.024	
15,800.00	9,642.37	16,199.75	10,000.33	57.70	58.71	122.45	5,759.17	165.90	669.44	557.02	112.42	5.955	
15,900.00	9,634.28	16,299.75	9,992.04	58.31	59.31	122.44	5,858.82	164.83	669.33	555.63	113.70	5.887	
16,000.00	9,626.20	16,399.75	9,983.74	58.93	59.92	122.42	5,958.47	163.76	669.22	554.24	114.98	5.820	
16,100.00	9,618.11	16,499.75	9,975.45	59.55	60.54	122.41	6,058.12	162.69	669.10	552.83	116.27	5.755	
16,200.00	9,610.03	16,599.75	9,967.16	60.17	61.16	122.39	6,157.76	161.62	668.99	551.43	117.57	5.690	
16,300.00	9,601.94	16,699.75	9,958.87	60.80	61.78	122.38	6,257.41	160.55	668.88	550.01	118.87	5.627	
16,400.00	9,593.85	16,799.75	9,950.58	61.43	62.40	122.36	6,357.06	159.48	668.77	548.59	120.18	5.565	
16,500.00	9,585.77	16,899.75	9,942.28	62.06	63.03	122.35	6,456.71	158.41	668.66	547.17	121.49	5.504	
16,600.00	9,577.68	16,999.75	9,933.99	62.70	63.66	122.33	6,556.36	157.34	668.55	545.74	122.81	5.444	
16,700.00	9,569.60	17,099.75	9,925.70	63.34	64.29	122.32	6,656.01	156.26	668.44	544.30	124.13	5.385	
16,800.00	9,561.51	17,199.75	9,917.41	63.98	64.93	122.30	6,755.66	155.19	668.33	542.86	125.46	5.327	
16,900.00	9,553.43	17,299.75	9,909.11	64.63	65.57	122.29	6,855.31	154.12	668.22	541.42	126.80	5.270	
17,000.00	9,545.34	17,399.75	9,900.82	65.28	66.21	122.27	6,954.96	153.05	668.11	539.97	128.14	5.214	
17,100.00	9,537.25	17,499.75	9,892.53	65.93	66.86	122.26	7,054.61	151.98	668.00	538.51	129.48	5.159	
17,200.00	9,529.17	17,599.75	9,884.24	66.58	67.51	122.24	7,154.26	150.91	667.89	537.06	130.83	5.105	
17,300.00	9,521.08	17,699.75	9,875.94	67.24	68.16	122.22	7,253.91	149.84	667.78	535.59	132.18	5.052	
17,400.00	9,513.00	17,799.75	9,867.65	67.89	68.81	122.21	7,353.56	148.77	667.66	534.12	133.54	5.000	
17,500.00	9,504.91	17,899.75	9,859.36	68.55	69.47	122.19	7,453.21	147.70	667.55	532.65	134.90	4.948	
17,600.00	9,496.82	17,999.75	9,851.07	69.22	70.12	122.18	7,552.86	146.63	667.44	531.18	136.27	4.898	
17,700.00	9,488.74	18,099.75	9,842.77	69.88	70.78	122.16	7,652.51	145.56	667.33	529.70	137.63	4.849	
17,800.00	9,480.65	18,199.75	9,834.48	70.55	71.45	122.15	7,752.16	144.49	667.22	528.22	139.01	4.800	
17,900.00	9,472.57	18,299.75	9,826.19	71.22	72.11	122.13	7,851.81	143.42	667.11	526.73	140.38	4.752	
18,000.00	9,464.48	18,399.75	9,817.90	71.89	72.78	122.12	7,951.46	142.35	667.00	525.24	141.76	4.705	
18,100.00	9,456.40	18,499.75	9,809.61	72.56	73.45	122.10	8,051.11	141.27	666.89	523.75	143.15	4.659	
18,200.00	9,448.31	18,599.75	9,801.31	73.24	74.12	122.09	8,150.76	140.20	666.78	522.25	144.53	4.613	
18,300.00	9,440.22	18,699.75	9,793.02	73.92	74.79	122.07	8,250.41	139.13	666.67	520.75	145.92	4.569	
18,400.00	9,432.14	18,799.75	9,784.73	74.60	75.46	122.06	8,350.06	138.06	666.56	519.25	147.31	4.525	
18,500.00	9,424.05	18,899.75	9,776.44	75.28	76.14	122.04	8,449.71	136.99	666.45	517.74	148.71	4.482	
18,600.00	9,415.97	18,999.75	9,768.14	75.96	76.82	122.03	8,549.36	135.92	666.34	516.23	150.11	4.439	
18,700.00	9,407.88	19,099.75	9,759.85	76.64	77.50	122.01	8,649.01	134.85	666.23	514.72	151.51	4.397	
18,800.00	9,399.80	19,199.75	9,751.56	77.33	78.18	122.00	8,748.65	133.78	666.12	513.21	152.91	4.356	
18,900.00	9,391.71	19,299.75	9,743.27	78.02	78.86	121.98	8,848.30	132.71	666.01	511.69	154.32	4.316	
19,000.00	9,383.62	19,399.75	9,734.97	78.70	79.55	121.97	8,947.95	131.64	665.90	510.17	155.73	4.276	
19,100.00	9,375.54	19,499.75	9,726.68	79.39	80.23	121.95	9,047.60	130.57	665.79	508.65	157.14	4.237	
19,200.00	9,367.45	19,599.75	9,718.39	80.09	80.92	121.94	9,147.25	129.50	665.68	507.13	158.56	4.198	
19,300.00	9,359.37	19,699.74	9,710.10	80.78	81.61	121.92	9,246.90	128.43	665.57	505.60	159.98	4.160	
19,400.00	9,351.28	19,799.74	9,701.80	81.47	82.30	121.91	9,346.55	127.35	665.46	504.07	161.39	4.123	
19,500.00	9,343.20	19,899.74	9,693.51	82.17	82.99	121.89	9,446.20	126.28	665.36	502.54	162.82	4.087	
19,600.00	9,335.11	19,999.74	9,685.22	82.87	83.69	121.88	9,545.85	125.21	665.25	501.01	164.24	4.050	
19,700.00	9,327.02	20,099.74	9,676.93	83.57	84.38	121.86	9,645.50	124.14	665.14	499.47	165.67	4.015	
19,800.00	9,318.94	20,199.74	9,668.64	84.27	85.08	121.85	9,745.15	123.07	665.03	497.93	167.09	3.980	
19,900.00	9,310.85	20,299.74	9,660.34	84.97	85.77	121.83	9,844.80	122.00	664.92	496.39	168.53	3.946	
20,000.00	9,302.77	20,399.74	9,652.05	85.67	86.47	121.82	9,944.45	120.93	664.81	494.85	169.96	3.912	
20,100.00	9,294.68	20,499.74	9,643.76	86.37	87.17	121.80	10,044.10	119.86	664.70	493.31	171.39	3.878	
20,200.00	9,286.60	20,599.74	9,635.47	87.08	87.87	121.79	10,143.75	118.79	664.59	491.76	172.83	3.845	
20,300.00	9,278.51	20,699.74	9,627.17	87.78	88.58	121.77	10,243.40	117.72	664.48	490.21	174.27	3.813	
20,400.00	9,270.42	20,799.74	9,618.88	88.49	89.28	121.76	10,343.05	116.65	664.37	488.67	175.71	3.781	
20,500.00	9,262.34	20,899.74	9,610.59	89.20	89.98	121.74	10,442.70	115.58	664.26	487.11	177.15	3.750	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 604H - OH - Plan #2

