

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

State of New Mexico
Energy, Minerals and Natural Resources

Form C-103
Revised July 18, 2013

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

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

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. 30-025-53342 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 601H
4. Well Location Unit Letter M Section 30 feet from the Township 18S Range 35E line and 888 feet from the NMPM SESE County Lea		9. OGRID Number 215099
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 3939.2		10. Pool name or Wildcat Airstrip; Bone Spring, WC-025 G-06 S183518A; Bone Spring

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

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

SHL from 330 FSL 888 FWL to 330 FSL 1908 FWL
 BHL from 100 FSL 360 FWL to 2546 FSL 925 FWL
 MD from 25871' to 28827'
 TVD from 10360' to 10520'
 Updating dedicated acres to 381.72 for WC-025 G-06 S183518A; Bone Spring (97930)

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 30-025-53342	Pool Code 960	Pool Name Airstrip; Bone Spring
Property Code	Property Name ROPE STATE COM	Well Number 601H
OGRID No. 215099	Operator Name COTERRA ENERGY OPERATING CO.	Ground Level Elevation 3952.1'
Surface Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal		Mineral Owner: ☒ State ☐ Fee ☐ Tribal ☐ Federal

Surface Location

UL M	Section 30	Township 18S	Range 35E	Lot 4	Ft. from N/S 330 SOUTH	Ft. from E/W 908 WEST	Latitude (NAD 83) 32.712428°	Longitude (NAD 83) -103.502303°	County LEA
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Bottom Hole Location

UL L	Section 7	Township 18S	Range 35E	Lot 3	Ft. from N/S 2,546 SOUTH	Ft. from E/W 925 WEST	Latitude (NAD 83) 32.762147°	Longitude (NAD 83) -103.502318°	County LEA
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Dedicated Acres 153.68	Infill or Defining Well infill	Defining Well API 30-025-53340	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 M	Section 30	Township 18S	Range 35E	Lot 4	Ft. from N/S 100 SOUTH	Ft. from E/W 925 WEST	Latitude (NAD 83) 32.711796°	Longitude (NAD 83) -103.502246°	County LEA
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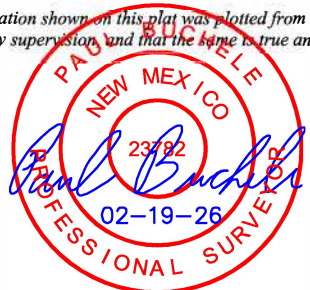
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Last Take Point (LTP)

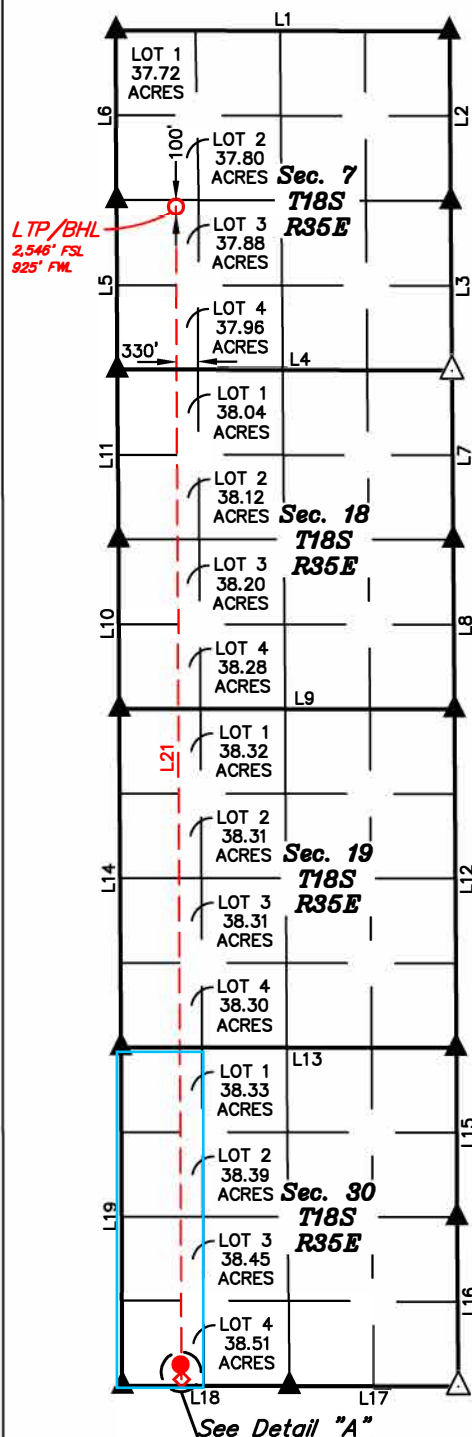
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Unitized Area or Area of Uniform Interest W2W2 Sec 30,19,18,7	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: 3952.1
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OPERATOR CERTIFICATIONS <i>I hereby certify that the information 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 November 12, 2025 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 601H	Drawn By N.R. 02-21-24	Revised By REV. 5 N.R. 02-19-26 (UPDATE WELLBORE)
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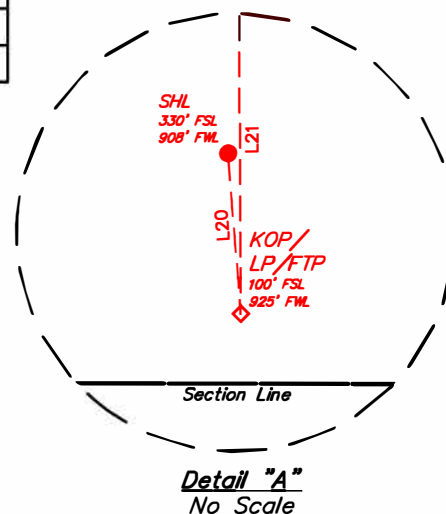


LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N89°52'35"W	5215.75'
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L14	N00°17'02"W	5291.33'
L15	N00°17'51"W	2644.77'
L16	N00°23'11"W	2647.64'
L17	N89°52'25"W	2645.47'
L18	N89°51'48"W	2601.02'
L19	N00°14'14"W	5287.20'
L20	S04°34'47"E	230.78'
L21	N00°16'32"W	18322.86'

NAD 83 (SURFACE HOLE LOCATION)	
LATITUDE = 32°42'44.74" (32.712428°)	
LONGITUDE = -103°30'08.29" (-103.502303°)	
NAD 27 (SURFACE HOLE LOCATION)	
LATITUDE = 32°42'44.29" (32.712304°)	
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- = SURFACE HOLE LOCATION
- ◇ = KICK OFF POINT/LANDING POINT/FIRST TAKE POINT
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- ▲ = SECTION CORNER LOCATED
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NOTE:

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- Basis of Bearings is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)
- Section breakdown information for this plat may be obtained from Uintah Engineering and Land Surveying.

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024	
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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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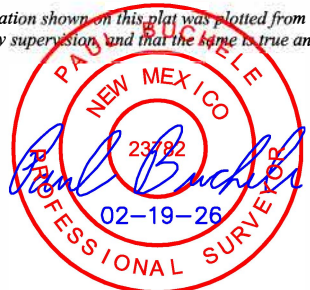
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Sheet 2 of 2

Released to Imaging: 4/20/2026 3:57:32 PM

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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	1923	N/A	
Top of Salt	2201	N/A	
Base of Salt/Lamar	5815	N/A	
Top Delaware Sands/Bell Canyon	5990	N/A	
Cherry Canyon	6228	N/A	
Brushy Canyon	6634	N/A	
Basal Brushy Canyon	7417	N/A	
Bone Spring Lime	7658	N/A	
Leonard/Avalon Sand	7846	N/A	
1st Bone Spring Sand	9164	Hydrocarbons	
2nd Bone Spring Sand	9687	Hydrocarbons	
3rd Bone Spring Carb	10130	Hydrocarbons	
3rd Bone Spring Sand	10265	Hydrocarbons	
3rd Bone Spring Sand - Target	10489	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	2034	2034	13-3/8"	54.50	J-55	BT&C	1.29	3.12	7.69
12 1/4	0	5840	5840	9-5/8"	40.00	HCK-55	LT&C	1.22	1.26	2.40
8 1/2	0	9926	9926	7"	29.00	P-110	BT&C	1.84	2.42	5.79
8 1/2	9926	28827	8020	5-1/2"	20.00	P-110	BT&C	2.96	3.29	(16.82)
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 601H

	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

Cimarex Energy Co., Rope State Com 601H

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	986	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	264	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	1094	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	223	10.30	3.64	22.18		Lead: Tuned Light + LCM
	4997	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	5640	

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	5M	100% of working pressure
			Blind Ram		10M
			Pipe Ram	X	
			Double Ram	X	
			Other		

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

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 2034'	Fresh Water	7.80 - 8.30	28	N/C
2034' to 5840'	Brine Water	9.80 - 10.30	30-32	N/C
5840' to 28827'	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	3753 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 601H
Wellbore: OH
Design: Plan #2
Rig:
SHL

RKB Elevation: GE 3952.1' + KB 23' @ 3975.10usft

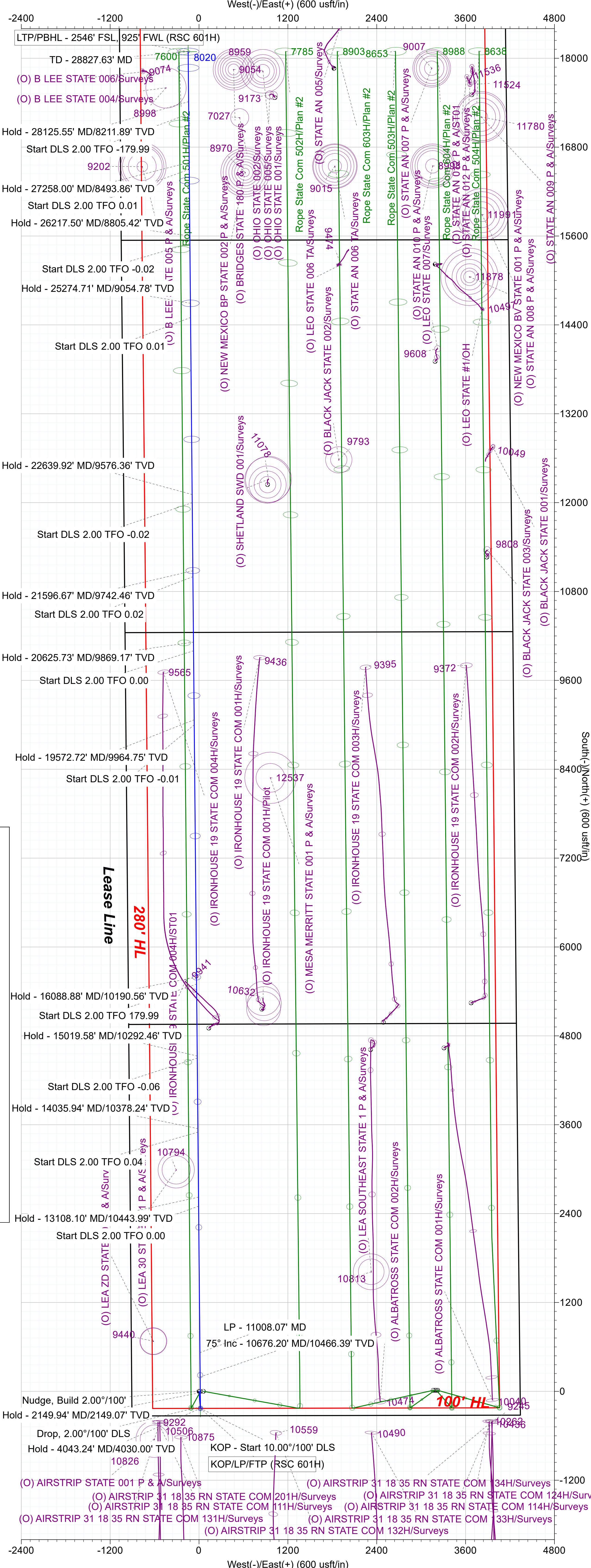
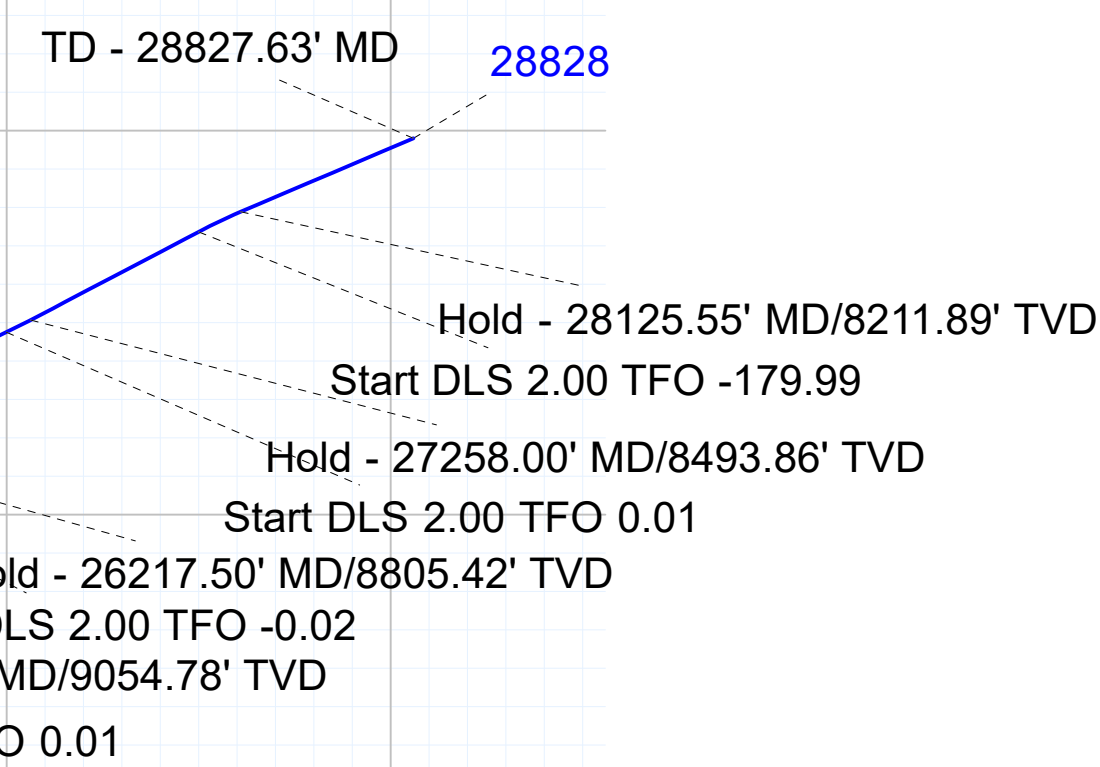
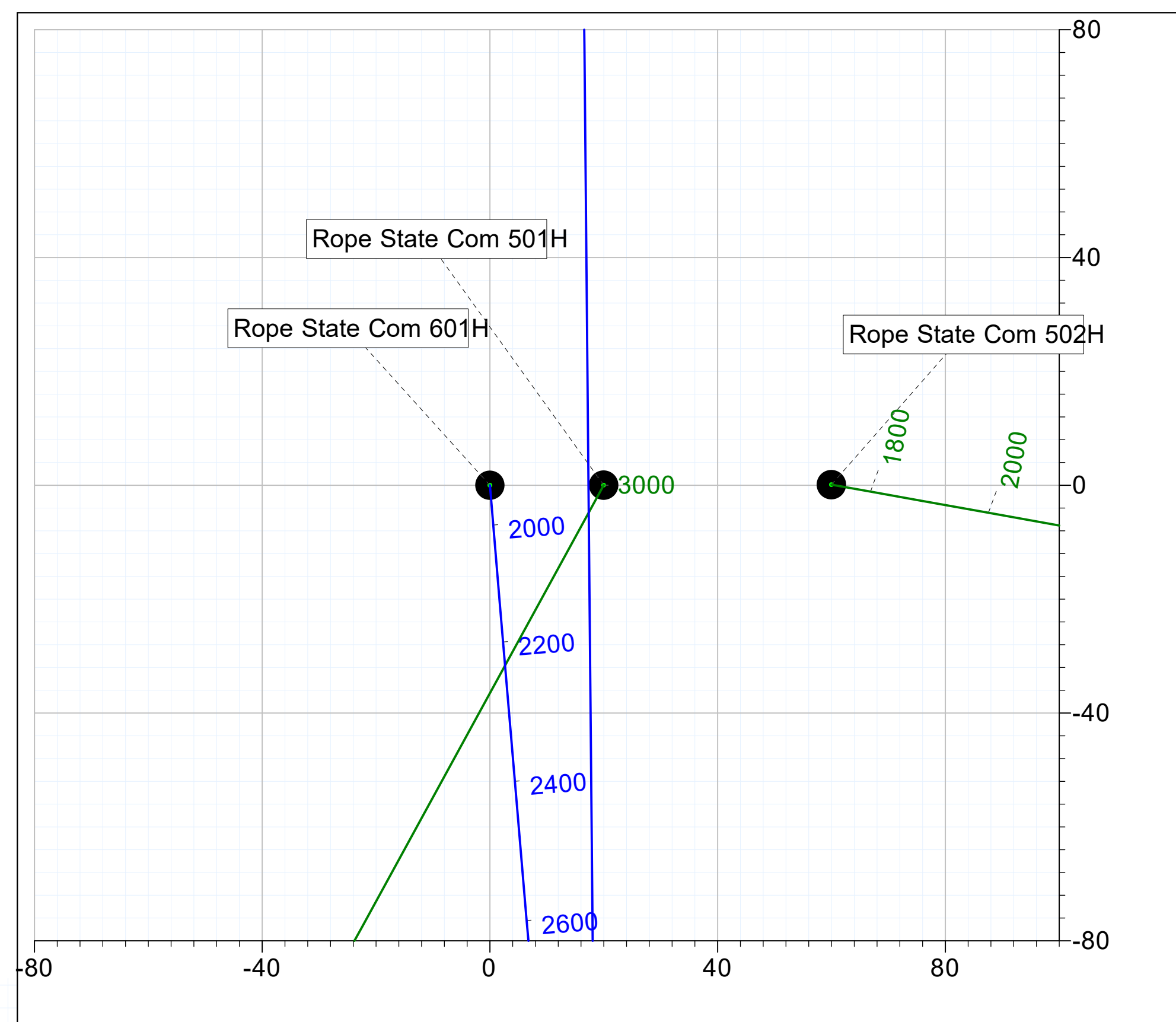
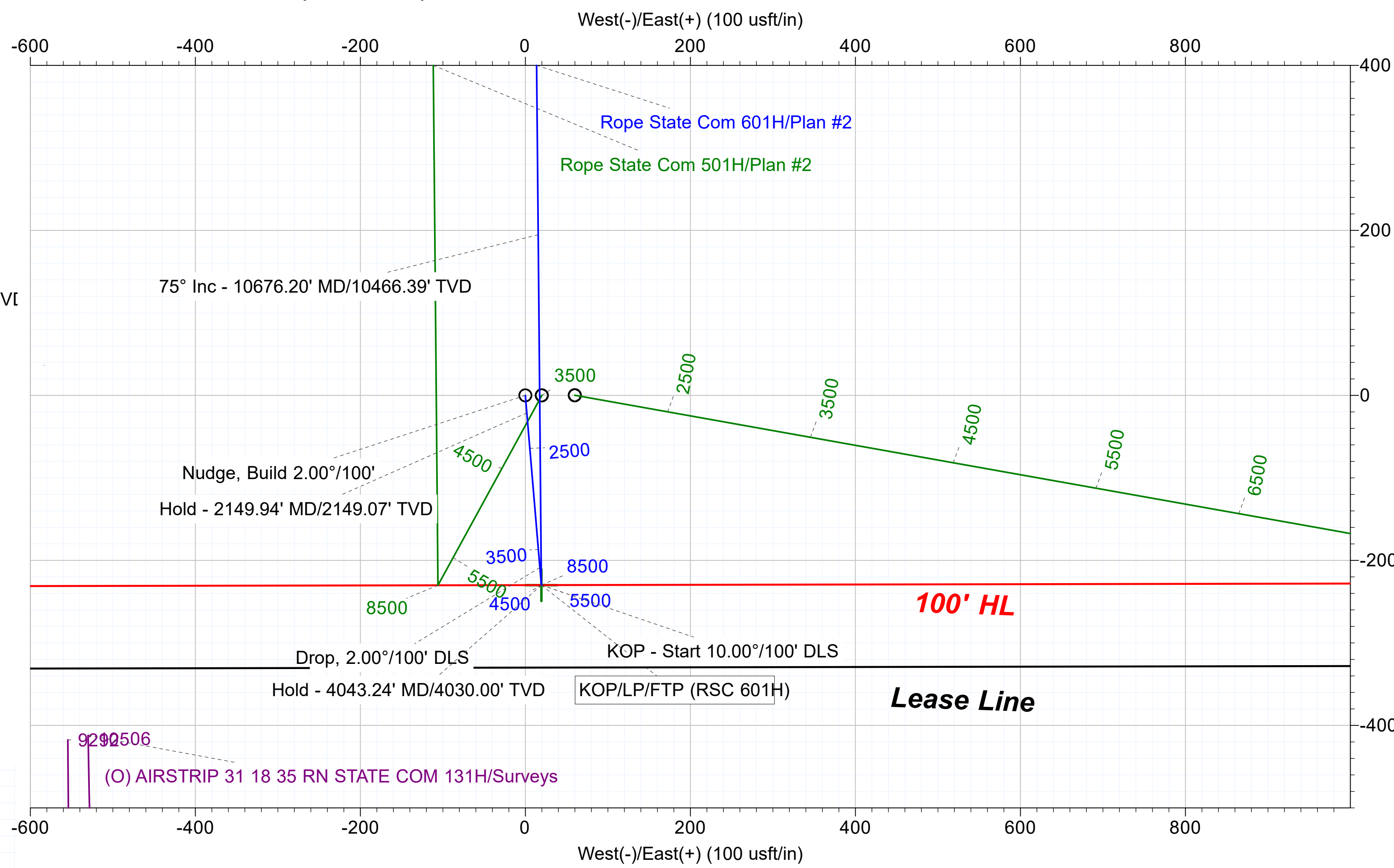
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.00	0.00	623914.56	796938.98	32.7124281	-103.5023029	

SECTION DETAILS

Formations		MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
TVDPATH	MDPATH	Formation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1923.00	1923.04	Rustler	1800.00	0.00	0.00	1800.00	0.00	0.00	0.00	0.00	Nudge, Build 2.00°/100'
2009.00	2009.19	A3 Top	2149.94	7.00	175.18	2149.07	-21.27	1.79	2.00	175.18	Hold - 2149.94' MD/2149.07' TVD
2108.00	2108.60	A3 Base (Tamarisk)	3693.30	7.00	175.18	3680.93	-208.66	17.61	0.00	0.00	Drop, 2.00°/100' DLS
2201.00	2202.26	Top Salt/Salado	4043.24	0.00	0.00	4030.00	-229.93	19.40	2.00	180.00	Hold - 4043.24' MD/4030.00' TVD
5815.00	5828.24	Base Salt/Lamar/CTRA_BASE_ANHYDRITE	9926.20	0.00	0.00	9912.96	-229.93	19.40	0.00	0.00	KOP - Start 10.00°/100' DLS
5990.00	6003.24	Top Delaware Sands/Bell Canyon	10676.20	75.00	359.48	10466.39	194.72	15.55	10.00	359.48	75° Inc - 10676.20' MD/10466.39' TVD
6228.00	6241.24	Cherry Canyon	11008.07	91.59	359.48	10505.00	523.16	12.57	5.00	0.00	LP - 11008.07' MD
6634.00	6647.24	Brushy Canyon	12985.81	91.59	359.48	10450.00	2500.05	-5.34	0.00	0.00	Start DLS 2.00 TFO 0.00
7417.00	7430.24	Basal Brushy Canyon	13108.10	94.04	359.48	10443.99	2622.18	-6.45	2.00	0.00	Hold - 13108.10' MD/10443.99' TVD
7658.00	7671.24	Bone Spring Lime	13988.15	94.04	359.48	10382.00	3500.01	-14.40	0.00	0.00	Start DLS 2.00 TFO 0.04
7846.00	7859.24	Leonard/Avalon Sand	14035.94	94.99	359.48	10378.24	3547.64	-14.83	2.00	0.04	Hold - 14035.94' MD/10378.24' TVD
9164.00	9177.24	1st Bone Spring Sand	14991.93	94.99	359.48	10295.00	4499.97	-23.45	0.00	0.00	Start DLS 2.00 TFO -0.06
9687.00	9700.24	2nd Bone Spring Sand	15019.58	95.55	359.48	10292.46	4527.50	-23.70	2.00	-0.06	Hold - 15019.58' MD/10292.46' TVD
10130.00	10148.80	3rd Bone Spring Carb	15996.63	95.55	359.48	10198.00	5499.93	-32.51	0.00	0.00	5500.00 Start DLS 2.00 TFO 179.99
10265.00	10305.30	3rd Bone Spring Sand	16088.88	93.70	359.48	10190.56	5591.88	-33.34	2.00	179.99	Hold - 16088.88' MD/10190.56' TVD
10489.00	10781.85	3rd Bone Spring Sand Target	19504.07	93.70	359.48	9970.00	8999.79	-64.21	0.00	0.00	Start DLS 2.00 TFO -0.01
			19572.72	95.08	359.48	9964.75	9068.24	-64.83	2.00	-0.01	Hold - 19572.72' MD/9964.75' TVD
			20507.94	95.08	359.48	9882.00	9999.75	-73.27	0.00	0.00	Start DLS 2.00 TFO 0.00
			20625.73	97.43	359.48	9869.17	10116.82	-74.33	2.00	0.00	Hold - 20625.73' MD/9869.17' TVD
			21516.13	97.43	359.48	9754.00	10999.71	-82.33	0.00	0.00	Start DLS 2.00 TFO 0.02
			21596.67	99.04	359.48	9742.46	11079.42	-83.05	2.00	0.02	Hold - 21596.67' MD/9742.46' TVD
			22528.53	99.04	359.48	9596.00	11999.66	-91.38	0.00	0.00	Start DLS 2.00 TFO -0.02
			22639.92	101.27	359.48	9576.36	12109.29	-92.37	2.00	-0.02	Hold - 22639.92' MD/9576.36' TVD
			25077.29	101.27	359.48	9100.00	14499.56	-114.03	0.00	0.00	Start DLS 2.00 TFO 0.01
			25274.71	105.22	359.48	9054.78	14691.68	-115.77	2.00	0.01	Hold - 25274.71' MD/9054.78' TVD
			26111.94	105.22	359.48	8835.00	15499.52	-123.08	0.00	0.00	Start DLS 2.00 TFO -0.02
			26217.50	107.33	359.48	8805.42	15600.83	-124.00	2.00	-0.02	Hold - 26217.50' MD/8805.42' TVD
			27158.92	107.33	359.48	8525.00	16499.48	-132.14	0.00	0.00	Start DLS 2.00 TFO 0.01
			27258.00	109.31	359.48	8493.86	16593.53	-132.99	2.00	0.01	Hold - 27258.00' MD/8493.86' TVD
			27953.05	109.31	359.48	8264.00	17249.45	-138.93	0.00	0.00	Start DLS 2.00 TFO -179.99
			28125.55	105.86	359.48	8211.89	17413.86	-140.42	2.00	-179.99	Hold - 28125.55' MD/8211.89' TVD
			28827.63	105.86	359.48	8020.00	18089.18	-146.54	0.00	0.00	TD - 28827.63' MD

WELLBORE TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LTP/PBHL - 2546' FSL, 925' FWL (RSC 601H)	8020.00	18089.18	-146.54	642003.74	796792.44	32.7621475	-103.5023180
KOP/LP/FTP (RSC 601H)	9912.96	-229.93	19.40	623684.63	796958.38	32.7117958	-103.5022457



Coterra Energy

Lea County, NM (NAD 83)

Rope State Com Pad

Rope State Com 601H

OH

Plan: Plan #2



Standard Plan Report

17 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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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 601H					
Well Position	+N/-S	0.00 usft	Northing:	623,914.56 usft	Latitude:	32.7124281
	+E/-W	0.00 usft	Easting:	796,938.98 usft	Longitude:	-103.5023029
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,952.10 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	47,291.40000000