Survey Program:		0-MWD+IFR1+MS		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,600.00	9,254.25	20,999.74	9,602.30	89.91	90.69	121.73	10,542.35	114.51	664.15	485.56	178.59	3.719	
20,700.00	9,246.17	21,099.74	9,594.00	90.62	91.40	121.71	10,642.00	113.44	664.04	484.01	180.04	3.688	
20,800.00	9,238.08	21,199.74	9,585.71	91.33	92.10	121.70	10,741.65	112.36	663.94	482.45	181.48	3.658	
20,900.00	9,229.99	21,299.74	9,577.42	92.04	92.81	121.68	10,841.30	111.29	663.83	480.89	182.93	3.629	
21,000.00	9,221.91	21,399.74	9,569.13	92.75	93.52	121.66	10,940.95	110.22	663.72	479.34	184.38	3.600	
21,100.00	9,213.82	21,499.74	9,560.83	93.47	94.23	121.65	11,040.60	109.15	663.61	477.77	185.83	3.571	
21,200.00	9,205.74	21,599.74	9,552.54	94.18	94.94	121.63	11,140.25	108.08	663.50	476.21	187.29	3.543	
21,300.00	9,197.65	21,699.74	9,544.25	94.90	95.66	121.62	11,239.90	107.01	663.39	474.65	188.74	3.515	
21,400.00	9,189.57	21,799.74	9,535.96	95.61	96.37	121.60	11,339.55	105.94	663.28	473.08	190.20	3.487	
21,500.00	9,181.48	21,899.74	9,527.67	96.33	97.08	121.59	11,439.19	104.87	663.17	471.52	191.66	3.460	
21,600.00	9,173.39	21,999.74	9,519.37	97.05	97.80	121.57	11,538.84	103.80	663.07	469.95	193.11	3.434	
21,700.00	9,165.31	22,099.74	9,511.08	97.77	98.51	121.56	11,638.49	102.73	662.96	468.38	194.57	3.407	
21,800.00	9,157.22	22,199.74	9,502.79	98.49	99.23	121.54	11,738.14	101.66	662.85	466.81	196.04	3.381	
21,900.00	9,149.14	22,299.74	9,494.50	99.21	99.95	121.53	11,837.79	100.59	662.74	465.24	197.50	3.356	
22,000.00	9,141.05	22,399.74	9,486.20	99.93	100.67	121.51	11,937.44	99.52	662.63	463.67	198.96	3.330	
22,100.00	9,132.97	22,499.74	9,477.91	100.65	101.39	121.50	12,037.09	98.44	662.52	462.10	200.43	3.306	
22,200.00	9,124.88	22,599.74	9,469.62	101.37	102.11	121.48	12,136.74	97.37	662.42	460.52	201.89	3.281	
22,300.00	9,116.79	22,699.74	9,461.33	102.09	102.83	121.47	12,236.39	96.30	662.31	458.95	203.36	3.257	
22,400.00	9,108.71	22,799.74	9,453.03	102.82	103.55	121.45	12,336.04	95.23	662.20	457.37	204.83	3.233	
22,500.00	9,100.62	22,899.74	9,444.74	103.54	104.27	121.44	12,435.69	94.16	662.09	455.79	206.30	3.209	
22,600.00	9,092.54	22,999.74	9,436.45	104.27	104.99	121.42	12,535.34	93.09	661.98	454.21	207.77	3.186	
22,700.00	9,084.45	23,099.74	9,428.16	104.99	105.72	121.41	12,634.99	92.02	661.88	452.63	209.24	3.163	
22,800.00	9,076.37	23,199.74	9,419.86	105.72	106.44	121.39	12,734.64	90.95	661.77	451.05	210.72	3.141	
22,900.00	9,068.28	23,299.74	9,411.57	106.45	107.16	121.37	12,834.29	89.88	661.66	449.47	212.19	3.118	
23,000.00	9,060.19	23,399.74	9,403.28	107.18	107.89	121.36	12,933.94	88.81	661.55	447.89	213.67	3.096	
23,100.00	9,052.11	23,499.74	9,394.99	107.90	108.62	121.34	13,033.59	87.74	661.44	446.30	215.14	3.074	
23,200.00	9,044.02	23,599.74	9,386.70	108.63	109.34	121.33	13,133.24	86.67	661.34	444.72	216.62	3.053	
23,300.00	9,035.94	23,699.74	9,378.40	109.36	110.07	121.31	13,232.89	85.60	661.23	443.13	218.10	3.032	
23,400.00	9,027.85	23,799.74	9,370.11	110.09	110.80	121.30	13,332.54	84.53	661.12	441.54	219.58	3.011	
23,500.00	9,019.76	23,899.74	9,361.82	110.82	111.53	121.28	13,432.19	83.45	661.01	439.96	221.06	2.990	
23,600.00	9,011.68	23,999.74	9,353.53	111.56	112.25	121.27	13,531.84	82.38	660.91	438.37	222.54	2.970	
23,700.00	9,003.59	24,099.74	9,345.23	112.29	112.98	121.25	13,631.49	81.31	660.80	436.78	224.02	2.950	
23,800.00	8,995.51	24,199.74	9,336.94	113.02	113.71	121.24	13,731.14	80.24	660.69	435.19	225.50	2.930	
23,900.00	8,987.42	24,299.74	9,328.65	113.75	114.44	121.22	13,830.79	79.17	660.58	433.60	226.98	2.910	
24,000.00	8,979.34	24,399.73	9,320.36	114.49	115.18	121.21	13,930.44	78.10	660.48	432.01	228.47	2.891	
24,100.00	8,971.25	24,499.73	9,312.06	115.22	115.91	121.19	14,030.09	77.03	660.37	430.41	229.95	2.872	
24,200.00	8,963.16	24,599.73	9,303.77	115.95	116.64	121.17	14,129.73	75.96	660.26	428.82	231.44	2.853	
24,300.00	8,955.08	24,699.73	9,295.48	116.69	117.37	121.16	14,229.38	74.89	660.15	427.23	232.93	2.834	
24,400.00	8,946.99	24,799.73	9,287.19	117.42	118.10	121.14	14,329.03	73.82	660.05	425.63	234.41	2.816	
24,500.00	8,938.91	24,899.73	9,278.89	118.16	118.84	121.13	14,428.68	72.75	659.94	424.04	235.90	2.798	
24,600.00	8,930.82	24,999.73	9,270.60	118.89	119.57	121.11	14,528.33	71.68	659.83	422.44	237.39	2.780	
24,700.00	8,922.74	25,099.73	9,262.31	119.63	120.31	121.10	14,627.98	70.61	659.72	420.85	238.88	2.762	
24,800.00	8,914.65	25,199.73	9,254.02	120.37	121.04	121.08	14,727.63	69.53	659.62	419.25	240.37	2.744	
24,900.00	8,906.56	25,299.73	9,245.73	121.11	121.78	121.07	14,827.28	68.46	659.51	417.65	241.86	2.727	
25,000.00	8,898.48	25,399.73	9,237.43	121.84	122.51	121.05	14,926.93	67.39	659.40	416.05	243.35	2.710	
25,100.00	8,890.39	25,499.73	9,229.14	122.58	123.25	121.04	15,026.58	66.32	659.30	414.45	244.84	2.693	
25,200.00	8,882.31	25,599.73	9,220.85	123.32	123.99	121.02	15,126.23	65.25	659.19	412.85	246.34	2.676	
25,300.00	8,874.22	25,699.73	9,212.56	124.06	124.72	121.01	15,225.88	64.18	659.08	411.25	247.83	2.659	
25,400.00	8,866.14	25,799.73	9,204.26	124.80	125.46	120.99	15,325.53	63.11	658.98	409.65	249.32	2.643	
25,500.00	8,858.05	25,899.73	9,195.97	125.54	126.20	120.97	15,425.18	62.04	658.87	408.05	250.82	2.627	
25,600.00	8,849.96	25,999.73	9,187.68	126.28	126.94	120.96	15,524.83	60.97	658.76	406.45	252.31	2.611	
25,700.00	8,841.88	26,099.73	9,179.39	127.02	127.67	120.94	15,624.48	59.90	658.66	404.85	253.81	2.595	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Offset Design: Rope State Com Pad - Rope State Com 604H - OH - Plan #2

Survey Program: 0-MWD+IFR1+MS										Rule Assigned:				Offset Site Error:
Reference										Offset Well Error:				0.00 usft
Offset														0.00 usft
Measured	Vertical	Measured	Vertical	Semi Major Axis		Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning	
Depth	Depth	Depth	Depth	Reference	Offset	Toolface	+N/-S	+E/-W	Between	Between	Separation	Factor		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	(usft)	(usft)	Centres	Ellipses	(usft)			
25,800.00	8,833.79	26,199.73	9,171.09	127.76	128.41	120.93	15,724.13	58.83	658.55	403.24	255.31	2.579		
25,900.00	8,825.71	26,299.73	9,162.80	128.50	129.15	120.91	15,823.78	57.76	658.44	401.64	256.80	2.564		
26,000.00	8,817.62	26,399.73	9,154.51	129.24	129.89	120.90	15,923.43	56.69	658.34	400.04	258.30	2.549		
26,100.00	8,809.53	26,499.73	9,146.22	129.98	130.63	120.88	16,023.08	55.62	658.23	398.43	259.80	2.534		
26,200.00	8,801.45	26,599.73	9,137.92	130.73	131.37	120.87	16,122.73	54.54	658.12	396.83	261.30	2.519		
26,300.00	8,793.36	26,699.73	9,129.63	131.47	132.11	120.85	16,222.38	53.47	658.02	395.22	262.80	2.504		
26,400.00	8,785.28	26,799.73	9,121.34	132.21	132.86	120.83	16,322.03	52.40	657.91	393.62	264.30	2.489		
26,500.00	8,777.19	26,899.73	9,113.05	132.96	133.60	120.82	16,421.68	51.33	657.81	392.01	265.80	2.475		
26,600.00	8,769.11	26,999.73	9,104.76	133.70	134.34	120.80	16,521.33	50.26	657.70	390.40	267.30	2.461		
26,700.00	8,761.02	27,099.73	9,096.46	134.44	135.08	120.79	16,620.98	49.19	657.59	388.79	268.80	2.446		
26,800.00	8,752.93	27,199.73	9,088.17	135.19	135.82	120.77	16,720.63	48.12	657.49	387.19	270.30	2.432		
26,900.00	8,744.85	27,299.73	9,079.88	135.93	136.57	120.76	16,820.27	47.05	657.38	385.58	271.80	2.419		
27,000.00	8,736.76	27,399.73	9,071.59	136.68	137.31	120.74	16,919.92	45.98	657.28	383.97	273.31	2.405		
27,100.00	8,728.68	27,499.73	9,063.29	137.42	138.05	120.73	17,019.57	44.91	657.17	382.36	274.81	2.391		
27,200.00	8,720.59	27,599.73	9,055.00	138.17	138.80	120.71	17,119.22	43.84	657.06	380.75	276.31	2.378		
27,300.00	8,712.51	27,699.73	9,046.71	138.91	139.54	120.70	17,218.87	42.77	656.96	379.14	277.82	2.365		
27,400.00	8,704.42	27,799.73	9,038.42	139.66	140.28	120.68	17,318.52	41.70	656.85	377.53	279.32	2.352		
27,500.00	8,696.33	27,899.73	9,030.12	140.40	141.03	120.66	17,418.17	40.62	656.75	375.92	280.83	2.339		
27,600.00	8,688.25	27,999.73	9,021.83	141.15	141.77	120.65	17,517.82	39.55	656.64	374.31	282.33	2.326		
27,700.00	8,680.16	28,099.73	9,013.54	141.90	142.52	120.63	17,617.47	38.48	656.54	372.70	283.84	2.313		
27,800.00	8,672.08	28,199.73	9,005.25	142.64	143.26	120.62	17,717.12	37.41	656.43	371.09	285.34	2.300		
27,900.00	8,663.99	28,299.73	8,996.95	143.39	144.01	120.60	17,816.77	36.34	656.32	369.47	286.85	2.288		
28,000.00	8,655.91	28,399.73	8,988.66	144.14	144.76	120.59	17,916.42	35.27	656.22	367.86	288.36	2.276		
28,100.00	8,647.82	28,499.73	8,980.37	144.89	145.50	120.57	18,016.07	34.20	656.11	366.25	289.87	2.264		
28,163.28	8,642.70	28,563.01	8,975.12	145.36	145.97	120.56	18,079.13	33.52	656.05	365.23	290.82	2.256		
28,197.49	8,639.94	28,563.28	8,975.10	145.61	145.98	120.56	18,079.40	33.52	656.89	366.23	290.66	2.260		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GE 3939.2' + KB 23' @ 3962.20usft