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	359.48	

Survey Tool Program	Date	3/17/2026			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	28,827.63	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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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	
2,149.94	7.00	175.18	2,149.07	-21.27	1.79	2.00	2.00	0.00	175.18	
3,693.30	7.00	175.18	3,680.93	-208.66	17.61	0.00	0.00	0.00	0.00	
4,043.24	0.00	0.00	4,030.00	-229.93	19.40	2.00	-2.00	0.00	180.00	
9,926.20	0.00	0.00	9,912.96	-229.93	19.40	0.00	0.00	0.00	0.00	
10,676.20	75.00	359.48	10,466.39	194.72	15.55	10.00	10.00	0.00	359.48	
11,008.07	91.59	359.48	10,505.00	523.16	12.57	5.00	5.00	0.00	0.00	
12,985.81	91.59	359.48	10,450.00	2,500.05	-5.34	0.00	0.00	0.00	0.00	
13,108.10	94.04	359.48	10,443.99	2,622.18	-6.45	2.00	2.00	0.00	0.00	
13,988.15	94.04	359.48	10,382.00	3,500.01	-14.40	0.00	0.00	0.00	0.00	
14,035.94	94.99	359.48	10,378.24	3,547.64	-14.83	2.00	2.00	0.00	0.04	
14,991.93	94.99	359.48	10,295.00	4,499.97	-23.45	0.00	0.00	0.00	0.00	
15,019.59	95.55	359.48	10,292.46	4,527.50	-23.70	2.00	2.00	0.00	-0.06	
15,996.63	95.55	359.48	10,198.00	5,499.93	-32.51	0.00	0.00	0.00	0.00	
16,088.88	93.70	359.48	10,190.56	5,591.88	-33.34	2.00	-2.00	0.00	179.99	
19,504.07	93.70	359.48	9,970.00	8,999.79	-64.21	0.00	0.00	0.00	0.00	
19,572.72	95.08	359.48	9,964.75	9,068.24	-64.83	2.00	2.00	0.00	-0.01	
20,507.94	95.08	359.48	9,882.00	9,999.75	-73.27	0.00	0.00	0.00	0.00	
20,625.73	97.43	359.48	9,869.17	10,116.82	-74.33	2.00	2.00	0.00	0.00	
21,516.13	97.43	359.48	9,754.00	10,999.71	-82.33	0.00	0.00	0.00	0.00	
21,596.67	99.04	359.48	9,742.46	11,079.42	-83.05	2.00	2.00	0.00	0.02	
22,528.54	99.04	359.48	9,596.00	11,999.66	-91.38	0.00	0.00	0.00	0.00	
22,639.92	101.27	359.48	9,576.36	12,109.29	-92.37	2.00	2.00	0.00	-0.02	
25,077.29	101.27	359.48	9,100.00	14,499.56	-114.03	0.00	0.00	0.00	0.00	
25,274.71	105.22	359.48	9,054.78	14,691.68	-115.77	2.00	2.00	0.00	0.01	
26,111.95	105.22	359.48	8,835.00	15,499.52	-123.08	0.00	0.00	0.00	0.00	
26,217.50	107.33	359.48	8,805.42	15,600.83	-124.00	2.00	2.00	0.00	-0.02	
27,158.92	107.33	359.48	8,525.00	16,499.48	-132.14	0.00	0.00	0.00	0.00	
27,258.00	109.31	359.48	8,493.86	16,593.53	-132.99	2.00	2.00	0.00	0.01	
27,953.05	109.31	359.48	8,264.00	17,249.45	-138.93	0.00	0.00	0.00	0.00	
28,125.55	105.86	359.48	8,211.89	17,413.86	-140.42	2.00	-2.00	0.00	-179.99	
28,827.63	105.86	359.48	8,020.00	18,089.18	-146.54	0.00	0.00	0.00	0.00	LTP/PBHL - 2546' 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	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
400.00	0.00	0.00	400.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
500.00	0.00	0.00	500.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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)
600.00	0.00	0.00	600.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
700.00	0.00	0.00	700.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
800.00	0.00	0.00	800.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
900.00	0.00	0.00	900.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
1,000.00	0.00	0.00	1,000.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
1,100.00	0.00	0.00	1,100.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
1,200.00	0.00	0.00	1,200.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
1,300.00	0.00	0.00	1,300.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
1,400.00	0.00	0.00	1,400.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
1,500.00	0.00	0.00	1,500.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
1,600.00	0.00	0.00	1,600.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
1,700.00	0.00	0.00	1,700.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
1,800.00	0.00	0.00	1,800.00	0.00	0.00	623,914.56	796,938.98	32.7124281	-103.5023029	0.00	0.00	0.00	0.00
Nudge, Build 2.00°/100'													
1,900.00	2.00	175.18	1,899.98	-1.74	0.15	623,912.82	796,939.13	32.7124234	-103.5023025	-1.74	2.00	2.00	0.00
1,923.04	2.46	175.18	1,923.00	-2.63	0.22	623,911.93	796,939.20	32.7124209	-103.5023022	-2.63	2.00	2.00	0.00
Rustler													
2,000.00	4.00	175.18	1,999.84	-6.95	0.59	623,907.61	796,939.57	32.7124090	-103.5023012	-6.96	2.00	2.00	0.00
2,009.19	4.18	175.18	2,009.00	-7.61	0.64	623,906.95	796,939.62	32.7124072	-103.5023010	-7.61	2.00	2.00	0.00
A3 Top													
2,100.00	6.00	175.18	2,099.45	-15.64	1.32	623,898.92	796,940.30	32.7123851	-103.5022990	-15.65	2.00	2.00	0.00
2,108.60	6.17	175.18	2,108.00	-16.55	1.40	623,898.01	796,940.38	32.7123826	-103.5022988	-16.56	2.00	2.00	0.00
A3 Base (Tamarisk)													
2,149.94	7.00	175.18	2,149.07	-21.27	1.79	623,893.29	796,940.77	32.7123696	-103.5022976	-21.29	2.00	2.00	0.00
Hold - 2149.94' MD/2149.07' TVD													
2,200.00	7.00	175.18	2,198.76	-27.35	2.31	623,887.21	796,941.29	32.7123529	-103.5022961	-27.37	0.00	0.00	0.00
2,202.26	7.00	175.18	2,201.00	-27.62	2.33	623,886.94	796,941.31	32.7123522	-103.5022960	-27.64	0.00	0.00	0.00
Top Salt/Salado													
2,300.00	7.00	175.18	2,298.01	-39.49	3.33	623,875.07	796,942.31	32.7123195	-103.5022931	-39.52	0.00	0.00	0.00
2,400.00	7.00	175.18	2,397.27	-51.63	4.36	623,862.93	796,943.34	32.7122861	-103.5022901	-51.67	0.00	0.00	0.00
2,500.00	7.00	175.18	2,496.52	-63.77	5.38	623,850.79	796,944.36	32.7122528	-103.5022870	-63.82	0.00	0.00	0.00
2,600.00	7.00	175.18	2,595.78	-75.92	6.41	623,838.64	796,945.39	32.7122194	-103.5022840	-75.97	0.00	0.00	0.00
2,700.00	7.00	175.18	2,695.03	-88.06	7.43	623,826.50	796,946.41	32.7121860	-103.5022810	-88.12	0.00	0.00	0.00
2,800.00	7.00	175.18	2,794.29	-100.20	8.45	623,814.36	796,947.43	32.7121526	-103.5022780	-100.27	0.00	0.00	0.00
2,900.00	7.00	175.18	2,893.54	-112.34	9.48	623,802.22	796,948.46	32.7121192	-103.5022750	-112.42	0.00	0.00	0.00
3,000.00	7.00	175.18	2,992.80	-124.48	10.50	623,790.08	796,949.48	32.7120858	-103.5022719	-124.57	0.00	0.00	0.00
3,100.00	7.00	175.18	3,092.05	-136.62	11.53	623,777.94	796,950.51	32.7120524	-103.5022689	-136.72	0.00	0.00	0.00
3,200.00	7.00	175.18	3,191.31	-148.76	12.55	623,765.80	796,951.53	32.7120190	-103.5022659	-148.87	0.00	0.00	0.00
3,300.00	7.00	175.18	3,290.56	-160.91	13.58	623,753.65	796,952.56	32.7119856	-103.5022629	-161.02	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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)
3,400.00	7.00	175.18	3,389.82	-173.05	14.60	623,741.51	796,953.58	32.7119522	-103.5022598	-173.17	0.00	0.00	0.00
3,500.00	7.00	175.18	3,489.07	-185.19	15.63	623,729.37	796,954.61	32.7119188	-103.5022568	-185.32	0.00	0.00	0.00
3,600.00	7.00	175.18	3,588.33	-197.33	16.65	623,717.23	796,955.63	32.7118854	-103.5022538	-197.47	0.00	0.00	0.00
3,693.30	7.00	175.18	3,680.93	-208.66	17.61	623,705.90	796,956.59	32.7118543	-103.5022510	-208.81	0.00	0.00	0.00
Drop, 2.00°/100' DLS													
3,700.00	6.86	175.18	3,687.58	-209.47	17.67	623,705.09	796,956.65	32.7118521	-103.5022508	-209.62	2.00	-2.00	0.00
3,800.00	4.86	175.18	3,787.05	-219.65	18.53	623,694.91	796,957.51	32.7118241	-103.5022483	-219.81	2.00	-2.00	0.00
3,900.00	2.86	175.18	3,886.82	-226.36	19.10	623,688.20	796,958.08	32.7118056	-103.5022466	-226.53	2.00	-2.00	0.00
4,000.00	0.86	175.18	3,986.76	-229.60	19.37	623,684.96	796,958.35	32.7117967	-103.5022458	-229.77	2.00	-2.00	0.00
4,043.24	0.00	0.00	4,030.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	2.00	-2.00	0.00
Hold - 4043.24' MD/4030.00' TVD													
4,100.00	0.00	0.00	4,086.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
4,200.00	0.00	0.00	4,186.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
4,300.00	0.00	0.00	4,286.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
4,400.00	0.00	0.00	4,386.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
4,500.00	0.00	0.00	4,486.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
4,600.00	0.00	0.00	4,586.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
4,700.00	0.00	0.00	4,686.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
4,800.00	0.00	0.00	4,786.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
4,900.00	0.00	0.00	4,886.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,000.00	0.00	0.00	4,986.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,100.00	0.00	0.00	5,086.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,200.00	0.00	0.00	5,186.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,300.00	0.00	0.00	5,286.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,400.00	0.00	0.00	5,386.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,500.00	0.00	0.00	5,486.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,600.00	0.00	0.00	5,586.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,700.00	0.00	0.00	5,686.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,800.00	0.00	0.00	5,786.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
5,828.24	0.00	0.00	5,815.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
Base Salt/Lamar/CTRA_BASE_ANHYDRITE													
5,900.00	0.00	0.00	5,886.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,000.00	0.00	0.00	5,986.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,003.24	0.00	0.00	5,990.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
Top Delaware Sands/Bell Canyon													
6,100.00	0.00	0.00	6,086.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,200.00	0.00	0.00	6,186.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,241.24	0.00	0.00	6,228.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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 Dogleg Section (usft)	Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
Cherry Canyon													
6,300.00	0.00	0.00	6,286.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,400.00	0.00	0.00	6,386.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,500.00	0.00	0.00	6,486.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,600.00	0.00	0.00	6,586.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,647.24	0.00	0.00	6,634.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
Brushy Canyon													
6,700.00	0.00	0.00	6,686.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,800.00	0.00	0.00	6,786.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
6,900.00	0.00	0.00	6,886.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,000.00	0.00	0.00	6,986.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,100.00	0.00	0.00	7,086.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,200.00	0.00	0.00	7,186.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,300.00	0.00	0.00	7,286.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,400.00	0.00	0.00	7,386.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,430.24	0.00	0.00	7,417.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
Basal Brushy Canyon													
7,500.00	0.00	0.00	7,486.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,600.00	0.00	0.00	7,586.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,671.24	0.00	0.00	7,658.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
Bone Spring Lime													
7,700.00	0.00	0.00	7,686.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,800.00	0.00	0.00	7,786.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
7,859.24	0.00	0.00	7,846.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
Leonard/Avalon Sand													
7,900.00	0.00	0.00	7,886.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,000.00	0.00	0.00	7,986.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,100.00	0.00	0.00	8,086.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,200.00	0.00	0.00	8,186.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,300.00	0.00	0.00	8,286.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,400.00	0.00	0.00	8,386.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,500.00	0.00	0.00	8,486.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,600.00	0.00	0.00	8,586.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,700.00	0.00	0.00	8,686.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,800.00	0.00	0.00	8,786.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
8,900.00	0.00	0.00	8,886.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,000.00	0.00	0.00	8,986.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,100.00	0.00	0.00	9,086.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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)
9,177.24	0.00	0.00	9,164.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
1st Bone Spring Sand													
9,200.00	0.00	0.00	9,186.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,300.00	0.00	0.00	9,286.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,400.00	0.00	0.00	9,386.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,500.00	0.00	0.00	9,486.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,600.00	0.00	0.00	9,586.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,700.00	0.00	0.00	9,686.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,700.24	0.00	0.00	9,687.00	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
2nd Bone Spring Sand													
9,800.00	0.00	0.00	9,786.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,900.00	0.00	0.00	9,886.76	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
9,926.20	0.00	0.00	9,912.96	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457	-230.10	0.00	0.00	0.00
KOP - Start 10.00°/100' DLS - KOP/LP/FTP (RSC 601H)													
9,950.00	2.38	359.48	9,936.75	-229.44	19.40	623,685.12	796,958.38	32.7117971	-103.5022457	-229.60	10.00	10.00	0.00
10,000.00	7.38	359.48	9,986.56	-225.18	19.36	623,689.38	796,958.34	32.7118088	-103.5022457	-225.35	10.00	10.00	0.00
10,050.00	12.38	359.48	10,035.80	-216.61	19.28	623,697.95	796,958.26	32.7118324	-103.5022457	-216.77	10.00	10.00	0.00
10,100.00	17.38	359.48	10,084.11	-203.77	19.16	623,710.79	796,958.14	32.7118677	-103.5022458	-203.94	10.00	10.00	0.00
10,148.80	22.26	359.48	10,130.00	-187.23	19.01	623,727.33	796,957.99	32.7119131	-103.5022459	-187.40	10.00	10.00	0.00
3rd Bone Spring Carb													
10,150.00	22.38	359.48	10,131.11	-186.78	19.01	623,727.78	796,957.99	32.7119144	-103.5022459	-186.94	10.00	10.00	0.00
10,200.00	27.38	359.48	10,176.46	-165.75	18.82	623,748.81	796,957.80	32.7119722	-103.5022460	-165.91	10.00	10.00	0.00
10,250.00	32.38	359.48	10,219.80	-140.85	18.59	623,773.71	796,957.57	32.7120406	-103.5022461	-141.01	10.00	10.00	0.00
10,300.00	37.38	359.48	10,260.80	-112.26	18.33	623,802.30	796,957.31	32.7121192	-103.5022462	-112.43	10.00	10.00	0.00
10,305.30	37.91	359.48	10,265.00	-109.03	18.30	623,805.53	796,957.28	32.7121281	-103.5022462	-109.19	10.00	10.00	0.00
3rd Bone Spring Sand													
10,350.00	42.38	359.48	10,299.16	-80.22	18.04	623,834.34	796,957.02	32.7122073	-103.5022463	-80.38	10.00	10.00	0.00
10,400.00	47.38	359.48	10,334.58	-44.95	17.72	623,869.61	796,956.70	32.7123042	-103.5022464	-45.11	10.00	10.00	0.00
10,450.00	52.38	359.48	10,366.79	-6.73	17.37	623,907.83	796,956.35	32.7124093	-103.5022466	-6.88	10.00	10.00	0.00
10,500.00	57.38	359.48	10,395.54	34.16	17.00	623,948.72	796,955.98	32.7125217	-103.5022468	34.00	10.00	10.00	0.00
10,550.00	62.38	359.48	10,420.63	77.39	16.61	623,991.95	796,955.59	32.7126405	-103.5022469	77.24	10.00	10.00	0.00
10,600.00	67.38	359.48	10,441.84	122.64	16.20	624,037.20	796,955.18	32.7127649	-103.5022471	122.49	10.00	10.00	0.00
10,650.00	72.38	359.48	10,459.04	169.58	15.77	624,084.14	796,954.75	32.7128939	-103.5022473	169.43	10.00	10.00	0.00
10,676.20	75.00	359.48	10,466.39	194.72	15.55	624,109.28	796,954.53	32.7129630	-103.5022474	194.57	10.00	10.00	0.00
75° Inc - 10676.20° MD/10466.39° TVD													
10,700.00	76.19	359.48	10,472.32	217.77	15.34	624,132.33	796,954.32	32.7130263	-103.5022475	217.62	5.00	5.00	0.00
10,781.85	80.28	359.48	10,489.00	297.88	14.61	624,212.44	796,953.59	32.7132465	-103.5022478	297.74	5.00	5.00	0.00
3rd Bone Spring Sand Target													
10,800.00	81.19	359.48	10,491.92	315.79	14.45	624,230.35	796,953.43	32.7132958	-103.5022479	315.65	5.00	5.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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)
10,900.00	86.19	359.48	10,502.91	415.15	13.55	624,329.71	796,952.53	32.7135689	-103.5022483	415.01	5.00	5.00	0.00
11,008.07	91.59	359.48	10,505.00	523.16	12.57	624,437.72	796,951.55	32.7138657	-103.5022487	523.02	5.00	5.00	0.00
LP - 11008.07' MD													
11,100.00	91.59	359.48	10,502.44	615.05	11.74	624,529.61	796,950.72	32.7141183	-103.5022491	614.91	0.00	0.00	0.00
11,200.00	91.59	359.48	10,499.66	715.00	10.83	624,629.56	796,949.81	32.7143930	-103.5022495	714.88	0.00	0.00	0.00
11,300.00	91.59	359.48	10,496.88	814.96	9.92	624,729.52	796,948.90	32.7146678	-103.5022499	814.84	0.00	0.00	0.00
11,400.00	91.59	359.48	10,494.10	914.92	9.02	624,829.48	796,948.00	32.7149425	-103.5022503	914.80	0.00	0.00	0.00
11,500.00	91.59	359.48	10,491.32	1,014.88	8.11	624,929.44	796,947.09	32.7152173	-103.5022507	1,014.76	0.00	0.00	0.00
11,600.00	91.59	359.48	10,488.54	1,114.83	7.21	625,029.39	796,946.19	32.7154920	-103.5022511	1,114.72	0.00	0.00	0.00
11,700.00	91.59	359.48	10,485.76	1,214.79	6.30	625,129.35	796,945.28	32.7157667	-103.5022515	1,214.68	0.00	0.00	0.00
11,800.00	91.59	359.48	10,482.98	1,314.75	5.40	625,229.31	796,944.38	32.7160415	-103.5022518	1,314.64	0.00	0.00	0.00
11,900.00	91.59	359.48	10,480.19	1,414.70	4.49	625,329.26	796,943.47	32.7163162	-103.5022522	1,414.61	0.00	0.00	0.00
12,000.00	91.59	359.48	10,477.41	1,514.66	3.59	625,429.22	796,942.57	32.7165910	-103.5022526	1,514.57	0.00	0.00	0.00
12,100.00	91.59	359.48	10,474.63	1,614.62	2.68	625,529.18	796,941.66	32.7168657	-103.5022530	1,614.53	0.00	0.00	0.00
12,200.00	91.59	359.48	10,471.85	1,714.58	1.78	625,629.14	796,940.76	32.7171405	-103.5022534	1,714.49	0.00	0.00	0.00
12,300.00	91.59	359.48	10,469.07	1,814.53	0.87	625,729.09	796,939.85	32.7174152	-103.5022538	1,814.45	0.00	0.00	0.00
12,400.00	91.59	359.48	10,466.29	1,914.49	-0.04	625,829.05	796,938.94	32.7176899	-103.5022542	1,914.41	0.00	0.00	0.00
12,500.00	91.59	359.48	10,463.51	2,014.45	-0.94	625,929.01	796,938.04	32.7179647	-103.5022546	2,014.37	0.00	0.00	0.00
12,600.00	91.59	359.48	10,460.73	2,114.41	-1.85	626,028.97	796,937.13	32.7182394	-103.5022550	2,114.33	0.00	0.00	0.00
12,700.00	91.59	359.48	10,457.95	2,214.36	-2.75	626,128.92	796,936.23	32.7185142	-103.5022554	2,214.30	0.00	0.00	0.00
12,800.00	91.59	359.48	10,455.17	2,314.32	-3.66	626,228.88	796,935.32	32.7187889	-103.5022558	2,314.26	0.00	0.00	0.00
12,900.00	91.59	359.48	10,452.39	2,414.28	-4.56	626,328.84	796,934.42	32.7190636	-103.5022562	2,414.22	0.00	0.00	0.00
12,985.81	91.59	359.48	10,450.00	2,500.05	-5.34	626,414.61	796,933.64	32.7192994	-103.5022565	2,500.00	0.00	0.00	0.00
Start DLS 2.00 TFO 0.00													
13,000.00	91.88	359.48	10,449.57	2,514.23	-5.47	626,428.79	796,933.51	32.7193384	-103.5022566	2,514.18	2.00	2.00	0.00
13,108.10	94.04	359.48	10,443.99	2,622.18	-6.45	626,536.74	796,932.53	32.7196351	-103.5022570	2,622.13	2.00	2.00	0.00
Hold - 13108.10' MD/10443.99' TVD													
13,200.00	94.04	359.48	10,437.52	2,713.85	-7.28	626,628.41	796,931.70	32.7198870	-103.5022574	2,713.80	0.00	0.00	0.00
13,300.00	94.04	359.48	10,430.47	2,813.59	-8.18	626,728.15	796,930.80	32.7201612	-103.5022578	2,813.55	0.00	0.00	0.00
13,400.00	94.04	359.48	10,423.43	2,913.34	-9.08	626,827.90	796,929.90	32.7204354	-103.5022582	2,913.30	0.00	0.00	0.00
13,500.00	94.04	359.48	10,416.39	3,013.09	-9.99	626,927.65	796,928.99	32.7207095	-103.5022586	3,013.06	0.00	0.00	0.00
13,600.00	94.04	359.48	10,409.34	3,112.84	-10.89	627,027.40	796,928.09	32.7209837	-103.5022590	3,112.81	0.00	0.00	0.00
13,700.00	94.04	359.48	10,402.30	3,212.58	-11.80	627,127.14	796,927.18	32.7212579	-103.5022594	3,212.56	0.00	0.00	0.00
13,800.00	94.04	359.48	10,395.25	3,312.33	-12.70	627,226.89	796,926.28	32.7215320	-103.5022598	3,312.31	0.00	0.00	0.00
13,900.00	94.04	359.48	10,388.21	3,412.08	-13.60	627,326.64	796,925.38	32.7218062	-103.5022602	3,412.06	0.00	0.00	0.00
13,988.15	94.04	359.48	10,382.00	3,500.01	-14.40	627,414.57	796,924.58	32.7220479	-103.5022605	3,500.00	0.00	0.00	0.00
Start DLS 2.00 TFO 0.04													
14,000.00	94.28	359.48	10,381.14	3,511.82	-14.51	627,426.38	796,924.47	32.7220804	-103.5022606	3,511.81	2.00	2.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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)
14,035.94	94.99	359.48	10,378.24	3,547.64	-14.83	627,462.20	796,924.15	32.7221788	-103.5022607	3,547.63	2.00	2.00	0.00
Hold - 14035.94' MD/10378.24' TVD													
14,100.00	94.99	359.48	10,372.66	3,611.46	-15.41	627,526.02	796,923.57	32.7223542	-103.5022609	3,611.45	0.00	0.00	0.00
14,200.00	94.99	359.48	10,363.95	3,711.08	-16.31	627,625.64	796,922.67	32.7226280	-103.5022613	3,711.07	0.00	0.00	0.00
14,300.00	94.99	359.48	10,355.25	3,810.69	-17.21	627,725.25	796,921.77	32.7229018	-103.5022617	3,810.69	0.00	0.00	0.00
14,400.00	94.99	359.48	10,346.54	3,910.31	-18.11	627,824.87	796,920.87	32.7231756	-103.5022621	3,910.31	0.00	0.00	0.00
14,500.00	94.99	359.48	10,337.83	4,009.92	-19.02	627,924.48	796,919.96	32.7234494	-103.5022625	4,009.93	0.00	0.00	0.00
14,600.00	94.99	359.48	10,329.13	4,109.54	-19.92	628,024.10	796,919.06	32.7237232	-103.5022629	4,109.55	0.00	0.00	0.00
14,700.00	94.99	359.48	10,320.42	4,209.16	-20.82	628,123.72	796,918.16	32.7239970	-103.5022633	4,209.17	0.00	0.00	0.00
14,800.00	94.99	359.48	10,311.71	4,308.77	-21.72	628,223.33	796,917.26	32.7242708	-103.5022637	4,308.79	0.00	0.00	0.00
14,900.00	94.99	359.48	10,303.00	4,408.39	-22.62	628,322.95	796,916.36	32.7245446	-103.5022641	4,408.41	0.00	0.00	0.00
14,991.93	94.99	359.48	10,295.00	4,499.97	-23.45	628,414.53	796,915.53	32.7247964	-103.5022644	4,500.00	0.00	0.00	0.00
Start DLS 2.00 TFO -0.06													
15,000.00	95.16	359.48	10,294.29	4,508.00	-23.52	628,422.56	796,915.46	32.7248185	-103.5022645	4,508.03	2.00	2.00	0.00
15,019.59	95.55	359.48	10,292.46	4,527.50	-23.70	628,442.06	796,915.28	32.7248720	-103.5022645	4,527.53	2.00	2.00	0.00
Hold - 15019.58' MD/10292.46' TVD													
15,100.00	95.55	359.48	10,284.69	4,607.54	-24.42	628,522.10	796,914.56	32.7250920	-103.5022649	4,607.57	0.00	0.00	0.00
15,200.00	95.55	359.48	10,275.02	4,707.06	-25.33	628,621.62	796,913.65	32.7253656	-103.5022653	4,707.10	0.00	0.00	0.00
15,300.00	95.55	359.48	10,265.35	4,806.59	-26.23	628,721.15	796,912.75	32.7256391	-103.5022656	4,806.63	0.00	0.00	0.00
15,400.00	95.55	359.48	10,255.68	4,906.12	-27.13	628,820.68	796,911.85	32.7259127	-103.5022660	4,906.16	0.00	0.00	0.00
15,500.00	95.55	359.48	10,246.01	5,005.65	-28.03	628,920.21	796,910.95	32.7261863	-103.5022664	5,005.70	0.00	0.00	0.00
15,600.00	95.55	359.48	10,236.35	5,105.17	-28.93	629,019.73	796,910.05	32.7264598	-103.5022668	5,105.23	0.00	0.00	0.00
15,700.00	95.55	359.48	10,226.68	5,204.70	-29.84	629,119.26	796,909.14	32.7267334	-103.5022672	5,204.76	0.00	0.00	0.00
15,800.00	95.55	359.48	10,217.01	5,304.23	-30.74	629,218.79	796,908.24	32.7270070	-103.5022676	5,304.29	0.00	0.00	0.00
15,900.00	95.55	359.48	10,207.34	5,403.76	-31.64	629,318.32	796,907.34	32.7272805	-103.5022680	5,403.82	0.00	0.00	0.00
15,996.63	95.55	359.48	10,198.00	5,499.93	-32.51	629,414.49	796,906.47	32.7275449	-103.5022684	5,500.00	0.00	0.00	0.00
Start DLS 2.00 TFO 179.99													
16,000.00	95.48	359.48	10,197.68	5,503.28	-32.54	629,417.84	796,906.44	32.7275541	-103.5022684	5,503.35	2.00	-2.00	0.00
16,088.88	93.70	359.48	10,190.56	5,591.88	-33.34	629,506.44	796,905.64	32.7277976	-103.5022688	5,591.95	2.00	-2.00	0.00
Hold - 16088.88' MD/10190.56' TVD													
16,100.00	93.70	359.48	10,189.84	5,602.97	-33.44	629,517.53	796,905.54	32.7278281	-103.5022688	5,603.04	0.00	0.00	0.00
16,200.00	93.70	359.48	10,183.38	5,702.76	-34.35	629,617.32	796,904.63	32.7281023	-103.5022692	5,702.83	0.00	0.00	0.00
16,300.00	93.70	359.48	10,176.93	5,802.54	-35.25	629,717.10	796,903.73	32.7283766	-103.5022696	5,802.62	0.00	0.00	0.00
16,400.00	93.70	359.48	10,170.47	5,902.33	-36.15	629,816.89	796,902.83	32.7286509	-103.5022700	5,902.42	0.00	0.00	0.00
16,500.00	93.70	359.48	10,164.01	6,002.12	-37.06	629,916.68	796,901.92	32.7289252	-103.5022704	6,002.21	0.00	0.00	0.00
16,600.00	93.70	359.48	10,157.55	6,101.90	-37.96	630,016.46	796,901.02	32.7291994	-103.5022708	6,102.00	0.00	0.00	0.00
16,700.00	93.70	359.48	10,151.09	6,201.69	-38.87	630,116.25	796,900.11	32.7294737	-103.5022712	6,201.79	0.00	0.00	0.00
16,800.00	93.70	359.48	10,144.64	6,301.48	-39.77	630,216.04	796,899.21	32.7297480	-103.5022716	6,301.58	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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	93.70	359.48	10,138.18	6,401.27	-40.67	630,315.83	796,898.31	32.7300223	-103.5022720	6,401.37	0.00	0.00	0.00
17,000.00	93.70	359.48	10,131.72	6,501.05	-41.58	630,415.61	796,897.40	32.7302965	-103.5022724	6,501.16	0.00	0.00	0.00
17,100.00	93.70	359.48	10,125.26	6,600.84	-42.48	630,515.40	796,896.50	32.7305708	-103.5022727	6,600.95	0.00	0.00	0.00
17,200.00	93.70	359.48	10,118.80	6,700.63	-43.39	630,615.19	796,895.59	32.7308451	-103.5022731	6,700.75	0.00	0.00	0.00
17,300.00	93.70	359.48	10,112.34	6,800.41	-44.29	630,714.97	796,894.69	32.7311194	-103.5022735	6,800.54	0.00	0.00	0.00
17,400.00	93.70	359.48	10,105.89	6,900.20	-45.19	630,814.76	796,893.79	32.7313936	-103.5022739	6,900.33	0.00	0.00	0.00
17,500.00	93.70	359.48	10,099.43	6,999.99	-46.10	630,914.55	796,892.88	32.7316679	-103.5022743	7,000.12	0.00	0.00	0.00
17,600.00	93.70	359.48	10,092.97	7,099.78	-47.00	631,014.34	796,891.98	32.7319422	-103.5022747	7,099.91	0.00	0.00	0.00
17,700.00	93.70	359.48	10,086.51	7,199.56	-47.90	631,114.12	796,891.08	32.7322164	-103.5022751	7,199.70	0.00	0.00	0.00
17,800.00	93.70	359.48	10,080.05	7,299.35	-48.81	631,213.91	796,890.17	32.7324907	-103.5022755	7,299.49	0.00	0.00	0.00
17,900.00	93.70	359.48	10,073.59	7,399.14	-49.71	631,313.70	796,889.27	32.7327650	-103.5022759	7,399.28	0.00	0.00	0.00
18,000.00	93.70	359.48	10,067.14	7,498.92	-50.62	631,413.48	796,888.36	32.7330393	-103.5022763	7,499.08	0.00	0.00	0.00
18,100.00	93.70	359.48	10,060.68	7,598.71	-51.52	631,513.27	796,887.46	32.7333135	-103.5022767	7,598.87	0.00	0.00	0.00
18,200.00	93.70	359.48	10,054.22	7,698.50	-52.42	631,613.06	796,886.56	32.7335878	-103.5022771	7,698.66	0.00	0.00	0.00
18,300.00	93.70	359.48	10,047.76	7,798.29	-53.33	631,712.85	796,885.65	32.7338621	-103.5022775	7,798.45	0.00	0.00	0.00
18,400.00	93.70	359.48	10,041.30	7,898.07	-54.23	631,812.63	796,884.75	32.7341364	-103.5022779	7,898.24	0.00	0.00	0.00
18,500.00	93.70	359.48	10,034.85	7,997.86	-55.14	631,912.42	796,883.84	32.7344106	-103.5022783	7,998.03	0.00	0.00	0.00
18,600.00	93.70	359.48	10,028.39	8,097.65	-56.04	632,012.21	796,882.94	32.7346849	-103.5022787	8,097.82	0.00	0.00	0.00
18,700.00	93.70	359.48	10,021.93	8,197.43	-56.94	632,111.99	796,882.04	32.7349592	-103.5022790	8,197.61	0.00	0.00	0.00
18,800.00	93.70	359.48	10,015.47	8,297.22	-57.85	632,211.78	796,881.13	32.7352335	-103.5022794	8,297.41	0.00	0.00	0.00
18,900.00	93.70	359.48	10,009.01	8,397.01	-58.75	632,311.57	796,880.23	32.7355077	-103.5022798	8,397.20	0.00	0.00	0.00
19,000.00	93.70	359.48	10,002.55	8,496.80	-59.65	632,411.36	796,879.33	32.7357820	-103.5022802	8,496.99	0.00	0.00	0.00
19,100.00	93.70	359.48	9,996.10	8,596.58	-60.56	632,511.14	796,878.42	32.7360563	-103.5022806	8,596.78	0.00	0.00	0.00
19,200.00	93.70	359.48	9,989.64	8,696.37	-61.46	632,610.93	796,877.52	32.7363306	-103.5022810	8,696.57	0.00	0.00	0.00
19,300.00	93.70	359.48	9,983.18	8,796.16	-62.37	632,710.72	796,876.61	32.7366048	-103.5022814	8,796.36	0.00	0.00	0.00
19,400.00	93.70	359.48	9,976.72	8,895.94	-63.27	632,810.50	796,875.71	32.7368791	-103.5022818	8,896.15	0.00	0.00	0.00
19,504.07	93.70	359.48	9,970.00	8,999.79	-64.21	632,914.35	796,874.77	32.7371645	-103.5022822	9,000.00	0.00	0.00	0.00
Start DLS 2.00 TFO -0.01													
19,572.72	95.08	359.48	9,964.75	9,068.24	-64.83	632,982.80	796,874.15	32.7373527	-103.5022825	9,068.46	2.00	2.00	0.00
Hold - 19572.72' MD/9964.75' TVD													
19,600.00	95.08	359.48	9,962.33	9,095.41	-65.08	633,009.97	796,873.90	32.7374273	-103.5022826	9,095.63	0.00	0.00	0.00
19,700.00	95.08	359.48	9,953.48	9,195.01	-65.98	633,109.57	796,873.00	32.7377011	-103.5022830	9,195.23	0.00	0.00	0.00
19,800.00	95.08	359.48	9,944.64	9,294.62	-66.88	633,209.18	796,872.10	32.7379749	-103.5022834	9,294.84	0.00	0.00	0.00
19,900.00	95.08	359.48	9,935.79	9,394.22	-67.78	633,308.78	796,871.20	32.7382487	-103.5022838	9,394.45	0.00	0.00	0.00
20,000.00	95.08	359.48	9,926.94	9,493.82	-68.69	633,408.38	796,870.29	32.7385224	-103.5022842	9,494.06	0.00	0.00	0.00
20,100.00	95.08	359.48	9,918.09	9,593.43	-69.59	633,507.99	796,869.39	32.7387962	-103.5022846	9,593.66	0.00	0.00	0.00
20,200.00	95.08	359.48	9,909.25	9,693.03	-70.49	633,607.59	796,868.49	32.7390700	-103.5022850	9,693.27	0.00	0.00	0.00
20,300.00	95.08	359.48	9,900.40	9,792.64	-71.39	633,707.20	796,867.59	32.7393437	-103.5022853	9,792.88	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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)
20,400.00	95.08	359.48	9,891.55	9,892.24	-72.30	633,806.80	796,866.68	32.7396175	-103.5022857	9,892.49	0.00	0.00	0.00
20,507.94	95.08	359.48	9,882.00	9,999.75	-73.27	633,914.31	796,865.71	32.7399130	-103.5022862	10,000.00	0.00	0.00	0.00
Start DLS 2.00 TFO 0.00													
20,600.00	96.92	359.48	9,872.38	10,091.30	-74.10	634,005.86	796,864.88	32.7401646	-103.5022865	10,091.56	2.00	2.00	0.00
20,625.73	97.43	359.48	9,869.17	10,116.82	-74.33	634,031.38	796,864.65	32.7402348	-103.5022866	10,117.08	2.00	2.00	0.00
Hold - 20625.73' MD/9869.17' TVD													
20,700.00	97.43	359.48	9,859.56	10,190.47	-75.00	634,105.03	796,863.98	32.7404372	-103.5022869	10,190.73	0.00	0.00	0.00
20,800.00	97.43	359.48	9,846.63	10,289.63	-75.90	634,204.19	796,863.08	32.7407098	-103.5022873	10,289.89	0.00	0.00	0.00
20,900.00	97.43	359.48	9,833.69	10,388.78	-76.79	634,303.34	796,862.19	32.7409823	-103.5022877	10,389.05	0.00	0.00	0.00
21,000.00	97.43	359.48	9,820.76	10,487.94	-77.69	634,402.50	796,861.29	32.7412548	-103.5022881	10,488.21	0.00	0.00	0.00
21,100.00	97.43	359.48	9,807.82	10,587.09	-78.59	634,501.65	796,860.39	32.7415274	-103.5022885	10,587.37	0.00	0.00	0.00
21,200.00	97.43	359.48	9,794.89	10,686.25	-79.49	634,600.81	796,859.49	32.7417999	-103.5022889	10,686.53	0.00	0.00	0.00
21,300.00	97.43	359.48	9,781.96	10,785.41	-80.39	634,699.97	796,858.59	32.7420725	-103.5022893	10,785.69	0.00	0.00	0.00
21,400.00	97.43	359.48	9,769.02	10,884.56	-81.29	634,799.12	796,857.69	32.7423450	-103.5022897	10,884.85	0.00	0.00	0.00
21,500.00	97.43	359.48	9,756.09	10,983.72	-82.19	634,898.28	796,856.79	32.7426175	-103.5022901	10,984.01	0.00	0.00	0.00
21,516.13	97.43	359.48	9,754.00	10,999.71	-82.33	634,914.27	796,856.65	32.7426615	-103.5022901	11,000.00	0.00	0.00	0.00
Start DLS 2.00 TFO 0.02													
21,596.67	99.04	359.48	9,742.46	11,079.42	-83.05	634,993.98	796,855.93	32.7428806	-103.5022904	11,079.71	2.00	2.00	0.00
Hold - 21596.67' MD/9742.46' TVD													
21,600.00	99.04	359.48	9,741.94	11,082.70	-83.08	634,997.26	796,855.90	32.7428896	-103.5022904	11,083.00	0.00	0.00	0.00
21,700.00	99.04	359.48	9,726.22	11,181.46	-83.98	635,096.02	796,855.00	32.7431610	-103.5022908	11,181.76	0.00	0.00	0.00
21,800.00	99.04	359.48	9,710.50	11,280.21	-84.87	635,194.77	796,854.11	32.7434325	-103.5022912	11,280.51	0.00	0.00	0.00
21,900.00	99.04	359.48	9,694.79	11,378.96	-85.76	635,293.52	796,853.22	32.7437039	-103.5022916	11,379.27	0.00	0.00	0.00
22,000.00	99.04	359.48	9,679.07	11,477.72	-86.66	635,392.28	796,852.32	32.7439753	-103.5022920	11,478.03	0.00	0.00	0.00
22,100.00	99.04	359.48	9,663.35	11,576.47	-87.55	635,491.03	796,851.43	32.7442468	-103.5022924	11,576.79	0.00	0.00	0.00
22,200.00	99.04	359.48	9,647.64	11,675.22	-88.44	635,589.78	796,850.54	32.7445182	-103.5022928	11,675.54	0.00	0.00	0.00
22,300.00	99.04	359.48	9,631.92	11,773.97	-89.34	635,688.53	796,849.64	32.7447896	-103.5022932	11,774.30	0.00	0.00	0.00
22,400.00	99.04	359.48	9,616.20	11,872.73	-90.23	635,787.29	796,848.75	32.7450610	-103.5022935	11,873.06	0.00	0.00	0.00
22,500.00	99.04	359.48	9,600.49	11,971.48	-91.12	635,886.04	796,847.86	32.7453325	-103.5022939	11,971.82	0.00	0.00	0.00
22,528.54	99.04	359.48	9,596.00	11,999.66	-91.38	635,914.22	796,847.60	32.7454099	-103.5022940	12,000.00	0.00	0.00	0.00
Start DLS 2.00 TFO -0.02													
22,600.00	100.47	359.48	9,583.89	12,070.09	-92.02	635,984.65	796,846.96	32.7456035	-103.5022943	12,070.42	2.00	2.00	0.00
22,639.92	101.27	359.48	9,576.36	12,109.29	-92.37	636,023.85	796,846.61	32.7457113	-103.5022945	12,109.63	2.00	2.00	0.00
Hold - 22639.92' MD/9576.36' TVD													
22,700.00	101.27	359.48	9,564.62	12,168.21	-92.91	636,082.77	796,846.07	32.7458732	-103.5022947	12,168.55	0.00	0.00	0.00
22,800.00	101.27	359.48	9,545.07	12,266.27	-93.80	636,180.83	796,845.18	32.7461427	-103.5022951	12,266.62	0.00	0.00	0.00
22,900.00	101.27	359.48	9,525.53	12,364.34	-94.68	636,278.90	796,844.30	32.7464123	-103.5022955	12,364.69	0.00	0.00	0.00
23,000.00	101.27	359.48	9,505.99	12,462.41	-95.57	636,376.97	796,843.41	32.7466818	-103.5022959	12,462.76	0.00	0.00	0.00
23,100.00	101.27	359.48	9,486.44	12,560.48	-96.46	636,475.04	796,842.52	32.7469514	-103.5022962	12,560.84	0.00	0.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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)
23,200.00	101.27	359.48	9,466.90	12,658.55	-97.35	636,573.10	796,841.63	32.7472209	-103.5022966	12,658.91	0.00	0.00	0.00
23,300.00	101.27	359.48	9,447.35	12,756.61	-98.24	636,671.17	796,840.74	32.7474905	-103.5022970	12,756.98	0.00	0.00	0.00
23,400.00	101.27	359.48	9,427.81	12,854.68	-99.13	636,769.24	796,839.85	32.7477600	-103.5022974	12,855.05	0.00	0.00	0.00
23,500.00	101.27	359.48	9,408.27	12,952.75	-100.01	636,867.31	796,838.97	32.7480296	-103.5022978	12,953.12	0.00	0.00	0.00
23,600.00	101.27	359.48	9,388.72	13,050.82	-100.90	636,965.38	796,838.08	32.7482991	-103.5022982	13,051.19	0.00	0.00	0.00
23,700.00	101.27	359.48	9,369.18	13,148.88	-101.79	637,063.44	796,837.19	32.7485687	-103.5022986	13,149.27	0.00	0.00	0.00
23,800.00	101.27	359.48	9,349.63	13,246.95	-102.68	637,161.51	796,836.30	32.7488382	-103.5022990	13,247.34	0.00	0.00	0.00
23,900.00	101.27	359.48	9,330.09	13,345.02	-103.57	637,259.58	796,835.41	32.7491078	-103.5022993	13,345.41	0.00	0.00	0.00
24,000.00	101.27	359.48	9,310.55	13,443.09	-104.46	637,357.65	796,834.52	32.7493773	-103.5022997	13,443.48	0.00	0.00	0.00
24,100.00	101.27	359.48	9,291.00	13,541.15	-105.35	637,455.71	796,833.63	32.7496469	-103.5023001	13,541.55	0.00	0.00	0.00
24,200.00	101.27	359.48	9,271.46	13,639.22	-106.23	637,553.78	796,832.75	32.7499164	-103.5023005	13,639.62	0.00	0.00	0.00
24,300.00	101.27	359.48	9,251.91	13,737.29	-107.12	637,651.85	796,831.86	32.7501859	-103.5023009	13,737.69	0.00	0.00	0.00
24,400.00	101.27	359.48	9,232.37	13,835.36	-108.01	637,749.92	796,830.97	32.7504555	-103.5023013	13,835.77	0.00	0.00	0.00
24,500.00	101.27	359.48	9,212.83	13,933.42	-108.90	637,847.98	796,830.08	32.7507250	-103.5023017	13,933.84	0.00	0.00	0.00
24,600.00	101.27	359.48	9,193.28	14,031.49	-109.79	637,946.05	796,829.19	32.7509946	-103.5023021	14,031.91	0.00	0.00	0.00
24,700.00	101.27	359.48	9,173.74	14,129.56	-110.68	638,044.12	796,828.30	32.7512641	-103.5023024	14,129.98	0.00	0.00	0.00
24,800.00	101.27	359.48	9,154.19	14,227.63	-111.57	638,142.19	796,827.41	32.7515337	-103.5023028	14,228.05	0.00	0.00	0.00
24,900.00	101.27	359.48	9,134.65	14,325.69	-112.45	638,240.25	796,826.53	32.7518032	-103.5023032	14,326.12	0.00	0.00	0.00
25,000.00	101.27	359.48	9,115.11	14,423.76	-113.34	638,338.32	796,825.64	32.7520728	-103.5023036	14,424.20	0.00	0.00	0.00
25,077.29	101.27	359.48	9,100.00	14,499.56	-114.03	638,414.12	796,824.95	32.7522811	-103.5023039	14,500.00	0.00	0.00	0.00
Start DLS 2.00 TFO 0.01													
25,100.00	101.72	359.48	9,095.47	14,521.81	-114.23	638,436.37	796,824.75	32.7523423	-103.5023040	14,522.25	2.00	2.00	0.00
25,200.00	103.72	359.48	9,073.45	14,619.35	-115.11	638,533.91	796,823.87	32.7526104	-103.5023044	14,619.79	2.00	2.00	0.00
25,274.71	105.22	359.48	9,054.78	14,691.68	-115.77	638,606.24	796,823.21	32.7528092	-103.5023047	14,692.13	2.00	2.00	0.00
Hold - 25274.71' MD/9054.78' TVD													
25,300.00	105.22	359.48	9,048.14	14,716.08	-115.99	638,630.64	796,822.99	32.7528762	-103.5023048	14,716.53	0.00	0.00	0.00
25,400.00	105.22	359.48	9,021.89	14,812.57	-116.86	638,727.13	796,822.12	32.7531415	-103.5023051	14,813.02	0.00	0.00	0.00
25,500.00	105.22	359.48	8,995.64	14,909.06	-117.74	638,823.62	796,821.24	32.7534067	-103.5023055	14,909.52	0.00	0.00	0.00
25,600.00	105.22	359.48	8,969.39	15,005.55	-118.61	638,920.11	796,820.37	32.7536719	-103.5023059	15,006.01	0.00	0.00	0.00
25,700.00	105.22	359.48	8,943.14	15,102.04	-119.48	639,016.60	796,819.50	32.7539371	-103.5023063	15,102.50	0.00	0.00	0.00
25,800.00	105.22	359.48	8,916.89	15,198.53	-120.36	639,113.09	796,818.62	32.7542023	-103.5023066	15,198.99	0.00	0.00	0.00
25,900.00	105.22	359.48	8,890.64	15,295.02	-121.23	639,209.58	796,817.75	32.7544675	-103.5023070	15,295.49	0.00	0.00	0.00
26,000.00	105.22	359.48	8,864.39	15,391.51	-122.10	639,306.07	796,816.88	32.7547327	-103.5023074	15,391.98	0.00	0.00	0.00
26,100.00	105.22	359.48	8,838.14	15,488.00	-122.98	639,402.55	796,816.00	32.7549979	-103.5023078	15,488.47	0.00	0.00	0.00
26,111.95	105.22	359.48	8,835.00	15,499.52	-123.08	639,414.08	796,815.90	32.7550296	-103.5023078	15,500.00	0.00	0.00	0.00
Start DLS 2.00 TFO -0.02													
26,200.00	106.98	359.48	8,810.58	15,584.12	-123.85	639,498.68	796,815.13	32.7552621	-103.5023081	15,584.60	2.00	2.00	0.00
26,217.50	107.33	359.48	8,805.42	15,600.83	-124.00	639,515.39	796,814.98	32.7553080	-103.5023082	15,601.31	2.00	2.00	0.00