Coordinates are relative to: Rope State Com 503H

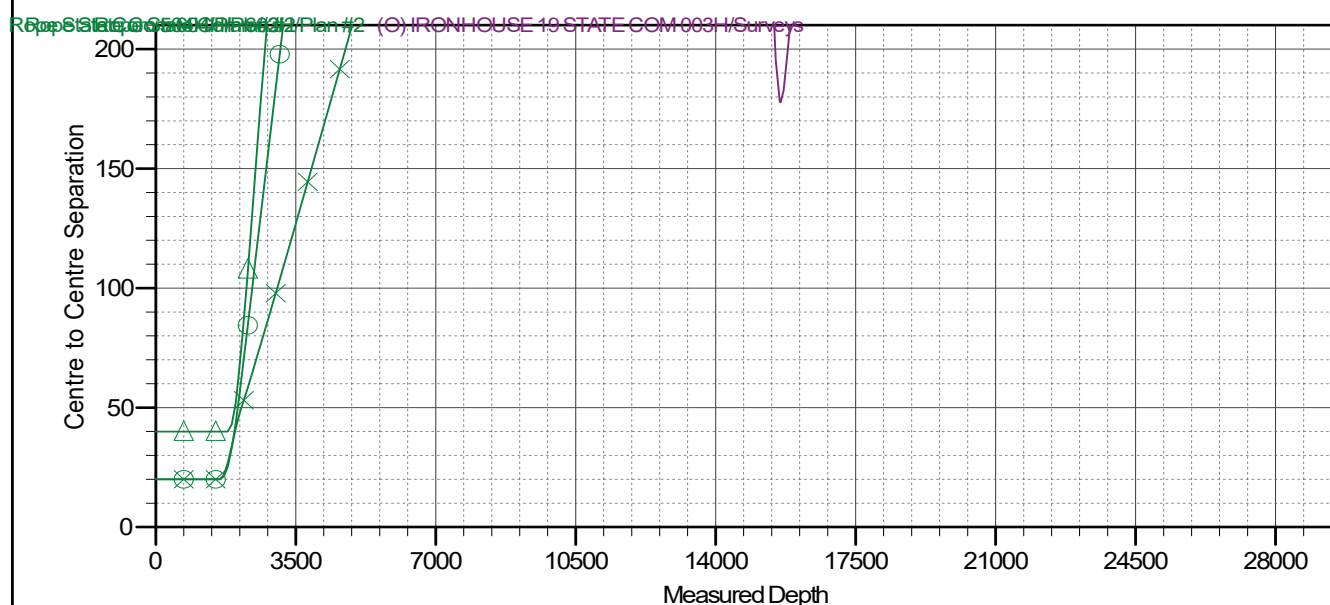
Offset Depths are relative to Offset Datum

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Central Meridian is -104.3333333

Grid Convergence at Surface is: 0.45°

Ladder Plot



LEGEND

STATE COM 134H, Horizontal - PRODUCING, Surveys V0	(O) NEW MEXICO BV STATE 001 P & A, Vertical, Surveys V0	(O) STATE AN 009 P & A, Vertical, Surveys V0
STATE COM 133H, Horizontal - PRODUCING, Surveys V0	(O) LEO STATE #1, OH, OH V0	(O) ALBATROSS STATE COM 001H, Horizontal - PRODUCING, Surveys V0
STATE COM 114H, Horizontal - PRODUCING, Surveys V0	(O) BLACK JACK STATE 001, Verticals, Surveys V0	(O) STATE AN 012 P & A, ST01, ST01 V0
STATE COM 114H, Horizontal - PRODUCING, Surveys V0	Rope State Com 604H, OH, Plan #2 V0	(O) STATE AN 012 P & A, OH, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) LEO STATE 006 TA, Verticals, Surveys V0	(O) BLACK JACK STATE 003, Verticals, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) IRONHOUSE 19 STATE COM 002H, Horizontal - PRODUCING, Surveys V0	(O) LEO STATE 007, Verticals, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) LEASOUTHEAST STATE 1 P & A, Vertical, Surveys V0	(O) IRONHOUSE 19 STATE COM 003H, Horizontal - PRODUCING, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) STATE AN 006 TA, Vertical, Surveys V0	(O) STATE AN 008 P & A, Vertical, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) ALBATROSS STATE COM 002H, Horizontal - PRODUCING, Surveys V0	
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) BLACK JACK STATE 002, Verticals, Surveys V0	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 503H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3939.2' + KB 23' @ 3962.20usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 503H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.00 usft	Output errors are at	2.00 sigma
Reference Wellbore	OH	Database:	.Total Directional Production DB
Reference Design:	Plan #2	Offset TVD Reference:	Reference Datum

Reference Depths are relative to GE 3939.2' + KB 23' @ 3962.20usft

Offset Depths are relative to Offset Datum

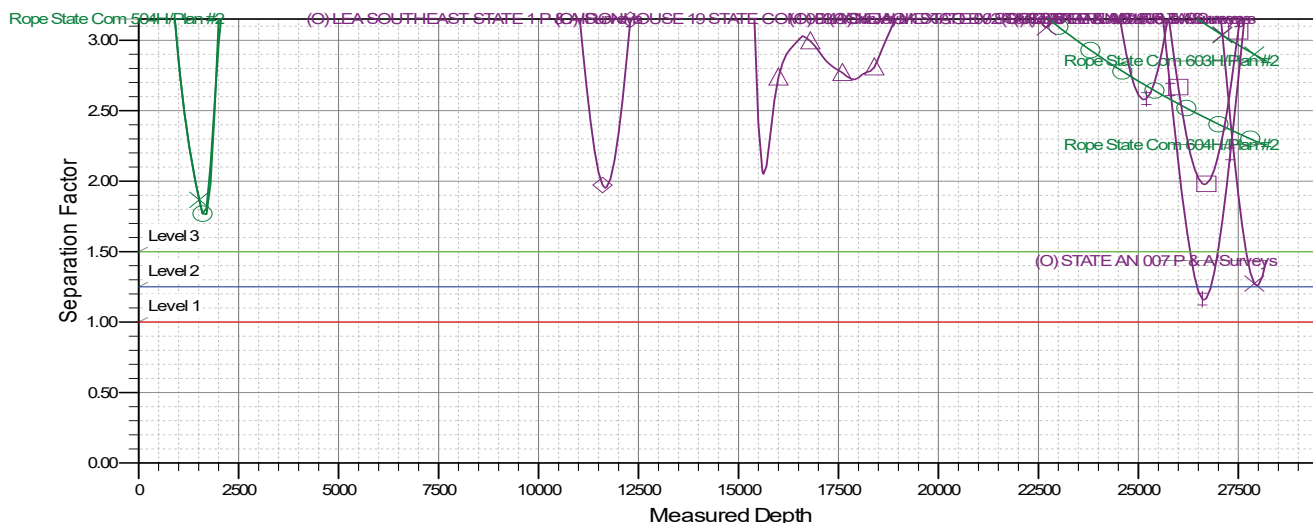
Central Meridian is -104.3333333

Coordinates are relative to: Rope State Com 503H

Coordinate System is US State Plane 1983, New Mexico Eastern Zone

Grid Convergence at Surface is: 0.45°

Separation Factor Plot



LEGEND

STATE COM 134H, Horizontal - PRODUCING, Surveys V0	(O) NEW MEXICO BV STATE 001 P & A, Vertical, Surveys V0	(O) STATE AN 009 P & A, Vertical, Surveys V0
STATE COM 133H, Horizontal - PRODUCING, Surveys V0	(O) LEO STATE #1, OH, OH V0	(O) ALBATROSS STATE COM 001H, Horizontal - PRODUCING, Surveys V0
STATE COM 114H, Horizontal - PRODUCING, Surveys V0	(O) BLACK JACK STATE 001, Verticals, Surveys V0	(O) STATE AN 012 P & A, ST01, ST01 V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	Rope State Com 604H, OH, Plan #2 V0	(O) STATE AN 012 P & A, OH, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) LEO STATE 006 TA, Verticals, Surveys V0	(O) BLACK JACK STATE 003, Verticals, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) IRONHOUSE 19 STATE COM 002H, Horizontal - PRODUCING, Surveys V0	(O) LEO STATE 007, Verticals, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) LEA SOUTHEAST STATE 1 P & A, Vertical, Surveys V0	(O) IRONHOUSE 19 STATE COM 003H, Horizontal - PRODUCING, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) STATE AN 006 TA, Vertical, Surveys V0	(O) STATE AN 008 P & A, Vertical, Surveys V0
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) ALBATROSS STATE COM 002H, Horizontal - PRODUCING, Surveys V0	
STATE COM 124H, Horizontal - PRODUCING, Surveys V0	(O) BLACK JACK STATE 002, Verticals, Surveys V0	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation