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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)
Hold - 26217.50' MD/8805.42' TVD													
26,300.00	107.33	359.48	8,780.85	15,679.59	-124.71	639,594.15	796,814.27	32.7555245	-103.5023085	15,680.07	0.00	0.00	0.00
26,400.00	107.33	359.48	8,751.06	15,775.04	-125.58	639,689.60	796,813.40	32.7557869	-103.5023089	15,775.53	0.00	0.00	0.00
26,500.00	107.33	359.48	8,721.27	15,870.50	-126.44	639,785.06	796,812.54	32.7560493	-103.5023093	15,871.00	0.00	0.00	0.00
26,600.00	107.33	359.48	8,691.49	15,965.96	-127.31	639,880.52	796,811.67	32.7563116	-103.5023097	15,966.46	0.00	0.00	0.00
26,700.00	107.33	359.48	8,661.70	16,061.41	-128.17	639,975.97	796,810.81	32.7565740	-103.5023100	16,061.92	0.00	0.00	0.00
26,800.00	107.33	359.48	8,631.91	16,156.87	-129.04	640,071.43	796,809.94	32.7568364	-103.5023104	16,157.38	0.00	0.00	0.00
26,900.00	107.33	359.48	8,602.12	16,252.33	-129.90	640,166.89	796,809.08	32.7570987	-103.5023108	16,252.84	0.00	0.00	0.00
27,000.00	107.33	359.48	8,572.34	16,347.78	-130.77	640,262.34	796,808.21	32.7573611	-103.5023112	16,348.30	0.00	0.00	0.00
27,100.00	107.33	359.48	8,542.55	16,443.24	-131.63	640,357.80	796,807.35	32.7576235	-103.5023115	16,443.76	0.00	0.00	0.00
27,158.92	107.33	359.48	8,525.00	16,499.48	-132.14	640,414.04	796,806.84	32.7577781	-103.5023118	16,500.00	0.00	0.00	0.00
Start DLS 2.00 TFO 0.01													
27,200.00	108.15	359.48	8,512.48	16,538.61	-132.49	640,453.17	796,806.49	32.7578856	-103.5023119	16,539.13	2.00	2.00	0.00
27,258.00	109.31	359.48	8,493.86	16,593.53	-132.99	640,508.09	796,805.99	32.7580366	-103.5023121	16,594.06	2.00	2.00	0.00
Hold - 27258.00' MD/8493.86' TVD													
27,300.00	109.31	359.48	8,479.97	16,633.17	-133.35	640,547.73	796,805.63	32.7581455	-103.5023123	16,633.69	0.00	0.00	0.00
27,400.00	109.31	359.48	8,446.90	16,727.54	-134.21	640,642.10	796,804.77	32.7584049	-103.5023126	16,728.07	0.00	0.00	0.00
27,500.00	109.31	359.48	8,413.83	16,821.91	-135.06	640,736.47	796,803.92	32.7586643	-103.5023130	16,822.44	0.00	0.00	0.00
27,600.00	109.31	359.48	8,380.76	16,916.28	-135.91	640,830.84	796,803.07	32.7589237	-103.5023134	16,916.81	0.00	0.00	0.00
27,700.00	109.31	359.48	8,347.68	17,010.65	-136.77	640,925.21	796,802.21	32.7591830	-103.5023138	17,011.19	0.00	0.00	0.00
27,800.00	109.31	359.48	8,314.61	17,105.02	-137.62	641,019.58	796,801.36	32.7594424	-103.5023141	17,105.56	0.00	0.00	0.00
27,900.00	109.31	359.48	8,281.54	17,199.39	-138.48	641,113.95	796,800.50	32.7597018	-103.5023145	17,199.94	0.00	0.00	0.00
27,953.05	109.31	359.48	8,264.00	17,249.45	-138.93	641,164.01	796,800.05	32.7598394	-103.5023147	17,250.00	0.00	0.00	0.00
Start DLS 2.00 TFO -179.99													
28,000.00	108.37	359.48	8,248.84	17,293.88	-139.33	641,208.44	796,799.65	32.7599615	-103.5023149	17,294.43	2.00	-2.00	0.00
28,100.00	106.37	359.48	8,218.98	17,389.31	-140.20	641,303.87	796,798.78	32.7602238	-103.5023152	17,389.87	2.00	-2.00	0.00
28,125.55	105.86	359.48	8,211.89	17,413.86	-140.42	641,328.42	796,798.56	32.7602913	-103.5023153	17,414.42	2.00	-2.00	0.00
Hold - 28125.55' MD/8211.89' TVD													
28,200.00	105.86	359.48	8,191.54	17,485.47	-141.07	641,400.03	796,797.91	32.7604881	-103.5023156	17,486.03	0.00	0.00	0.00
28,300.00	105.86	359.48	8,164.21	17,581.66	-141.94	641,496.22	796,797.04	32.7607525	-103.5023160	17,582.22	0.00	0.00	0.00
28,400.00	105.86	359.48	8,136.88	17,677.85	-142.81	641,592.41	796,796.17	32.7610169	-103.5023164	17,678.41	0.00	0.00	0.00
28,500.00	105.86	359.48	8,109.55	17,774.03	-143.68	641,688.59	796,795.30	32.7612813	-103.5023168	17,774.61	0.00	0.00	0.00
28,600.00	105.86	359.48	8,082.22	17,870.22	-144.56	641,784.78	796,794.42	32.7615456	-103.5023171	17,870.80	0.00	0.00	0.00
28,700.00	105.86	359.48	8,054.88	17,966.41	-145.43	641,880.97	796,793.55	32.7618100	-103.5023175	17,966.99	0.00	0.00	0.00
28,800.00	105.86	359.48	8,027.55	18,062.60	-146.30	641,977.16	796,792.68	32.7620744	-103.5023179	18,063.18	0.00	0.00	0.00
28,827.63	105.86	359.48	8,020.00	18,089.18	-146.54	642,003.74	796,792.44	32.7621475	-103.5023180	18,089.77	0.00	0.00	0.00
TD - 28827.63' MD - LTP/PBHL - 2546' FSL, 925' FWL (RSC 601H)													

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	North Reference:	Grid
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	Plan #2	Database:	.Total Directional Production DB

Design Targets

Target Name

- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
LTP/PBHL - 2546' FSI	0.00	0.00	8,020.00	18,089.18	-146.54	642,003.74	796,792.44	32.7621475	-103.5023180
- plan hits target center									
- Point									
KOP/LP/FTP (RSC 60	0.00	0.00	9,912.96	-229.93	19.40	623,684.63	796,958.38	32.7117958	-103.5022457
- plan hits target center									
- Point									

Formations

Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
1,923.04	1,923.00	Rustler			
2,009.19	2,009.00	A3 Top			
2,108.60	2,108.00	A3 Base (Tamarisk)			
2,202.26	2,201.00	Top Salt/Salado			
5,828.24	5,815.00	Base Salt/Lamar/CTRA_BASE_ANI			
6,003.24	5,990.00	Top Delaware Sands/Bell Canyon			
6,241.24	6,228.00	Cherry Canyon			
6,647.24	6,634.00	Brushy Canyon			
7,430.24	7,417.00	Basal Brushy Canyon			
7,671.24	7,658.00	Bone Spring Lime			
7,859.24	7,846.00	Leonard/Avalon Sand			
9,177.24	9,164.00	1st Bone Spring Sand			
9,700.24	9,687.00	2nd Bone Spring Sand			
10,148.80	10,130.00	3rd Bone Spring Carb			
10,305.30	10,265.00	3rd Bone Spring Sand			
10,781.85	10,489.00	3rd Bone Spring Sand Target			

Total Directional Planned Survey Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Well:	Rope State Com 601H	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'
2150	2149	-21	2	Hold - 2149.94' MD/2149.07' TVD
3693	3681	-209	18	Drop, 2.00°/100' DLS
4043	4030	-230	19	Hold - 4043.24' MD/4030.00' TVD
9926	9913	-230	19	KOP - Start 10.00°/100' DLS
10,676	10,466	195	16	75° Inc - 10676.20' MD/10466.39' TVD
11,008	10,505	523	13	LP - 11008.07' MD
12,986	10,450	2500	-5	Start DLS 2.00 TFO 0.00
13,108	10,444	2622	-6	Hold - 13108.10' MD/10443.99' TVD
13,988	10,382	3500	-14	Start DLS 2.00 TFO 0.04
14,036	10,378	3548	-15	Hold - 14035.94' MD/10378.24' TVD
14,992	10,295	4500	-23	Start DLS 2.00 TFO -0.06
15,020	10,292	4528	-24	Hold - 15019.58' MD/10292.46' TVD
15,997	10,198	5500	-33	Start DLS 2.00 TFO 179.99
16,089	10,191	5592	-33	Hold - 16088.88' MD/10190.56' TVD
19,504	9970	9000	-64	Start DLS 2.00 TFO -0.01
19,573	9965	9068	-65	Hold - 19572.72' MD/9964.75' TVD
20,508	9882	10,000	-73	Start DLS 2.00 TFO 0.00
20,626	9869	10,117	-74	Hold - 20625.73' MD/9869.17' TVD
21,516	9754	11,000	-82	Start DLS 2.00 TFO 0.02
21,597	9742	11,079	-83	Hold - 21596.67' MD/9742.46' TVD
22,529	9596	12,000	-91	Start DLS 2.00 TFO -0.02
22,640	9576	12,109	-92	Hold - 22639.92' MD/9576.36' TVD
25,077	9100	14,500	-114	Start DLS 2.00 TFO 0.01
25,275	9055	14,692	-116	Hold - 25274.71' MD/9054.78' TVD
26,112	8835	15,500	-123	Start DLS 2.00 TFO -0.02
26,217	8805	15,601	-124	Hold - 26217.50' MD/8805.42' TVD
27,159	8525	16,499	-132	Start DLS 2.00 TFO 0.01
27,258	8494	16,594	-133	Hold - 27258.00' MD/8493.86' TVD
27,953	8264	17,249	-139	Start DLS 2.00 TFO -179.99
28,126	8212	17,414	-140	Hold - 28125.55' MD/8211.89' TVD
28,828	8020	18,089	-147	TD - 28827.63' MD

Checked By: _____ Approved By: _____ Date: _____

COMPANY Coterra Energy
 FIELD Lea County, NM (NAD 83)
 SITE Rope State Com Pad
 WELL Rope State Com 601H
 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 32.712428
 WELL LON -103.502303
 WELL EW MAI 796938.98
 WELL NS MAP 623914.56
 CONVERGENC 0.45
 MAGMODEL HDGM2026
 DECLINATION 5.98
 NORTH REF Grid
 GROUND ELE\ 3952.1
 KB ELEVN 3975.1
 VS AZI 359.48

SURVEY PROGRAM

1 0.00 - 28827.63 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	3975.10	0.00
100.00	0.00	0.00	100.00	100.00	3875.10	0.00
200.00	0.00	0.00	100.00	200.00	3775.10	0.00
300.00	0.00	0.00	100.00	300.00	3675.10	0.00
400.00	0.00	0.00	100.00	400.00	3575.10	0.00
500.00	0.00	0.00	100.00	500.00	3475.10	0.00
600.00	0.00	0.00	100.00	600.00	3375.10	0.00
700.00	0.00	0.00	100.00	700.00	3275.10	0.00
800.00	0.00	0.00	100.00	800.00	3175.10	0.00
900.00	0.00	0.00	100.00	900.00	3075.10	0.00
1000.00	0.00	0.00	100.00	1000.00	2975.10	0.00
1100.00	0.00	0.00	100.00	1100.00	2875.10	0.00
1200.00	0.00	0.00	100.00	1200.00	2775.10	0.00
1300.00	0.00	0.00	100.00	1300.00	2675.10	0.00

1400.00	0.00	0.00	100.00	1400.00	2575.10	0.00
1500.00	0.00	0.00	100.00	1500.00	2475.10	0.00
1600.00	0.00	0.00	100.00	1600.00	2375.10	0.00
1700.00	0.00	0.00	100.00	1700.00	2275.10	0.00
1800.00	0.00	0.00	100.00	1800.00	2175.10	0.00
1900.00	2.00	175.18	100.00	1899.98	2075.12	-1.74
2000.00	4.00	175.18	100.00	1999.84	1975.26	-6.95
2100.00	6.00	175.18	100.00	2099.45	1875.65	-15.64
2149.94	7.00	175.18	49.94	2149.07	1826.03	-21.27
2200.00	7.00	175.18	50.06	2198.76	1776.34	-27.35
2300.00	7.00	175.18	100.00	2298.01	1677.09	-39.49
2400.00	7.00	175.18	100.00	2397.27	1577.83	-51.63
2500.00	7.00	175.18	100.00	2496.52	1478.58	-63.77
2600.00	7.00	175.18	100.00	2595.78	1379.32	-75.92
2700.00	7.00	175.18	100.00	2695.03	1280.07	-88.06
2800.00	7.00	175.18	100.00	2794.29	1180.81	-100.20
2900.00	7.00	175.18	100.00	2893.54	1081.56	-112.34
3000.00	7.00	175.18	100.00	2992.80	982.30	-124.48
3100.00	7.00	175.18	100.00	3092.05	883.05	-136.62
3200.00	7.00	175.18	100.00	3191.31	783.79	-148.77
3300.00	7.00	175.18	100.00	3290.56	684.54	-160.91
3400.00	7.00	175.18	100.00	3389.82	585.28	-173.05
3500.00	7.00	175.18	100.00	3489.07	486.03	-185.19
3600.00	7.00	175.18	100.00	3588.33	386.77	-197.33
3693.30	7.00	175.18	93.30	3680.93	294.17	-208.66
3700.00	6.87	175.18	6.70	3687.58	287.52	-209.47
3800.00	4.87	175.18	100.00	3787.05	188.05	-219.65
3900.00	2.87	175.18	100.00	3886.82	88.28	-226.36
4000.00	0.87	175.18	100.00	3986.76	-11.66	-229.61
4043.24	0.00	0.00	43.24	4030.00	-54.90	-229.93
4100.00	0.00	0.00	56.76	4086.76	-111.66	-229.93
4200.00	0.00	0.00	100.00	4186.76	-211.66	-229.93
4300.00	0.00	0.00	100.00	4286.76	-311.66	-229.93
4400.00	0.00	0.00	100.00	4386.76	-411.66	-229.93
4500.00	0.00	0.00	100.00	4486.76	-511.66	-229.93
4600.00	0.00	0.00	100.00	4586.76	-611.66	-229.93
4700.00	0.00	0.00	100.00	4686.76	-711.66	-229.93
4800.00	0.00	0.00	100.00	4786.76	-811.66	-229.93
4900.00	0.00	0.00	100.00	4886.76	-911.66	-229.93
5000.00	0.00	0.00	100.00	4986.76	-1011.66	-229.93
5100.00	0.00	0.00	100.00	5086.76	-1111.66	-229.93
5200.00	0.00	0.00	100.00	5186.76	-1211.66	-229.93
5300.00	0.00	0.00	100.00	5286.76	-1311.66	-229.93
5400.00	0.00	0.00	100.00	5386.76	-1411.66	-229.93

5500.00	0.00	0.00	100.00	5486.76	-1511.66	-229.93
5600.00	0.00	0.00	100.00	5586.76	-1611.66	-229.93
5700.00	0.00	0.00	100.00	5686.76	-1711.66	-229.93
5800.00	0.00	0.00	100.00	5786.76	-1811.66	-229.93
5900.00	0.00	0.00	100.00	5886.76	-1911.66	-229.93
6000.00	0.00	0.00	100.00	5986.76	-2011.66	-229.93
6100.00	0.00	0.00	100.00	6086.76	-2111.66	-229.93
6200.00	0.00	0.00	100.00	6186.76	-2211.66	-229.93
6300.00	0.00	0.00	100.00	6286.76	-2311.66	-229.93
6400.00	0.00	0.00	100.00	6386.76	-2411.66	-229.93
6500.00	0.00	0.00	100.00	6486.76	-2511.66	-229.93
6600.00	0.00	0.00	100.00	6586.76	-2611.66	-229.93
6700.00	0.00	0.00	100.00	6686.76	-2711.66	-229.93
6800.00	0.00	0.00	100.00	6786.76	-2811.66	-229.93
6900.00	0.00	0.00	100.00	6886.76	-2911.66	-229.93
7000.00	0.00	0.00	100.00	6986.76	-3011.66	-229.93
7100.00	0.00	0.00	100.00	7086.76	-3111.66	-229.93
7200.00	0.00	0.00	100.00	7186.76	-3211.66	-229.93
7300.00	0.00	0.00	100.00	7286.76	-3311.66	-229.93
7400.00	0.00	0.00	100.00	7386.76	-3411.66	-229.93
7500.00	0.00	0.00	100.00	7486.76	-3511.66	-229.93
7600.00	0.00	0.00	100.00	7586.76	-3611.66	-229.93
7700.00	0.00	0.00	100.00	7686.76	-3711.66	-229.93
7800.00	0.00	0.00	100.00	7786.76	-3811.66	-229.93
7900.00	0.00	0.00	100.00	7886.76	-3911.66	-229.93
8000.00	0.00	0.00	100.00	7986.76	-4011.66	-229.93
8100.00	0.00	0.00	100.00	8086.76	-4111.66	-229.93
8200.00	0.00	0.00	100.00	8186.76	-4211.66	-229.93
8300.00	0.00	0.00	100.00	8286.76	-4311.66	-229.93
8400.00	0.00	0.00	100.00	8386.76	-4411.66	-229.93
8500.00	0.00	0.00	100.00	8486.76	-4511.66	-229.93
8600.00	0.00	0.00	100.00	8586.76	-4611.66	-229.93
8700.00	0.00	0.00	100.00	8686.76	-4711.66	-229.93
8800.00	0.00	0.00	100.00	8786.76	-4811.66	-229.93
8900.00	0.00	0.00	100.00	8886.76	-4911.66	-229.93
9000.00	0.00	0.00	100.00	8986.76	-5011.66	-229.93
9100.00	0.00	0.00	100.00	9086.76	-5111.66	-229.93
9200.00	0.00	0.00	100.00	9186.76	-5211.66	-229.93
9300.00	0.00	0.00	100.00	9286.76	-5311.66	-229.93
9400.00	0.00	0.00	100.00	9386.76	-5411.66	-229.93
9500.00	0.00	0.00	100.00	9486.76	-5511.66	-229.93
9600.00	0.00	0.00	100.00	9586.76	-5611.66	-229.93
9700.00	0.00	0.00	100.00	9686.76	-5711.66	-229.93
9800.00	0.00	0.00	100.00	9786.76	-5811.66	-229.93

9900.00	0.00	0.00	100.00	9886.76	-5911.66	-229.93
9926.20	0.00	0.00	26.20	9912.96	-5937.86	-229.93
9950.00	2.38	359.48	23.80	9936.75	-5961.65	-229.44
10000.00	7.38	359.48	50.00	9986.56	-6011.46	-225.18
10050.00	12.38	359.48	50.00	10035.80	-6060.70	-216.61
10100.00	17.38	359.48	50.00	10084.11	-6109.01	-203.77
10150.00	22.38	359.48	50.00	10131.11	-6156.01	-186.78
10200.00	27.38	359.48	50.00	10176.46	-6201.36	-165.75
10250.00	32.38	359.48	50.00	10219.80	-6244.70	-140.85
10300.00	37.38	359.48	50.00	10260.80	-6285.70	-112.26
10350.00	42.38	359.48	50.00	10299.16	-6324.06	-80.22
10400.00	47.38	359.48	50.00	10334.58	-6359.48	-44.95
10450.00	52.38	359.48	50.00	10366.79	-6391.69	-6.73
10500.00	57.38	359.48	50.00	10395.54	-6420.44	34.16
10550.00	62.38	359.48	50.00	10420.63	-6445.53	77.39
10600.00	67.38	359.48	50.00	10441.84	-6466.74	122.65
10650.00	72.38	359.48	50.00	10459.04	-6483.94	169.58
10676.20	75.00	359.48	26.20	10466.40	-6491.30	194.72
10700.00	76.19	359.48	23.80	10472.32	-6497.22	217.77
10800.00	81.19	359.48	100.00	10491.92	-6516.82	315.79
10900.00	86.19	359.48	100.00	10502.91	-6527.81	415.15
11008.07	91.59	359.48	108.07	10505.00	-6529.90	523.16
11100.00	91.59	359.48	91.93	10502.44	-6527.34	615.05
11200.00	91.59	359.48	100.00	10499.66	-6524.56	715.00
11300.00	91.59	359.48	100.00	10496.88	-6521.78	814.96
11400.00	91.59	359.48	100.00	10494.10	-6519.00	914.92
11500.00	91.59	359.48	100.00	10491.32	-6516.22	1014.88
11600.00	91.59	359.48	100.00	10488.54	-6513.44	1114.83
11700.00	91.59	359.48	100.00	10485.76	-6510.66	1214.79
11800.00	91.59	359.48	100.00	10482.98	-6507.88	1314.75
11900.00	91.59	359.48	100.00	10480.20	-6505.10	1414.71
12000.00	91.59	359.48	100.00	10477.41	-6502.31	1514.66
12100.00	91.59	359.48	100.00	10474.63	-6499.53	1614.62
12200.00	91.59	359.48	100.00	10471.85	-6496.75	1714.58
12300.00	91.59	359.48	100.00	10469.07	-6493.97	1814.53
12400.00	91.59	359.48	100.00	10466.29	-6491.19	1914.49
12500.00	91.59	359.48	100.00	10463.51	-6488.41	2014.45
12600.00	91.59	359.48	100.00	10460.73	-6485.63	2114.41
12700.00	91.59	359.48	100.00	10457.95	-6482.85	2214.36
12800.00	91.59	359.48	100.00	10455.17	-6480.07	2314.32
12900.00	91.59	359.48	100.00	10452.39	-6477.29	2414.28
12985.81	91.59	359.48	85.81	10450.00	-6474.90	2500.05
13000.00	91.88	359.48	14.19	10449.57	-6474.47	2514.23
13108.10	94.04	359.48	108.10	10443.99	-6468.89	2622.18

13200.00	94.04	359.48	91.90	10437.52	-6462.42	2713.85
13300.00	94.04	359.48	100.00	10430.47	-6455.37	2813.59
13400.00	94.04	359.48	100.00	10423.43	-6448.33	2913.34
13500.00	94.04	359.48	100.00	10416.39	-6441.29	3013.09
13600.00	94.04	359.48	100.00	10409.34	-6434.24	3112.84
13700.00	94.04	359.48	100.00	10402.30	-6427.20	3212.58
13800.00	94.04	359.48	100.00	10395.25	-6420.15	3312.33
13900.00	94.04	359.48	100.00	10388.21	-6413.11	3412.08
13988.15	94.04	359.48	88.15	10382.00	-6406.90	3500.01
14000.00	94.28	359.48	11.85	10381.14	-6406.04	3511.82
14035.94	95.00	359.48	35.94	10378.24	-6403.14	3547.64
14100.00	95.00	359.48	64.06	10372.66	-6397.56	3611.46
14200.00	95.00	359.48	100.00	10363.95	-6388.85	3711.08
14300.00	95.00	359.48	100.00	10355.25	-6380.15	3810.69
14400.00	95.00	359.48	100.00	10346.54	-6371.44	3910.31
14500.00	95.00	359.48	100.00	10337.83	-6362.73	4009.92
14600.00	95.00	359.48	100.00	10329.13	-6354.03	4109.54
14700.00	95.00	359.48	100.00	10320.42	-6345.32	4209.16
14800.00	95.00	359.48	100.00	10311.71	-6336.61	4308.77
14900.00	95.00	359.48	100.00	10303.01	-6327.91	4408.39
14991.93	95.00	359.48	91.93	10295.00	-6319.90	4499.97
15000.00	95.16	359.48	8.07	10294.29	-6319.19	4508.00
15019.59	95.55	359.48	19.59	10292.46	-6317.36	4527.50
15100.00	95.55	359.48	80.42	10284.69	-6309.59	4607.54
15200.00	95.55	359.48	100.00	10275.02	-6299.92	4707.07
15300.00	95.55	359.48	100.00	10265.35	-6290.25	4806.59
15400.00	95.55	359.48	100.00	10255.68	-6280.58	4906.12
15500.00	95.55	359.48	100.00	10246.01	-6270.91	5005.65
15600.00	95.55	359.48	100.00	10236.35	-6261.25	5105.18
15700.00	95.55	359.48	100.00	10226.68	-6251.58	5204.70
15800.00	95.55	359.48	100.00	10217.01	-6241.91	5304.23
15900.00	95.55	359.48	100.00	10207.34	-6232.24	5403.76
15996.63	95.55	359.48	96.63	10198.00	-6222.90	5499.93
16000.00	95.48	359.48	3.37	10197.68	-6222.58	5503.29
16088.88	93.70	359.48	88.88	10190.56	-6215.46	5591.88
16100.00	93.70	359.48	11.12	10189.84	-6214.74	5602.97
16200.00	93.70	359.48	100.00	10183.39	-6208.29	5702.76
16300.00	93.70	359.48	100.00	10176.93	-6201.83	5802.54
16400.00	93.70	359.48	100.00	10170.47	-6195.37	5902.33
16500.00	93.70	359.48	100.00	10164.01	-6188.91	6002.12
16600.00	93.70	359.48	100.00	10157.55	-6182.45	6101.90
16700.00	93.70	359.48	100.00	10151.09	-6175.99	6201.69
16800.00	93.70	359.48	100.00	10144.64	-6169.54	6301.48
16900.00	93.70	359.48	100.00	10138.18	-6163.08	6401.27

17000.00	93.70	359.48	100.00	10131.72	-6156.62	6501.05
17100.00	93.70	359.48	100.00	10125.26	-6150.16	6600.84
17200.00	93.70	359.48	100.00	10118.80	-6143.70	6700.63
17300.00	93.70	359.48	100.00	10112.34	-6137.24	6800.41
17400.00	93.70	359.48	100.00	10105.89	-6130.79	6900.20
17500.00	93.70	359.48	100.00	10099.43	-6124.33	6999.99
17600.00	93.70	359.48	100.00	10092.97	-6117.87	7099.78
17700.00	93.70	359.48	100.00	10086.51	-6111.41	7199.56
17800.00	93.70	359.48	100.00	10080.05	-6104.95	7299.35
17900.00	93.70	359.48	100.00	10073.60	-6098.50	7399.14
18000.00	93.70	359.48	100.00	10067.14	-6092.04	7498.92
18100.00	93.70	359.48	100.00	10060.68	-6085.58	7598.71
18200.00	93.70	359.48	100.00	10054.22	-6079.12	7698.50
18300.00	93.70	359.48	100.00	10047.76	-6072.66	7798.29
18400.00	93.70	359.48	100.00	10041.30	-6066.20	7898.07
18500.00	93.70	359.48	100.00	10034.85	-6059.75	7997.86
18600.00	93.70	359.48	100.00	10028.39	-6053.29	8097.65
18700.00	93.70	359.48	100.00	10021.93	-6046.83	8197.43
18800.00	93.70	359.48	100.00	10015.47	-6040.37	8297.22
18900.00	93.70	359.48	100.00	10009.01	-6033.91	8397.01
19000.00	93.70	359.48	100.00	10002.55	-6027.45	8496.80
19100.00	93.70	359.48	100.00	9996.10	-6021.00	8596.58
19200.00	93.70	359.48	100.00	9989.64	-6014.54	8696.37
19300.00	93.70	359.48	100.00	9983.18	-6008.08	8796.16
19400.00	93.70	359.48	100.00	9976.72	-6001.62	8895.94
19504.07	93.70	359.48	104.07	9970.00	-5994.90	8999.79
19572.72	95.08	359.48	68.66	9964.75	-5989.65	9068.24
19600.00	95.08	359.48	27.28	9962.33	-5987.23	9095.41
19700.00	95.08	359.48	100.00	9953.48	-5978.38	9195.01
19800.00	95.08	359.48	100.00	9944.64	-5969.54	9294.62
19900.00	95.08	359.48	100.00	9935.79	-5960.69	9394.22
20000.00	95.08	359.48	100.00	9926.94	-5951.84	9493.82
20100.00	95.08	359.48	100.00	9918.09	-5942.99	9593.43
20200.00	95.08	359.48	100.00	9909.25	-5934.15	9693.03
20300.00	95.08	359.48	100.00	9900.40	-5925.30	9792.64
20400.00	95.08	359.48	100.00	9891.55	-5916.45	9892.24
20507.94	95.08	359.48	107.94	9882.00	-5906.90	9999.75
20600.00	96.92	359.48	92.06	9872.38	-5897.28	10091.30
20625.73	97.43	359.48	25.73	9869.17	-5894.07	10116.82
20700.00	97.43	359.48	74.27	9859.56	-5884.46	10190.47
20800.00	97.43	359.48	100.00	9846.63	-5871.53	10289.63
20900.00	97.43	359.48	100.00	9833.69	-5858.59	10388.78
21000.00	97.43	359.48	100.00	9820.76	-5845.66	10487.94
21100.00	97.43	359.48	100.00	9807.83	-5832.73	10587.09

21200.00	97.43	359.48	100.00	9794.89	-5819.79	10686.25
21300.00	97.43	359.48	100.00	9781.96	-5806.86	10785.41
21400.00	97.43	359.48	100.00	9769.02	-5793.92	10884.56
21500.00	97.43	359.48	100.00	9756.09	-5780.99	10983.72
21516.13	97.43	359.48	16.13	9754.00	-5778.90	10999.71
21596.67	99.04	359.48	80.54	9742.46	-5767.36	11079.42
21600.00	99.04	359.48	3.33	9741.94	-5766.84	11082.70
21700.00	99.04	359.48	100.00	9726.22	-5751.12	11181.46
21800.00	99.04	359.48	100.00	9710.50	-5735.40	11280.21
21900.00	99.04	359.48	100.00	9694.79	-5719.69	11378.96
22000.00	99.04	359.48	100.00	9679.07	-5703.97	11477.72
22100.00	99.04	359.48	100.00	9663.35	-5688.25	11576.47
22200.00	99.04	359.48	100.00	9647.64	-5672.54	11675.22
22300.00	99.04	359.48	100.00	9631.92	-5656.82	11773.98
22400.00	99.04	359.48	100.00	9616.20	-5641.10	11872.73
22500.00	99.04	359.48	100.00	9600.49	-5625.39	11971.48
22528.54	99.04	359.48	28.54	9596.00	-5620.90	11999.66
22600.00	100.47	359.48	71.47	9583.89	-5608.79	12070.09
22639.92	101.27	359.48	39.92	9576.36	-5601.26	12109.29
22700.00	101.27	359.48	60.08	9564.62	-5589.52	12168.21
22800.00	101.27	359.48	100.00	9545.07	-5569.97	12266.28
22900.00	101.27	359.48	100.00	9525.53	-5550.43	12364.34
23000.00	101.27	359.48	100.00	9505.99	-5530.89	12462.41
23100.00	101.27	359.48	100.00	9486.44	-5511.34	12560.48
23200.00	101.27	359.48	100.00	9466.90	-5491.80	12658.55
23300.00	101.27	359.48	100.00	9447.35	-5472.25	12756.61
23400.00	101.27	359.48	100.00	9427.81	-5452.71	12854.68
23500.00	101.27	359.48	100.00	9408.27	-5433.17	12952.75
23600.00	101.27	359.48	100.00	9388.72	-5413.62	13050.82
23700.00	101.27	359.48	100.00	9369.18	-5394.08	13148.88
23800.00	101.27	359.48	100.00	9349.63	-5374.53	13246.95
23900.00	101.27	359.48	100.00	9330.09	-5354.99	13345.02
24000.00	101.27	359.48	100.00	9310.55	-5335.45	13443.09
24100.00	101.27	359.48	100.00	9291.00	-5315.90	13541.15
24200.00	101.27	359.48	100.00	9271.46	-5296.36	13639.22
24300.00	101.27	359.48	100.00	9251.91	-5276.81	13737.29
24400.00	101.27	359.48	100.00	9232.37	-5257.27	13835.36
24500.00	101.27	359.48	100.00	9212.83	-5237.73	13933.42
24600.00	101.27	359.48	100.00	9193.28	-5218.18	14031.49
24700.00	101.27	359.48	100.00	9173.74	-5198.64	14129.56
24800.00	101.27	359.48	100.00	9154.19	-5179.09	14227.63
24900.00	101.27	359.48	100.00	9134.65	-5159.55	14325.69
25000.00	101.27	359.48	100.00	9115.11	-5140.01	14423.76
25077.29	101.27	359.48	77.29	9100.00	-5124.90	14499.56

25100.00	101.73	359.48	22.71	9095.47	-5120.37	14521.81
25200.00	103.73	359.48	100.00	9073.45	-5098.35	14619.35
25274.71	105.22	359.48	74.71	9054.78	-5079.68	14691.68
25300.00	105.22	359.48	25.29	9048.14	-5073.04	14716.08
25400.00	105.22	359.48	100.00	9021.89	-5046.79	14812.57
25500.00	105.22	359.48	100.00	8995.64	-5020.54	14909.06
25600.00	105.22	359.48	100.00	8969.39	-4994.29	15005.55
25700.00	105.22	359.48	100.00	8943.14	-4968.04	15102.04
25800.00	105.22	359.48	100.00	8916.89	-4941.79	15198.53
25900.00	105.22	359.48	100.00	8890.64	-4915.54	15295.02
26000.00	105.22	359.48	100.00	8864.39	-4889.29	15391.51
26100.00	105.22	359.48	100.00	8838.14	-4863.04	15488.00
26111.95	105.22	359.48	11.95	8835.00	-4859.90	15499.52
26200.00	106.98	359.48	88.06	8810.58	-4835.48	15584.12
26217.50	107.33	359.48	17.50	8805.42	-4830.32	15600.83
26300.00	107.33	359.48	82.51	8780.85	-4805.75	15679.59
26400.00	107.33	359.48	100.00	8751.06	-4775.96	15775.04
26500.00	107.33	359.48	100.00	8721.27	-4746.17	15870.50
26600.00	107.33	359.48	100.00	8691.49	-4716.39	15965.96
26700.00	107.33	359.48	100.00	8661.70	-4686.60	16061.41
26800.00	107.33	359.48	100.00	8631.91	-4656.81	16156.87
26900.00	107.33	359.48	100.00	8602.12	-4627.02	16252.33
27000.00	107.33	359.48	100.00	8572.34	-4597.24	16347.78
27100.00	107.33	359.48	100.00	8542.55	-4567.45	16443.24
27158.92	107.33	359.48	58.92	8525.00	-4549.90	16499.48
27200.00	108.15	359.48	41.08	8512.48	-4537.38	16538.61
27258.00	109.31	359.48	58.00	8493.86	-4518.76	16593.53
27300.00	109.31	359.48	42.00	8479.97	-4504.87	16633.17
27400.00	109.31	359.48	100.00	8446.90	-4471.80	16727.54
27500.00	109.31	359.48	100.00	8413.83	-4438.73	16821.91
27600.00	109.31	359.48	100.00	8380.76	-4405.66	16916.28
27700.00	109.31	359.48	100.00	8347.69	-4372.59	17010.65
27800.00	109.31	359.48	100.00	8314.61	-4339.51	17105.02
27900.00	109.31	359.48	100.00	8281.54	-4306.44	17199.39
27953.05	109.31	359.48	53.05	8264.00	-4288.90	17249.45
28000.00	108.37	359.48	46.95	8248.84	-4273.74	17293.88
28100.00	106.37	359.48	100.00	8218.98	-4243.88	17389.31
28125.55	105.86	359.48	25.55	8211.89	-4236.79	17413.86
28200.00	105.86	359.48	74.45	8191.54	-4216.44	17485.47
28300.00	105.86	359.48	100.00	8164.21	-4189.11	17581.66
28400.00	105.86	359.48	100.00	8136.88	-4161.78	17677.85
28500.00	105.86	359.48	100.00	8109.55	-4134.45	17774.03
28600.00	105.86	359.48	100.00	8082.22	-4107.12	17870.22
28700.00	105.86	359.48	100.00	8054.88	-4079.78	17966.41

28800.00	105.86	359.48	100.00	8027.55	-4052.45	18062.60
28827.63	105.86	359.48	27.63	8020.00	-4044.90	18089.18

Local E/-W EW	Easting X	Northing Y	Latitude LAT	Longitude LON	Dogleg Severi DLS	Build Rate BLD
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00
0.00	796938.98	623914.56	32.712428	-103.502303	0.00	0.00

[illegible]

[illegible]

19.40	796958.38	623684.63	32.711796	-103.502246	0.00	0.00
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19.16	796958.14	623710.79	32.711868	-103.502246	10.00	10.00
19.01	796957.99	623727.78	32.711914	-103.502246	10.00	10.00
18.82	796957.80	623748.81	32.711972	-103.502246	10.00	10.00
18.59	796957.57	623773.71	32.712041	-103.502246	10.00	10.00
18.33	796957.31	623802.30	32.712119	-103.502246	10.00	10.00
18.04	796957.02	623834.34	32.712207	-103.502246	10.00	10.00
17.72	796956.70	623869.61	32.712304	-103.502246	10.00	10.00
17.37	796956.35	623907.83	32.712409	-103.502247	10.00	10.00
17.00	796955.98	623948.72	32.712522	-103.502247	10.00	10.00
16.61	796955.59	623991.95	32.712640	-103.502247	10.00	10.00
16.20	796955.18	624037.21	32.712765	-103.502247	10.00	10.00
15.77	796954.75	624084.14	32.712894	-103.502247	10.00	10.00
15.55	796954.53	624109.28	32.712963	-103.502247	10.00	10.00
15.34	796954.32	624132.33	32.713026	-103.502248	5.00	5.00
14.45	796953.43	624230.35	32.713296	-103.502248	5.00	5.00
13.55	796952.53	624329.71	32.713569	-103.502248	5.00	5.00
12.57	796951.55	624437.72	32.713866	-103.502249	5.00	5.00
11.74	796950.72	624529.61	32.714118	-103.502249	0.00	0.00
10.83	796949.81	624629.56	32.714393	-103.502249	0.00	0.00
9.93	796948.91	624729.52	32.714668	-103.502250	0.00	0.00
9.02	796948.00	624829.48	32.714942	-103.502250	0.00	0.00
8.11	796947.09	624929.44	32.715217	-103.502251	0.00	0.00
7.21	796946.19	625029.39	32.715492	-103.502251	0.00	0.00
6.30	796945.28	625129.35	32.715767	-103.502251	0.00	0.00
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-138.93	796800.05	641164.01	32.759839	-103.502315	0.00	0.00
-139.33	796799.65	641208.44	32.759962	-103.502315	2.00	-2.00
-140.20	796798.78	641303.87	32.760224	-103.502315	2.00	-2.00
-140.42	796798.56	641328.42	32.760291	-103.502315	2.00	-2.00
-141.07	796797.91	641400.03	32.760488	-103.502316	0.00	0.00
-141.94	796797.04	641496.22	32.760752	-103.502316	0.00	0.00
-142.81	796796.17	641592.41	32.761017	-103.502316	0.00	0.00
-143.68	796795.30	641688.59	32.761281	-103.502317	0.00	0.00
-144.56	796794.43	641784.78	32.761546	-103.502317	0.00	0.00
-145.43	796793.55	641880.97	32.761810	-103.502318	0.00	0.00

-146.30	796792.68	641977.16	32.762074	-103.502318	0.00	0.00
-146.54	796792.44	642003.74	32.762147	-103.502318	0.00	0.00

Turn Rate	Vertical Section
TRN	VS
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00

0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	0.00
0.00	-1.74
0.00	-6.96
0.00	-15.65
0.00	-21.29
0.00	-27.37
0.00	-39.52
0.00	-51.67
0.00	-63.82
0.00	-75.97
0.00	-88.12
0.00	-100.27
0.00	-112.42
0.00	-124.57
0.00	-136.72
0.00	-148.87
0.00	-161.02
0.00	-173.17
0.00	-185.32
0.00	-197.47
0.00	-208.81
0.00	-209.62
0.00	-219.81
0.00	-226.53
0.00	-229.77
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10
0.00	-230.10