Coterra Energy Inc.
Permian Business Unit
6001 Deauville Blvd.
Suite 300N
Midland, TX 79706

T 432.571.7800
coterra.com

April 24, 2026

State of New Mexico
Energy, Minerals, and Natural
Resources Department
Attn: Matthew Gomez

Via E-Mail

**Re: Rope State 503H, 504H, 603H, 604H
Mack Energy Corporation's Consent to Overlap (Case No. 24459)**

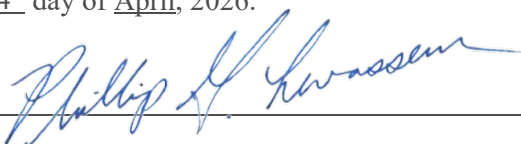
Dear Mr. Gomez,

On November 13, 2024, Mack Energy Corporation, operator of their vertical wells located in Section 18, Township 18 South, Range 35 East, waived their objection of the overlapping spacing units of Case No. 24459. Case No. 24459 covered the Bone Spring Formation in the E/2 of Sections 18, 19, and 30, Township 18 South, Range 35 East, Lea County, New Mexico and included the application of Rope State Com 303H, Rope State Com 304H, and Rope State Com 604H.

Coterra is requesting sundries on all three wells listed in Case No. 24459:
Rope State Com 504H (FKA Rope State Com 304H)
Rope State Com 603H (FKA Rope State Com 603H)
Rope State Com 604H

including an additional well, **Rope State Com 503H**, all within the proposed unit of SE/4 of Section 7 and the E/2 of Sections 18, 19, and 30, Township 18 South, Range 35 East, Lea County, New Mexico, which includes all lands and the Bone Spring Formation under Case No. 24459.

Dated this 24th day of April, 2026.

Signature: 

Name: Phillip G. Levasseur

Title: Regulatory Compliance Manager, Attorney-in-Fact



Coterra Energy Inc.
Permian Business Unit
6001 Deauville Blvd.
Suite 300N
Midland, TX 79706

T 432.571.7800
coterra.com

April 24, 2026

State of New Mexico
Energy, Minerals, and Natural
Resources Department
Attn: Matthew Gomez

Via E-Mail

**Re: Rope State 503H, 504H, 603H, 604H
 Rope State JOA Statement
 Consent to Overlap**

Dear Mr. Gomez,

MorningStar Operating LLC ("MorningStar"), operator of the State AN 005 (API No. 30-025-03105), located in the NW/4 SE/4 of Section 7, Township 18 South, Range 35 East, Lea County, New Mexico, hereby waived any objection to the drilling of the **Rope State Com 503H, Rope State Com 504H, Rope State Com 603H, and the Rope State Com 604H**, within the proposed unit (SE/4 of Section 7 and the E/2 of Sections 18, 19, and 30, Township 18 South, Range 35 East, Lea County, New Mexico, whose completed interval will partially overlap the existing spacing unit of the State AN 005, when MorningStar executed the Rope State JOA covering the Bone Spring Formation on February 20, 2026 as a participating partner in the aforementioned Rope State wells.

Dated this 24th day of April, 2026.

Signature: _____

A handwritten signature in blue ink, appearing to read "Phillip G. Levasseur", is written over a horizontal line.

Name: Phillip G. Levasseur

Title: Regulatory Compliance Manager, Attorney-in-Fact

WAIVER OF OBJECTION AND CONSENT TO OVERLAP

The undersigned, as authorized representative of **Matador Production Company**, operator of the **Albatross State Com 001H** (API No. 30-025-41809), located in the **E/2 E/2 of Section 30, Township 18 South, Range 35 East, N.M.P.M., Lea County, New Mexico**, and the **Albatross State Com 002H** (API No. 30-025-41544), located in the **W/2 E/2 of Section 30, Township 18 South, Range 35 East, N.M.P.M., Lea County, New Mexico**, hereby acknowledges receipt of the foregoing Notice and, pursuant to 19.15.16.15(B)(9)(b) NMAC, **WAIVES** any objection to the drilling of the **Rope State Com 503H, Rope State Com 504H, Rope State Com 603H, and the Rope State Com 604H**, within the proposed unit (SE/4 of Section 7 and the E/2 of Sections 18, 19, and 30, Township 18 South, Range 35 East, N.M.P.M., Lea County, New Mexico), whose completed interval will partially overlap the existing spacing unit of the above-referenced well.

This waiver is executed voluntarily and with knowledge of the applicant's proposed operations.

Signature: _____

KP SE

Printed Name: Jonathan J. Filbert

Title: Executive Vice President of Land

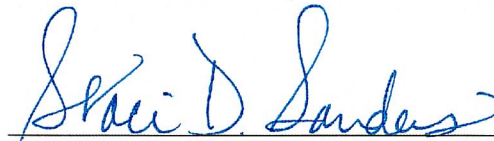
Company: **Matador Production Company**

Date: 4/17/26

Return executed waiver to:
Coterra Energy Operating Co.
Land Dept c/o Blair Nutter
6001 Deauville Blvd.
Midland, Texas 79706

WAIVER

Mack Energy Corporation, operator of certain existing vertical wells located in Section 18, Township 18 South, Range 35 East, hereby waives any requirement to receive notice by certified mail of Franklin Mountain Energy 3's application seeking approval, to the extent necessary, of overlapping spacing units in Case No. 24459. Mack Energy Corporation also does not object to Franklin Mountain Energy 3's application in Case No. 24459.

Dated: 11/13/2024
(signature)Name: Staci D. Sanders
Title: Vice President



Coterra Energy Inc.
Permian Business Unit
6001 Deauville Blvd.
Suite 300N
Midland, TX 79706

T 432.571.7800
coterra.com

February 12, 2026

MorningStar Operating, LLC
400 W 7th Street
Fort Worth, TX 76102

RECEIVED

FEB 26 2026

COTERRA ENERGY-PBU

Re: **Revised Exhibit "A"**
Rope State Com 501H, 502H & 604H
Sections 7, 18 19 & 30-T18S-R35E
Lea County, New Mexico

To Whom It May Concern,

Enclosed for your execution are signature pages for the above-referenced Operating Agreement associated with the above described lands and wells.

We have revised the Rope State JOA's Exhibit A to include the below OGL which was unintentionally left off the original Exhibit A:

2. Lessor: State of New Mexico VB-1313
Lessee: Chase Oil Corporation
Date: January 1, 2008
Description: T18S, R35E, N.M.P.M., Lea County, NM
Section 18: SE4
Recorded: Book 2232, Page 544

Please review and execute the enclosed signature pages at your convenience. Should you have any questions, please contact Landman Blair Nutter at blair.nutter@coterra.com

Respectfully,

Gena Hale

Gena Hale
Coterra Energy Inc.
Land Department
Gena.Hale@Coterra.com

A.A.P.L. FORM 610-E - GAS BALANCING AGREEMENT - 1992

1 15. COUNTERPARTS
2 This Agreement may be executed in counterparts, each of which when taken with all other counterparts shall constitute
3 a binding agreement between the Parties hereto; provided, however, that if a Party or Parties owning a Percentage Interest in
4 the Balancing Area equal to or greater than a one hundred percent (100 %) therein fail(s) to execute this
5 Agreement on or before _____, this Agreement shall not be binding upon any Party and shall be of
6 no further force and effect.
7 IN WITNESS WHEREOF, this Agreement shall be effective as of the 1st day of January, 2026.

10 ATTEST OR WITNESS:

OPERATOR

Coterra Energy Operating Co.

By _____

Bradley Cantrell
Type or print name

Title Attorney-In-Fact

Date _____

Tax ID or S.S. No. _____

NON-OPERATORS

MRC Permian Company

By _____

Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

Axis Energy Corporation

By _____

Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

MorningStar Operating LLC

By 

Allen L. Armstrong, Jr.
Type or print name

Title Vice President - Land

Date 2-20-2026

Tax ID or S.S. No. _____

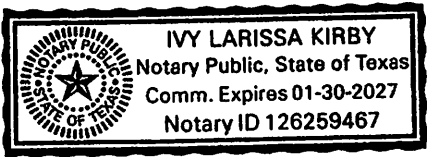
ACKNOWLEDGMENTS

Acknowledgment in representative capacity:

State of TEXAS §
County of TARRANT § ss.

This instrument was acknowledged before me on 20TH DAY OF FEBRUARY, 2026
by ALLEN L. ARMSTRONG, JR AS VICE PRESIDENT-LAND, OF MORNING STAR OPERATING LLC

(Seal, if any)



Ivy L Kirby

Title (and Rank) _____

My commission expires: 1.30.2027

State of _____ §
County of _____ § ss.

This instrument was acknowledged before me on _____
by _____

(Seal, if any)

Title (and Rank) _____

My commission expires: _____

State of _____ §
County of _____ § ss.

This instrument was acknowledged before me on _____
by _____

(Seal, if any)

Title (and Rank) _____

My commission expires: _____

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 1989

1 IN WITNESS WHEREOF, this agreement shall be effective as of the 1 day of January, 2026.

2 _____, who has prepared and circulated this form for execution, represents and warrants

3 that the form was printed from and, with the exception(s) listed below, is identical to the AAPL Form 610-1989 Model Form

4 Operating Agreement, as published in computerized form by Forms On A Disk, Inc. No changes, alterations, or

 modifications, other than those made by strikethrough and/or insertion and that are clearly recognizable as changes in

 Articles _____, have been made to the form.

ATTEST OR WITNESS:

OPERATOR

Coterra Energy Operating Co.

By: _____

Bradley Cantrell

Type or print name

Title Attorney-in-Fact

Date _____

Tax ID or S.S. No. _____

NON-OPERATORS

MRC Permian Company

By: _____

Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

Axis Energy Corporation

By: _____

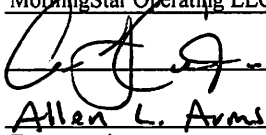
Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

MorningStar Operating LLC

By:  _____

Allen L. Armstrong, Jr.

Type or print name

Title Vice President - Land

Date 2-20-2024

Tax ID or S.S. No. _____

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 1989

ACKNOWLEDGMENTS

Note: The following forms of acknowledgment are the short forms approved by the Uniform Law on Notarial Acts.
The validity and effect of these forms in any state will depend upon the statutes of that state.

Individual acknowledgment:

State of _____)

_____) ss.

County of _____)

_____ This instrument was acknowledged before me on

_____ by _____

(Seal, if any) _____

_____ Title (and Rank) _____

_____ My commission expires: _____

Acknowledgment in representative capacity:

STATE OF TEXAS §

§

COUNTY OF MIDLAND §

This instrument was acknowledged before me on this _____ day of _____, 2026, by Bradley Cantrell, acting as Attorney-in-Fact for Coterra Energy Operating Co., a Delaware corporation, on behalf of said corporation.

Notary Public in and for the State of Texas

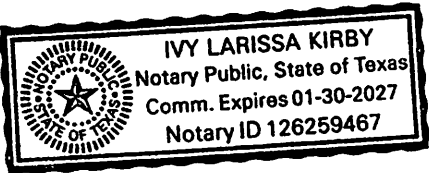
My Commission Expires: _____

STATE OF TEXAS §

§

COUNTY OF TARRANT §

This instrument was acknowledged before me on this 20TH day of FEBRUARY, 2026, by ALEX L. ARMSTRONG, JR., as VICE PRESIDENT - LMA of MIDLAND STATE OPERATING CO., LLC, a DELAWARE LLC, on behalf of said company.



Ivy L Kirby
Notary Public in and for the State of TX
My Commission Expires: 1.30.2027

Axis Energy Corporation

By: [Signature]
Name

Print Name: KENNETH BARBE JR

Title: PRESIDENT

Date: 2/3/2024

Tax ID or S.S. NO. 76-0359824

MorningStar Operating LLC

By: _____
Name

Print Name: _____

Title: _____

Date: _____

Tax ID or S.S. NO. _____

ACKNOWLEDGEMENTS

STATE OF _____)

COUNTY OF _____)

The foregoing instrument was acknowledged before me this _____ day of _____, 2025, by
Brad Cantrell as Attorney-in-Fact of Coterra Energy Operating Co. on behalf of said corporations.

Notary Public in and for the State of Texas_____
My commission expires:

State of _____)
County of _____) ss.

This instrument was acknowledged before me on _____ day of _____, 2025 by
_____ as _____ of MRC Permian Company, a _____.

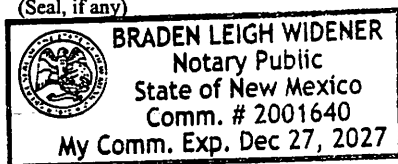
(Seal, if any)

Notary Public in and for the State of Texas_____
My commission expires:

State of New Mexico)
County of Chaves) ss.

This instrument was acknowledged before me on 3rd day of February, 2025 by
Verneth Barc, Jr as President of Axis Energy Corporation, a Texas Corp.

(Seal, if any)



Braden Leigh Widener

Notary Public in and for the State of New Mexico

My commission expires: 12-27-2027

State of _____)
County of _____) ss.

This instrument was acknowledged before me on _____ day of _____, 2025 by
_____ as _____ of MorningStar Operating LLC, a _____.