0.00	-230.10
0.00	-230.10
0.00	-229.60
0.00	-225.35
0.00	-216.77
0.00	-203.94
0.00	-186.94
0.00	-165.91
0.00	-141.01
0.00	-112.43
0.00	-80.38
0.00	-45.11
0.00	-6.88
0.00	34.00
0.00	77.24
0.00	122.49
0.00	169.43
0.00	194.57
0.00	217.62
0.00	315.65
0.00	415.01
0.00	523.02
0.00	614.92
0.00	714.88
0.00	814.84
0.00	914.80
0.00	1014.76
0.00	1114.72
0.00	1214.68
0.00	1314.64
0.00	1414.61
0.00	1514.57
0.00	1614.53
0.00	1714.49
0.00	1814.45
0.00	1914.41
0.00	2014.37
0.00	2114.34
0.00	2214.30
0.00	2314.26
0.00	2414.22
0.00	2500.00
0.00	2514.18
0.00	2622.13

0.00	2713.80
0.00	2813.55
0.00	2913.30
0.00	3013.06
0.00	3112.81
0.00	3212.56
0.00	3312.31
0.00	3412.06
0.00	3500.00
0.00	3511.81
0.00	3547.63
0.00	3611.45
0.00	3711.07
0.00	3810.69
0.00	3910.31
0.00	4009.93
0.00	4109.55
0.00	4209.17
0.00	4308.79
0.00	4408.41
0.00	4500.00
0.00	4508.03
0.00	4527.53
0.00	4607.57
0.00	4707.10
0.00	4806.63
0.00	4906.16
0.00	5005.70
0.00	5105.23
0.00	5204.76
0.00	5304.29
0.00	5403.82
0.00	5500.00
0.00	5503.35
0.00	5591.95
0.00	5603.04
0.00	5702.83
0.00	5802.62
0.00	5902.42
0.00	6002.21
0.00	6102.00
0.00	6201.79
0.00	6301.58
0.00	6401.37

0.00	6501.16
0.00	6600.95
0.00	6700.75
0.00	6800.54
0.00	6900.33
0.00	7000.12
0.00	7099.91
0.00	7199.70
0.00	7299.49
0.00	7399.28
0.00	7499.08
0.00	7598.87
0.00	7698.66
0.00	7798.45
0.00	7898.24
0.00	7998.03
0.00	8097.82
0.00	8197.61
0.00	8297.41
0.00	8397.20
0.00	8496.99
0.00	8596.78
0.00	8696.57
0.00	8796.36
0.00	8896.15
0.00	9000.00
0.00	9068.46
0.00	9095.63
0.00	9195.23
0.00	9294.84
0.00	9394.45
0.00	9494.06
0.00	9593.66
0.00	9693.27
0.00	9792.88
0.00	9892.49
0.00	10000.00
0.00	10091.56
0.00	10117.08
0.00	10190.73
0.00	10289.89
0.00	10389.05
0.00	10488.21
0.00	10587.37

0.00	10686.53
0.00	10785.69
0.00	10884.85
0.00	10984.01
0.00	11000.00
0.00	11079.72
0.00	11083.00
0.00	11181.76
0.00	11280.52
0.00	11379.27
0.00	11478.03
0.00	11576.79
0.00	11675.54
0.00	11774.30
0.00	11873.06
0.00	11971.82
0.00	12000.00
0.00	12070.43
0.00	12109.63
0.00	12168.55
0.00	12266.62
0.00	12364.69
0.00	12462.76
0.00	12560.84
0.00	12658.91
0.00	12756.98
0.00	12855.05
0.00	12953.12
0.00	13051.19
0.00	13149.27
0.00	13247.34
0.00	13345.41
0.00	13443.48
0.00	13541.55
0.00	13639.62
0.00	13737.69
0.00	13835.77
0.00	13933.84
0.00	14031.91
0.00	14129.98
0.00	14228.05
0.00	14326.12
0.00	14424.20
0.00	14500.00

0.00	14522.25
0.00	14619.79
0.00	14692.13
0.00	14716.53
0.00	14813.02
0.00	14909.52
0.00	15006.01
0.00	15102.50
0.00	15198.99
0.00	15295.49
0.00	15391.98
0.00	15488.47
0.00	15500.00
0.00	15584.60
0.00	15601.31
0.00	15680.07
0.00	15775.53
0.00	15871.00
0.00	15966.46
0.00	16061.92
0.00	16157.38
0.00	16252.84
0.00	16348.30
0.00	16443.76
0.00	16500.00
0.00	16539.13
0.00	16594.06
0.00	16633.69
0.00	16728.07
0.00	16822.44
0.00	16916.81
0.00	17011.19
0.00	17105.56
0.00	17199.94
0.00	17250.00
0.00	17294.43
0.00	17389.87
0.00	17414.42
0.00	17486.03
0.00	17582.22
0.00	17678.41
0.00	17774.61
0.00	17870.80
0.00	17966.99

0.00	18063.18
0.00	18089.77

Coterra Energy

Lea County, NM (NAD 83)

Rope State Com Pad

Rope State Com 601H

OH

Plan #2



Anticollision Report

Minimum Magnetic Interference Warning level is 20' center to center

17 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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 2,313.80usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Well	Rope State Com 601H					
Well Position	+N/-S	0.00 usft	Northing:	623,914.56 usft	Latitude:	32.7124281
	+E/-W	0.00 usft	Easting:	796,938.98 usft	Longitude:	-103.5023029
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,952.10 usft
Grid Convergence:		0.45 °				

Survey Tool Program	Date	3/17/2026			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.00	28,827.63	Plan #2 (OH)	MWD+IFR1+MS	OWSG MWD + IFR1 + Multi-Station Correction	

Experimental: Summary Highlights: Rope State Com 601H

At 1,897.26 MD, Rope State Com 501H - OH - Plan #2 is 19.92 usft away with a 1.48 SF.
At 1,900.00 MD, Rope State Com 501H - OH - Plan #2 is 19.92 usft away with a 1.48 SF.
At 13,479.75 MD, (O) LEA 30 STATE 001 P & A - Vertical - Surveys is 297.87 usft away with a 1.06 SF.
At 24,500.00 MD, Rope State Com 501H - OH - Plan #2 is 301.20 usft away with a 1.35 SF.
At 27,100.00 MD, (O) NEW MEXICO BP STATE 002 P & A - Vertical - Surveys is 755.28 usft away with a 1.73 SF.
At 27,108.78 MD, (O) NEW MEXICO BP STATE 002 P & A - Vertical - Surveys is 755.24 usft away with a 1.73 SF.
At 27,200.00 MD, (O) B LEE STATE 005 P & A - Vertical - Surveys is 633.35 usft away with a 1.48 SF.
At 27,205.11 MD, (O) B LEE STATE 005 P & A - Vertical - Surveys is 633.33 usft away with a 1.48 SF.
At 28,322.52 MD, (O) B LEE STATE 004 - Verticals - Surveys is 303.70 usft away with a 0.78 SF.
At 28,571.01 MD, (O) BRIDGES STATE 180 P & A - Vertical - Surveys is 611.48 usft away with a 1.62 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

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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			Map Coordinates		Geographical Coordinates		Surface Uncertainty	
Offset Well	Ground Level	KB Height	Northing	Easting	Latitude	Longitude	Site	Well
- - Rope State Com Pad								
(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
(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 503H -	3,939.20	3,962.20	623,928.44	800,123.29	32.7123973	-103.4919504	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 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	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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	9,305.39	14,370.00	603.88	489.50	5.28	CC, ES, SF Out of range
(O) AIRSTRIP 31 18 35 RN STATE COM 114H - Horizontal						Out of range
(O) AIRSTRIP 31 18 35 RN STATE COM 124H - Horizontal						Out of range
(O) AIRSTRIP 31 18 35 RN STATE COM 131H - Horizontal	10,309.49	15,570.00	671.15	564.28	6.28	CC, ES, SF
(O) AIRSTRIP 31 18 35 RN STATE COM 132H - Horizontal	10,279.45	15,406.00	1,152.67	1,047.72	10.98	CC, ES
(O) AIRSTRIP 31 18 35 RN STATE COM 132H - Horizontal	10,300.00	15,406.00	1,153.03	1,047.80	10.96	SF
(O) AIRSTRIP 31 18 35 RN STATE COM 133H - Horizontal						Out of range
(O) AIRSTRIP 31 18 35 RN STATE COM 134H - Horizontal						Out of range
(O) AIRSTRIP 31 18 35 RN STATE COM 201H - Horizontal	10,376.44	15,597.00	831.00	757.00	11.23	CC, ES, SF
(O) AIRSTRIP STATE 001 P & A - Vertical - Surveys	8,940.97	8,919.98	746.73	518.18	3.27	CC
(O) AIRSTRIP STATE 001 P & A - Vertical - Surveys	9,900.00	9,878.28	747.66	495.11	2.96	ES
(O) AIRSTRIP STATE 001 P & A - Vertical - Surveys	10,000.00	9,979.55	750.48	495.41	2.94	SF
(O) ALBATROSS STATE COM 001H - Horizontal - PROD						Out of range
(O) ALBATROSS STATE COM 002H - Horizontal - PROD						Out of range
(O) B LEE STATE 004 - Verticals - Surveys	28,322.52	8,159.95	303.70	-87.17	0.78	Level 1, CC, ES, SF
(O) B LEE STATE 005 P & A - Vertical - Surveys	27,200.00	8,533.62	633.35	203.97	1.48	Level 3, ES, SF
(O) B LEE STATE 005 P & A - Vertical - Surveys	27,205.11	8,531.98	633.33	203.98	1.48	Level 3, CC
(O) B LEE STATE 006 - Verticals - Surveys	28,567.14	8,120.89	617.76	448.26	3.64	CC, ES, SF
(O) BLACK JACK STATE 001 - Verticals - Surveys						Out of range
(O) BLACK JACK STATE 002 - Verticals - Surveys	23,099.32	9,492.80	1,984.50	1,709.19	7.21	CC
(O) BLACK JACK STATE 002 - Verticals - Surveys	23,100.00	9,492.67	1,984.50	1,709.19	7.21	ES, SF
(O) BLACK JACK STATE 003 - Verticals - Surveys						Out of range
(O) BRIDGES STATE 180 P & A - Vertical - Surveys	28,571.01	8,104.42	611.48	234.55	1.62	CC, ES, SF
(O) IRONHOUSE 19 STATE COM 001H - Horizontal - PR	16,832.44	10,602.05	834.93	742.78	9.06	CC
(O) IRONHOUSE 19 STATE COM 001H - Horizontal - PR	18,400.00	12,156.05	860.36	741.13	7.22	ES
(O) IRONHOUSE 19 STATE COM 001H - Horizontal - PR	20,300.00	13,955.28	973.62	817.89	6.25	SF
(O) IRONHOUSE 19 STATE COM 001H - Pilot - Pilot	15,768.73	10,218.23	894.47	608.57	3.13	CC, ES, SF
(O) IRONHOUSE 19 STATE COM 002H - Horizontal - PR						Out of range
(O) IRONHOUSE 19 STATE COM 003H - Horizontal - PR						Out of range
(O) IRONHOUSE 19 STATE COM 004H - Horizontal - PR	15,884.02	10,171.00	294.07	227.33	4.41	CC
(O) IRONHOUSE 19 STATE COM 004H - Horizontal - PR	15,900.00	10,178.64	294.35	227.23	4.39	ES
(O) IRONHOUSE 19 STATE COM 004H - Horizontal - PR	20,300.00	14,634.00	536.96	390.05	3.66	SF
(O) IRONHOUSE 19 STATE COM 004H - ST01 - ST01	16,000.00	10,280.28	287.31	218.24	4.16	CC, ES
(O) IRONHOUSE 19 STATE COM 004H - ST01 - ST01	16,100.00	10,346.14	299.08	227.05	4.15	SF
(O) LEA 30 STATE 001 P & A - Vertical - Surveys	13,479.75	10,424.18	297.87	18.16	1.06	Level 2, CC, ES, SF
(O) LEA SOUTHEAST STATE 1 P & A - Vertical - Surveys						Out of range
(O) LEA ZD STATE 001 P & A - Vertical - Surveys	1,700.00	1,708.94	915.23	878.36	24.82	CC
(O) LEA ZD STATE 001 P & A - Vertical - Surveys	1,900.00	1,908.93	916.62	875.36	22.22	ES
(O) LEA ZD STATE 001 P & A - Vertical - Surveys	9,500.00	9,450.00	1,108.27	892.53	5.14	SF
(O) LEO STATE #1 - OH - OH						Out of range
(O) LEO STATE 006 TA - Verticals - Surveys	25,804.01	8,900.00	2,018.33	1,879.93	14.58	CC, ES
(O) LEO STATE 006 TA - Verticals - Surveys	25,900.00	8,877.07	2,020.49	1,881.53	14.54	SF
(O) LEO STATE 007 - Verticals - Surveys						Out of range
(O) MESA MERRITT STATE 001 P & A - Vertical - Surveys	18,791.39	10,020.81	1,022.41	689.85	3.07	CC, ES
(O) MESA MERRITT STATE 001 P & A - Vertical - Surveys	18,800.00	10,020.15	1,022.44	689.85	3.07	SF
(O) NEW MEXICO BP STATE 002 P & A - Vertical - Surveys	27,100.00	8,565.37	755.28	319.37	1.73	ES, SF
(O) NEW MEXICO BP STATE 002 P & A - Vertical - Surveys	27,108.78	8,562.75	755.24	319.40	1.73	CC
(O) NEW MEXICO BV STATE 001 P & A - Vertical - Surveys						Out of range
(O) OHIO STATE 001 - Verticals - Surveys	28,500.00	8,125.62	1,008.59	629.93	2.66	SF
(O) OHIO STATE 001 - Verticals - Surveys	28,542.91	8,113.28	1,007.71	629.39	2.66	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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) OHIO STATE 002 - Verticals - Surveys	28,235.33	7,040.00	1,383.75	1,173.93	6.60	CC
(O) OHIO STATE 002 - Verticals - Surveys	28,300.00	7,040.00	1,385.26	1,173.45	6.54	ES
(O) OHIO STATE 002 - Verticals - Surveys	28,500.00	7,040.00	1,408.83	1,191.74	6.49	SF
(O) OHIO STATE 005 - Verticals - Surveys	28,213.25	8,232.00	1,128.15	930.08	5.70	CC, ES, SF
(O) SHETLAND SWD 001 - Vertical - Surveys	22,767.86	9,560.63	1,019.89	616.52	2.53	CC, ES, SF
(O) STATE AN 005 - Verticals - Surveys	28,779.71	8,110.10	1,849.16	1,673.67	10.54	CC
(O) STATE AN 005 - Verticals - Surveys	28,800.00	8,106.18	1,849.27	1,673.64	10.53	ES
(O) STATE AN 005 - Verticals - Surveys	28,827.63	8,100.83	1,849.76	1,673.97	10.52	SF
(O) STATE AN 006 TA - Vertical - Surveys	27,100.00	8,548.77	1,969.55	1,562.22	4.84	SF
(O) STATE AN 006 TA - Vertical - Surveys	27,185.99	8,522.50	1,967.85	1,561.54	4.84	CC, ES
(O) STATE AN 007 P & A - Vertical - Surveys						Out of range
(O) STATE AN 008 P & A - Vertical - Surveys						Out of range
(O) STATE AN 009 P & A - Vertical - Surveys						Out of range
(O) STATE AN 010 P & A - Vertical - Surveys						Out of range
(O) STATE AN 012 P & A - OH - Surveys						Out of range
(O) STATE AN 012 P & A - ST01 - ST01						Out of range
Rope State Com 501H - OH - Plan #2	1,897.26	1,897.04	19.92	6.50	1.48	Level 3, CC
Rope State Com 501H - OH - Plan #2	1,900.00	1,899.78	19.92	6.48	1.48	Level 3, ES
Rope State Com 501H - OH - Plan #2	24,500.00	23,991.70	301.20	77.27	1.35	Level 3, SF
Rope State Com 502H - OH - Plan #2	1,600.00	1,599.70	59.99	48.68	5.31	CC, ES
Rope State Com 502H - OH - Plan #2	28,827.63	28,390.81	1,336.52	1,040.65	4.52	SF
Rope State Com 503H - OH - Plan #2						Out of range
Rope State Com 504H - OH - Plan #2						Out of range
Rope State Com 603H - OH - Plan #2	24,207.62	24,221.92	2,022.12	1,794.75	8.89	CC
Rope State Com 603H - OH - Plan #2	25,500.00	25,503.87	2,028.78	1,781.90	8.22	ES
Rope State Com 603H - OH - Plan #2	28,700.00	28,633.42	2,188.06	1,892.87	7.41	SF
Rope State Com 604H - OH - Plan #2						Out of range

Offset Design: Rope State Com Pad - (O) AIRSTRIP 31 18 35 RN STATE COM 111H - Horizontal - PRODUCING - Surveys

Survey Program: 174-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	
7,100.00	7,086.76	14,370.00	9,292.15	24.80	85.78	-108.10	-417.56	-554.59	2,286.58	2,224.87	61.71	37.054		
7,200.00	7,186.76	14,370.00	9,292.15	25.15	85.78	-108.10	-417.56	-554.59	2,190.29	2,127.93	62.36	35.124		
7,300.00	7,286.76	14,370.00	9,292.15	25.50	85.78	-108.10	-417.56	-554.59	2,094.34	2,031.28	63.07	33.208		
7,400.00	7,386.76	14,370.00	9,292.15	25.86	85.78	-108.10	-417.56	-554.59	1,998.80	1,934.96	63.84	31.309		
7,500.00	7,486.76	14,370.00	9,292.15	26.21	85.78	-108.10	-417.56	-554.59	1,903.71	1,839.02	64.69	29.427		
7,600.00	7,586.76	14,370.00	9,292.15	26.57	85.78	-108.10	-417.56	-554.59	1,809.15	1,743.52	65.64	27.563		
7,700.00	7,686.76	14,370.00	9,292.15	26.92	85.78	-108.10	-417.56	-554.59	1,715.21	1,648.53	66.69	25.720		
7,800.00	7,786.76	14,370.00	9,292.15	27.27	85.78	-108.10	-417.56	-554.59	1,622.00	1,554.13	67.87	23.899		
7,900.00	7,886.76	14,370.00	9,292.15	27.63	85.78	-108.10	-417.56	-554.59	1,529.64	1,460.44	69.20	22.105		
8,000.00	7,986.76	14,370.00	9,292.15	27.98	85.78	-108.10	-417.56	-554.59	1,438.31	1,367.59	70.71	20.340		
8,100.00	8,086.76	14,370.00	9,292.15	28.34	85.78	-108.10	-417.56	-554.59	1,348.20	1,275.75	72.45	18.610		
8,200.00	8,186.76	14,370.00	9,292.15	28.69	85.78	-108.10	-417.56	-554.59	1,259.59	1,185.15	74.44	16.921		
8,300.00	8,286.76	14,370.00	9,292.15	29.05	85.78	-108.10	-417.56	-554.59	1,172.81	1,096.06	76.75	15.281		
8,400.00	8,386.76	14,370.00	9,292.15	29.40	85.78	-108.10	-417.56	-554.59	1,088.30	1,008.88	79.42	13.702		
8,500.00	8,486.76	14,370.00	9,292.15	29.76	85.78	-108.10	-417.56	-554.59	1,006.64	924.11	82.53	12.197		

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

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Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 111H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Survey Program: 174-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)			
8,600.00	8,586.76	14,370.00	9,292.15	30.11	85.78	-108.10	-417.56	-554.59	928.57	842.44	86.13	10.781	
8,700.00	8,686.76	14,370.00	9,292.15	30.47	85.78	-108.10	-417.56	-554.59	855.09	764.84	90.25	9.475	
8,800.00	8,786.76	14,370.00	9,292.15	30.82	85.78	-108.10	-417.56	-554.59	787.46	692.60	94.86	8.301	
8,900.00	8,886.76	14,370.00	9,292.15	31.18	85.78	-108.10	-417.56	-554.59	727.33	627.49	99.85	7.285	
9,000.00	8,986.76	14,370.00	9,292.15	31.54	85.78	-108.10	-417.56	-554.59	676.71	571.83	104.88	6.452	
9,100.00	9,086.76	14,370.00	9,292.15	31.89	85.78	-108.10	-417.56	-554.59	637.85	528.41	109.44	5.828	
9,200.00	9,186.76	14,370.00	9,292.15	32.25	85.78	-108.10	-417.56	-554.59	613.01	500.18	112.82	5.433	
9,300.00	9,286.76	14,370.00	9,292.15	32.60	85.78	-108.10	-417.56	-554.59	603.90	489.54	114.36	5.281	
9,305.39	9,292.15	14,370.00	9,292.15	32.62	85.78	-108.10	-417.56	-554.59	603.88	489.50	114.38	5.279	CC, ES, SF
9,400.00	9,386.76	14,370.00	9,292.15	32.96	85.78	-108.10	-417.56	-554.59	611.25	497.50	113.75	5.374	
9,500.00	9,486.76	14,370.00	9,292.15	33.31	85.78	-108.10	-417.56	-554.59	634.46	523.24	111.22	5.705	
9,600.00	9,586.76	14,370.00	9,292.15	33.67	85.78	-108.10	-417.56	-554.59	671.91	564.51	107.40	6.256	
9,700.00	9,686.76	14,370.00	9,292.15	34.03	85.78	-108.10	-417.56	-554.59	721.38	618.38	102.99	7.004	
9,800.00	9,786.76	14,370.00	9,292.15	34.38	85.78	-108.10	-417.56	-554.59	780.58	682.01	98.57	7.919	
9,900.00	9,886.76	14,370.00	9,292.15	34.74	85.78	-108.10	-417.56	-554.59	847.48	753.01	94.47	8.971	
10,000.00	9,986.56	14,370.00	9,292.15	35.09	85.78	-99.51	-417.56	-554.59	921.21	830.36	90.85	10.140	
10,100.00	10,084.11	14,370.00	9,292.15	35.43	85.78	-86.27	-417.56	-554.59	1,001.04	913.25	87.79	11.402	
10,200.00	10,176.46	14,370.00	9,292.15	35.74	85.78	-71.94	-417.56	-554.59	1,083.61	998.23	85.37	12.693	
10,300.00	10,260.80	14,370.00	9,292.15	36.03	85.78	-58.73	-417.56	-554.59	1,166.07	1,082.54	83.53	13.960	
10,400.00	10,334.58	14,370.00	9,292.15	36.28	85.78	-48.00	-417.56	-554.59	1,246.21	1,164.03	82.17	15.166	
10,500.00	10,395.54	14,370.00	9,292.15	36.49	85.78	-39.89	-417.56	-554.59	1,322.21	1,241.01	81.20	16.284	
10,600.00	10,441.84	14,370.00	9,292.15	36.67	85.78	-33.94	-417.56	-554.59	1,392.63	1,312.12	80.51	17.297	
10,700.00	10,472.32	14,370.00	9,292.15	36.80	85.78	-30.04	-417.56	-554.59	1,456.45	1,376.41	80.04	18.196	
10,800.00	10,491.92	14,370.00	9,292.15	36.91	85.78	-28.19	-417.56	-554.59	1,516.92	1,437.24	79.68	19.038	
10,900.00	10,502.91	14,370.00	9,292.15	37.00	85.78	-26.53	-417.56	-554.59	1,575.47	1,496.12	79.36	19.853	
11,000.00	10,505.19	14,370.00	9,292.15	37.09	85.78	-25.04	-417.56	-554.59	1,631.89	1,552.83	79.05	20.643	
11,100.00	10,502.44	14,370.00	9,292.15	37.19	85.78	-24.93	-417.56	-554.59	1,688.73	1,610.00	78.73	21.450	
11,200.00	10,499.66	14,370.00	9,292.15	37.31	85.78	-24.93	-417.56	-554.59	1,749.42	1,671.07	78.35	22.328	
11,300.00	10,496.88	14,370.00	9,292.15	37.44	85.78	-24.93	-417.56	-554.59	1,813.60	1,735.67	77.93	23.272	
11,400.00	10,494.10	14,370.00	9,292.15	37.58	85.78	-24.93	-417.56	-554.59	1,880.91	1,803.43	77.48	24.276	
11,500.00	10,491.32	14,370.00	9,292.15	37.74	85.78	-24.93	-417.56	-554.59	1,951.03	1,874.02	77.01	25.335	
11,600.00	10,488.54	14,370.00	9,292.15	37.92	85.78	-24.93	-417.56	-554.59	2,023.66	1,947.13	76.52	26.445	
11,700.00	10,485.76	14,370.00	9,292.15	38.11	85.78	-24.93	-417.56	-554.59	2,098.54	2,022.50	76.04	27.599	
11,800.00	10,482.98	14,370.00	9,292.15	38.32	85.78	-24.93	-417.56	-554.59	2,175.44	2,099.89	75.55	28.795	
11,900.00	10,480.19	14,370.00	9,292.15	38.53	85.78	-24.93	-417.56	-554.59	2,254.15	2,179.08	75.07	30.028	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 131H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Survey Program: 0-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)			
8,300.00	8,286.76	15,570.00	10,505.91	29.05	86.07	-108.34	-412.00	-530.00	2,293.39	2,227.63	65.75	34.879	
8,400.00	8,386.76	15,570.00	10,505.91	29.40	86.07	-108.34	-412.00	-530.00	2,196.77	2,130.37	66.40	33.082	
8,500.00	8,486.76	15,570.00	10,505.91	29.76	86.07	-108.34	-412.00	-530.00	2,100.47	2,033.36	67.11	31.300	
8,600.00	8,586.76	15,570.00	10,505.91	30.11	86.07	-108.34	-412.00	-530.00	2,004.53	1,936.66	67.87	29.534	
8,700.00	8,686.76	15,570.00	10,505.91	30.47	86.07	-108.34	-412.00	-530.00	1,909.01	1,840.30	68.71	27.785	
8,800.00	8,786.76	15,570.00	10,505.91	30.82	86.07	-108.34	-412.00	-530.00	1,813.97	1,744.34	69.63	26.052	
8,900.00	8,886.76	15,570.00	10,505.91	31.18	86.07	-108.34	-412.00	-530.00	1,719.49	1,648.84	70.65	24.339	
9,000.00	8,986.76	15,570.00	10,505.91	31.54	86.07	-108.34	-412.00	-530.00	1,625.67	1,553.88	71.79	22.645	
9,100.00	9,086.76	15,570.00	10,505.91	31.89	86.07	-108.34	-412.00	-530.00	1,532.64	1,459.57	73.07	20.975	
9,200.00	9,186.76	15,570.00	10,505.91	32.25	86.07	-108.34	-412.00	-530.00	1,440.54	1,366.02	74.52	19.330	
9,300.00	9,286.76	15,570.00	10,505.91	32.60	86.07	-108.34	-412.00	-530.00	1,349.56	1,273.38	76.18	17.715	
9,400.00	9,386.76	15,570.00	10,505.91	32.96	86.07	-108.34	-412.00	-530.00	1,259.96	1,181.87	78.09	16.135	
9,500.00	9,486.76	15,570.00	10,505.91	33.31	86.07	-108.34	-412.00	-530.00	1,172.03	1,091.73	80.30	14.596	
9,600.00	9,586.76	15,570.00	10,505.91	33.67	86.07	-108.34	-412.00	-530.00	1,086.20	1,003.33	82.87	13.108	
9,700.00	9,686.76	15,570.00	10,505.91	34.03	86.07	-108.34	-412.00	-530.00	1,002.99	917.13	85.86	11.681	
9,800.00	9,786.76	15,570.00	10,505.91	34.38	86.07	-108.34	-412.00	-530.00	923.13	833.77	89.36	10.331	
9,900.00	9,886.76	15,570.00	10,505.91	34.74	86.07	-108.34	-412.00	-530.00	847.55	754.15	93.40	9.075	
10,000.00	9,986.56	15,570.00	10,505.91	35.09	86.07	-114.15	-412.00	-530.00	778.73	680.87	97.86	7.957	
10,100.00	10,084.11	15,570.00	10,505.91	35.43	86.07	-120.14	-412.00	-530.00	723.09	620.96	102.13	7.080	
10,200.00	10,176.46	15,570.00	10,505.91	35.74	86.07	-123.57	-412.00	-530.00	685.84	580.43	105.42	6.506	
10,300.00	10,260.80	15,570.00	10,505.91	36.03	86.07	-124.80	-412.00	-530.00	671.26	564.41	106.85	6.282	
10,309.49	10,268.29	15,570.00	10,505.91	36.05	86.07	-124.81	-412.00	-530.00	671.15	564.28	106.87	6.280	CC, ES, SF
10,400.00	10,334.58	15,570.00	10,505.91	36.28	86.07	-123.97	-412.00	-530.00	681.23	575.25	105.98	6.428	
10,500.00	10,395.54	15,570.00	10,505.91	36.49	86.07	-120.98	-412.00	-530.00	714.46	611.33	103.12	6.928	
10,600.00	10,441.84	15,570.00	10,505.91	36.67	86.07	-115.50	-412.00	-530.00	767.00	667.90	99.10	7.740	
10,700.00	10,472.32	15,570.00	10,505.91	36.80	86.07	-108.26	-412.00	-530.00	833.74	739.03	94.72	8.802	
10,800.00	10,491.92	15,570.00	10,505.91	36.91	86.07	-102.74	-412.00	-530.00	909.01	818.43	90.58	10.036	
10,900.00	10,502.91	15,570.00	10,505.91	37.00	86.07	-95.97	-412.00	-530.00	989.76	902.90	86.86	11.395	
11,000.00	10,505.19	15,570.00	10,505.91	37.09	86.07	-88.08	-412.00	-530.00	1,074.22	990.65	83.57	12.854	
11,100.00	10,502.44	15,570.00	10,505.91	37.19	86.07	-87.41	-412.00	-530.00	1,161.17	1,080.47	80.70	14.388	
11,200.00	10,499.66	15,570.00	10,505.91	37.31	86.07	-87.41	-412.00	-530.00	1,250.07	1,171.84	78.22	15.980	
11,300.00	10,496.88	15,570.00	10,505.91	37.44	86.07	-87.41	-412.00	-530.00	1,340.53	1,264.45	76.08	17.619	
11,400.00	10,494.10	15,570.00	10,505.91	37.58	86.07	-87.41	-412.00	-530.00	1,432.27	1,358.04	74.23	19.296	
11,500.00	10,491.32	15,570.00	10,505.91	37.74	86.07	-87.41	-412.00	-530.00	1,525.04	1,452.43	72.61	21.002	
11,600.00	10,488.54	15,570.00	10,505.91	37.92	86.07	-87.41	-412.00	-530.00	1,618.68	1,547.47	71.20	22.733	
11,700.00	10,485.76	15,570.00	10,505.91	38.11	86.07	-87.41	-412.00	-530.00	1,713.03	1,643.06	69.97	24.483	
11,800.00	10,482.98	15,570.00	10,505.91	38.32	86.07	-87.41	-412.00	-530.00	1,807.99	1,739.11	68.88	26.248	
11,900.00	10,480.19	15,570.00	10,505.91	38.53	86.07	-87.41	-412.00	-530.00	1,903.47	1,835.55	67.92	28.025	
12,000.00	10,477.41	15,570.00	10,505.91	38.77	86.07	-87.41	-412.00	-530.00	1,999.39	1,932.31	67.07	29.809	
12,100.00	10,474.63	15,570.00	10,505.91	39.01	86.07	-87.41	-412.00	-530.00	2,095.69	2,029.37	66.32	31.601	
12,200.00	10,471.85	15,570.00	10,505.91	39.28	86.07	-87.41	-412.00	-530.00	2,192.32	2,126.67	65.65	33.396	
12,300.00	10,469.07	15,570.00	10,505.91	39.55	86.07	-87.41	-412.00	-530.00	2,289.24	2,224.20	65.05	35.194	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 132H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Offset Well Error: 0.00 usft

Survey Program:		0-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)			
8,600.00	8,586.76	15,406.00	10,559.50	30.11	78.01	107.96	-560.05	1,038.01	2,244.60	2,176.27	68.33	32.849	
8,700.00	8,686.76	15,406.00	10,559.50	30.47	78.01	107.96	-560.05	1,038.01	2,157.24	2,087.80	69.44	31.065	
8,800.00	8,786.76	15,406.00	10,559.50	30.82	78.01	107.96	-560.05	1,038.01	2,071.02	2,000.36	70.66	29.309	
8,900.00	8,886.76	15,406.00	10,559.50	31.18	78.01	107.96	-560.05	1,038.01	1,986.10	1,914.10	72.00	27.584	
9,000.00	8,986.76	15,406.00	10,559.50	31.54	78.01	107.96	-560.05	1,038.01	1,902.64	1,829.16	73.48	25.894	
9,100.00	9,086.76	15,406.00	10,559.50	31.89	78.01	107.96	-560.05	1,038.01	1,820.85	1,745.74	75.11	24.244	
9,200.00	9,186.76	15,406.00	10,559.50	32.25	78.01	107.96	-560.05	1,038.01	1,740.96	1,664.06	76.90	22.639	
9,300.00	9,286.76	15,406.00	10,559.50	32.60	78.01	107.96	-560.05	1,038.01	1,663.25	1,584.37	78.88	21.085	
9,400.00	9,386.76	15,406.00	10,559.50	32.96	78.01	107.96	-560.05	1,038.01	1,588.03	1,506.97	81.06	19.590	
9,500.00	9,486.76	15,406.00	10,559.50	33.31	78.01	107.96	-560.05	1,038.01	1,515.69	1,432.23	83.45	18.163	
9,600.00	9,586.76	15,406.00	10,559.50	33.67	78.01	107.96	-560.05	1,038.01	1,446.64	1,360.58	86.06	16.810	
9,700.00	9,686.76	15,406.00	10,559.50	34.03	78.01	107.96	-560.05	1,038.01	1,381.38	1,292.51	88.87	15.543	
9,800.00	9,786.76	15,406.00	10,559.50	34.38	78.01	107.96	-560.05	1,038.01	1,320.48	1,228.59	91.89	14.371	
9,900.00	9,886.76	15,406.00	10,559.50	34.74	78.01	107.96	-560.05	1,038.01	1,264.56	1,169.50	95.06	13.303	
10,000.00	9,986.56	15,406.00	10,559.50	35.09	78.01	112.22	-560.05	1,038.01	1,215.75	1,117.48	98.26	12.372	
10,100.00	10,084.11	15,406.00	10,559.50	35.43	78.01	115.79	-560.05	1,038.01	1,179.40	1,078.21	101.19	11.656	
10,200.00	10,176.46	15,406.00	10,559.50	35.74	78.01	117.76	-560.05	1,038.01	1,157.99	1,054.42	103.57	11.180	
10,279.45	10,244.25	15,406.00	10,559.50	35.97	78.01	118.23	-560.05	1,038.01	1,152.67	1,047.72	104.95	10.983	CC, ES
10,300.00	10,260.80	15,406.00	10,559.50	36.03	78.01	118.20	-560.05	1,038.01	1,153.03	1,047.80	105.22	10.958	SF
10,400.00	10,334.58	15,406.00	10,559.50	36.28	78.01	117.14	-560.05	1,038.01	1,164.86	1,058.85	106.01	10.988	
10,500.00	10,395.54	15,406.00	10,559.50	36.49	78.01	114.53	-560.05	1,038.01	1,192.65	1,086.70	105.95	11.256	
10,600.00	10,441.84	15,406.00	10,559.50	36.67	78.01	110.25	-560.05	1,038.01	1,234.50	1,129.36	105.15	11.741	
10,700.00	10,472.32	15,406.00	10,559.50	36.80	78.01	105.02	-560.05	1,038.01	1,287.81	1,184.04	103.77	12.410	
10,800.00	10,491.92	15,406.00	10,559.50	36.91	78.01	101.27	-560.05	1,038.01	1,348.83	1,246.71	102.12	13.209	
10,900.00	10,502.91	15,406.00	10,559.50	37.00	78.01	96.84	-560.05	1,038.01	1,415.53	1,315.21	100.32	14.110	
11,000.00	10,505.19	15,406.00	10,559.50	37.09	78.01	91.79	-560.05	1,038.01	1,486.69	1,388.22	98.47	15.098	
11,100.00	10,502.44	15,406.00	10,559.50	37.19	78.01	91.36	-560.05	1,038.01	1,561.20	1,464.56	96.64	16.155	
11,200.00	10,499.66	15,406.00	10,559.50	37.31	78.01	91.36	-560.05	1,038.01	1,638.42	1,543.50	94.93	17.260	
11,300.00	10,496.88	15,406.00	10,559.50	37.44	78.01	91.36	-560.05	1,038.01	1,718.00	1,624.67	93.33	18.407	
11,400.00	10,494.10	15,406.00	10,559.50	37.58	78.01	91.36	-560.05	1,038.01	1,799.62	1,707.76	91.85	19.592	
11,500.00	10,491.32	15,406.00	10,559.50	37.74	78.01	91.36	-560.05	1,038.01	1,883.01	1,792.52	90.49	20.810	
11,600.00	10,488.54	15,406.00	10,559.50	37.92	78.01	91.36	-560.05	1,038.01	1,967.94	1,878.72	89.23	22.056	
11,700.00	10,485.76	15,406.00	10,559.50	38.11	78.01	91.36	-560.05	1,038.01	2,054.24	1,966.18	88.06	23.327	
11,800.00	10,482.98	15,406.00	10,559.50	38.32	78.01	91.36	-560.05	1,038.01	2,141.73	2,054.74	86.99	24.620	
11,900.00	10,480.19	15,406.00	10,559.50	38.53	78.01	91.36	-560.05	1,038.01	2,230.27	2,144.26	86.00	25.933	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 201H - Horizontal - PRODUCING - Surveys