(Seal, if any)

Notary Public in and for the State of Texas_____
My commission expires:

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 1989

1 IN WITNESS WHEREOF, this agreement shall be effective as of the 1 day of January, 2026.

2 _____, who has prepared and circulated this form for execution, represents and warrants

3 ~~that the form was printed from and, with the exception(s) listed below, is identical to the AAPL Form 610-1989 Model Form~~

4 ~~Operating Agreement, as published in computerized form by Forms On A Disk, Inc. No changes, alterations, or~~

5 ~~modifications, other than those made by strikethrough and/or insertion and that are clearly recognizable as changes in~~

6 ~~Articles _____, have been made to the form.~~

ATTEST OR WITNESS:

OPERATOR

Coterra Energy Operating Co.

By: _____

Bradley Cantrell

Type or print name

Title Attorney-in-Fact

Date _____

Tax ID or S.S. No. _____

NON-OPERATORS

MRC Permian Company

By: _____

Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

Axis Energy Corporation

By: KENNETH BARBE JR

Type or print name

Title PRESIDENTDate 2/3/2026Tax ID or S.S. No. 76-0359826

MorningStar Operating LLC

By: _____

Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 1989

1 services necessary to secure regulatory permits and approvals for drilling wells, laying pipelines, collecting and discharging
2 water and any other matters related to the Contract Area

3 **W. PRODUCED WATER**

4 It is hereby expressly agreed that, for the disposal of produced water from the Contract Area, the Parties shall be charged a rate
5 at or below the then currently prevailing rate in the area.

6 **X. FORCE MAJEURE (NM)**

7 The Parties recognize that due to environmental concerns relating to the Contract Area, there may be limited drilling windows
8 during which Operator will be permitted to drill, and that consequently a force majeure preventing drilling during one window may require
9 that Operator defer drilling until the next available window, even though the force majeure that originally prevented the drilling terminates
10 earlier. In that event, the force majeure shall be considered to continue until Operator, with reasonable diligence, is able to commence or
11 resume drilling in the next available drilling window. If the force majeure ends while the drilling window is open but without sufficient time
12 within that window to allow the well to be drilled to the authorized depth. Operator may defer commencement or resumption of drilling until
13 the next available window.

14 **Y. DE-SPACED AND RE-SPACED UNIT(S)**

15 If a proration or spacing unit comprising all or part of the Contract Area is reduced in size by a governmental agency, or by court
16 order, or by the terms of the applicable Oil and Gas Lease(s) which have been contributed to the unit, or by agreement of the parties hereto,
17 or by completion of a unit well in a formation different than that originally contemplated by the Consenting Parties when the well was
18 commenced, then the parties' interests in the Contract Area, as shown on Exhibit "A", will remain unchanged, subject to the payment of
19 royalties as follows: The parties agree to pay their share of all royalties, overriding royalties, production payments and all other burdens not
20 excepted by Article III.C herein, in proportion to their interests as shown in Exhibit "A", regardless of which party(s) contributed the Oil and
21 Gas Lease(s) on which the royalty and other burdens are due.

22 **Z. MISCELLANEOUS**

23 *Conflict of Terms.* In the event of a conflict between the typewritten portions and printed portions of this agreement, the typewritten
24 portions shall prevail. In the event of a conflict between the terms of this Article XVI and any other portion of this agreement, the terms of
25 Article XVI shall govern, control and prevail.

26 *Invalid Provisions.* In the event any provision contained in this agreement is contrary to any law, rule, regulation or order and is
27 held to be invalid, void, illegal or unenforceable in any respect, the parties shall either modify the provision to properly conform with such
28 law, rule, regulation or order or delete such provision from this agreement, and in either case the remaining provisions hereof shall remain
29 unaffected and will continue in full force and effect. Furthermore, in lieu of such invalid, void, illegal or unenforceable provision there
30 automatically shall be added as part of this agreement a provision as closely resembling such provision as shall then be valid, legal and
31 enforceable so long as such provision does not have a material adverse effect on the rights of any party to this agreement.

32 *COPAS Interpretation.* The provisions of Exhibit "C" attached hereto shall be interpreted as recommended by the Council of
33 Petroleum Accountants Societies of North America, Accounting Procedure for Joint Operations, after giving effect to special changes and
34 provisions noted herein and in the provisions of Exhibit "C", if any.

35 *JOA Preparation.* Each party acknowledges and agrees that such party has been represented or had the opportunity to be
36 represented by attorneys of its own choosing and therefore, for the purposes of construing this agreement, each party shall be deemed to have
37 participated equally in the preparation and drafting of this agreement. If any ambiguity is contained in this agreement, no weight shall be
38 given in favor or against any party in resolving that ambiguity on account of that party's drafting of this agreement.

39 **AA. PRODUCTION SHARING AGREEMENT**

40 This JOA is being executed concurrently with two Production Sharing Agreements, both dated April 1, 2024, with Cimarex Energy
41 Co. as Operator. Non-Operator(s) acknowledge that they have reviewed the terms of such Production Sharing Agreements, and in the event
42 of a conflict of the provisions of this Operating Agreement and the Production Sharing Agreements, the provisions of the Production Sharing
43 Agreements shall control and prevail. Furthermore, additional Production Sharing Agreements, containing substantially the same terms, may
44 be executed in the future covering alternative depths and Sharing Areas located within the Contract Area.

45 **BB. RENEWAL OR EXTENSION OF LEASES**

46 Notwithstanding anything herein to the contrary, each party committing any Lease or Leases or any undivided interest therein or
47 portion thereof to this agreement shall have the sole option prior to the expiration of each such Lease to renew or extend such Lease with
48 respect to all of such party's interest therein and to bear the renewal or extension costs and expenses incurred in connection therewith and
49 thereby retain its interest and title in said Lease. If any such party does not timely exercise its option and procure a renewal or extension of its
50 interest in such Lease, then any replacement Lease taken covering such interest will thereafter be subject to the terms of Article VIII.B. The
51 provisions of this section shall only apply to Leases or portions of Leases located in the Contract Area.

52 **CC. HEADINGS**

53 All headings in this agreement are for reference purposes only and have no binding effect on the terms, conditions, or provisions
54 of this agreement.

55 **DD. ADDITIONAL LANGUAGE TO ARTICLE V.A - OPERATOR**

56 THE FOLLOWING PROVISIONS SHALL BE DEEMED CLEAR AND CONSPICUOUS AND SATISFY THE EXPRESS
57 NEGLIGENCE RULE. ANYTHING TO THE CONTRARY NOTWITHSTANDING, OPERATOR SHALL HAVE NO LIABILITY FOR
58 ORDINARY NEGLIGENCE ARISING UNDER OR IN CONNECTION WITH THIS AGREEMENT (INCLUDING WITHOUT
59 LIMITATION THE ADMINISTRATION OF THIS AGREEMENT OR OPERATIONS HEREUNDER), EXCEPT FOR THE GROSS
60 NEGLIGENCE OR WILLFUL MISCONDUCT OF OPERATOR.