Survey Program:		0-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)			
8,700.00	8,686.76	15,597.00	10,874.67	30.47	84.81	-145.86	-620.29	-245.26	2,238.16	2,174.78	63.38	35.311	
8,800.00	8,786.76	15,597.00	10,874.67	30.82	84.81	-145.86	-620.29	-245.26	2,140.51	2,076.71	63.80	33.550	
8,900.00	8,886.76	15,597.00	10,874.67	31.18	84.81	-145.86	-620.29	-245.26	2,043.09	1,978.85	64.24	31.805	
9,000.00	8,986.76	15,597.00	10,874.67	31.54	84.81	-145.86	-620.29	-245.26	1,945.92	1,881.22	64.70	30.076	
9,100.00	9,086.76	15,597.00	10,874.67	31.89	84.81	-145.86	-620.29	-245.26	1,849.06	1,783.88	65.19	28.365	
9,200.00	9,186.76	15,597.00	10,874.67	32.25	84.81	-145.86	-620.29	-245.26	1,752.56	1,686.85	65.71	26.672	
9,300.00	9,286.76	15,597.00	10,874.67	32.60	84.81	-145.86	-620.29	-245.26	1,656.47	1,590.20	66.27	24.997	
9,400.00	9,386.76	15,597.00	10,874.67	32.96	84.81	-145.86	-620.29	-245.26	1,560.86	1,493.99	66.87	23.341	
9,500.00	9,486.76	15,597.00	10,874.67	33.31	84.81	-145.86	-620.29	-245.26	1,465.85	1,398.32	67.53	21.707	
9,600.00	9,586.76	15,597.00	10,874.67	33.67	84.81	-145.86	-620.29	-245.26	1,371.54	1,303.29	68.25	20.095	
9,700.00	9,686.76	15,597.00	10,874.67	34.03	84.81	-145.86	-620.29	-245.26	1,278.10	1,209.05	69.05	18.509	
9,800.00	9,786.76	15,597.00	10,874.67	34.38	84.81	-145.86	-620.29	-245.26	1,185.74	1,115.78	69.96	16.950	
9,900.00	9,886.76	15,597.00	10,874.67	34.74	84.81	-145.86	-620.29	-245.26	1,094.71	1,023.73	70.98	15.423	
10,000.00	9,986.56	15,597.00	10,874.67	35.09	84.81	-151.96	-620.29	-245.26	1,007.41	935.30	72.11	13.971	
10,100.00	10,084.11	15,597.00	10,874.67	35.43	84.81	-156.98	-620.29	-245.26	931.88	858.70	73.18	12.734	
10,200.00	10,176.46	15,597.00	10,874.67	35.74	84.81	-159.64	-620.29	-245.26	873.98	799.98	74.00	11.811	
10,300.00	10,260.80	15,597.00	10,874.67	36.03	84.81	-160.90	-620.29	-245.26	839.29	765.00	74.29	11.298	
10,376.44	10,318.27	15,597.00	10,874.67	36.22	84.81	-161.17	-620.29	-245.26	831.00	757.00	74.00	11.230	CC, ES, SF
10,400.00	10,334.58	15,597.00	10,874.67	36.28	84.81	-161.15	-620.29	-245.26	831.79	757.97	73.82	11.268	
10,500.00	10,395.54	15,597.00	10,874.67	36.49	84.81	-160.45	-620.29	-245.26	852.44	779.83	72.60	11.741	
10,600.00	10,441.84	15,597.00	10,874.67	36.67	84.81	-158.60	-620.29	-245.26	898.70	827.78	70.92	12.672	
10,700.00	10,472.32	15,597.00	10,874.67	36.80	84.81	-155.56	-620.29	-245.26	965.48	896.34	69.14	13.965	
10,800.00	10,491.92	15,597.00	10,874.67	36.91	84.81	-152.77	-620.29	-245.26	1,044.13	976.60	67.52	15.463	
10,900.00	10,502.91	15,597.00	10,874.67	37.00	84.81	-148.61	-620.29	-245.26	1,130.19	1,064.02	66.17	17.080	
11,000.00	10,505.19	15,597.00	10,874.67	37.09	84.81	-142.21	-620.29	-245.26	1,221.52	1,156.45	65.07	18.772	
11,100.00	10,502.44	15,597.00	10,874.67	37.19	84.81	-141.55	-620.29	-245.26	1,315.55	1,251.36	64.19	20.495	
11,200.00	10,499.66	15,597.00	10,874.67	37.31	84.81	-141.55	-620.29	-245.26	1,410.40	1,346.94	63.46	22.225	
11,300.00	10,496.88	15,597.00	10,874.67	37.44	84.81	-141.55	-620.29	-245.26	1,505.92	1,443.06	62.86	23.957	
11,400.00	10,494.10	15,597.00	10,874.67	37.58	84.81	-141.55	-620.29	-245.26	1,601.99	1,539.63	62.36	25.688	
11,500.00	10,491.32	15,597.00	10,874.67	37.74	84.81	-141.55	-620.29	-245.26	1,698.51	1,636.56	61.95	27.418	
11,600.00	10,488.54	15,597.00	10,874.67	37.92	84.81	-141.55	-620.29	-245.26	1,795.41	1,733.81	61.60	29.144	
11,700.00	10,485.76	15,597.00	10,874.67	38.11	84.81	-141.55	-620.29	-245.26	1,892.64	1,831.32	61.32	30.866	
11,800.00	10,482.98	15,597.00	10,874.67	38.32	84.81	-141.55	-620.29	-245.26	1,990.13	1,929.06	61.08	32.585	
11,900.00	10,480.19	15,597.00	10,874.67	38.53	84.81	-141.55	-620.29	-245.26	2,087.87	2,027.00	60.87	34.299	
12,000.00	10,477.41	15,597.00	10,874.67	38.77	84.81	-141.55	-620.29	-245.26	2,185.81	2,125.11	60.70	36.008	
12,100.00	10,474.63	15,597.00	10,874.67	39.01	84.81	-141.55	-620.29	-245.26	2,283.93	2,223.37	60.56	37.714	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 STATE 001 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)			
0.00	0.00	0.00	9.10	0.00	0.00	-136.90	-644.41	-603.11	882.66				
100.00	100.00	90.90	100.00	0.28	1.56	-136.90	-644.41	-603.11	882.62	880.78	1.83	481.408	
200.00	200.00	190.90	200.00	0.63	3.27	-136.90	-644.41	-603.11	882.62	878.71	3.91	226.012	
300.00	300.00	290.90	300.00	0.99	4.98	-136.90	-644.41	-603.11	882.62	876.64	5.98	147.671	
400.00	400.00	390.90	400.00	1.35	6.70	-136.90	-644.41	-603.11	882.62	874.57	8.05	109.660	
500.00	500.00	490.90	500.00	1.71	8.47	-136.90	-644.41	-603.11	882.62	872.44	10.18	86.700	
600.00	600.00	590.90	600.00	2.07	10.35	-136.90	-644.41	-603.11	882.62	870.20	12.42	71.074	
700.00	700.00	690.90	700.00	2.43	12.23	-136.90	-644.41	-603.11	882.62	867.96	14.66	60.221	
739.74	739.74	730.49	739.58	2.57	12.97	-136.88	-644.15	-603.11	882.42	866.88	15.54	56.774	
800.00	800.00	790.40	799.50	2.79	14.10	-136.89	-644.18	-603.11	882.44	865.56	16.88	52.262	
900.00	900.00	889.84	898.94	3.14	15.97	-136.89	-644.30	-603.11	882.53	863.42	19.11	46.176	
1,000.00	1,000.00	990.93	1,000.00	3.50	17.97	-136.90	-644.41	-603.11	882.62	861.14	21.47	41.103	
1,100.00	1,100.00	1,090.93	1,100.00	3.86	20.10	-136.90	-644.41	-603.11	882.62	858.66	23.96	36.837	
1,194.08	1,194.08	1,185.01	1,194.07	4.20	22.10	-136.85	-643.39	-603.11	881.87	855.57	26.30	33.531	
1,200.00	1,200.00	1,190.80	1,199.85	4.22	22.23	-136.85	-643.39	-603.11	881.87	855.42	26.44	33.348	
1,300.00	1,300.00	1,288.48	1,297.53	4.58	24.30	-136.86	-643.59	-603.11	882.02	853.13	28.88	30.538	
1,400.00	1,400.00	1,386.17	1,395.21	4.94	26.38	-136.88	-644.14	-603.11	882.43	851.11	31.32	28.175	
1,500.00	1,500.00	1,491.03	1,500.00	5.29	28.76	-136.90	-644.41	-603.11	882.62	848.56	34.06	25.915	
1,600.00	1,600.00	1,591.03	1,600.00	5.65	31.10	-136.90	-644.41	-603.11	882.62	845.86	36.75	24.016	
1,700.00	1,700.00	1,691.03	1,700.00	6.01	33.43	-136.90	-644.41	-603.11	882.62	843.17	39.44	22.376	
1,800.00	1,800.00	1,789.13	1,798.08	6.37	35.72	-136.83	-642.95	-603.11	881.55	839.46	42.09	20.943	
1,847.31	1,847.31	1,835.33	1,844.28	6.53	36.80	48.00	-643.13	-603.11	881.42	838.09	43.33	20.340	
1,900.00	1,899.98	1,886.79	1,895.73	6.71	38.00	48.07	-643.42	-603.11	880.73	836.02	44.71	19.697	
2,000.00	1,999.84	1,984.39	1,993.32	7.04	40.28	48.32	-644.25	-603.11	877.86	830.54	47.32	18.553	
2,100.00	2,099.45	2,090.64	2,099.45	7.36	42.72	48.85	-644.41	-603.11	872.18	822.09	50.09	17.414	
2,200.00	2,198.76	2,189.95	2,198.76	7.70	45.00	49.49	-644.41	-603.11	864.46	811.78	52.69	16.407	
2,300.00	2,298.01	2,286.87	2,295.65	8.03	47.22	50.15	-643.09	-603.11	855.64	800.40	55.24	15.489	
2,400.00	2,397.27	2,382.86	2,391.63	8.36	49.42	50.73	-643.74	-603.11	848.32	790.54	57.77	14.683	
2,500.00	2,496.52	2,487.82	2,496.52	8.70	51.91	51.37	-644.41	-603.11	841.07	780.47	60.60	13.879	
2,600.00	2,595.78	2,587.08	2,595.78	9.04	54.36	52.03	-644.41	-603.11	833.49	770.09	63.40	13.146	
2,700.00	2,695.03	2,686.33	2,695.03	9.38	56.82	52.69	-644.41	-603.11	826.01	759.81	66.20	12.477	
2,800.00	2,794.29	2,784.51	2,793.20	9.72	59.25	53.42	-643.26	-603.11	817.88	748.90	68.98	11.857	
2,900.00	2,893.54	2,882.19	2,890.87	10.07	61.67	54.07	-643.60	-603.11	810.87	739.13	71.74	11.302	
3,000.00	2,992.80	2,979.95	2,988.62	10.42	64.09	54.73	-644.24	-603.11	804.17	729.66	74.51	10.793	
3,100.00	3,092.05	3,083.55	3,092.05	10.77	66.98	55.46	-644.41	-603.11	797.26	719.51	77.75	10.254	
3,200.00	3,191.31	3,179.10	3,187.57	11.12	69.72	56.21	-643.53	-603.11	789.84	709.00	80.84	9.771	
3,300.00	3,290.56	3,282.21	3,290.56	11.47	72.55	56.92	-644.41	-603.11	783.63	699.61	84.02	9.326	
3,400.00	3,389.82	3,381.47	3,389.82	11.83	75.04	57.67	-644.41	-603.11	777.02	690.15	86.86	8.945	
3,500.00	3,489.07	3,479.33	3,487.65	12.18	77.49	58.52	-642.76	-603.11	769.55	679.89	89.67	8.582	
3,600.00	3,588.33	3,574.89	3,583.19	12.54	79.88	59.22	-643.47	-603.11	763.65	671.24	92.41	8.263	
3,700.00	3,687.58	3,679.37	3,687.58	12.89	82.27	59.99	-644.41	-603.11	757.99	662.83	95.16	7.965	
3,800.00	3,787.05	3,777.91	3,786.11	13.25	84.18	60.59	-643.96	-603.11	752.65	655.23	97.42	7.726	
3,900.00	3,886.82	3,878.63	3,886.82	13.61	86.13	60.96	-644.41	-603.11	749.61	649.89	99.72	7.517	
4,000.00	3,986.76	3,978.57	3,986.76	13.96	88.06	61.15	-644.41	-603.11	748.03	646.02	102.01	7.333	
4,099.21	4,085.97	4,077.78	4,085.97	14.30	89.99	61.20	-644.41	-603.11	747.67	643.39	104.28	7.170	
4,100.00	4,086.76	4,078.57	4,086.76	14.30	90.00	-123.66	-644.41	-603.11	747.87	643.58	104.29	7.171	
4,141.50	4,128.26	4,120.05	4,128.24	14.44	90.80	-123.62	-643.85	-603.11	747.56	642.32	105.24	7.103	
4,200.00	4,186.76	4,178.15	4,186.33	14.65	91.93	-123.62	-643.88	-603.11	747.58	641.01	106.57	7.015	
4,300.00	4,286.76	4,277.45	4,285.64	14.99	93.86	-123.63	-644.07	-603.11	747.68	638.85	108.84	6.870	
4,400.00	4,386.76	4,378.61	4,386.76	15.33	95.82	-123.66	-644.41	-603.11	747.87	636.72	111.15	6.728	
4,500.00	4,486.76	4,478.61	4,486.76	15.68	97.95	-123.66	-644.41	-603.11	747.87	634.25	113.62	6.582	
4,600.00	4,586.76	4,578.61	4,586.76	16.03	100.08	-123.66	-644.41	-603.11	747.87	631.78	116.10	6.442	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 STATE 001 P & A - Vertical - Surveys

Survey Program: 0-3_INC-Only										Rule Assigned:				Offset Site Error:
														Offset Well Error:
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	
4,675.85	4,662.61	4,654.46	4,662.60	16.29	101.69	-123.58	-643.19	-603.11	747.20	629.23	117.97	6.334		
4,700.00	4,686.76	4,678.31	4,686.44	16.37	102.20	-123.58	-643.20	-603.11	747.20	628.64	118.56	6.302		
4,800.00	4,786.76	4,777.05	4,785.18	16.72	104.30	-123.59	-643.43	-603.11	747.33	626.32	121.01	6.176		
4,900.00	4,886.76	4,875.80	4,883.93	17.07	106.40	-123.63	-643.96	-603.11	747.63	624.17	123.46	6.056		
5,000.00	4,986.76	4,977.55	4,985.60	17.42	108.56	-123.65	-644.28	-603.11	747.80	621.83	125.97	5.936		
5,100.00	5,086.76	5,078.71	5,086.76	17.76	110.71	-123.66	-644.41	-603.11	747.87	619.40	128.47	5.821		
5,200.00	5,186.76	5,178.71	5,186.76	18.11	112.84	-123.66	-644.41	-603.11	747.87	616.93	130.95	5.711		
5,272.96	5,259.72	5,251.65	5,259.69	18.37	114.39	-123.59	-643.32	-603.11	747.27	614.52	132.75	5.629		
5,300.00	5,286.76	5,278.30	5,286.35	18.46	114.96	-123.59	-643.34	-603.11	747.28	613.86	133.42	5.601		
5,400.00	5,386.76	5,376.90	5,384.94	18.81	117.05	-123.60	-643.60	-603.11	747.43	611.56	135.86	5.501		
5,500.00	5,486.76	5,475.50	5,483.53	19.16	119.15	-123.64	-644.21	-603.11	747.77	609.46	138.31	5.406		
5,600.00	5,586.76	5,578.79	5,586.76	19.51	121.35	-123.66	-644.41	-603.11	747.87	607.02	140.86	5.309		
5,700.00	5,686.76	5,678.79	5,686.76	19.86	123.47	-123.66	-644.41	-603.11	747.87	604.54	143.34	5.218		
5,766.18	5,752.94	5,744.97	5,752.94	20.10	124.88	-123.59	-643.34	-603.11	747.28	602.31	144.98	5.155		
5,800.00	5,786.76	5,778.30	5,786.26	20.21	125.59	-123.59	-643.36	-603.11	747.29	601.49	145.80	5.125		
5,900.00	5,886.76	5,878.87	5,884.83	20.57	127.69	-123.61	-643.65	-603.11	747.46	599.20	148.25	5.042		
6,000.00	5,986.76	5,975.44	5,983.39	20.92	129.79	-123.65	-644.29	-603.11	747.81	597.11	150.70	4.962		
6,100.00	6,086.76	6,078.86	6,086.76	21.27	131.91	-123.66	-644.41	-603.11	747.87	594.70	153.17	4.883		
6,200.00	6,186.76	6,178.86	6,186.76	21.62	133.94	-123.66	-644.41	-603.11	747.87	592.31	155.56	4.808		
6,276.33	6,263.09	6,255.19	6,263.08	21.89	135.50	-123.58	-643.26	-603.11	747.23	589.85	157.38	4.748		
6,300.00	6,286.76	6,278.54	6,286.43	21.97	135.97	-123.58	-643.26	-603.11	747.24	589.30	157.94	4.731		
6,400.00	6,386.76	6,377.22	6,385.10	22.32	137.98	-123.60	-643.50	-603.11	747.37	587.07	160.31	4.662		
6,500.00	6,486.76	6,475.90	6,483.78	22.68	139.99	-123.63	-644.06	-603.11	747.69	585.02	162.67	4.596		
6,600.00	6,586.76	6,578.92	6,586.76	23.03	142.20	-123.66	-644.41	-603.11	747.87	582.65	165.23	4.526		
6,700.00	6,686.76	6,678.92	6,686.76	23.38	144.42	-123.66	-644.41	-603.11	747.87	580.08	167.80	4.457		
6,734.69	6,721.45	6,713.24	6,721.08	23.51	145.18	-123.62	-643.87	-603.11	747.57	578.89	168.68	4.432		
6,800.00	6,786.76	6,777.54	6,785.37	23.74	146.60	-123.63	-644.00	-603.11	747.65	577.31	170.34	4.389		
6,900.00	6,886.76	6,878.99	6,886.76	24.09	148.87	-123.66	-644.41	-603.11	747.87	574.92	172.96	4.324		
7,000.00	6,986.76	6,978.99	6,986.76	24.44	151.18	-123.66	-644.41	-603.11	747.87	572.25	175.62	4.258		
7,100.00	7,086.76	7,078.99	7,086.76	24.80	153.49	-123.66	-644.41	-603.11	747.87	569.59	178.28	4.195		
7,140.95	7,127.71	7,119.73	7,127.48	24.94	154.43	-123.55	-642.78	-603.11	746.97	567.60	179.37	4.164		
7,200.00	7,186.76	7,177.55	7,185.29	25.15	155.76	-123.56	-642.90	-603.11	747.04	566.12	180.91	4.129		
7,300.00	7,286.76	7,275.48	7,283.21	25.50	158.02	-123.60	-643.49	-603.11	747.37	563.85	183.53	4.072		
7,400.00	7,386.76	7,379.11	7,386.76	25.86	160.40	-123.66	-644.41	-603.11	747.87	561.62	186.26	4.015		
7,500.00	7,486.76	7,479.11	7,486.76	26.21	162.62	-123.66	-644.41	-603.11	747.87	559.05	188.83	3.961		
7,600.00	7,586.76	7,579.11	7,586.76	26.57	164.84	-123.66	-644.41	-603.11	747.87	556.47	191.40	3.907		
7,640.85	7,627.61	7,619.80	7,627.44	26.71	165.74	-123.59	-643.33	-603.11	747.27	554.82	192.45	3.883		
7,700.00	7,686.76	7,678.12	7,685.76	26.92	167.03	-123.59	-643.41	-603.11	747.32	553.37	193.95	3.853		
7,800.00	7,786.76	7,776.71	7,784.34	27.27	169.22	-123.62	-643.82	-603.11	747.55	551.06	196.49	3.804		
7,900.00	7,886.76	7,879.21	7,886.76	27.63	171.55	-123.66	-644.41	-603.11	747.87	548.69	199.18	3.755		
8,000.00	7,986.76	7,979.21	7,986.76	27.98	174.05	-123.66	-644.41	-603.11	747.87	545.84	202.03	3.702		
8,100.00	8,086.76	8,079.21	8,086.76	28.34	176.54	-123.66	-644.41	-603.11	747.87	543.00	204.88	3.650		
8,140.54	8,127.30	8,119.47	8,127.01	28.48	177.54	-123.57	-643.07	-603.11	747.13	541.11	206.03	3.626		
8,200.00	8,186.76	8,177.88	8,185.42	28.69	179.00	-123.58	-643.19	-603.11	747.20	539.50	207.70	3.598		
8,300.00	8,286.76	8,276.12	8,283.64	29.05	181.45	-123.61	-643.72	-603.11	747.50	537.00	210.50	3.551		
8,400.00	8,386.76	8,379.38	8,386.76	29.40	184.08	-123.66	-644.41	-603.11	747.87	534.39	213.49	3.503		
8,500.00	8,486.76	8,479.38	8,486.76	29.76	186.77	-123.66	-644.41	-603.11	747.87	531.35	216.53	3.454		
8,529.34	8,516.10	8,507.79	8,515.15	29.86	187.53	-123.59	-643.39	-603.11	747.31	529.92	217.39	3.438		
8,600.00	8,586.76	8,575.36	8,582.71	30.11	189.34	-123.62	-643.80	-603.11	747.55	528.09	219.46	3.406		
8,700.00	8,686.76	8,679.51	8,686.76	30.47	191.88	-123.66	-644.41	-603.11	747.87	525.52	222.35	3.364		
8,800.00	8,786.76	8,779.51	8,786.76	30.82	194.10	-123.66	-644.41	-603.11	747.87	522.95	224.92	3.325		
8,900.00	8,886.76	8,879.51	8,886.76	31.18	196.32	-123.66	-644.41	-603.11	747.87	520.38	227.50	3.287		

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 STATE 001 P & A - Vertical - Surveys

Survey Program: 0-3_INC-Only										Rule Assigned:				Offset Site Error:
Reference										Offset Well Error:				0.00 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Semi Major 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	
8,940.97	8,927.73	8,919.98	8,927.20	31.33	197.22	-123.52	-642.33	-603.11	746.73	518.18	228.54	3.267	CC	
9,000.00	8,986.76	8,977.71	8,984.92	31.54	198.50	-123.53	-642.50	-603.11	746.82	516.78	230.03	3.247		
9,100.00	9,086.76	9,075.53	9,082.72	31.89	200.67	-123.58	-643.20	-603.11	747.21	514.66	232.56	3.213		
9,200.00	9,186.76	9,179.62	9,186.76	32.25	202.97	-123.66	-644.41	-603.11	747.87	512.66	235.22	3.180		
9,300.00	9,286.76	9,279.62	9,286.76	32.60	205.10	-123.66	-644.41	-603.11	747.87	510.18	237.70	3.146		
9,400.00	9,386.76	9,379.62	9,386.76	32.96	207.22	-123.66	-644.41	-603.11	747.87	507.70	240.18	3.114		
9,500.00	9,486.76	9,479.62	9,486.76	33.31	209.35	-123.66	-644.41	-603.11	747.87	505.21	242.66	3.082		
9,595.85	9,582.61	9,575.47	9,582.60	33.66	211.38	-123.60	-643.53	-603.11	747.39	502.35	245.04	3.050		
9,600.00	9,586.76	9,579.60	9,586.74	33.67	211.47	-123.60	-643.53	-603.11	747.39	502.25	245.14	3.049		
9,700.00	9,686.76	9,679.16	9,686.30	34.03	213.59	-123.60	-643.59	-603.11	747.42	499.81	247.61	3.018		
9,800.00	9,786.76	9,778.72	9,785.85	34.38	215.70	-123.61	-643.76	-603.11	747.51	497.43	250.09	2.989		
9,900.00	9,886.76	9,878.28	9,885.41	34.74	217.82	-123.63	-644.03	-603.11	747.66	495.11	252.56	2.960	ES	
10,000.00	9,986.56	9,979.55	9,986.56	35.09	219.98	-123.22	-644.41	-603.11	750.48	495.41	255.07	2.942	SF	
10,100.00	10,084.11	10,077.10	10,084.11	35.43	223.17	-123.54	-644.41	-603.11	762.49	503.89	258.60	2.949		
10,200.00	10,176.46	10,169.45	10,176.46	35.74	226.19	-123.85	-644.41	-603.11	784.80	522.87	261.93	2.996		
10,300.00	10,260.80	10,253.80	10,260.80	36.03	228.95	-123.74	-644.41	-603.11	818.15	553.19	264.96	3.088		
10,400.00	10,334.58	10,327.57	10,334.58	36.28	231.36	-122.70	-644.41	-603.11	863.01	595.41	267.60	3.225		
10,500.00	10,395.54	10,388.11	10,395.08	36.49	233.34	-119.96	-641.86	-603.11	917.36	647.60	269.76	3.401		
10,600.00	10,441.84	10,433.21	10,440.18	36.67	234.82	-114.88	-641.93	-603.11	983.93	712.58	271.35	3.626		
10,700.00	10,472.32	10,462.64	10,469.61	36.80	235.78	-107.82	-642.01	-603.11	1,059.10	786.73	272.37	3.888		
10,800.00	10,491.92	10,481.35	10,488.31	36.91	236.40	-102.80	-642.07	-603.11	1,139.69	866.67	273.02	4.174		
10,900.00	10,502.91	10,491.60	10,498.56	37.00	236.73	-95.97	-642.11	-603.11	1,223.96	950.59	273.37	4.477		
11,000.00	10,505.19	10,493.41	10,500.37	37.09	236.79	-87.37	-642.12	-603.11	1,310.84	1,037.40	273.44	4.794		
11,100.00	10,502.44	10,490.36	10,497.32	37.19	236.69	-86.35	-642.11	-603.11	1,399.46	1,126.11	273.35	5.120		
11,200.00	10,499.66	10,487.31	10,494.28	37.31	236.59	-86.07	-642.09	-603.11	1,489.52	1,216.25	273.27	5.451		
11,300.00	10,496.88	10,484.28	10,491.25	37.44	236.49	-85.80	-642.08	-603.11	1,580.77	1,307.58	273.18	5.787		
11,400.00	10,494.10	10,481.27	10,488.23	37.58	236.39	-85.53	-642.07	-603.11	1,673.01	1,399.91	273.10	6.126		
11,500.00	10,491.32	10,478.28	10,485.24	37.74	236.29	-85.25	-642.06	-603.11	1,766.09	1,493.07	273.02	6.469		
11,600.00	10,488.54	10,475.31	10,482.27	37.92	236.20	-84.98	-642.05	-603.11	1,859.88	1,586.95	272.93	6.814		
11,700.00	10,485.76	10,472.35	10,479.32	38.11	236.10	-84.72	-642.04	-603.11	1,954.29	1,681.43	272.86	7.162		
11,800.00	10,482.98	10,469.42	10,476.38	38.32	236.00	-84.45	-642.03	-603.11	2,049.22	1,776.44	272.78	7.512		
11,900.00	10,480.19	10,466.50	10,473.46	38.53	235.91	-84.19	-642.02	-603.11	2,144.61	1,871.90	272.70	7.864		
12,000.00	10,477.41	10,463.60	10,470.57	38.77	235.81	-83.92	-642.01	-603.11	2,240.39	1,967.76	272.63	8.218		

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) B LEE STATE 004 - Verticals - Surveys

Survey Program:		0-2 Assumed Vertical		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)			
26,000.00	8,864.39	8,866.29	8,864.39	126.33	268.90	-152.39	17,600.56	-445.83	2,232.65	1,915.48	317.18	7.039	
26,100.00	8,838.14	8,840.04	8,838.14	127.07	268.10	-151.32	17,600.56	-445.83	2,137.10	1,820.35	316.74	6.747	
26,200.00	8,810.58	8,812.48	8,810.58	127.80	267.27	-152.75	17,600.56	-445.83	2,041.99	1,725.68	316.31	6.456	
26,300.00	8,780.85	8,782.75	8,780.85	128.54	266.37	-152.08	17,600.56	-445.83	1,947.63	1,631.78	315.85	6.166	
26,400.00	8,751.06	8,752.96	8,751.06	129.27	265.46	-150.85	17,600.56	-445.83	1,853.40	1,537.95	315.44	5.876	
26,500.00	8,721.27	8,723.17	8,721.27	130.01	264.56	-149.53	17,600.56	-445.83	1,759.30	1,444.19	315.11	5.583	
26,600.00	8,691.49	8,693.39	8,691.49	130.74	263.66	-148.09	17,600.56	-445.83	1,665.35	1,350.50	314.85	5.289	
26,700.00	8,661.70	8,663.60	8,661.70	131.48	262.75	-146.53	17,600.56	-445.83	1,571.59	1,256.90	314.68	4.994	
26,800.00	8,631.91	8,633.81	8,631.91	132.21	261.85	-144.82	17,600.56	-445.83	1,478.04	1,163.40	314.64	4.698	
26,900.00	8,602.12	8,604.02	8,602.12	132.95	260.94	-142.96	17,600.56	-445.83	1,384.76	1,070.00	314.75	4.400	
27,000.00	8,572.34	8,574.24	8,572.34	133.68	260.04	-140.92	17,600.56	-445.83	1,291.79	976.74	315.05	4.100	
27,100.00	8,542.55	8,544.45	8,542.55	134.42	259.14	-138.69	17,600.56	-445.83	1,199.22	883.63	315.58	3.800	
27,200.00	8,512.48	8,514.38	8,512.48	135.15	258.23	-137.52	17,600.56	-445.83	1,107.22	790.80	316.42	3.499	
27,300.00	8,479.97	8,481.87	8,479.97	135.89	257.24	-136.57	17,600.56	-445.83	1,016.61	699.06	317.55	3.201	
27,400.00	8,446.90	8,448.80	8,446.90	136.62	256.24	-133.64	17,600.56	-445.83	926.98	607.80	319.18	2.904	
27,500.00	8,413.83	8,415.73	8,413.83	137.35	255.23	-130.39	17,600.56	-445.83	838.38	516.89	321.49	2.608	
27,600.00	8,380.76	8,382.66	8,380.76	138.09	254.23	-126.80	17,600.56	-445.83	751.20	426.48	324.72	2.313	
27,700.00	8,347.68	8,349.58	8,347.68	138.82	253.23	-122.84	17,600.56	-445.83	665.97	336.79	329.18	2.023	
27,800.00	8,314.61	8,316.51	8,314.61	139.55	252.23	-118.48	17,600.56	-445.83	583.57	248.26	335.32	1.740	
27,900.00	8,281.54	8,283.44	8,281.54	140.29	251.22	-113.74	17,600.56	-445.83	505.38	161.73	343.65	1.471	Level 3
28,000.00	8,248.84	8,250.74	8,248.84	141.02	250.23	-107.80	17,600.56	-445.83	433.58	78.90	354.68	1.222	Level 2
28,100.00	8,218.98	8,220.88	8,218.98	141.76	249.32	-101.23	17,600.56	-445.83	371.54	3.11	368.42	1.008	Level 2
28,200.00	8,191.54	8,193.44	8,191.54	142.50	248.49	-96.05	17,600.56	-445.83	325.77	-56.70	382.47	0.852	Level 1
28,300.00	8,164.21	8,166.11	8,164.21	143.24	247.66	-91.12	17,600.56	-445.83	304.48	-86.11	390.58	0.780	Level 1
28,322.52	8,158.05	8,159.95	8,158.05	143.40	247.48	-90.00	17,600.56	-445.83	303.70	-87.17	390.88	0.777	Level 1, CC, ES, SF
28,400.00	8,136.88	8,138.78	8,136.88	143.98	246.83	-86.16	17,600.56	-445.83	312.72	-74.39	387.10	0.808	Level 1
28,500.00	8,109.55	8,111.45	8,109.55	144.72	246.01	-81.27	17,600.56	-445.83	348.40	-25.87	374.27	0.931	Level 1
28,600.00	8,082.22	8,084.12	8,082.22	145.46	245.18	-76.49	17,600.56	-445.83	404.33	45.46	358.87	1.127	Level 2
28,700.00	8,054.88	8,056.78	8,054.88	146.20	244.35	-71.90	17,600.56	-445.83	473.38	128.31	345.06	1.372	Level 3
28,800.00	8,027.55	8,029.45	8,027.55	146.94	243.52	-67.54	17,600.56	-445.83	550.63	216.72	333.91	1.649	
28,827.63	8,020.00	8,021.90	8,020.00	147.14	243.29	-66.38	17,600.56	-445.83	572.99	241.72	331.27	1.730	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) B LEE STATE 005 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:
24,900.00	9,134.65	9,198.00	9,175.86	118.23	321.37	-126.80	16,537.43	-126.80	16,537.43	-765.84	2,306.60	1,931.01	375.60	6.141		0.00 usft
25,000.00	9,115.11	9,137.13	9,115.11	118.97	319.08	-123.19	16,537.43	-765.84	16,537.43	-765.84	2,212.10	1,838.30	373.80	5.918		0.00 usft
25,100.00	9,095.47	9,117.50	9,095.47	119.70	318.34	-122.97	16,537.43	-765.84	16,537.43	-765.84	2,118.33	1,744.25	374.08	5.663		
25,200.00	9,073.45	9,095.28	9,073.45	120.44	317.50	-125.78	16,537.43	-765.84	16,537.43	-765.84	2,025.47	1,651.08	374.38	5.410		
25,300.00	9,048.14	9,122.86	9,101.01	121.18	318.54	-129.95	16,536.77	-765.84	16,536.77	-765.84	1,933.91	1,556.61	377.30	5.126		
25,400.00	9,021.89	9,078.67	9,056.84	121.91	316.87	-127.62	16,537.86	-765.84	16,537.86	-765.84	1,843.64	1,466.79	376.85	4.892		
25,500.00	8,995.64	9,036.97	9,015.17	122.65	315.30	-125.28	16,538.53	-765.84	16,538.53	-765.84	1,753.73	1,377.07	376.67	4.656		
25,600.00	8,969.39	8,997.58	8,975.80	123.38	313.81	-122.93	16,538.85	-765.84	16,538.85	-765.84	1,664.32	1,287.53	376.79	4.417		
25,700.00	8,943.14	8,964.88	8,943.14	124.12	312.58	-120.85	16,537.43	-765.84	16,537.43	-765.84	1,574.21	1,196.71	377.51	4.170		
25,800.00	8,916.89	8,938.63	8,916.89	124.86	311.59	-119.13	16,537.43	-765.84	16,537.43	-765.84	1,486.38	1,107.57	378.81	3.924		
25,900.00	8,890.64	8,912.38	8,890.64	125.59	310.60	-117.35	16,537.43	-765.84	16,537.43	-765.84	1,399.69	1,019.25	380.43	3.679		
26,000.00	8,864.39	8,886.13	8,864.39	126.33	309.61	-115.52	16,537.43	-765.84	16,537.43	-765.84	1,314.36	931.94	382.43	3.437		
26,100.00	8,838.14	8,859.88	8,838.14	127.07	308.62	-113.62	16,537.43	-765.84	16,537.43	-765.84	1,230.69	845.84	384.85	3.198		
26,200.00	8,810.58	8,832.28	8,810.58	127.80	307.55	-113.86	16,537.43	-765.84	16,537.43	-765.84	1,149.34	761.66	387.68	2.965		
26,300.00	8,780.85	8,808.00	8,780.85	128.54	306.60	-112.51	16,537.43	-765.84	16,537.43	-765.84	1,070.97	679.74	391.24	2.737		
26,400.00	8,751.06	8,772.66	8,751.06	129.27	305.08	-109.86	16,537.43	-765.84	16,537.43	-765.84	995.58	600.93	394.65	2.523		
26,500.00	8,721.27	8,770.76	8,749.25	130.01	305.04	-109.71	16,536.86	-765.84	16,536.86	-765.84	923.93	523.29	400.65	2.306		
26,600.00	8,691.49	8,713.61	8,692.16	130.74	302.43	-105.26	16,538.09	-765.84	16,538.09	-765.84	857.36	453.43	403.93	2.123		
26,700.00	8,661.70	8,683.13	8,661.70	131.48	301.04	-102.77	16,537.43	-765.84	16,537.43	-765.84	795.75	386.37	409.39	1.944		
26,800.00	8,631.91	8,660.41	8,639.03	132.21	300.01	-100.90	16,537.64	-765.84	16,537.64	-765.84	742.00	326.49	415.51	1.786		
26,900.00	8,602.12	8,623.43	8,602.12	132.95	298.32	-97.79	16,537.43	-765.84	16,537.43	-765.84	696.93	276.23	420.70	1.657		
27,000.00	8,572.34	8,593.62	8,572.34	133.68	296.92	-95.25	16,537.43	-765.84	16,537.43	-765.84	662.79	237.38	425.41	1.558		
27,100.00	8,542.55	8,565.08	8,543.86	134.42	295.63	-92.81	16,537.58	-765.84	16,537.58	-765.84	641.19	212.58	428.62	1.496	Level 3	
27,200.00	8,512.48	8,533.62	8,512.47	135.15	294.23	-90.14	16,537.70	-765.84	16,537.70	-765.84	633.35	203.97	429.38	1.475	Level 3, ES, SF	
27,205.11	8,510.89	8,531.98	8,510.83	135.19	294.16	-89.99	16,537.72	-765.84	16,537.72	-765.84	633.33	203.98	429.35	1.475	Level 3, CC	
27,300.00	8,479.97	8,500.30	8,479.21	135.89	292.63	-87.25	16,537.64	-765.84	16,537.64	-765.84	639.67	212.34	427.32	1.497	Level 3	
27,400.00	8,446.90	8,465.51	8,444.55	136.62	290.94	-84.31	16,537.83	-765.84	16,537.83	-765.84	659.52	236.74	422.78	1.560		
27,500.00	8,413.83	8,434.76	8,413.83	137.35	289.50	-81.72	16,537.43	-765.84	16,537.43	-765.84	691.96	275.37	416.59	1.661		
27,600.00	8,380.76	8,394.74	8,373.94	138.09	287.71	-78.43	16,537.92	-765.84	16,537.92	-765.84	734.85	325.74	409.11	1.796		
27,700.00	8,347.68	8,366.39	8,345.61	138.82	286.49	-76.14	16,538.24	-765.84	16,538.24	-765.84	786.71	385.05	401.66	1.959		
27,800.00	8,314.61	8,335.36	8,314.61	139.55	285.16	-73.65	16,537.43	-765.84	16,537.43	-765.84	846.65	452.56	394.08	2.148		
27,900.00	8,281.54	8,302.29	8,281.54	140.29	283.74	-71.09	16,537.43	-765.84	16,537.43	-765.84	912.01	525.16	386.86	2.357		
28,000.00	8,248.84	8,264.57	8,243.94	141.02	282.12	-69.16	16,538.03	-765.84	16,538.03	-765.84	981.76	601.71	380.05	2.583		
28,100.00	8,218.98	8,239.59	8,218.98	141.76	281.04	-69.36	16,537.43	-765.84	16,537.43	-765.84	1,056.94	682.92	374.03	2.826		
28,200.00	8,191.54	8,212.15	8,191.54	142.50	279.87	-67.87	16,537.43	-765.84	16,537.43	-765.84	1,135.39	766.85	368.54	3.081		
28,300.00	8,164.21	8,184.75	8,164.21	143.24	278.62	-65.86	16,537.43	-765.84	16,537.43	-765.84	1,216.41	852.91	363.51	3.346		
28,400.00	8,136.88	8,157.35	8,136.88	143.98	277.35	-63.91	16,537.43	-765.84	16,537.43	-765.84	1,299.50	940.60	358.91	3.621		
28,500.00	8,109.55	8,129.98	8,109.55	144.72	276.07	-62.02	16,537.43	-765.84	16,537.43	-765.84	1,384.29	1,029.59	354.71	3.903		
28,600.00	8,082.22	8,098.19	8,077.85	145.46	274.52	-59.92	16,537.85	-765.84	16,537.85	-765.84	1,470.12	1,119.41	350.71	4.192		
28,700.00	8,054.88	8,075.20	8,054.88	146.20	273.39	-58.44	16,537.43	-765.84	16,537.43	-765.84	1,557.85	1,210.63	347.22	4.487		
28,800.00	8,027.55	8,047.80	8,027.55	146.94	272.00	-56.75	16,537.43	-765.84	16,537.43	-765.84	1,646.20	1,302.34	343.86	4.787		
28,827.63	8,020.00	8,039.06	8,018.83	147.14	271.54	-56.22	16,537.52	-765.84	16,537.52	-765.84	1,670.69	1,327.77	342.92	4.872		

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) B LEE STATE 006 - Verticals - Surveys

Survey Program: 45-MWD OWSG Rev5, 1647-MWD - OWSG R1										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)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)		Minimum Separation (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)		Ellipses (usft)			
26,300.00	8,780.85	8,852.46	8,831.06	128.54	26.79	-138.14	17,821.85	-760.45	2,235.17	2,151.29	83.87	26.650	
26,400.00	8,751.06	8,814.25	8,792.87	129.27	26.66	-136.63	17,822.89	-759.79	2,144.21	2,059.56	84.65	25.331	
26,500.00	8,721.27	8,775.98	8,754.62	130.01	26.54	-135.03	17,823.86	-758.98	2,053.49	1,967.97	85.52	24.012	
26,600.00	8,691.49	8,738.27	8,716.93	130.74	26.41	-133.35	17,824.73	-758.11	1,963.06	1,876.54	86.52	22.689	
26,700.00	8,661.70	8,704.91	8,683.58	131.48	26.30	-131.79	17,825.42	-757.35	1,872.98	1,785.23	87.75	21.345	
26,800.00	8,631.91	8,673.61	8,652.29	132.21	26.20	-130.23	17,826.00	-756.82	1,783.40	1,694.20	89.20	19.994	
26,900.00	8,602.12	8,642.70	8,621.39	132.95	26.10	-128.61	17,826.50	-756.49	1,694.41	1,603.55	90.86	18.649	
27,000.00	8,572.34	8,612.17	8,590.86	133.68	26.00	-126.92	17,826.93	-756.35	1,606.11	1,513.35	92.76	17.314	
27,100.00	8,542.55	8,582.02	8,560.72	134.42	25.90	-125.16	17,827.30	-756.40	1,518.65	1,423.69	94.95	15.994	
27,200.00	8,512.48	8,551.97	8,530.68	135.15	25.80	-124.48	17,827.60	-756.63	1,432.26	1,334.79	97.47	14.694	
27,300.00	8,479.97	8,518.48	8,497.19	135.89	25.70	-123.99	17,827.87	-757.05	1,347.82	1,247.50	100.31	13.436	
27,400.00	8,446.90	8,483.73	8,462.44	136.62	25.59	-121.82	17,828.13	-757.49	1,264.92	1,161.37	103.55	12.216	
27,500.00	8,413.83	8,449.11	8,427.82	137.35	25.48	-119.55	17,828.36	-757.92	1,183.68	1,076.41	107.27	11.035	
27,600.00	8,380.76	8,420.13	8,398.85	138.09	25.38	-117.57	17,828.59	-758.31	1,104.54	992.87	111.67	9.891	
27,700.00	8,347.68	8,390.90	8,369.63	138.82	25.29	-115.50	17,828.94	-758.77	1,028.09	911.40	116.69	8.810	
27,800.00	8,314.61	8,361.02	8,339.75	139.55	25.20	-113.32	17,829.42	-759.31	954.92	832.56	122.36	7.804	
27,900.00	8,281.54	8,326.52	8,305.26	140.29	25.09	-110.71	17,830.11	-759.94	885.77	757.16	128.61	6.887	
28,000.00	8,248.84	8,290.39	8,269.15	141.02	24.97	-107.17	17,831.00	-760.39	821.35	685.89	135.46	6.063	
28,100.00	8,218.98	8,256.59	8,235.36	141.76	24.87	-102.98	17,831.97	-760.62	762.33	619.43	142.89	5.335	
28,200.00	8,191.54	8,226.87	8,205.65	142.50	24.77	-100.12	17,832.83	-760.80	710.58	559.94	150.64	4.717	
28,300.00	8,164.21	8,197.68	8,176.48	143.24	24.68	-97.59	17,833.61	-761.05	668.52	510.48	158.04	4.230	
28,400.00	8,136.88	8,168.90	8,147.71	143.98	24.59	-95.07	17,834.31	-761.35	638.11	473.86	164.25	3.885	
28,500.00	8,109.55	8,140.20	8,119.02	144.72	24.50	-92.53	17,834.98	-761.70	621.09	452.76	168.33	3.690	
28,567.14	8,091.20	8,120.89	8,099.71	145.21	24.44	-90.82	17,835.44	-761.96	617.76	448.26	169.50	3.645	CC, ES, SF
28,600.00	8,082.22	8,111.43	8,090.25	145.46	24.41	-89.98	17,835.66	-762.09	618.56	448.99	169.57	3.648	
28,700.00	8,054.88	8,082.59	8,061.43	146.20	24.32	-87.43	17,836.36	-762.53	630.69	462.89	167.80	3.758	
28,800.00	8,027.55	8,053.78	8,032.63	146.94	24.23	-84.90	17,837.02	-762.99	656.67	493.19	163.48	4.017	
28,827.63	8,020.00	8,045.93	8,024.78	147.14	24.21	-84.21	17,837.18	-763.11	666.10	504.17	161.93	4.113	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 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)			
21,900.00	9,694.79	9,701.25	9,694.79	96.37	175.79	95.34	12,577.79	1,887.97	2,309.29	2,047.96	261.33	8.837	
22,000.00	9,679.07	9,685.53	9,679.07	97.09	175.35	94.90	12,577.79	1,887.97	2,260.38	1,997.46	262.92	8.597	
22,100.00	9,663.35	9,669.81	9,663.35	97.81	174.90	94.45	12,577.79	1,887.97	2,214.80	1,950.29	264.50	8.373	
22,200.00	9,647.64	9,654.10	9,647.64	98.53	174.46	94.01	12,577.79	1,887.97	2,172.75	1,906.69	266.06	8.166	
22,300.00	9,631.92	9,638.38	9,631.92	99.25	174.01	93.56	12,577.79	1,887.97	2,134.45	1,866.86	267.58	7.977	
22,400.00	9,616.20	9,622.66	9,616.20	99.97	173.56	93.11	12,577.79	1,887.97	2,100.09	1,831.06	269.04	7.806	
22,500.00	9,600.49	9,620.45	9,614.16	100.70	173.49	93.06	12,577.74	1,887.97	2,069.91	1,799.12	270.79	7.644	
22,600.00	9,583.89	9,599.12	9,592.84	101.42	172.95	92.82	12,578.16	1,887.97	2,044.15	1,772.21	271.94	7.517	
22,700.00	9,564.62	9,575.90	9,569.64	102.14	172.37	92.35	12,578.51	1,887.97	2,022.93	1,750.02	272.91	7.413	
22,800.00	9,545.07	9,553.53	9,547.27	102.87	171.80	91.72	12,578.72	1,887.97	2,006.24	1,732.50	273.74	7.329	
22,900.00	9,525.53	9,532.22	9,525.97	103.60	171.26	91.12	12,578.82	1,887.97	1,994.22	1,719.78	274.43	7.267	
23,000.00	9,505.99	9,512.21	9,505.99	104.32	170.75	90.55	12,577.79	1,887.97	1,986.89	1,711.92	274.97	7.226	
23,099.32	9,486.57	9,492.80	9,486.57	105.05	170.26	90.00	12,577.79	1,887.97	1,984.50	1,709.19	275.31	7.208	CC
23,100.00	9,486.44	9,492.67	9,486.44	105.05	170.26	90.00	12,577.79	1,887.97	1,984.50	1,709.19	275.31	7.208	ES, SF
23,200.00	9,466.90	9,473.12	9,466.90	105.78	169.76	89.44	12,577.79	1,887.97	1,986.96	1,711.52	275.44	7.214	
23,300.00	9,447.35	9,453.58	9,447.35	106.51	169.27	88.89	12,577.79	1,887.97	1,994.24	1,718.89	275.35	7.243	
23,400.00	9,427.81	9,434.03	9,427.81	107.24	168.77	88.34	12,577.79	1,887.97	2,006.29	1,731.25	275.05	7.294	
23,500.00	9,408.27	9,411.28	9,405.12	107.97	168.25	87.70	12,577.96	1,887.97	2,023.00	1,748.49	274.51	7.369	
23,600.00	9,388.72	9,392.47	9,386.31	108.70	167.84	87.17	12,578.09	1,887.97	2,044.28	1,770.39	273.89	7.464	
23,700.00	9,369.18	9,374.25	9,368.09	109.43	167.43	86.65	12,578.15	1,887.97	2,069.99	1,796.91	273.09	7.580	
23,800.00	9,349.63	9,355.78	9,349.63	110.16	167.03	86.13	12,577.79	1,887.97	2,100.11	1,827.99	272.11	7.718	
23,900.00	9,330.09	9,336.24	9,330.09	110.89	166.59	85.58	12,577.79	1,887.97	2,134.21	1,863.24	270.97	7.876	
24,000.00	9,310.55	9,316.70	9,310.55	111.63	166.16	85.03	12,577.79	1,887.97	2,172.21	1,902.50	269.71	8.054	
24,100.00	9,291.00	9,287.46	9,281.35	112.36	165.54	84.21	12,577.92	1,887.97	2,213.87	1,945.71	268.16	8.256	
24,200.00	9,271.46	9,269.12	9,263.01	113.09	165.16	83.70	12,578.08	1,887.97	2,258.97	1,992.21	266.76	8.468	
24,300.00	9,251.91	9,251.14	9,245.03	113.82	164.80	83.20	12,578.21	1,887.97	2,307.36	2,042.07	265.29	8.698	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) BRIDGES STATE 180 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:
26,300.00	8,780.85	8,798.00	8,782.11	128.54	266.55	136.55	17,847.88	467.15	17,847.88	467.15	2,247.61	1,924.85	322.76	6.964		0.00 usft
26,400.00	8,751.06	8,798.00	8,782.11	129.27	266.55	136.55	17,847.88	467.15	17,847.88	467.15	2,156.13	1,831.94	324.20	6.651		0.00 usft
26,500.00	8,721.27	8,743.11	8,727.36	130.01	264.36	134.14	17,848.74	467.15	17,848.74	467.15	2,065.38	1,742.60	322.78	6.399		
26,600.00	8,691.49	8,707.20	8,691.49	130.74	262.93	132.43	17,847.88	467.15	17,847.88	467.15	1,973.57	1,651.06	322.52	6.119		
26,700.00	8,661.70	8,677.42	8,661.70	131.48	261.74	130.94	17,847.88	467.15	17,847.88	467.15	1,883.04	1,560.31	322.73	5.835		
26,800.00	8,631.91	8,647.50	8,631.91	132.21	260.41	129.39	17,847.88	467.15	17,847.88	467.15	1,793.02	1,470.05	322.97	5.552		
26,900.00	8,602.12	8,617.67	8,602.12	132.95	259.07	127.76	17,847.88	467.15	17,847.88	467.15	1,703.60	1,380.20	323.40	5.268		
27,000.00	8,572.34	8,587.88	8,572.34	133.68	257.73	126.06	17,847.88	467.15	17,847.88	467.15	1,614.86	1,290.80	324.06	4.983		
27,100.00	8,542.55	8,580.00	8,564.46	134.42	257.38	125.59	17,847.88	467.15	17,847.88	467.15	1,527.09	1,200.73	326.36	4.679		
27,200.00	8,512.48	8,527.82	8,512.48	135.15	254.85	123.59	17,847.88	467.15	17,847.88	467.15	1,440.05	1,114.04	326.01	4.417		
27,300.00	8,479.97	8,495.31	8,479.97	135.89	253.27	123.18	17,847.88	467.15	17,847.88	467.15	1,355.03	1,027.69	327.34	4.139		
27,400.00	8,446.90	8,462.11	8,446.90	136.62	251.59	121.09	17,847.88	467.15	17,847.88	467.15	1,271.53	942.55	328.98	3.865		
27,500.00	8,413.83	8,428.95	8,413.83	137.35	249.90	118.89	17,847.88	467.15	17,847.88	467.15	1,189.65	858.57	331.08	3.593		
27,600.00	8,380.76	8,395.76	8,380.76	138.09	248.13	116.60	17,847.88	467.15	17,847.88	467.15	1,109.76	776.11	333.65	3.326		
27,700.00	8,347.68	8,362.64	8,347.68	138.82	246.32	114.22	17,847.88	467.15	17,847.88	467.15	1,032.31	695.51	336.81	3.065		
27,800.00	8,314.61	8,329.47	8,314.61	139.55	244.48	111.74	17,847.88	467.15	17,847.88	467.15	957.91	617.29	340.61	2.812		
27,900.00	8,281.54	8,296.30	8,281.54	140.29	242.60	109.17	17,847.88	467.15	17,847.88	467.15	887.31	542.21	345.10	2.571		
28,000.00	8,248.84	8,263.48	8,248.84	141.02	240.74	105.79	17,847.88	467.15	17,847.88	467.15	821.42	471.10	350.32	2.345		
28,100.00	8,218.98	8,233.51	8,218.98	141.76	239.04	101.80	17,847.88	467.15	17,847.88	467.15	761.02	404.68	356.34	2.136		
28,200.00	8,191.54	8,205.93	8,191.54	142.50	237.48	99.06	17,847.88	467.15	17,847.88	467.15	708.00	345.19	362.81	1.951		
28,300.00	8,164.21	8,189.00	8,174.61	143.24	236.52	97.57	17,847.88	467.15	17,847.88	467.15	664.81	295.16	369.65	1.798		
28,400.00	8,136.88	8,151.09	8,136.88	143.98	234.40	94.21	17,847.88	467.15	17,847.88	467.15	633.22	259.25	373.96	1.693		
28,500.00	8,109.55	8,124.24	8,110.12	144.72	232.85	91.81	17,848.20	467.15	17,848.20	467.15	615.32	238.56	376.75	1.633		
28,571.01	8,090.14	8,104.42	8,090.43	145.24	231.68	90.03	17,847.94	467.15	17,847.94	467.15	611.48	234.55	376.93	1.622	CC, ES, SF	
28,600.00	8,082.22	8,095.72	8,081.75	145.46	231.17	89.25	17,848.21	467.15	17,848.21	467.15	612.10	235.60	376.50	1.626		
28,700.00	8,054.88	8,068.82	8,054.88	146.20	229.59	86.83	17,847.88	467.15	17,847.88	467.15	623.94	250.74	373.20	1.672		
28,800.00	8,027.55	8,041.38	8,027.55	146.94	227.98	84.38	17,847.88	467.15	17,847.88	467.15	649.94	282.73	367.21	1.770		
28,827.63	8,020.00	8,027.96	8,014.23	147.14	227.19	83.20	17,848.11	467.15	17,848.11	467.15	659.36	294.43	364.93	1.807		

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 001H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Survey Program: 100-r.5 GYRO-NS, 7583-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)			
13,900.00	10,388.21	9,480.80	9,465.84	45.61	27.70	46.39	5,333.47	793.38	2,278.98	2,216.13	62.85	36.259	
14,000.00	10,381.14	9,494.00	9,477.38	46.08	27.72	47.08	5,339.73	792.05	2,192.85	2,129.80	63.05	34.781	
14,100.00	10,372.66	9,494.00	9,477.38	46.55	27.72	47.96	5,339.73	792.05	2,107.24	2,044.03	63.21	33.336	
14,200.00	10,363.95	9,494.00	9,477.38	47.04	27.72	47.96	5,339.73	792.05	2,022.87	1,959.46	63.41	31.901	
14,300.00	10,355.25	9,526.00	9,504.60	47.54	27.76	48.97	5,356.24	788.89	1,939.62	1,875.81	63.81	30.397	
14,400.00	10,346.54	9,526.00	9,504.60	48.04	27.76	48.97	5,356.24	788.89	1,857.64	1,793.55	64.09	28.984	
14,500.00	10,337.83	9,526.00	9,504.60	48.55	27.76	48.97	5,356.24	788.89	1,777.51	1,713.08	64.43	27.588	
14,600.00	10,329.13	9,542.49	9,518.16	49.06	27.78	49.50	5,365.51	787.43	1,699.10	1,634.19	64.91	26.178	
14,700.00	10,320.42	9,557.00	9,529.81	49.59	27.79	49.97	5,374.08	786.31	1,622.83	1,557.39	65.44	24.798	
14,800.00	10,311.71	9,557.00	9,529.81	50.12	27.79	49.97	5,374.08	786.31	1,548.92	1,482.94	65.99	23.473	
14,900.00	10,303.00	9,589.00	9,554.79	50.65	27.83	51.02	5,393.99	784.45	1,477.36	1,410.60	66.76	22.130	
15,000.00	10,294.29	9,604.81	9,566.84	51.19	27.85	51.67	5,404.21	783.78	1,408.58	1,341.02	67.56	20.851	
15,100.00	10,284.69	9,630.28	9,585.91	51.74	27.88	52.83	5,421.05	782.78	1,342.26	1,273.77	68.50	19.596	
15,200.00	10,275.02	9,652.00	9,601.77	52.29	27.90	53.59	5,435.87	781.99	1,279.13	1,209.60	69.53	18.397	
15,300.00	10,265.35	9,683.00	9,623.58	52.85	27.94	54.66	5,457.87	780.87	1,219.60	1,148.90	70.70	17.249	
15,400.00	10,255.68	9,715.00	9,645.21	53.42	27.99	55.76	5,481.43	779.70	1,163.89	1,091.91	71.98	16.169	
15,500.00	10,246.01	9,759.22	9,673.99	53.99	28.06	57.28	5,514.95	778.09	1,111.95	1,038.56	73.39	15.151	
15,600.00	10,236.35	9,799.40	9,698.71	54.57	28.13	58.65	5,546.58	776.46	1,064.21	989.33	74.87	14.213	
15,700.00	10,226.68	9,841.00	9,722.44	55.15	28.22	60.01	5,580.69	774.51	1,021.07	944.65	76.42	13.361	
15,800.00	10,217.01	9,890.09	9,747.71	55.73	28.36	61.51	5,622.66	771.61	982.55	904.54	78.01	12.595	
15,900.00	10,207.34	9,944.63	9,771.94	56.32	28.55	63.02	5,671.34	767.62	948.68	869.08	79.60	11.918	
16,000.00	10,197.68	9,999.00	9,791.79	56.91	28.78	64.29	5,721.71	762.84	919.28	838.12	81.16	11.327	
16,100.00	10,189.84	10,062.00	9,808.41	57.51	29.09	64.97	5,782.09	756.21	895.06	812.43	82.63	10.832	
16,200.00	10,183.38	10,125.00	9,820.10	58.10	29.45	65.71	5,843.51	748.67	874.58	790.55	84.03	10.408	
16,300.00	10,176.93	10,175.33	9,823.72	58.70	29.76	65.98	5,893.31	742.62	859.12	773.77	85.35	10.066	
16,400.00	10,170.47	10,232.97	9,822.92	59.30	30.15	66.03	5,950.73	737.65	849.65	763.09	86.56	9.816	
16,500.00	10,164.01	10,328.83	9,819.89	59.91	30.85	66.05	6,046.24	730.14	841.99	754.17	87.82	9.588	
16,600.00	10,157.55	10,391.21	9,816.86	60.52	31.34	66.03	6,108.45	726.71	837.16	748.15	89.01	9.405	
16,700.00	10,151.09	10,478.41	9,811.86	61.14	32.07	66.04	6,195.48	724.78	835.63	745.31	90.32	9.252	
16,800.00	10,144.64	10,571.77	9,805.98	61.76	32.90	66.03	6,288.64	723.33	834.97	743.28	91.69	9.106	
16,832.44	10,142.54	10,602.05	9,803.95	61.96	33.18	66.02	6,318.85	722.98	834.93	742.78	92.15	9.061	CC
16,900.00	10,138.18	10,665.12	9,799.54	62.38	33.78	66.00	6,381.77	722.45	835.11	742.00	93.11	8.969	
17,000.00	10,131.72	10,758.82	9,792.44	63.00	34.70	65.95	6,475.20	722.09	836.04	741.47	94.57	8.840	
17,100.00	10,125.26	10,851.77	9,784.04	63.63	35.66	65.82	6,567.77	721.86	837.70	741.66	96.04	8.722	
17,200.00	10,118.80	10,944.34	9,773.88	64.26	36.66	65.58	6,659.78	721.84	840.36	742.85	97.51	8.618	
17,300.00	10,112.34	11,051.96	9,761.37	64.90	37.86	65.26	6,766.66	721.82	843.35	744.19	99.16	8.505	
17,400.00	10,105.89	11,161.96	9,752.04	65.53	39.14	65.13	6,876.26	721.17	844.45	743.51	100.93	8.366	
17,500.00	10,099.43	11,257.84	9,744.11	66.17	40.29	65.04	6,971.82	720.71	845.59	743.00	102.60	8.242	
17,600.00	10,092.97	11,354.45	9,735.72	66.82	41.47	64.93	7,068.05	720.61	847.26	742.98	104.29	8.124	
17,700.00	10,086.51	11,460.43	9,726.83	67.46	42.80	64.83	7,173.67	720.61	848.91	742.79	106.13	7.999	
17,800.00	10,080.05	11,562.14	9,719.68	68.11	44.11	64.81	7,275.12	720.45	849.83	741.86	107.97	7.871	
17,900.00	10,073.59	11,656.30	9,712.63	68.76	45.34	64.78	7,369.02	720.41	851.05	741.31	109.74	7.755	
18,000.00	10,067.14	11,751.26	9,704.93	69.41	46.60	64.72	7,463.67	720.83	852.97	741.44	111.53	7.648	
18,100.00	10,060.68	11,843.85	9,696.77	70.07	47.84	64.63	7,555.89	721.63	855.58	742.29	113.29	7.552	
18,200.00	10,054.22	11,962.94	9,686.31	70.73	49.47	64.51	7,674.52	722.13	857.82	742.40	115.42	7.432	
18,300.00	10,047.76	12,059.35	9,679.48	71.39	50.81	64.50	7,770.68	722.19	858.96	741.65	117.31	7.322	
18,400.00	10,041.30	12,156.05	9,672.97	72.05	52.16	64.52	7,867.16	722.68	860.36	741.13	119.23	7.216	ES
18,500.00	10,034.85	12,246.15	9,666.19	72.71	53.44	64.52	7,956.99	723.62	862.58	741.53	121.05	7.126	
18,600.00	10,028.39	12,335.00	9,658.60	73.38	54.70	64.47	8,045.51	725.10	865.82	742.98	122.84	7.049	
18,700.00	10,021.93	12,429.00	9,649.31	74.05	56.04	64.37	8,139.02	727.37	870.29	745.60	124.69	6.980	
18,800.00	10,015.47	12,548.20	9,638.23	74.72	57.77	64.25	8,257.68	729.36	873.82	746.86	126.96	6.882	
18,900.00	10,009.01	12,645.84	9,629.27	75.39	59.19	64.15	8,354.90	730.26	876.65	747.74	128.91	6.801	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 001H - Horizontal - PRODUCING - Surveys

Offset Site Error: 0.00 usft

Survey Program: 100-r.5 GYRO-NS, 7583-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
19,000.00	10,002.55	12,746.99	9,620.88	76.06	60.68	64.09	8,455.70	731.25	879.14	748.21	130.93	6.714	
19,100.00	9,996.10	12,835.79	9,612.65	76.74	61.99	64.00	8,544.11	732.45	882.41	749.66	132.75	6.647	
19,200.00	9,989.64	12,923.81	9,602.91	77.42	63.30	63.84	8,631.57	734.25	887.08	752.57	134.51	6.595	
19,300.00	9,983.18	13,016.37	9,593.99	78.10	64.67	63.79	8,723.62	737.84	892.78	756.38	136.40	6.545	
19,400.00	9,976.72	13,107.72	9,585.31	78.78	66.03	63.78	8,814.45	742.26	899.29	761.02	138.27	6.504	
19,500.00	9,970.26	13,193.66	9,575.84	79.46	67.31	63.71	8,899.74	747.05	907.12	767.13	139.99	6.480	
19,600.00	9,962.33	13,287.43	9,563.97	80.15	68.71	63.54	8,992.58	752.64	915.39	773.50	141.88	6.452	
19,700.00	9,953.48	13,392.64	9,548.95	80.84	70.29	63.39	9,096.57	758.05	923.23	779.22	144.01	6.411	
19,800.00	9,944.64	13,494.91	9,535.44	81.53	71.83	63.31	9,197.81	763.23	930.53	784.43	146.10	6.369	
19,900.00	9,935.79	13,589.23	9,524.58	82.22	73.26	63.36	9,291.32	769.10	938.11	790.03	148.09	6.335	
20,000.00	9,926.94	13,686.39	9,513.30	82.91	74.73	63.41	9,387.60	775.62	946.17	796.02	150.14	6.302	
20,100.00	9,918.09	13,784.02	9,502.54	83.61	76.22	63.50	9,484.39	782.46	954.23	801.99	152.24	6.268	
20,200.00	9,909.25	13,871.01	9,492.14	84.30	77.54	63.55	9,570.51	789.00	963.18	809.13	154.05	6.252	
20,300.00	9,900.40	13,955.28	9,480.63	85.00	78.83	63.54	9,653.69	796.04	973.62	817.89	155.74	6.252	SF
20,400.00	9,891.55	14,038.00	9,467.82	85.70	80.08	63.46	9,735.08	803.42	985.46	828.14	157.31	6.264	
20,500.00	9,882.70	14,126.57	9,452.47	86.40	81.43	63.30	9,821.90	811.85	998.64	839.64	159.00	6.281	
20,600.00	9,872.38	14,214.00	9,436.39	87.10	82.75	62.95	9,907.39	820.57	1,012.10	851.44	160.66	6.300	
20,700.00	9,859.56	14,214.00	9,436.39	87.81	82.75	62.88	9,907.39	820.57	1,030.17	871.10	159.07	6.476	
20,800.00	9,846.63	14,214.00	9,436.39	88.52	82.75	62.88	9,907.39	820.57	1,057.38	900.93	156.45	6.759	
20,900.00	9,833.69	14,214.00	9,436.39	89.22	82.75	62.88	9,907.39	820.57	1,093.09	940.07	153.02	7.144	
21,000.00	9,820.76	14,214.00	9,436.39	89.93	82.75	62.88	9,907.39	820.57	1,136.51	987.48	149.03	7.626	
21,100.00	9,807.82	14,214.00	9,436.39	90.64	82.75	62.88	9,907.39	820.57	1,186.78	1,042.07	144.71	8.201	
21,200.00	9,794.89	14,214.00	9,436.39	91.36	82.75	62.88	9,907.39	820.57	1,243.08	1,102.82	140.26	8.862	
21,300.00	9,781.96	14,214.00	9,436.39	92.07	82.75	62.88	9,907.39	820.57	1,304.63	1,168.78	135.84	9.604	
21,400.00	9,769.02	14,214.00	9,436.39	92.78	82.75	62.88	9,907.39	820.57	1,370.71	1,239.16	131.56	10.419	
21,500.00	9,756.09	14,214.00	9,436.39	93.50	82.75	62.88	9,907.39	820.57	1,440.71	1,313.24	127.47	11.302	
21,600.00	9,741.94	14,214.00	9,436.39	94.21	82.75	61.36	9,907.39	820.57	1,513.70	1,390.08	123.62	12.244	
21,700.00	9,726.22	14,214.00	9,436.39	94.93	82.75	61.36	9,907.39	820.57	1,589.16	1,469.13	120.03	13.239	
21,800.00	9,710.50	14,214.00	9,436.39	95.65	82.75	61.36	9,907.39	820.57	1,667.21	1,550.51	116.70	14.286	
21,900.00	9,694.79	14,214.00	9,436.39	96.37	82.75	61.36	9,907.39	820.57	1,747.49	1,633.86	113.63	15.379	
22,000.00	9,679.07	14,214.00	9,436.39	97.09	82.75	61.36	9,907.39	820.57	1,829.72	1,718.91	110.81	16.512	
22,100.00	9,663.35	14,214.00	9,436.39	97.81	82.75	61.36	9,907.39	820.57	1,913.64	1,805.42	108.22	17.683	
22,200.00	9,647.64	14,214.00	9,436.39	98.53	82.75	61.36	9,907.39	820.57	1,999.04	1,893.19	105.85	18.886	
22,300.00	9,631.92	14,214.00	9,436.39	99.25	82.75	61.36	9,907.39	820.57	2,085.74	1,982.06	103.68	20.117	
22,400.00	9,616.20	14,214.00	9,436.39	99.97	82.75	61.36	9,907.39	820.57	2,173.58	2,071.88	101.69	21.374	
22,500.00	9,600.49	14,214.00	9,436.39	100.70	82.75	61.36	9,907.39	820.57	2,262.43	2,162.55	99.88	22.652	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 001H - Pilot - Pilot

Survey Program: 1966-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)					
13,700.00	10,402.30	10,281.20	10,283.85	44.70	230.63	91.74	5,284.65	863.90	2,252.62	1,984.18	268.44	8.391			
13,800.00	10,395.25	10,281.20	10,283.85	45.15	230.63	91.74	5,284.65	863.90	2,161.22	1,892.54	268.68	8.044			
13,900.00	10,388.21	10,281.20	10,283.85	45.61	230.63	91.74	5,284.65	863.90	2,070.61	1,801.65	268.96	7.699			
14,000.00	10,381.14	10,281.20	10,283.85	46.08	230.63	92.21	5,284.65	863.90	1,980.90	1,711.63	269.27	7.357			
14,100.00	10,372.66	10,272.23	10,274.90	46.55	230.63	93.04	5,284.11	863.90	1,892.22	1,622.67	269.56	7.020			
14,200.00	10,363.95	10,270.28	10,272.94	47.04	230.62	92.92	5,283.99	863.91	1,804.75	1,534.80	269.96	6.685			
14,300.00	10,355.25	10,268.25	10,270.92	47.54	230.62	92.79	5,283.88	863.91	1,718.65	1,448.23	270.42	6.356			
14,400.00	10,346.54	10,266.14	10,268.81	48.04	230.62	92.65	5,283.76	863.91	1,634.13	1,363.18	270.95	6.031			
14,500.00	10,337.83	10,263.95	10,266.63	48.55	230.62	92.51	5,283.63	863.91	1,551.44	1,279.88	271.55	5.713			
14,600.00	10,329.13	10,261.67	10,264.35	49.06	230.62	92.37	5,283.50	863.91	1,470.90	1,198.64	272.25	5.403			
14,700.00	10,320.42	10,259.30	10,261.99	49.59	230.62	92.22	5,283.37	863.91	1,392.88	1,119.82	273.06	5.101			
14,800.00	10,311.71	10,256.83	10,259.52	50.12	230.62	92.06	5,283.24	863.92	1,317.82	1,043.85	273.97	4.810			
14,900.00	10,303.00	10,254.26	10,256.95	50.65	230.62	91.89	5,283.10	863.92	1,246.27	971.26	275.01	4.532			
15,000.00	10,294.29	10,251.56	10,254.26	51.19	230.62	91.86	5,282.95	863.92	1,178.86	902.68	276.18	4.268			
15,100.00	10,284.69	10,248.02	10,250.72	51.74	230.62	91.97	5,282.77	863.93	1,116.36	838.89	277.47	4.023			
15,200.00	10,275.02	10,244.26	10,246.97	52.29	230.62	91.73	5,282.57	863.93	1,059.61	780.74	278.87	3.800			
15,300.00	10,265.35	10,240.33	10,243.04	52.85	230.62	91.47	5,282.38	863.94	1,009.59	729.25	280.34	3.601			
15,400.00	10,255.68	10,235.80	10,238.52	53.42	230.62	91.18	5,282.15	863.95	967.32	685.51	281.81	3.433			
15,500.00	10,246.01	10,231.42	10,234.14	53.99	230.62	90.90	5,281.94	863.96	933.87	650.66	283.22	3.297			
15,600.00	10,236.35	10,226.54	10,229.27	54.57	230.62	90.59	5,281.70	863.96	910.21	625.76	284.45	3.200			
15,700.00	10,226.68	10,221.63	10,224.36	55.15	230.62	90.28	5,281.46	863.97	897.10	611.68	285.42	3.143			
15,768.73	10,220.03	10,218.23	10,220.97	55.55	230.61	90.06	5,281.30	863.98	894.47	608.57	285.90	3.129	CC, ES, SF		
15,800.00	10,217.01	10,216.67	10,219.41	55.73	230.61	89.96	5,281.23	863.98	895.02	608.96	286.06	3.129			
15,900.00	10,207.34	10,211.68	10,214.43	56.32	230.61	89.64	5,280.99	863.99	904.03	617.71	286.32	3.157			
16,000.00	10,197.68	10,206.65	10,209.40	56.91	230.61	89.34	5,280.74	863.99	923.82	637.61	286.21	3.228			
16,100.00	10,189.84	10,203.48	10,206.24	57.51	230.61	89.68	5,280.59	864.00	953.73	667.94	285.79	3.337			
16,200.00	10,183.38	10,201.72	10,204.47	58.10	230.61	89.57	5,280.51	864.00	992.86	707.74	285.12	3.482			
16,300.00	10,176.93	10,199.94	10,202.70	58.70	230.61	89.45	5,280.43	864.00	1,040.16	755.86	284.30	3.659			
16,400.00	10,170.47	10,198.14	10,200.91	59.30	230.61	89.34	5,280.34	864.00	1,094.57	811.17	283.40	3.862			
16,500.00	10,164.01	10,196.34	10,199.10	59.91	230.61	89.22	5,280.25	864.01	1,155.09	872.62	282.47	4.089			
16,600.00	10,157.55	10,194.51	10,197.28	60.52	230.61	89.11	5,280.17	864.01	1,220.81	939.26	281.55	4.336			
16,700.00	10,151.09	10,192.68	10,195.44	61.14	230.61	88.99	5,280.08	864.01	1,290.94	1,010.25	280.68	4.599			
16,800.00	10,144.64	10,190.83	10,193.59	61.76	230.61	88.87	5,279.99	864.01	1,364.79	1,084.92	279.87	4.876			
16,900.00	10,138.18	10,188.96	10,191.73	62.38	230.61	88.75	5,279.91	864.01	1,441.79	1,162.67	279.13	5.165			
17,000.00	10,131.72	10,187.08	10,189.85	63.00	230.61	88.63	5,279.82	864.01	1,521.48	1,243.03	278.45	5.464			
17,100.00	10,125.26	10,185.18	10,187.95	63.63	230.61	88.51	5,279.73	864.01	1,603.43	1,325.60	277.83	5.771			
17,200.00	10,118.80	10,183.26	10,186.04	64.26	230.61	88.39	5,279.64	864.02	1,687.34	1,410.06	277.28	6.085			
17,300.00	10,112.34	10,181.33	10,184.11	64.90	230.61	88.26	5,279.55	864.02	1,772.91	1,496.13	276.78	6.405			
17,400.00	10,105.89	10,179.39	10,182.17	65.53	230.61	88.14	5,279.46	864.02	1,859.92	1,583.58	276.34	6.731			
17,500.00	10,099.43	10,177.43	10,180.21	66.17	230.61	88.01	5,279.37	864.02	1,948.17	1,672.23	275.94	7.060			
17,600.00	10,092.97	10,175.45	10,178.24	66.82	230.61	87.89	5,279.27	864.02	2,037.51	1,761.92	275.59	7.393			
17,700.00	10,086.51	10,173.45	10,176.24	67.46	230.61	87.76	5,279.18	864.02	2,127.80	1,852.53	275.27	7.730			
17,800.00	10,080.05	10,171.44	10,174.23	68.11	230.61	87.63	5,279.09	864.02	2,218.92	1,943.93	274.99	8.069			
17,900.00	10,073.59	10,169.41	10,172.21	68.76	230.61	87.50	5,278.99	864.02	2,310.77	2,036.03	274.74	8.411			

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 004H - Horizontal - PRODUCING - Surveys