61 **EE. ADDITIONAL LANGUAGE TO ARTICLE VII.A - LIABILITIES OF PARTIES**

62 NO PARTY SHALL BE LIABLE TO ANY OTHER PARTY HERETO FOR ANY LOST OR PROSPECTIVE PROFITS OR
63 ANY OTHER SPECIAL, PUNITIVE, EXEMPLARY, CONSEQUENTIAL, INCIDENTAL OR INDIRECT LOSSES OR DAMAGES (IN
64 TORT, CONTRACT OR OTHERWISE) UNDER OR IN RESPECT OF THIS AGREEMENT OR FOR ANY FAILURE OF
65 PERFORMANCE RELATED HERETO HOWSOEVER CAUSED, WHETHER OR NOT ARISING FROM SUCH PARTY'S SOLE,
66 JOINT OR CONCURRENT NEGLIGENCE, STRICT LIABILITY, BREACH OF CONTRACT OR OTHER FAULT OR
67 RESPONSIBILITY. For purposes of the foregoing, actual damages may, however, include indirect, special, consequential, incidental or
68 indirect losses or exemplary or punitive damages to the extent (i) the injuries or losses resulting in or giving rise to such damages are incurred
69 or suffered by a third party which is not a party to this agreement and (ii) such damages are recovered against such party by a third party
70 which is not a party hereto. This Article XVI.I shall operate only to limit a party's liability and shall not operate to increase or expand any
71 contractual obligation of a party hereunder.

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 1989

1 IN WITNESS WHEREOF, this agreement shall be effective as of the 1 day of January, 2026.
2 _____, who has prepared and circulated this form for execution, represents and warrants
3 that the form was printed from and, with the exception(s) listed below, is identical to the A.A.P.L. Form 610-1989 Model Form
4 Operating Agreement, as published in computerized form by FormS On A Disk. No changes, alterations, or
modifications, other than those made by strike-through and/or insertion and that are clearly recognizable as changes in
Articles _____, have been made to the form.

ATTEST OR WITNESS:

OPERATOR

Coterra Energy Operating Co.

By: _____

Bradley Cantrell

Type or print name

Title Attorney-in-Fact

Date _____

Tax ID or S.S. No. _____

NON-OPERATORS

MRC Permian Company

By: _____

Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

Axis Energy CorporationBy: KENNETH BARBE JR

Type or print name

Title PRESIDENTDate 2/3/2026Tax ID or S.S. No. 76-0359826MorningStar Operating LLC

By: _____

Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

A.A.P.L. FORM 610 - MODEL FORM OPERATING AGREEMENT - 1989

ACKNOWLEDGMENTS

Note: The following forms of acknowledgment are the short forms approved by the Uniform Law on Notarial Acts.

The validity and effect of these forms in any state will depend upon the statutes of that state.

Individual acknowledgment:

State of _____

County of _____

This instrument was acknowledged before me on

_____ by _____

(Seal, if any) _____

_____ Title (and Rank) _____

_____ My commission expires: _____

Acknowledgment in representative capacity:

STATE OF TEXAS §

COUNTY OF MIDLAND §

This instrument was acknowledged before me on this _____ day of _____, 2026, by Bradley Cantrell, acting as Attorney-in-Fact for Coterra Energy Operating Co., a Delaware corporation, on behalf of said corporation.

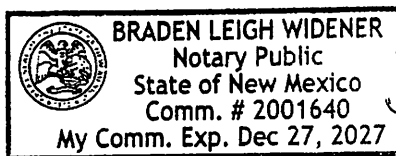
Notary Public in and for the State of Texas

My Commission Expires: _____

STATE OF New Mexico §

COUNTY OF Chaves §

This instrument was acknowledged before me on this 3rd day of February, 2026, by Kenneth Bate, Jr., as President of Axis Energy Corporation, on behalf of said company.



Braden Widener
Notary Public in and for the State of New Mexico
My Commission Expires: 12-27-2027

A.A.P.L. FORM 610-E - GAS BALANCING AGREEMENT - 1992

1 15. COUNTERPARTS

2 This Agreement may be executed in counterparts, each of which when taken with all other counterparts shall constitute
3 a binding agreement between the Parties hereto; provided, however, that if a Party or Parties owning a Percentage Interest in
4 the Balancing Area equal to or greater than a one hundred percent (100 %) therein fail(s) to execute this
5 Agreement on or before _____, this Agreement shall not be binding upon any Party and shall be of
6 no further force and effect.

7 IN WITNESS WHEREOF, this Agreement shall be effective as of the 1st day of January, 2026.

10 ATTEST OR WITNESS:

OPERATOR

Coterra Energy Operating Co.

By _____

Bradley Cantrell

Type or print name

Title Attorney-in-Fact

Date _____

Tax ID or S.S. No. _____

18 NON-OPERATORS

MRC Permian Company

By _____

Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

Axis Energy CorporationBy KENNETH BARBET JR

Type or print name

Title PRESIDENTDate 2/3/2026Tax ID or S.S. No. 76-0359826MorningStar Operating LLC

By _____

Type or print name

Title _____

Date _____

Tax ID or S.S. No. _____

A.A.P.L. FORM 610-E - GAS BALANCING AGREEMENT - 1992

AMERICAN ASSOCIATION OF PETROLEUM LANDMEN
APPROVED FORM A.A.P.L. NO. 610-E

ACKNOWLEDGMENTS

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Acknowledgment in representative capacity:

State of _____ §

§ ss.

County of _____ §

This instrument was acknowledged before me on _____

by _____

(Seal, if any) _____

Title (and Rank) _____

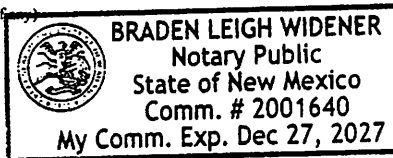
My commission expires: _____

State of New Mexico §

§ ss.

County of Chaves §This instrument was acknowledged before me on February 3, 2026by Kenneth Barbe, III, President AXIS Energy Corporation

(Seal, if any)

Title (and Rank) Notary PublicMy commission expires: 12-27-2027

State of _____ §

§ ss.

County of _____ §

This instrument was acknowledged before me on _____

by _____

(Seal, if any) _____

Title (and Rank) _____

My commission expires: _____

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

General Information
Phone: (505) 629-6116

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

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

COMMENTS

Action 572965

COMMENTS

Operator: Coterra Energy Operating Co. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 572965
	Action Type: [C-103A] NOI Change of Plans (C-103A)

COMMENTS

Created By	Comment	Comment Date
jeffrey.harrison	Submitted as defining and proxy well for spacing unit.	4/27/2026

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CONDITIONS

Action 572965

CONDITIONS

Operator: Coterra Energy Operating Co. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 572965
	Action Type: [C-103A] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
jeffrey.harrison	No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.	4/27/2026
jeffrey.harrison	All previous COA's not addressed within the updated COA's still apply.	4/27/2026
jeffrey.harrison	All conducted logs must be submitted to the OCD.	4/27/2026
jeffrey.harrison	If cement does not circulate to surface on any string, a Cement Bond Log (CBL) is required for that string of casing. If strata isolation is not achieved, remediation will be required before further operations may commence.	4/27/2026
jeffrey.harrison	Cement must be in place for at least eight hours AND achieve a minimum compressive strength of 500 PSI before performing any further operations on the well.	4/27/2026