Survey Program: 100-NS-GYRO-MS, 9356-MWD+HRGM										Rule Assigned:		Offset Well Error:		Offset Site Error:	
Reference Offset				Semi Major Axis		Offset Wellbore Centre				Distance		Warning		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			
13,400.00	10,423.43	9,669.00	9,670.03	43.40	23.96	20.58	5,059.34	196.96	2,283.72	2,225.04	58.68	38.918			
13,500.00	10,416.39	9,683.68	9,682.84	43.83	23.97	20.56	5,064.30	191.78	2,187.75	2,129.06	58.69	37.275			
13,600.00	10,409.34	9,701.00	9,697.74	44.26	23.97	20.52	5,070.44	185.45	2,092.16	2,033.45	58.71	35.633			
13,700.00	10,402.30	9,701.00	9,697.74	44.70	23.97	20.52	5,070.44	185.45	1,996.73	1,938.06	58.67	34.035			
13,800.00	10,395.25	9,701.00	9,697.74	45.15	23.97	20.52	5,070.44	185.45	1,901.77	1,843.15	58.62	32.443			
13,900.00	10,388.21	9,719.47	9,713.33	45.61	23.99	20.42	5,077.35	178.37	1,807.05	1,748.40	58.65	30.811			
14,000.00	10,381.14	9,732.00	9,723.72	46.08	23.99	20.56	5,082.24	173.34	1,712.80	1,654.15	58.66	29.201			
14,100.00	10,372.66	9,732.00	9,723.72	46.55	23.99	21.29	5,082.24	173.34	1,618.63	1,560.01	58.62	27.613			
14,200.00	10,363.95	9,750.22	9,738.47	47.04	24.01	21.12	5,089.68	165.65	1,524.76	1,466.10	58.66	25.994			
14,300.00	10,355.25	9,763.00	9,748.54	47.54	24.01	20.97	5,095.13	159.97	1,431.53	1,372.85	58.68	24.396			
14,400.00	10,346.54	9,763.00	9,748.54	48.04	24.01	20.97	5,095.13	159.97	1,339.07	1,280.42	58.66	22.828			
14,500.00	10,337.83	9,795.00	9,772.57	48.55	24.04	20.38	5,109.72	144.72	1,247.35	1,188.59	58.76	21.229			
14,600.00	10,329.13	9,795.00	9,772.57	49.06	24.04	20.38	5,109.72	144.72	1,156.38	1,097.62	58.76	19.679			
14,700.00	10,320.42	9,810.76	9,783.77	49.59	24.05	19.99	5,117.44	136.76	1,066.67	1,007.84	58.83	18.131			
14,800.00	10,311.71	9,826.00	9,794.21	50.12	24.06	19.56	5,125.24	128.86	978.32	919.40	58.92	16.604			
14,900.00	10,303.00	9,842.72	9,805.23	50.65	24.08	19.02	5,134.19	120.03	891.58	832.54	59.04	15.100			
15,000.00	10,294.29	9,857.00	9,814.28	51.19	24.09	18.59	5,142.15	112.38	806.86	747.64	59.22	13.626			
15,100.00	10,284.69	9,889.00	9,833.41	51.74	24.12	17.45	5,160.97	94.95	724.01	664.60	59.41	12.186			
15,200.00	10,275.02	9,909.37	9,844.71	52.29	24.15	16.45	5,173.55	83.60	643.92	584.21	59.71	10.785			
15,300.00	10,265.35	9,937.75	9,859.21	52.85	24.23	14.80	5,191.70	67.30	567.46	507.39	60.07	9.447			
15,400.00	10,255.68	9,969.99	9,873.81	53.42	24.34	12.55	5,213.12	48.14	495.72	435.20	60.52	8.191			
15,500.00	10,246.01	10,006.03	9,887.83	53.99	24.49	9.52	5,237.77	25.92	430.22	369.11	61.10	7.041			
15,600.00	10,236.35	10,046.00	9,900.43	54.57	24.67	5.52	5,265.86	0.45	373.53	311.62	61.91	6.034			
15,700.00	10,226.68	10,085.76	9,909.91	55.15	24.88	1.05	5,294.84	-25.05	329.38	266.22	63.16	5.215			
15,800.00	10,217.01	10,132.08	9,917.29	55.73	25.15	-4.58	5,329.65	-54.69	301.75	236.88	64.87	4.651			
15,884.02	10,208.89	10,171.00	9,920.19	56.23	25.40	-9.47	5,359.38	-79.63	294.07	227.33	66.74	4.406	CC		
15,900.00	10,207.34	10,178.64	9,920.37	56.32	25.45	-10.43	5,365.22	-84.55	294.35	227.23	67.11	4.386	ES		
16,000.00	10,197.68	10,231.44	9,918.61	56.91	25.82	-16.82	5,405.65	-118.42	307.87	238.49	69.38	4.437			
16,100.00	10,189.84	10,316.90	9,910.89	57.51	26.49	-25.66	5,473.36	-169.97	336.54	264.81	71.73	4.692			
16,200.00	10,183.38	10,418.74	9,901.51	58.10	27.35	-33.52	5,558.21	-225.46	369.96	295.64	74.32	4.978			
16,300.00	10,176.93	10,525.92	9,893.07	58.70	28.32	-39.81	5,651.20	-278.05	403.03	326.06	76.97	5.236			
16,400.00	10,170.47	10,633.77	9,885.56	59.30	29.34	-44.67	5,747.74	-325.50	434.50	354.98	79.52	5.464			
16,500.00	10,164.01	10,744.33	9,876.66	59.91	30.42	-48.26	5,849.43	-367.91	464.05	382.14	81.91	5.666			
16,600.00	10,157.55	10,861.82	9,865.22	60.52	31.57	-50.80	5,960.19	-405.32	490.40	406.25	84.15	5.828			
16,700.00	10,151.09	11,001.23	9,853.26	61.14	32.91	-52.89	6,094.74	-439.59	510.61	424.25	86.36	5.912			
16,800.00	10,144.64	11,134.48	9,843.82	61.76	34.17	-54.20	6,225.75	-461.77	523.74	435.55	88.19	5.939			
16,900.00	10,138.18	11,262.99	9,833.42	62.38	35.32	-54.64	6,353.33	-472.80	530.95	441.31	89.64	5.923			
17,000.00	10,131.72	11,376.50	9,822.89	63.00	36.31	-54.45	6,466.32	-475.32	533.59	442.64	90.95	5.867			
17,100.00	10,125.26	11,472.47	9,812.68	63.63	37.16	-54.09	6,561.74	-476.04	535.91	443.53	92.39	5.801			
17,200.00	10,118.80	11,575.68	9,800.58	64.26	38.11	-53.60	6,664.23	-476.70	538.84	445.10	93.74	5.748			
17,300.00	10,112.34	11,677.99	9,790.59	64.90	39.08	-53.29	6,766.06	-477.19	540.47	445.29	95.18	5.679			
17,400.00	10,105.89	11,775.42	9,781.61	65.53	40.04	-53.09	6,863.05	-478.54	542.52	445.79	96.73	5.609			
17,500.00	10,099.43	11,884.20	9,771.54	66.17	41.14	-52.83	6,971.36	-479.57	544.26	446.11	98.16	5.545			
17,600.00	10,092.97	11,989.12	9,764.45	66.82	42.23	-52.80	7,076.04	-480.39	544.35	444.63	99.72	5.459			
17,700.00	10,086.51	12,087.00	9,757.86	67.46	43.26	-52.74	7,173.70	-480.71	544.06	442.69	101.37	5.367			
17,723.72	10,084.98	12,111.39	9,756.09	67.61	43.53	-52.71	7,198.02	-480.73	544.02	442.27	101.75	5.347			
17,800.00	10,080.05	12,182.98	9,750.56	68.11	44.30	-52.62	7,269.40	-481.08	544.35	441.31	103.04	5.283			
17,900.00	10,073.59	12,279.42	9,742.25	68.76	45.36	-52.44	7,365.48	-481.87	545.61	440.90	104.70	5.211			
18,000.00	10,067.14	12,388.55	9,733.49	69.41	46.58	-52.25	7,474.25	-482.11	546.00	439.78	106.22	5.140			
18,012.27	10,066.34	12,400.00	9,732.63	69.49	46.71	-52.23	7,485.66	-482.11	545.99	439.55	106.44	5.130			
18,100.00	10,060.68	12,481.53	9,726.13	70.07	47.64	-52.10	7,566.94	-482.45	546.47	438.51	107.96	5.062			
18,200.00	10,054.22	12,573.94	9,718.08	70.73	48.72	-51.97	7,658.99	-483.85	548.35	438.64	109.71	4.998			

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 004H - Horizontal - PRODUCING - Surveys

Survey Program: 100-NS-GYRO-MS, 9356-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)
18,300.00	10,047.76	12,673.02	9,708.61	71.39	49.89	-51.79	7,757.59	-485.95	551.22	439.84	111.38	4.949	SF
18,400.00	10,041.30	12,787.16	9,698.36	72.05	51.24	-51.53	7,871.27	-486.62	552.54	439.65	112.88	4.895	
18,500.00	10,034.85	12,891.54	9,691.24	72.71	52.49	-51.43	7,975.40	-486.52	551.96	437.42	114.54	4.819	
18,600.00	10,028.39	12,989.37	9,684.37	73.38	53.67	-51.32	8,072.98	-486.37	551.49	435.20	116.28	4.743	
18,649.94	10,025.16	13,037.82	9,680.74	73.71	54.26	-51.25	8,121.30	-486.30	551.41	434.25	117.15	4.707	
18,700.00	10,021.93	13,085.04	9,677.06	74.05	54.83	-51.18	8,168.38	-486.38	551.54	433.50	118.04	4.672	
18,800.00	10,015.47	13,191.19	9,668.99	74.72	56.14	-51.04	8,274.22	-486.83	551.91	432.22	119.69	4.611	
18,900.00	10,009.01	13,293.79	9,662.71	75.39	57.41	-51.00	8,376.62	-486.62	550.83	429.41	121.42	4.536	
19,000.00	10,002.55	13,391.09	9,656.37	76.06	58.63	-50.93	8,473.71	-486.50	550.06	426.84	123.22	4.464	
19,100.00	9,996.10	13,491.30	9,649.78	76.74	59.89	-50.86	8,573.71	-486.46	549.41	424.43	124.99	4.396	
19,200.00	9,989.64	13,589.77	9,643.29	77.42	61.14	-50.80	8,671.96	-486.71	548.99	422.20	126.79	4.330	
19,300.00	9,983.18	13,693.21	9,637.35	78.10	62.47	-50.86	8,775.23	-487.59	548.50	419.91	128.60	4.265	SF
19,400.00	9,976.72	13,795.38	9,632.95	78.78	63.79	-51.03	8,877.30	-488.38	547.03	416.55	130.48	4.192	
19,500.00	9,970.26	13,892.27	9,628.92	79.46	65.05	-51.25	8,974.09	-489.83	546.04	413.57	132.47	4.122	
19,600.00	9,962.33	13,992.97	9,623.13	80.15	66.36	-51.42	9,074.62	-490.32	544.35	409.97	134.38	4.051	
19,700.00	9,953.48	14,090.11	9,615.95	80.84	67.62	-51.42	9,171.49	-489.39	541.99	405.73	136.26	3.978	
19,800.00	9,944.64	14,188.02	9,607.38	81.53	68.89	-51.30	9,269.02	-488.43	540.47	402.39	138.07	3.914	
19,900.00	9,935.79	14,288.44	9,598.35	82.22	70.20	-51.15	9,369.03	-487.20	538.90	399.07	139.83	3.854	
20,000.00	9,926.94	14,389.23	9,589.52	82.91	71.52	-51.02	9,469.43	-486.05	537.26	395.66	141.60	3.794	
20,100.00	9,918.09	14,485.54	9,580.53	83.61	72.79	-50.83	9,565.30	-484.69	535.77	392.38	143.39	3.736	
20,200.00	9,909.25	14,581.62	9,570.36	84.30	74.05	-50.54	9,660.83	-483.41	535.14	390.01	145.13	3.687	
20,254.02	9,904.47	14,634.00	9,564.54	84.68	74.74	-50.36	9,712.88	-482.69	534.98	388.94	146.05	3.663	SF
20,300.00	9,900.40	14,634.00	9,564.54	85.00	74.74	-50.36	9,712.88	-482.69	536.96	390.05	146.91	3.655	
20,400.00	9,891.55	14,634.00	9,564.54	85.70	74.74	-50.36	9,712.88	-482.69	554.55	408.64	145.91	3.801	
20,500.00	9,882.70	14,634.00	9,564.54	86.40	74.74	-50.36	9,712.88	-482.69	588.84	447.11	141.73	4.155	
20,600.00	9,872.38	14,634.00	9,564.54	87.10	74.74	-49.59	9,712.88	-482.69	636.33	500.60	135.73	4.688	
20,700.00	9,859.56	14,634.00	9,564.54	87.81	74.74	-49.34	9,712.88	-482.69	693.79	564.71	129.08	5.375	
20,800.00	9,846.63	14,634.00	9,564.54	88.52	74.74	-49.34	9,712.88	-482.69	760.06	637.53	122.53	6.203	
20,900.00	9,833.69	14,634.00	9,564.54	89.22	74.74	-49.34	9,712.88	-482.69	833.08	716.58	116.51	7.150	
21,000.00	9,820.76	14,634.00	9,564.54	89.93	74.74	-49.34	9,712.88	-482.69	911.25	800.07	111.18	8.196	
21,100.00	9,807.82	14,634.00	9,564.54	90.64	74.74	-49.34	9,712.88	-482.69	993.34	886.78	106.56	9.322	
21,200.00	9,794.89	14,634.00	9,564.54	91.36	74.74	-49.34	9,712.88	-482.69	1,078.46	975.86	102.59	10.512	SF
21,300.00	9,781.96	14,634.00	9,564.54	92.07	74.74	-49.34	9,712.88	-482.69	1,165.94	1,066.75	99.19	11.754	
21,400.00	9,769.02	14,634.00	9,564.54	92.78	74.74	-49.34	9,712.88	-482.69	1,255.29	1,159.01	96.28	13.038	
21,500.00	9,756.09	14,634.00	9,564.54	93.50	74.74	-49.34	9,712.88	-482.69	1,346.15	1,252.36	93.78	14.354	
21,600.00	9,741.94	14,634.00	9,564.54	94.21	74.74	-46.58	9,712.88	-482.69	1,437.90	1,346.29	91.61	15.696	
21,700.00	9,726.22	14,634.00	9,564.54	94.93	74.74	-46.58	9,712.88	-482.69	1,530.30	1,440.60	89.70	17.061	
21,800.00	9,710.50	14,634.00	9,564.54	95.65	74.74	-46.58	9,712.88	-482.69	1,623.60	1,535.56	88.04	18.442	
21,900.00	9,694.79	14,634.00	9,564.54	96.37	74.74	-46.58	9,712.88	-482.69	1,717.65	1,631.07	86.59	19.837	
22,000.00	9,679.07	14,634.00	9,564.54	97.09	74.74	-46.58	9,712.88	-482.69	1,812.34	1,727.03	85.32	21.243	
22,100.00	9,663.35	14,634.00	9,564.54	97.81	74.74	-46.58	9,712.88	-482.69	1,907.58	1,823.38	84.20	22.655	
22,200.00	9,647.64	14,634.00	9,564.54	98.53	74.74	-46.58	9,712.88	-482.69	2,003.27	1,920.06	83.21	24.074	SF
22,300.00	9,631.92	14,634.00	9,564.54	99.25	74.74	-46.58	9,712.88	-482.69	2,099.37	2,017.03	82.34	25.497	
22,400.00	9,616.20	14,634.00	9,564.54	99.97	74.74	-46.58	9,712.88	-482.69	2,195.82	2,114.25	81.56	26.922	
22,500.00	9,600.49	14,634.00	9,564.54	100.70	74.74	-46.58	9,712.88	-482.69	2,292.57	2,211.70	80.87	28.349	
22,600.00	9,584.77	14,634.00	9,564.54	101.42	74.74	-46.58	9,712.88	-482.69	2,388.86	2,307.81	79.98	29.780	
22,700.00	9,569.05	14,634.00	9,564.54	102.14	74.74	-46.58	9,712.88	-482.69	2,484.95	2,403.90	79.09	31.211	
22,800.00	9,553.33	14,634.00	9,564.54	102.86	74.74	-46.58	9,712.88	-482.69	2,581.04	2,500.00	78.20	32.642	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 004H - ST01 - ST01

Survey Program: 100-NS-GYRO-MS, 9253-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 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
13,500.00	10,416.39	9,549.00	9,558.09	43.83	23.78	22.42	5,047.42	265.79	2,225.13	2,166.98	58.15	38.266	
13,600.00	10,409.34	9,563.54	9,571.34	44.26	23.78	22.70	5,053.20	264.18	2,131.41	2,073.25	58.16	36.646	
13,700.00	10,402.30	9,580.00	9,586.14	44.70	23.79	23.02	5,060.10	262.15	2,038.25	1,980.06	58.19	35.029	
13,800.00	10,395.25	9,580.00	9,586.14	45.15	23.79	23.02	5,060.10	262.15	1,945.48	1,887.34	58.14	33.462	
13,900.00	10,388.21	9,594.23	9,598.78	45.61	23.79	23.28	5,066.33	260.21	1,853.30	1,795.14	58.16	31.863	
14,000.00	10,381.14	9,611.00	9,613.51	46.08	23.80	23.80	5,073.94	257.68	1,761.69	1,703.49	58.21	30.266	
14,100.00	10,372.66	9,623.40	9,624.28	46.55	23.81	24.71	5,079.74	255.62	1,670.14	1,611.90	58.24	28.676	
14,200.00	10,363.95	9,643.00	9,641.09	47.04	23.82	25.07	5,089.15	252.03	1,579.12	1,520.80	58.32	27.077	
14,300.00	10,355.25	9,664.26	9,659.01	47.54	23.83	25.41	5,099.65	247.46	1,488.69	1,430.28	58.41	25.485	
14,400.00	10,346.54	9,693.64	9,683.09	48.04	23.84	25.77	5,114.47	239.54	1,398.77	1,340.22	58.55	23.890	
14,500.00	10,337.83	9,721.99	9,705.42	48.55	23.86	25.93	5,129.01	229.86	1,309.29	1,250.61	58.68	22.311	
14,600.00	10,329.13	9,747.09	9,724.31	49.06	23.87	25.91	5,142.13	219.82	1,220.46	1,161.65	58.81	20.753	
14,700.00	10,320.42	9,768.00	9,739.23	49.59	23.88	25.75	5,153.29	210.35	1,132.52	1,073.58	58.94	19.215	
14,800.00	10,311.71	9,810.09	9,767.33	50.12	23.91	25.06	5,176.01	188.79	1,045.36	986.27	59.09	17.691	
14,900.00	10,303.00	9,849.73	9,792.30	50.65	23.93	24.01	5,197.11	166.38	958.45	899.22	59.23	16.183	
15,000.00	10,294.29	9,874.80	9,807.15	51.19	23.94	23.24	5,210.65	151.40	872.71	813.33	59.38	14.696	
15,100.00	10,284.69	9,893.00	9,817.41	51.74	23.95	22.76	5,220.81	140.32	788.41	728.81	59.60	13.228	
15,200.00	10,275.02	9,925.00	9,834.35	52.29	23.97	21.25	5,239.34	120.48	706.24	646.42	59.82	11.806	
15,300.00	10,265.35	9,956.00	9,849.24	52.85	23.99	19.49	5,258.15	100.85	627.06	566.95	60.10	10.433	
15,400.00	10,255.68	9,988.00	9,862.90	53.42	24.02	17.31	5,278.36	80.15	551.68	491.22	60.46	9.124	
15,500.00	10,246.01	10,019.00	9,874.48	53.99	24.04	14.81	5,298.49	59.62	481.12	420.12	61.00	7.888	
15,600.00	10,236.35	10,058.93	9,887.13	54.57	24.08	10.96	5,324.67	32.27	416.98	355.35	61.63	6.766	
15,700.00	10,226.68	10,106.44	9,899.71	55.15	24.15	5.49	5,355.84	-1.31	361.33	298.83	62.50	5.781	
15,800.00	10,217.01	10,147.90	9,908.67	55.73	24.22	0.07	5,383.26	-31.08	318.30	254.22	64.08	4.967	
15,900.00	10,207.34	10,190.67	9,914.79	56.32	24.30	-5.92	5,412.31	-61.83	294.23	227.92	66.31	4.437	
15,996.59	10,198.06	10,278.25	9,926.80	56.89	24.49	-18.51	5,473.24	-123.52	287.35	218.39	68.96	4.167	
16,000.00	10,197.68	10,280.28	9,927.14	56.91	24.49	-18.81	5,474.66	-124.93	287.31	218.24	69.07	4.160	CC, ES
16,100.00	10,189.84	10,346.14	9,937.38	57.51	24.65	-28.27	5,520.59	-171.01	299.08	227.05	72.03	4.152	SF
16,200.00	10,183.38	10,368.00	9,940.74	58.10	24.71	-31.26	5,535.84	-186.31	331.41	258.51	72.89	4.546	
16,300.00	10,176.93	10,368.00	9,940.74	58.70	24.71	-31.26	5,535.84	-186.31	386.95	315.10	71.86	5.385	
16,400.00	10,170.47	10,368.00	9,940.74	59.30	24.71	-31.26	5,535.84	-186.31	457.86	387.40	70.46	6.498	
16,500.00	10,164.01	10,368.00	9,940.74	59.91	24.71	-31.26	5,535.84	-186.31	538.09	468.90	69.19	7.777	
16,600.00	10,157.55	10,368.00	9,940.74	60.52	24.71	-31.26	5,535.84	-186.31	624.06	555.88	68.17	9.154	
16,700.00	10,151.09	10,368.00	9,940.74	61.14	24.71	-31.26	5,535.84	-186.31	713.69	646.30	67.38	10.591	
16,800.00	10,144.64	10,368.00	9,940.74	61.76	24.71	-31.26	5,535.84	-186.31	805.76	738.99	66.77	12.067	
16,900.00	10,138.18	10,368.00	9,940.74	62.38	24.71	-31.26	5,535.84	-186.31	899.53	833.23	66.30	13.567	
17,000.00	10,131.72	10,368.00	9,940.74	63.00	24.71	-31.26	5,535.84	-186.31	994.52	928.58	65.93	15.084	
17,100.00	10,125.26	10,368.00	9,940.74	63.63	24.71	-31.26	5,535.84	-186.31	1,090.40	1,024.75	65.64	16.611	
17,200.00	10,118.80	10,368.00	9,940.74	64.26	24.71	-31.26	5,535.84	-186.31	1,186.96	1,121.55	65.41	18.146	
17,300.00	10,112.34	10,368.00	9,940.74	64.90	24.71	-31.26	5,535.84	-186.31	1,284.05	1,218.82	65.23	19.686	
17,400.00	10,105.89	10,368.00	9,940.74	65.53	24.71	-31.26	5,535.84	-186.31	1,381.55	1,316.47	65.08	21.228	
17,500.00	10,099.43	10,368.00	9,940.74	66.17	24.71	-31.26	5,535.84	-186.31	1,479.38	1,414.42	64.96	22.773	
17,600.00	10,092.97	10,368.00	9,940.74	66.82	24.71	-31.26	5,535.84	-186.31	1,577.49	1,512.62	64.87	24.318	
17,700.00	10,086.51	10,368.00	9,940.74	67.46	24.71	-31.26	5,535.84	-186.31	1,675.82	1,611.03	64.79	25.864	
17,800.00	10,080.05	10,368.00	9,940.74	68.11	24.71	-31.26	5,535.84	-186.31	1,774.34	1,709.61	64.74	27.409	
17,900.00	10,073.59	10,368.00	9,940.74	68.76	24.71	-31.26	5,535.84	-186.31	1,873.02	1,808.32	64.69	28.952	
18,000.00	10,067.14	10,368.00	9,940.74	69.41	24.71	-31.26	5,535.84	-186.31	1,971.83	1,907.17	64.66	30.495	
18,100.00	10,060.68	10,368.00	9,940.74	70.07	24.71	-31.26	5,535.84	-186.31	2,070.75	2,006.11	64.64	32.036	
18,200.00	10,054.22	10,368.00	9,940.74	70.73	24.71	-31.26	5,535.84	-186.31	2,169.77	2,105.15	64.63	33.575	
18,300.00	10,047.76	10,368.00	9,940.74	71.39	24.71	-31.26	5,535.84	-186.31	2,268.88	2,204.26	64.62	35.111	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 30 STATE 001 P & A - Vertical - Surveys

Survey Program:		0-3_INC-Only		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)			
11,200.00	10,499.66	10,506.03	10,499.66	37.31	237.95	-102.01	2,990.19	-307.67	2,297.37	2,022.88	274.49	8.370	
11,300.00	10,496.88	10,503.25	10,496.88	37.44	237.88	-101.49	2,990.19	-307.67	2,198.29	1,923.86	274.44	8.010	
11,400.00	10,494.10	10,500.47	10,494.10	37.58	237.82	-100.98	2,990.19	-307.67	2,099.30	1,824.91	274.38	7.651	
11,500.00	10,491.32	10,497.69	10,491.32	37.74	237.75	-100.46	2,990.19	-307.67	2,000.40	1,726.06	274.34	7.292	
11,600.00	10,488.54	10,494.91	10,488.54	37.92	237.68	-99.94	2,990.19	-307.67	1,901.61	1,627.32	274.29	6.933	
11,700.00	10,485.76	10,492.13	10,485.76	38.11	237.61	-99.43	2,990.19	-307.67	1,802.95	1,528.71	274.24	6.574	
11,800.00	10,482.98	10,489.34	10,482.98	38.32	237.55	-98.90	2,990.19	-307.67	1,704.44	1,430.24	274.20	6.216	
11,900.00	10,480.19	10,486.56	10,480.19	38.53	237.48	-98.38	2,990.19	-307.67	1,606.11	1,331.95	274.17	5.858	
12,000.00	10,477.41	10,483.78	10,477.41	38.77	237.41	-97.86	2,990.19	-307.67	1,508.00	1,233.87	274.13	5.501	
12,100.00	10,474.63	10,481.00	10,474.63	39.01	237.35	-97.33	2,990.19	-307.67	1,410.15	1,136.04	274.11	5.145	
12,200.00	10,471.85	10,478.22	10,471.85	39.28	237.28	-96.81	2,990.19	-307.67	1,312.61	1,038.52	274.09	4.789	
12,300.00	10,469.07	10,475.44	10,469.07	39.55	237.21	-96.28	2,990.19	-307.67	1,215.47	941.39	274.08	4.435	
12,400.00	10,466.29	10,472.66	10,466.29	39.84	237.15	-95.75	2,990.19	-307.67	1,118.82	844.74	274.09	4.082	
12,500.00	10,463.51	10,469.88	10,463.51	40.14	237.08	-95.22	2,990.19	-307.67	1,022.82	748.71	274.11	3.731	
12,600.00	10,460.73	10,467.10	10,460.73	40.45	237.01	-94.69	2,990.19	-307.67	927.65	653.48	274.16	3.384	
12,700.00	10,457.95	10,464.32	10,457.95	40.77	236.94	-94.16	2,990.19	-307.67	833.60	559.34	274.26	3.039	
12,800.00	10,455.17	10,461.54	10,455.17	41.11	236.88	-93.62	2,990.19	-307.67	741.10	466.69	274.41	2.701	
12,900.00	10,452.39	10,458.76	10,452.39	41.46	236.81	-93.09	2,990.19	-307.67	650.81	376.15	274.66	2.370	
13,000.00	10,449.57	10,455.94	10,449.57	41.82	236.74	-93.01	2,990.19	-307.67	563.79	288.74	275.05	2.050	
13,100.00	10,444.55	10,450.92	10,444.55	42.19	236.62	-94.91	2,990.19	-307.67	481.90	206.28	275.62	1.748	
13,200.00	10,437.52	10,443.89	10,437.52	42.59	236.45	-93.78	2,990.19	-307.67	408.17	131.68	276.48	1.476	Level 3
13,300.00	10,430.47	10,436.84	10,430.47	42.99	236.28	-92.43	2,990.19	-307.67	347.68	69.93	277.75	1.252	Level 3
13,400.00	10,423.43	10,429.80	10,423.43	43.40	236.11	-91.08	2,990.19	-307.67	308.31	29.20	279.12	1.105	Level 2
13,479.75	10,417.81	10,424.18	10,417.81	43.74	235.98	-90.00	2,990.19	-307.67	297.87	18.16	279.72	1.065	Level 2, CC, ES, SF
13,500.00	10,416.39	10,422.75	10,416.39	43.83	235.94	-89.73	2,990.19	-307.67	298.56	18.82	279.74	1.067	Level 2
13,600.00	10,409.34	10,415.71	10,409.34	44.26	235.77	-88.38	2,990.19	-307.67	321.12	42.02	279.09	1.151	Level 2
13,700.00	10,402.30	10,408.67	10,402.30	44.70	235.60	-87.03	2,990.19	-307.67	370.13	92.36	277.77	1.333	Level 3
13,800.00	10,395.25	10,401.62	10,395.25	45.15	235.43	-85.68	2,990.19	-307.67	436.78	160.32	276.47	1.580	
13,900.00	10,388.21	10,390.17	10,388.84	45.61	235.18	-83.51	2,990.30	-307.67	514.19	238.83	275.36	1.867	
14,000.00	10,381.14	10,382.23	10,375.91	46.08	235.02	-81.62	2,990.38	-307.67	598.23	323.64	274.58	2.179	
14,100.00	10,372.66	10,372.99	10,366.66	46.55	234.82	-78.65	2,990.47	-307.67	686.35	412.39	273.96	2.505	
14,200.00	10,363.95	10,363.60	10,357.27	47.04	234.62	-76.93	2,990.56	-307.67	777.22	503.77	273.46	2.842	
14,300.00	10,355.25	10,354.29	10,347.97	47.54	234.42	-75.25	2,990.64	-307.67	870.00	596.95	273.04	3.186	
14,400.00	10,346.54	10,345.06	10,338.73	48.04	234.23	-73.61	2,990.73	-307.67	964.12	691.43	272.69	3.536	
14,500.00	10,337.83	10,335.90	10,329.58	48.55	234.03	-72.01	2,990.80	-307.67	1,059.24	786.86	272.39	3.889	
14,600.00	10,329.13	10,326.82	10,320.50	49.06	233.84	-70.45	2,990.87	-307.67	1,155.11	883.00	272.11	4.245	
14,700.00	10,320.42	10,317.82	10,311.50	49.59	233.65	-68.94	2,990.94	-307.67	1,251.56	979.70	271.87	4.604	
14,800.00	10,311.71	10,308.88	10,302.57	50.12	233.46	-67.46	2,991.01	-307.67	1,348.47	1,076.83	271.64	4.964	
14,900.00	10,303.00	10,300.03	10,293.71	50.65	233.27	-66.03	2,991.06	-307.67	1,445.73	1,174.31	271.43	5.326	
15,000.00	10,294.29	10,291.23	10,284.91	51.19	233.09	-63.98	2,991.12	-307.67	1,543.29	1,272.07	271.23	5.690	
15,100.00	10,284.69	10,281.68	10,275.36	51.74	232.88	-60.97	2,991.18	-307.67	1,641.01	1,370.00	271.02	6.055	
15,200.00	10,275.02	10,272.14	10,265.82	52.29	232.68	-59.60	2,991.23	-307.67	1,738.93	1,468.12	270.82	6.421	
15,300.00	10,265.35	10,262.68	10,256.37	52.85	232.48	-58.27	2,991.28	-307.67	1,837.02	1,566.40	270.62	6.788	
15,400.00	10,255.68	10,253.29	10,246.98	53.42	232.28	-56.99	2,991.32	-307.67	1,935.26	1,664.82	270.44	7.156	
15,500.00	10,246.01	10,243.98	10,237.67	53.99	232.08	-55.75	2,991.37	-307.67	2,033.62	1,763.36	270.26	7.525	
15,600.00	10,236.35	10,234.75	10,228.44	54.57	231.89	-54.56	2,991.40	-307.67	2,132.09	1,862.00	270.08	7.894	
15,700.00	10,226.68	10,225.58	10,219.27	55.15	231.69	-53.42	2,991.43	-307.67	2,230.65	1,960.74	269.91	8.264	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 ZD STATE 001 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)			
0.00	0.00	8.90	0.00	0.00	0.15	-42.30	676.98	-615.91	915.23				
100.00	100.00	108.90	100.00	0.28	1.85	-42.30	676.98	-615.91	915.23	913.11	2.12	431.347	
200.00	200.00	208.90	200.00	0.63	3.54	-42.30	676.98	-615.91	915.23	911.05	4.18	219.207	
300.00	300.00	308.90	300.00	0.99	5.25	-42.30	676.98	-615.91	915.23	908.99	6.24	146.716	
400.00	400.00	408.90	400.00	1.35	7.05	-42.30	676.98	-615.91	915.23	906.83	8.40	108.977	
500.00	500.00	508.90	500.00	1.71	8.85	-42.30	676.98	-615.91	915.23	904.67	10.56	86.680	
600.00	600.00	609.30	600.40	2.07	10.66	-42.29	677.23	-615.91	915.41	902.69	12.73	71.931	
700.00	700.00	709.91	701.01	2.43	12.47	-42.29	677.12	-615.91	915.33	900.44	14.90	61.442	
800.00	800.00	808.91	800.00	2.79	14.26	-42.30	676.98	-615.91	915.23	898.18	17.05	53.684	
900.00	900.00	908.91	900.00	3.14	16.10	-42.30	676.98	-615.91	915.23	895.98	19.25	47.550	
1,000.00	1,000.00	1,009.45	1,000.53	3.50	17.95	-42.28	677.38	-615.91	915.52	894.07	21.46	42.667	
1,100.00	1,100.00	1,111.04	1,102.13	3.86	19.83	-42.29	677.18	-615.91	915.38	891.69	23.69	38.646	
1,200.00	1,200.00	1,208.93	1,200.00	4.22	21.63	-42.30	676.98	-615.91	915.23	889.38	25.85	35.407	
1,300.00	1,300.00	1,308.93	1,300.00	4.58	23.47	-42.30	676.98	-615.91	915.23	887.18	28.05	32.626	
1,400.00	1,400.00	1,409.01	1,400.08	4.94	25.32	-42.27	677.50	-615.91	915.61	885.36	30.26	30.261	
1,500.00	1,500.00	1,510.27	1,501.34	5.29	27.19	-42.28	677.40	-615.91	915.54	883.05	32.48	28.184	
1,600.00	1,600.00	1,611.53	1,602.60	5.65	29.06	-42.29	677.10	-615.91	915.32	880.61	34.71	26.370	
1,696.61	1,696.61	1,705.55	1,696.61	6.00	30.79	-42.30	676.98	-615.91	915.23	878.44	36.79	24.875	
1,700.00	1,700.00	1,708.94	1,700.00	6.01	30.86	-42.30	676.98	-615.91	915.23	878.36	36.87	24.825	CC
1,800.00	1,800.00	1,809.80	1,800.85	6.37	32.72	-42.28	677.24	-615.91	915.42	876.34	39.09	23.420	
1,803.70	1,803.70	1,813.58	1,804.64	6.38	32.79	-42.54	677.24	-615.91	915.42	876.25	39.17	23.370	
1,900.00	1,899.98	1,908.93	1,899.98	6.71	34.55	-42.58	676.98	-615.91	916.62	875.36	41.26	22.216	ES
2,000.00	1,999.84	2,008.79	1,999.84	7.04	36.39	-42.72	676.98	-615.91	920.78	877.35	43.43	21.203	
2,100.00	2,099.45	2,108.41	2,099.45	7.36	38.23	-42.97	676.98	-615.91	927.73	882.14	45.59	20.347	
2,200.00	2,198.76	2,208.55	2,199.59	7.70	40.08	-43.37	677.47	-615.91	937.53	889.75	47.77	19.624	
2,300.00	2,298.01	2,309.13	2,300.17	8.03	41.94	-43.80	677.26	-615.91	947.20	897.24	49.96	18.958	
2,400.00	2,397.27	2,406.24	2,397.27	8.36	43.73	-44.21	676.98	-615.91	956.87	904.78	52.09	18.369	
2,500.00	2,496.52	2,505.49	2,496.52	8.70	45.57	-44.63	676.98	-615.91	966.81	912.55	54.26	17.817	
2,600.00	2,595.78	2,605.50	2,596.52	9.04	47.42	-45.06	677.36	-615.91	977.08	920.63	56.45	17.309	
2,700.00	2,695.03	2,706.64	2,697.67	9.38	49.28	-45.47	677.13	-615.91	986.95	928.29	58.66	16.825	
2,800.00	2,794.29	2,803.27	2,794.29	9.72	51.10	-45.85	676.98	-615.91	996.91	936.10	60.82	16.392	
2,900.00	2,893.54	2,902.53	2,893.54	10.07	52.98	-46.24	676.98	-615.91	1,007.04	944.00	63.04	15.974	
3,000.00	2,992.80	3,001.79	2,992.80	10.42	54.86	-46.64	677.54	-615.91	1,017.66	952.39	65.27	15.591	
3,100.00	3,092.05	3,102.44	3,093.45	10.77	56.77	-47.01	677.45	-615.91	1,027.81	960.29	67.53	15.221	
3,200.00	3,191.31	3,203.14	3,194.15	11.12	58.68	-47.37	677.20	-615.91	1,037.87	968.09	69.78	14.873	
3,300.00	3,290.56	3,299.58	3,290.56	11.47	60.53	-47.71	676.98	-615.91	1,048.00	976.01	71.99	14.558	
3,400.00	3,389.82	3,398.83	3,389.82	11.83	62.46	-48.06	676.98	-615.91	1,058.34	984.07	74.27	14.249	
3,500.00	3,489.07	3,498.09	3,489.07	12.18	64.40	-48.41	676.98	-615.91	1,068.72	992.16	76.56	13.958	
3,600.00	3,588.33	3,597.34	3,588.33	12.54	66.34	-48.75	676.98	-615.91	1,079.14	1,000.29	78.86	13.685	
3,700.00	3,687.58	3,696.60	3,687.58	12.89	68.28	-49.09	676.98	-615.91	1,089.59	1,008.45	81.15	13.427	
3,800.00	3,787.05	3,796.07	3,787.05	13.25	70.22	-49.45	676.98	-615.91	1,099.39	1,014.94	83.44	13.163	
3,900.00	3,886.82	3,896.22	3,887.19	13.61	72.17	-49.75	678.94	-615.91	1,105.80	1,020.05	85.75	12.896	
4,000.00	3,986.76	3,997.18	3,988.14	13.96	74.14	-49.86	678.84	-615.91	1,108.53	1,020.46	88.07	12.587	
4,100.00	4,086.76	4,098.19	4,089.15	14.30	76.12	-50.12	678.63	-615.91	1,108.65	1,018.26	90.39	12.265	
4,200.00	4,186.76	4,199.20	4,190.16	14.65	78.09	-50.37	678.31	-615.91	1,108.39	1,015.68	92.71	11.956	
4,300.00	4,286.76	4,300.22	4,291.18	14.99	80.06	-50.62	677.87	-615.91	1,108.03	1,013.01	95.02	11.661	
4,400.00	4,386.76	4,401.24	4,392.19	15.33	82.03	-50.87	677.33	-615.91	1,107.59	1,010.25	97.34	11.379	
4,500.00	4,486.76	4,496.76	4,486.76	15.68	83.90	-51.12	676.98	-615.91	1,107.30	1,007.74	99.56	11.122	
4,600.00	4,586.76	4,596.76	4,586.76	16.03	85.82	-51.37	676.98	-615.91	1,107.30	1,005.38	101.92	10.864	
4,700.00	4,686.76	4,696.76	4,686.76	16.37	87.73	-51.62	676.98	-615.91	1,107.30	1,003.01	104.28	10.618	
4,800.00	4,786.76	4,797.55	4,788.43	16.72	89.68	-51.87	677.78	-615.91	1,107.95	1,001.27	106.68	10.386	
4,900.00	4,886.76	4,899.85	4,890.72	17.07	92.05	-52.12	677.47	-615.91	1,107.70	998.61	109.09	10.154	

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

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Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 ZD 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 Well Error:	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)										
5,000.00	4,986.76	4,995.94	4,986.76	17.42	93.99	-35.01	676.98	-615.91	1,107.30	995.91	111.38	9.942							
5,100.00	5,086.76	5,095.94	5,086.76	17.76	96.07	-35.01	676.98	-615.91	1,107.30	993.49	113.81	9.729							
5,200.00	5,186.76	5,197.24	5,188.05	18.11	98.17	-34.99	677.74	-615.91	1,107.92	991.65	116.27	9.529							
5,300.00	5,286.76	5,301.90	5,292.70	18.46	100.35	-35.00	677.33	-615.91	1,107.59	988.80	118.80	9.323							
5,400.00	5,386.76	5,396.00	5,386.76	18.81	102.25	-35.01	676.98	-615.91	1,107.30	986.25	121.05	9.148							
5,500.00	5,486.76	5,496.00	5,486.76	19.16	104.22	-35.01	676.98	-615.91	1,107.30	983.93	123.36	8.976							
5,600.00	5,586.76	5,596.00	5,586.76	19.51	106.18	-35.01	676.98	-615.91	1,107.30	981.62	125.68	8.811							
5,700.00	5,686.76	5,698.88	5,689.62	19.86	108.20	-34.98	677.96	-615.91	1,108.10	980.05	128.05	8.654							
5,800.00	5,786.76	5,802.06	5,792.80	20.21	110.23	-35.00	677.46	-615.91	1,107.70	977.27	130.43	8.493							
5,900.00	5,886.76	5,896.04	5,886.76	20.57	112.08	-35.01	676.98	-615.91	1,107.30	974.67	132.63	8.349							
6,000.00	5,986.76	5,996.04	5,986.76	20.92	114.04	-35.01	676.98	-615.91	1,107.30	972.35	134.94	8.206							
6,100.00	6,086.76	6,096.04	6,086.76	21.27	116.01	-35.01	676.98	-615.91	1,107.30	970.04	137.26	8.067							
6,200.00	6,186.76	6,197.50	6,188.21	21.62	118.00	-35.00	677.44	-615.91	1,107.67	968.07	139.61	7.934							
6,300.00	6,286.76	6,299.16	6,289.87	21.97	120.00	-35.01	677.19	-615.91	1,107.47	965.51	141.96	7.801							
6,400.00	6,386.76	6,396.09	6,386.76	22.32	121.91	-35.01	676.98	-615.91	1,107.30	963.08	144.22	7.678							
6,500.00	6,486.76	6,496.09	6,486.76	22.68	123.87	-35.01	676.98	-615.91	1,107.30	960.76	146.53	7.557							
6,600.00	6,586.76	6,596.09	6,586.76	23.03	125.84	-35.01	676.98	-615.91	1,107.30	958.44	148.85	7.439							
6,700.00	6,686.76	6,699.32	6,689.98	23.38	127.87	-34.99	677.88	-615.91	1,108.04	956.80	151.24	7.326							
6,800.00	6,786.76	6,802.66	6,793.31	23.74	129.90	-35.00	677.33	-615.91	1,107.60	953.98	153.62	7.210							
6,900.00	6,886.76	6,896.13	6,886.76	24.09	131.68	-35.01	676.98	-615.91	1,107.30	951.55	155.75	7.109							
7,000.00	6,986.76	6,996.13	6,986.76	24.44	133.52	-35.01	676.98	-615.91	1,107.30	949.35	157.95	7.011							
7,100.00	7,086.76	7,098.76	7,089.39	24.80	135.41	-35.01	677.17	-615.91	1,107.45	947.26	160.19	6.913							
7,200.00	7,186.76	7,196.14	7,186.76	25.15	137.20	-35.01	676.98	-615.91	1,107.30	944.96	162.34	6.821							
7,300.00	7,286.76	7,296.48	7,287.10	25.50	139.05	-35.00	677.27	-615.91	1,107.54	942.99	164.54	6.731							
7,400.00	7,386.76	7,399.51	7,390.12	25.86	140.95	-35.01	677.06	-615.91	1,107.37	940.57	166.79	6.639							
7,464.04	7,450.80	7,460.19	7,450.80	26.08	142.12	-35.01	676.98	-615.91	1,107.30	939.11	168.19	6.584							
7,500.00	7,486.76	7,496.15	7,486.76	26.21	142.82	-35.01	676.98	-615.91	1,107.30	938.27	169.02	6.551							
7,600.00	7,586.76	7,596.31	7,586.92	26.57	144.79	-35.00	677.35	-615.91	1,107.60	936.25	171.35	6.464							
7,700.00	7,686.76	7,698.71	7,689.31	26.92	146.80	-35.01	677.20	-615.91	1,107.48	933.76	173.71	6.375							
7,800.00	7,786.76	7,796.18	7,786.76	27.27	148.77	-35.01	676.98	-615.91	1,107.30	931.27	176.03	6.290							
7,900.00	7,886.76	7,896.18	7,886.76	27.63	150.86	-35.01	676.98	-615.91	1,107.30	928.82	178.48	6.204							
8,000.00	7,986.76	8,002.09	7,992.65	27.98	153.07	-35.00	677.25	-615.91	1,107.53	926.49	181.05	6.117							
8,100.00	8,086.76	8,096.23	8,086.76	28.34	155.04	-35.01	676.98	-615.91	1,107.30	923.92	183.37	6.039							
8,200.00	8,186.76	8,196.23	8,186.76	28.69	157.14	-35.01	676.98	-615.91	1,107.30	921.47	185.82	5.959							
8,300.00	8,286.76	8,297.12	8,287.64	29.05	159.25	-34.98	677.99	-615.91	1,108.12	919.83	188.29	5.885							
8,400.00	8,386.76	8,400.66	8,391.18	29.40	161.42	-34.99	677.68	-615.91	1,107.88	917.06	190.81	5.806							
8,500.00	8,486.76	8,504.21	8,494.72	29.76	163.59	-35.01	676.98	-615.91	1,107.32	913.99	193.34	5.727							
8,507.52	8,494.28	8,511.99	8,502.50	29.79	163.75	-35.01	676.91	-615.91	1,107.27	913.74	193.53	5.722							
8,600.00	8,586.76	8,596.30	8,586.76	30.11	165.46	-35.01	676.98	-615.91	1,107.30	911.73	195.57	5.662							
8,700.00	8,686.76	8,696.30	8,686.76	30.47	167.50	-35.01	676.98	-615.91	1,107.30	909.34	197.95	5.594							
8,800.00	8,786.76	8,796.30	8,786.76	30.82	169.53	-35.01	676.98	-615.91	1,107.30	906.95	200.34	5.527							
8,900.00	8,886.76	8,897.90	8,888.35	31.18	171.60	-34.97	678.36	-615.91	1,108.42	905.66	202.77	5.467							
9,000.00	8,986.76	9,000.40	8,990.84	31.54	173.68	-34.98	678.04	-615.91	1,108.17	902.96	205.21	5.400							
9,100.00	9,086.76	9,102.90	9,093.34	31.89	175.76	-35.00	677.44	-615.91	1,107.69	900.04	207.64	5.335							
9,200.00	9,186.76	9,196.37	9,186.76	32.25	177.64	-35.01	676.98	-615.91	1,107.30	897.42	209.88	5.276							
9,300.00	9,286.76	9,296.37	9,286.76	32.60	179.61	-35.01	676.98	-615.91	1,107.30	895.09	212.20	5.218							
9,400.00	9,386.76	9,396.37	9,386.76	32.96	181.58	-35.01	676.98	-615.91	1,107.30	892.77	214.53	5.162							
9,407.81	9,394.57	9,404.18	9,394.57	32.99	181.73	-35.01	676.98	-615.91	1,107.30	892.59	214.71	5.157							
9,500.00	9,486.76	9,450.00	9,440.36	33.31	182.63	-35.01	676.98	-615.91	1,108.27	892.53	215.74	5.137	SF						
9,600.00	9,586.76	9,450.00	9,440.36	33.67	182.63	-35.01	676.98	-615.91	1,116.93	902.44	214.49	5.207							
9,700.00	9,686.76	9,450.00	9,440.36	34.03	182.63	-35.01	676.98	-615.91	1,134.38	922.65	211.73	5.358							
9,800.00	9,786.76	9,450.00	9,440.36	34.38	182.63	-35.01	676.98	-615.91	1,160.21	952.55	207.66	5.587							

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 ZD STATE 001 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)			
9,900.00	9,886.76	9,450.00	9,440.36	34.74	182.63	-35.01	676.98	-615.91	1,193.89	991.33	202.57	5.894	
10,000.00	9,986.56	9,450.00	9,440.36	35.09	182.63	-32.87	676.98	-615.91	1,231.17	1,034.57	196.60	6.262	
10,100.00	10,084.11	9,450.00	9,440.36	35.43	182.63	-31.13	676.98	-615.91	1,262.32	1,072.63	189.69	6.655	
10,200.00	10,176.46	9,450.00	9,440.36	35.74	182.63	-29.87	676.98	-615.91	1,286.43	1,104.45	181.98	7.069	
10,300.00	10,260.80	9,450.00	9,440.36	36.03	182.63	-29.03	676.98	-615.91	1,303.18	1,129.53	173.66	7.504	
10,400.00	10,334.58	9,450.00	9,440.36	36.28	182.63	-28.59	676.98	-615.91	1,312.36	1,147.38	164.98	7.955	
10,500.00	10,395.54	9,450.00	9,440.36	36.49	182.63	-28.52	676.98	-615.91	1,313.84	1,157.56	156.27	8.407	
10,600.00	10,441.84	9,450.00	9,440.36	36.67	182.63	-28.82	676.98	-615.91	1,307.60	1,159.68	147.92	8.840	
10,700.00	10,472.32	9,450.00	9,440.36	36.80	182.63	-29.39	676.98	-615.91	1,293.94	1,153.57	140.37	9.218	
10,800.00	10,491.92	9,450.00	9,440.36	36.91	182.63	-29.79	676.98	-615.91	1,278.12	1,144.31	133.81	9.552	
10,900.00	10,502.91	9,450.00	9,440.36	37.00	182.63	-30.19	676.98	-615.91	1,262.45	1,133.90	128.54	9.821	
11,000.00	10,505.19	9,450.00	9,440.36	37.09	182.63	-30.58	676.98	-615.91	1,247.06	1,122.04	125.01	9.975	
11,100.00	10,502.44	9,450.00	9,440.36	37.19	182.63	-30.61	676.98	-615.91	1,235.23	1,111.88	123.35	10.014	
11,197.13	10,499.74	9,450.00	9,440.36	37.30	182.63	-30.61	676.98	-615.91	1,231.40	1,107.98	123.42	9.977	
11,200.00	10,499.66	9,450.00	9,440.36	37.31	182.63	-30.61	676.98	-615.91	1,231.40	1,107.96	123.45	9.975	
11,300.00	10,496.88	9,450.00	9,440.36	37.44	182.63	-30.61	676.98	-615.91	1,235.69	1,110.35	125.34	9.858	
11,400.00	10,494.10	9,450.00	9,440.36	37.58	182.63	-30.61	676.98	-615.91	1,248.00	1,119.15	128.85	9.686	
11,500.00	10,491.32	9,450.00	9,440.36	37.74	182.63	-30.61	676.98	-615.91	1,268.10	1,134.48	133.62	9.490	
11,600.00	10,488.54	9,450.00	9,440.36	37.92	182.63	-30.61	676.98	-615.91	1,295.63	1,156.38	139.25	9.304	
11,700.00	10,485.76	9,450.00	9,440.36	38.11	182.63	-30.61	676.98	-615.91	1,330.12	1,184.79	145.33	9.152	
11,800.00	10,482.98	9,450.00	9,440.36	38.32	182.63	-30.61	676.98	-615.91	1,371.06	1,219.52	151.54	9.047	
11,900.00	10,480.19	9,450.00	9,440.36	38.53	182.63	-30.61	676.98	-615.91	1,417.88	1,260.25	157.62	8.995	
12,000.00	10,477.41	9,450.00	9,440.36	38.77	182.63	-30.61	676.98	-615.91	1,470.02	1,306.60	163.42	8.996	
12,100.00	10,474.63	9,450.00	9,440.36	39.01	182.63	-30.61	676.98	-615.91	1,526.93	1,358.12	168.82	9.045	
12,200.00	10,471.85	9,450.00	9,440.36	39.28	182.63	-30.61	676.98	-615.91	1,588.11	1,414.33	173.78	9.139	
12,300.00	10,469.07	9,450.00	9,440.36	39.55	182.63	-30.61	676.98	-615.91	1,653.08	1,474.79	178.29	9.272	
12,400.00	10,466.29	9,450.00	9,440.36	39.84	182.63	-30.61	676.98	-615.91	1,721.41	1,539.04	182.37	9.439	
12,500.00	10,463.51	9,450.00	9,440.36	40.14	182.63	-30.61	676.98	-615.91	1,792.72	1,606.69	186.02	9.637	
12,600.00	10,460.73	9,450.00	9,440.36	40.45	182.63	-30.61	676.98	-615.91	1,866.66	1,677.36	189.30	9.861	
12,700.00	10,457.95	9,450.00	9,440.36	40.77	182.63	-30.61	676.98	-615.91	1,942.93	1,750.70	192.23	10.107	
12,800.00	10,455.17	9,450.00	9,440.36	41.11	182.63	-30.61	676.98	-615.91	2,021.27	1,826.43	194.85	10.374	
12,900.00	10,452.39	9,450.00	9,440.36	41.46	182.63	-30.61	676.98	-615.91	2,101.46	1,904.27	197.19	10.657	
13,000.00	10,449.57	9,450.00	9,440.36	41.82	182.63	-30.40	676.98	-615.91	2,183.26	1,983.98	199.29	10.955	
13,100.00	10,444.55	9,450.00	9,440.36	42.19	182.63	-28.97	676.98	-615.91	2,265.47	2,064.23	201.23	11.258	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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		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)				
24,700.00	9,173.74	9,145.62	9,124.78	116.76	13.59	94.51	15,210.38	1,902.61	2,285.59	2,166.74	118.85	19.231		
24,800.00	9,154.19	9,131.26	9,110.43	117.50	13.59	94.12	15,210.30	1,902.32	2,241.27	2,120.05	121.23	18.488		
24,900.00	9,134.65	9,116.42	9,095.59	118.23	13.59	93.71	15,210.26	1,902.04	2,200.49	2,076.93	123.56	17.809		
25,000.00	9,115.11	9,101.07	9,080.25	118.97	13.60	93.28	15,210.28	1,901.75	2,163.43	2,037.60	125.83	17.194		
25,100.00	9,095.47	9,082.79	9,061.97	119.70	13.60	92.93	15,210.36	1,901.42	2,130.27	2,002.29	127.99	16.644		
25,200.00	9,073.45	9,056.18	9,035.36	120.44	13.60	92.80	15,210.48	1,900.91	2,101.25	1,971.23	130.01	16.162		
25,300.00	9,048.14	9,025.83	9,005.02	121.18	13.60	92.36	15,210.60	1,900.26	2,076.46	1,944.57	131.89	15.744		
25,400.00	9,021.89	8,995.00	8,974.20	121.91	13.60	91.52	15,210.70	1,899.54	2,055.89	1,922.30	133.59	15.389		
25,500.00	8,995.64	8,971.49	8,950.69	122.65	13.61	90.88	15,210.75	1,898.99	2,039.66	1,904.54	135.12	15.095		
25,600.00	8,969.39	8,948.58	8,927.78	123.38	13.61	90.25	15,210.77	1,898.50	2,027.95	1,891.51	136.44	14.863		
25,700.00	8,943.14	8,925.91	8,905.12	124.12	13.62	89.63	15,210.75	1,898.05	2,020.82	1,883.29	137.53	14.694		
25,800.00	8,916.89	8,900.00	8,879.22	124.86	13.62	88.92	15,210.69	1,897.59	2,018.34	1,879.97	138.37	14.586		
25,804.01	8,915.84	8,900.00	8,879.22	124.88	13.62	88.92	15,210.69	1,897.59	2,018.33	1,879.93	138.40	14.583	CC, ES	
25,900.00	8,890.64	8,877.07	8,856.29	125.59	13.63	88.29	15,210.66	1,897.21	2,020.49	1,881.53	138.96	14.540	SF	
26,000.00	8,864.39	8,849.08	8,828.31	126.33	13.63	87.53	15,210.73	1,896.73	2,027.23	1,887.92	139.31	14.552		
26,100.00	8,838.14	8,820.20	8,799.43	127.07	13.63	86.74	15,210.93	1,896.21	2,038.48	1,899.07	139.41	14.622		
26,200.00	8,810.58	8,790.28	8,769.51	127.80	13.63	85.65	15,211.28	1,895.68	2,054.06	1,914.79	139.27	14.749		
26,300.00	8,780.85	8,758.29	8,737.54	128.54	13.62	84.72	15,211.84	1,895.13	2,073.74	1,934.83	138.92	14.928		
26,400.00	8,751.06	8,725.01	8,704.27	129.27	13.61	83.84	15,212.63	1,894.59	2,097.52	1,959.15	138.36	15.159		
26,500.00	8,721.27	8,693.31	8,672.59	130.01	13.59	82.99	15,213.51	1,894.10	2,125.23	1,987.61	137.62	15.443		
26,600.00	8,691.49	8,665.15	8,644.43	130.74	13.57	82.24	15,214.00	1,893.60	2,156.78	2,020.10	136.69	15.779		
26,700.00	8,661.70	8,638.82	8,618.11	131.48	13.54	81.54	15,214.18	1,893.08	2,192.06	2,056.47	135.60	16.166		
26,800.00	8,631.91	8,614.23	8,593.52	132.21	13.52	80.89	15,214.09	1,892.53	2,230.93	2,096.56	134.37	16.603		
26,900.00	8,602.12	8,580.43	8,559.74	132.95	13.54	79.99	15,213.77	1,891.70	2,273.16	2,140.09	133.07	17.082		

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) MESA MERRITT STATE 001 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
16,800.00	10,144.64	10,179.38	10,174.84	61.76	263.29	98.80	8,295.79	964.59	2,233.14	1,925.48	307.67	7.258	
16,900.00	10,138.18	10,171.10	10,166.56	62.38	263.01	98.35	8,295.91	964.59	2,145.01	1,836.93	308.08	6.963	
17,000.00	10,131.72	10,162.86	10,158.32	63.00	262.73	97.90	8,296.03	964.59	2,057.92	1,749.36	308.57	6.669	
17,100.00	10,125.26	10,154.65	10,150.12	63.63	262.45	97.45	8,296.15	964.59	1,972.03	1,662.89	309.14	6.379	
17,200.00	10,118.80	10,146.47	10,141.94	64.26	262.17	97.00	8,296.27	964.59	1,887.49	1,577.68	309.82	6.092	
17,300.00	10,112.34	10,138.33	10,133.81	64.90	261.90	96.55	8,296.38	964.59	1,804.50	1,493.90	310.60	5.810	
17,400.00	10,105.89	10,130.22	10,125.70	65.53	261.62	96.11	8,296.50	964.59	1,723.28	1,411.78	311.50	5.532	
17,500.00	10,099.43	10,122.15	10,117.63	66.17	261.34	95.66	8,296.61	964.59	1,644.10	1,331.56	312.53	5.261	
17,600.00	10,092.97	10,114.10	10,109.60	66.82	261.07	95.21	8,296.72	964.59	1,567.25	1,253.54	313.71	4.996	
17,700.00	10,086.51	10,106.10	10,101.59	67.46	260.80	94.77	8,296.83	964.59	1,493.11	1,178.07	315.04	4.739	
17,800.00	10,080.05	10,098.12	10,093.62	68.11	260.53	94.33	8,296.93	964.59	1,422.09	1,105.57	316.52	4.493	
17,900.00	10,073.59	10,090.18	10,085.69	68.76	260.26	93.89	8,297.04	964.59	1,354.69	1,036.54	318.15	4.258	
18,000.00	10,067.14	10,082.27	10,077.78	69.41	259.99	93.45	8,297.14	964.59	1,291.48	971.55	319.92	4.037	
18,100.00	10,060.68	10,074.40	10,069.91	70.07	259.72	93.01	8,297.24	964.59	1,233.09	911.27	321.82	3.832	
18,200.00	10,054.22	10,066.55	10,062.07	70.73	259.45	92.57	8,297.34	964.59	1,180.25	856.47	323.79	3.645	
18,300.00	10,047.76	10,058.74	10,054.26	71.39	259.19	92.14	8,297.44	964.59	1,133.74	807.97	325.77	3.480	
18,400.00	10,041.30	10,050.96	10,046.48	72.05	258.92	91.70	8,297.53	964.59	1,094.35	766.67	327.68	3.340	
18,500.00	10,034.85	10,043.21	10,038.74	72.71	258.66	91.27	8,297.63	964.59	1,062.89	733.46	329.43	3.226	
18,600.00	10,028.39	10,035.49	10,031.03	73.38	258.40	90.84	8,297.72	964.59	1,040.06	709.17	330.89	3.143	
18,700.00	10,021.93	10,027.81	10,023.35	74.05	258.14	90.41	8,297.81	964.59	1,026.46	694.49	331.97	3.092	
18,791.39	10,016.03	10,020.81	10,016.35	74.66	257.90	90.02	8,297.90	964.59	1,022.41	689.85	332.56	3.074	CC, ES
18,800.00	10,015.47	10,020.15	10,015.70	74.72	257.87	89.98	8,297.90	964.59	1,022.44	689.85	332.59	3.074	SF
18,900.00	10,009.01	10,012.53	10,008.08	75.39	257.62	89.56	8,297.99	964.59	1,028.12	695.42	332.71	3.090	
19,000.00	10,002.55	10,004.94	10,000.49	76.06	257.36	89.13	8,298.08	964.59	1,043.35	711.02	332.32	3.140	
19,100.00	9,996.10	9,997.38	9,992.93	76.74	257.10	88.71	8,298.16	964.59	1,067.71	736.22	331.49	3.221	
19,200.00	9,989.64	9,989.84	9,985.40	77.42	256.84	88.29	8,298.25	964.59	1,100.60	770.31	330.29	3.332	
19,300.00	9,983.18	9,982.34	9,977.90	78.10	256.59	87.87	8,298.33	964.59	1,141.27	812.47	328.81	3.471	
19,400.00	9,976.72	9,974.87	9,970.44	78.78	256.33	87.45	8,298.41	964.59	1,188.94	861.80	327.14	3.634	
19,500.00	9,970.26	9,967.43	9,963.00	79.46	256.08	87.04	8,298.49	964.59	1,242.80	917.43	325.37	3.820	
19,600.00	9,962.33	9,958.57	9,954.14	80.15	255.78	85.55	8,298.58	964.59	1,302.01	978.48	323.52	4.024	
19,700.00	9,953.48	9,948.84	9,944.42	80.84	255.45	85.02	8,298.69	964.59	1,365.86	1,044.19	321.66	4.246	
19,800.00	9,944.64	9,939.15	9,934.73	81.53	255.12	84.48	8,298.78	964.59	1,433.78	1,113.93	319.85	4.483	
19,900.00	9,935.79	9,929.50	9,925.08	82.22	254.79	83.95	8,298.88	964.59	1,505.22	1,187.10	318.12	4.732	
20,000.00	9,926.94	9,919.88	9,915.47	82.91	254.46	83.42	8,298.97	964.59	1,579.71	1,263.23	316.47	4.992	
20,100.00	9,918.09	9,910.31	9,905.90	83.61	254.14	82.89	8,299.06	964.59	1,656.82	1,341.90	314.92	5.261	
20,200.00	9,909.25	9,900.77	9,896.37	84.30	253.81	82.37	8,299.15	964.59	1,736.22	1,422.76	313.46	5.539	
20,300.00	9,900.40	9,891.27	9,886.87	85.00	253.49	81.85	8,299.24	964.59	1,817.60	1,505.51	312.09	5.824	
20,400.00	9,891.55	9,881.81	9,877.41	85.70	253.17	81.33	8,299.33	964.59	1,900.71	1,589.90	310.82	6.115	
20,500.00	9,882.70	9,872.38	9,867.99	86.40	252.85	80.82	8,299.41	964.59	1,985.34	1,675.72	309.62	6.412	
20,600.00	9,872.38	9,861.57	9,857.19	87.10	252.48	77.21	8,299.50	964.59	2,071.15	1,762.69	308.46	6.715	
20,700.00	9,859.56	9,848.39	9,844.01	87.81	252.03	75.67	8,299.61	964.59	2,157.86	1,850.57	307.28	7.022	
20,800.00	9,846.63	9,835.15	9,830.78	88.52	251.58	74.98	8,299.72	964.59	2,245.58	1,939.40	306.17	7.334	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 BP STATE 002 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)			
24,900.00	9,134.65	8,995.00	8,970.33	118.23	329.17	108.61	16,458.47	623.50	2,262.16	1,877.40	384.76	5.879	
25,000.00	9,115.11	8,995.00	8,970.33	118.97	329.17	108.61	16,458.47	623.50	2,168.86	1,782.64	386.21	5.616	
25,100.00	9,095.47	8,995.00	8,970.33	119.70	329.17	109.65	16,458.47	623.50	2,076.19	1,688.38	387.81	5.354	
25,200.00	9,073.45	8,995.00	8,970.33	120.44	329.17	113.89	16,458.47	623.50	1,984.58	1,594.98	389.60	5.094	
25,300.00	9,048.14	8,995.00	8,970.33	121.18	329.17	116.74	16,458.47	623.50	1,894.42	1,502.81	391.60	4.838	
25,400.00	9,021.89	8,995.00	8,970.33	121.91	329.17	116.74	16,458.47	623.50	1,805.49	1,411.67	393.81	4.585	
25,500.00	8,995.64	8,995.00	8,970.33	122.65	329.17	116.74	16,458.47	623.50	1,717.77	1,321.54	396.23	4.335	
25,600.00	8,969.39	8,993.79	8,969.39	123.38	329.09	116.69	16,458.47	623.50	1,631.47	1,232.68	398.80	4.091	
25,700.00	8,943.14	8,967.54	8,943.14	124.12	327.54	115.13	16,458.47	623.50	1,546.59	1,146.75	399.84	3.868	
25,800.00	8,916.89	8,941.28	8,916.89	124.86	325.99	113.54	16,458.47	623.50	1,463.14	1,061.95	401.18	3.647	
25,900.00	8,890.64	8,915.03	8,890.64	125.59	324.44	111.90	16,458.47	623.50	1,381.39	978.51	402.89	3.429	
26,000.00	8,864.39	8,888.60	8,864.39	126.33	322.74	110.23	16,458.47	623.50	1,301.67	896.84	404.83	3.215	
26,100.00	8,838.14	8,862.30	8,838.14	127.07	321.04	108.52	16,458.47	623.50	1,224.36	817.15	407.20	3.007	
26,200.00	8,810.58	8,834.61	8,810.58	127.80	319.19	108.54	16,458.47	623.50	1,150.23	740.37	409.86	2.806	
26,300.00	8,780.85	8,849.82	8,826.34	128.54	320.21	109.88	16,457.40	623.50	1,080.22	664.02	416.20	2.595	
26,400.00	8,751.06	8,796.62	8,773.29	129.27	316.65	106.46	16,459.78	623.50	1,015.12	597.36	417.76	2.430	
26,500.00	8,721.27	8,750.38	8,727.13	130.01	313.56	103.36	16,460.75	623.50	954.38	534.16	420.22	2.271	
26,600.00	8,691.49	8,714.59	8,691.49	130.74	311.16	100.84	16,458.47	623.50	897.93	474.06	423.87	2.118	
26,700.00	8,661.70	8,684.81	8,661.70	131.48	309.17	98.75	16,458.47	623.50	850.10	422.25	427.85	1.987	
26,800.00	8,631.91	8,655.02	8,631.91	132.21	307.18	96.63	16,458.47	623.50	810.72	379.27	431.45	1.879	
26,900.00	8,602.12	8,636.65	8,613.64	132.95	305.92	95.32	16,458.14	623.50	781.09	346.07	435.02	1.796	
27,000.00	8,572.34	8,595.28	8,572.34	133.68	303.32	92.35	16,458.47	623.50	762.34	326.44	435.90	1.749	
27,100.00	8,542.55	8,565.37	8,542.55	134.42	301.51	90.19	16,458.47	623.50	755.28	319.37	435.92	1.733	ES, SF
27,108.78	8,539.93	8,562.75	8,539.93	134.48	301.35	90.00	16,458.47	623.50	755.24	319.40	435.83	1.733	CC
27,200.00	8,512.48	8,534.49	8,511.83	135.15	299.62	87.91	16,458.99	623.50	760.18	326.16	434.01	1.751	
27,300.00	8,479.97	8,499.99	8,477.41	135.89	297.50	85.28	16,458.61	623.50	776.72	346.61	430.11	1.806	
27,400.00	8,446.90	8,469.37	8,446.90	136.62	295.68	83.11	16,458.47	623.50	804.06	379.04	425.03	1.892	
27,500.00	8,413.83	8,436.18	8,413.83	137.35	293.76	80.79	16,458.47	623.50	841.13	422.30	418.83	2.008	
27,600.00	8,380.76	8,403.00	8,380.76	138.09	291.79	78.50	16,458.47	623.50	886.73	474.75	411.99	2.152	
27,700.00	8,347.68	8,361.46	8,339.42	138.82	289.24	75.70	16,458.88	623.50	939.43	534.99	404.44	2.323	
27,800.00	8,314.61	8,336.63	8,314.61	139.55	287.68	74.03	16,458.47	623.50	998.66	600.98	397.68	2.511	
27,900.00	8,281.54	8,300.44	8,278.70	140.29	285.37	71.71	16,459.32	623.50	1,062.22	671.63	390.60	2.719	
28,000.00	8,248.84	8,270.53	8,248.84	141.02	283.46	70.63	16,458.47	623.50	1,131.29	747.26	384.04	2.946	
28,100.00	8,218.98	8,240.54	8,218.98	141.76	281.60	70.71	16,458.47	623.50	1,204.03	826.09	377.94	3.186	
28,200.00	8,191.54	8,208.99	8,187.54	142.50	279.69	69.24	16,458.85	623.50	1,280.05	907.82	372.24	3.439	
28,300.00	8,164.21	8,179.17	8,157.81	143.24	277.90	67.36	16,458.72	623.50	1,359.01	992.03	366.98	3.703	
28,400.00	8,136.88	8,151.90	8,130.64	143.98	276.30	65.70	16,458.76	623.50	1,439.95	1,077.71	362.24	3.975	
28,500.00	8,109.55	8,125.90	8,104.71	144.72	274.83	64.14	16,458.66	623.50	1,522.76	1,164.85	357.91	4.255	
28,600.00	8,082.22	8,102.62	8,081.50	145.46	273.53	62.79	16,458.71	623.50	1,606.94	1,252.94	354.01	4.539	
28,700.00	8,054.88	8,075.15	8,054.12	146.20	271.99	61.23	16,458.76	623.50	1,692.41	1,342.20	350.21	4.833	
28,800.00	8,027.55	8,047.63	8,026.68	146.94	270.45	59.71	16,458.71	623.50	1,779.06	1,432.41	346.64	5.132	
28,827.63	8,020.00	8,040.94	8,020.00	147.14	270.08	59.35	16,458.47	623.50	1,803.38	1,457.66	345.72	5.216	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) OHIO STATE 001 - Verticals - Surveys

Survey Program: 0-3_INC-Only										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)					
26,400.00	8,751.06	8,770.41	8,751.06	129.27	281.03	121.09	17,824.44	863.61	2,275.63	1,924.17	351.46	6.475			
26,500.00	8,721.27	8,740.48	8,721.27	130.01	279.06	119.89	17,824.44	863.61	2,190.45	1,839.04	351.41	6.233			
26,600.00	8,691.49	8,710.69	8,691.49	130.74	277.11	118.66	17,824.44	863.61	2,106.15	1,754.61	351.54	5.991			
26,700.00	8,661.70	8,680.68	8,661.70	131.48	275.07	117.40	17,824.44	863.61	2,022.84	1,671.08	351.76	5.751			
26,800.00	8,631.91	8,650.79	8,631.91	132.21	272.89	116.12	17,824.44	863.61	1,940.65	1,588.61	352.04	5.513			
26,900.00	8,602.12	8,620.68	8,602.12	132.95	270.64	114.80	17,824.44	863.61	1,859.73	1,507.26	352.46	5.276			
27,000.00	8,572.34	8,590.77	8,572.34	133.68	268.35	113.45	17,824.44	863.61	1,780.25	1,427.17	353.08	5.042			
27,100.00	8,542.55	8,560.70	8,542.55	134.42	266.04	112.08	17,824.44	863.61	1,702.41	1,348.48	353.93	4.810			
27,200.00	8,512.48	8,530.51	8,512.48	135.15	263.70	111.54	17,824.44	863.61	1,626.52	1,271.51	355.01	4.582			
27,300.00	8,479.97	8,497.68	8,479.97	135.89	261.14	111.20	17,824.44	863.61	1,553.40	1,197.28	356.12	4.362			
27,400.00	8,446.90	8,464.50	8,446.90	136.62	258.53	109.65	17,824.44	863.61	1,482.84	1,125.39	357.45	4.148			
27,500.00	8,413.83	8,431.11	8,413.83	137.35	255.93	108.06	17,824.44	863.61	1,415.06	1,055.99	359.07	3.941			
27,600.00	8,380.76	8,397.96	8,380.76	138.09	253.37	106.44	17,824.44	863.61	1,350.48	989.49	361.00	3.741			
27,700.00	8,347.68	8,364.54	8,347.68	138.82	250.80	104.79	17,824.44	863.61	1,289.58	926.44	363.13	3.551			
27,800.00	8,314.61	8,331.38	8,314.61	139.55	248.26	103.12	17,824.44	863.61	1,232.90	867.44	365.46	3.374			
27,900.00	8,281.54	8,297.92	8,281.54	140.29	245.73	101.43	17,824.44	863.61	1,181.05	813.15	367.89	3.210			
28,000.00	8,248.84	8,271.00	8,254.63	141.02	243.70	99.57	17,824.44	863.61	1,134.64	763.82	370.82	3.060			
28,100.00	8,218.98	8,235.02	8,218.98	141.76	241.22	96.80	17,824.44	863.61	1,094.06	721.00	373.05	2.933			
28,200.00	8,191.54	8,207.38	8,191.54	142.50	239.32	95.11	17,824.44	863.61	1,060.32	684.80	375.53	2.824			
28,300.00	8,164.21	8,179.96	8,164.21	143.24	237.53	93.63	17,824.44	863.61	1,034.45	656.98	377.46	2.741			
28,400.00	8,136.88	8,152.63	8,136.88	143.98	235.75	92.14	17,824.44	863.61	1,017.04	638.50	378.54	2.687			
28,500.00	8,109.55	8,125.62	8,110.11	144.72	234.06	90.68	17,825.15	863.61	1,008.59	629.93	378.66	2.664	SF		
28,542.91	8,097.82	8,113.28	8,097.82	145.03	233.29	90.00	17,824.44	863.61	1,007.71	629.39	378.32	2.664	CC, ES		
28,600.00	8,082.22	8,097.68	8,082.22	145.46	232.31	89.15	17,824.44	863.61	1,009.21	631.63	377.58	2.673			
28,700.00	8,054.88	8,067.04	8,051.80	146.20	230.40	87.49	17,825.02	863.61	1,018.90	643.72	375.18	2.716			
28,800.00	8,027.55	8,042.74	8,027.55	146.94	228.88	86.16	17,824.44	863.61	1,037.61	665.55	372.06	2.789			
28,827.63	8,020.00	8,035.19	8,020.00	147.14	228.41	85.75	17,824.44	863.61	1,044.27	673.28	370.98	2.815			

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) OHIO 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
26,500.00	8,721.27	7,040.00	7,027.10	130.01	122.54	29.35	17,197.60	549.74	2,255.80	2,075.09	180.70	12.483		
26,600.00	8,691.49	7,040.00	7,027.10	130.74	122.54	29.35	17,197.60	549.74	2,178.42	1,996.92	181.50	12.002		
26,700.00	8,661.70	7,040.00	7,027.10	131.48	122.54	29.35	17,197.60	549.74	2,102.95	1,920.63	182.32	11.534		
26,800.00	8,631.91	7,040.00	7,027.10	132.21	122.54	29.35	17,197.60	549.74	2,029.60	1,846.44	183.15	11.081		
26,900.00	8,602.12	7,040.00	7,027.10	132.95	122.54	29.35	17,197.60	549.74	1,958.61	1,774.60	184.01	10.644		
27,000.00	8,572.34	7,040.00	7,027.10	133.68	122.54	29.35	17,197.60	549.74	1,890.24	1,705.35	184.89	10.223		
27,100.00	8,542.55	7,040.00	7,027.10	134.42	122.54	29.35	17,197.60	549.74	1,824.80	1,638.99	185.81	9.821		
27,200.00	8,512.48	7,040.00	7,027.10	135.15	122.54	29.67	17,197.60	549.74	1,762.40	1,575.61	186.79	9.435		
27,300.00	8,479.97	7,040.00	7,027.10	135.89	122.54	30.11	17,197.60	549.74	1,701.77	1,513.87	187.90	9.057		
27,400.00	8,446.90	7,040.00	7,027.10	136.62	122.54	30.11	17,197.60	549.74	1,644.55	1,455.41	189.14	8.695		
27,500.00	8,413.83	7,040.00	7,027.10	137.35	122.54	30.11	17,197.60	549.74	1,591.57	1,401.00	190.57	8.352		
27,600.00	8,380.76	7,040.00	7,027.10	138.09	122.54	30.11	17,197.60	549.74	1,543.26	1,351.01	192.25	8.027		
27,700.00	8,347.68	7,040.00	7,027.10	138.82	122.54	30.11	17,197.60	549.74	1,500.06	1,305.83	194.23	7.723		
27,800.00	8,314.61	7,040.00	7,027.10	139.55	122.54	30.11	17,197.60	549.74	1,462.44	1,265.87	196.57	7.440		
27,900.00	8,281.54	7,040.00	7,027.10	140.29	122.54	30.11	17,197.60	549.74	1,430.83	1,231.55	199.28	7.180		
28,000.00	8,248.84	7,040.00	7,027.10	141.02	122.54	30.00	17,197.60	549.74	1,405.96	1,203.65	202.31	6.950		
28,100.00	8,218.98	7,040.00	7,027.10	141.76	122.54	29.85	17,197.60	549.74	1,390.45	1,184.95	205.50	6.766		
28,200.00	8,191.54	7,040.00	7,027.10	142.50	122.54	29.82	17,197.60	549.74	1,384.20	1,175.50	208.70	6.633		
28,235.33	8,181.88	7,040.00	7,027.10	142.76	122.54	29.82	17,197.60	549.74	1,383.75	1,173.93	209.82	6.595	CC	
28,300.00	8,164.21	7,040.00	7,027.10	143.24	122.54	29.82	17,197.60	549.74	1,385.26	1,173.45	211.81	6.540	ES	
28,400.00	8,136.88	7,040.00	7,027.10	143.98	122.54	29.82	17,197.60	549.74	1,393.51	1,178.86	214.65	6.492		
28,500.00	8,109.55	7,040.00	7,027.10	144.72	122.54	29.82	17,197.60	549.74	1,408.83	1,191.74	217.09	6.489	SF	
28,600.00	8,082.22	7,040.00	7,027.10	145.46	122.54	29.82	17,197.60	549.74	1,430.99	1,211.96	219.04	6.533		
28,700.00	8,054.88	7,040.00	7,027.10	146.20	122.54	29.82	17,197.60	549.74	1,459.68	1,239.25	220.43	6.622		
28,800.00	8,027.55	7,040.00	7,027.10	146.94	122.54	29.82	17,197.60	549.74	1,494.52	1,273.26	221.26	6.754		
28,827.63	8,020.00	7,040.00	7,027.10	147.14	122.54	29.82	17,197.60	549.74	1,505.18	1,283.78	221.40	6.798		

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) OHIO STATE 005 - Verticals - Surveys

Survey Program: 197-3_INC-Only, 2196-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 Reference (usft)	Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
26,100.00	8,838.14	8,927.41	8,914.49	127.07	55.98	118.55	17,510.51	965.21	2,297.94	2,168.48	129.46	17.750	
26,200.00	8,810.58	8,896.98	8,884.09	127.80	55.93	119.64	17,511.02	966.38	2,215.16	2,083.67	131.50	16.846	
26,300.00	8,780.85	8,864.40	8,851.54	128.54	55.89	118.82	17,511.54	967.63	2,134.07	2,000.39	133.68	15.964	
26,400.00	8,751.06	8,831.89	8,819.06	129.27	55.84	117.56	17,512.04	968.87	2,054.16	1,918.12	136.05	15.099	
26,500.00	8,721.27	8,799.51	8,786.70	130.01	55.80	116.27	17,512.52	970.10	1,975.58	1,836.98	138.60	14.254	
26,600.00	8,691.49	8,767.77	8,754.98	130.74	55.75	114.98	17,512.97	971.29	1,898.48	1,757.12	141.35	13.431	
26,700.00	8,661.70	8,732.60	8,719.84	131.48	55.73	113.53	17,513.43	972.61	1,823.03	1,678.71	144.33	12.631	
26,800.00	8,631.91	8,697.91	8,685.18	132.21	55.72	112.07	17,513.80	973.89	1,749.44	1,601.92	147.52	11.859	
26,900.00	8,602.12	8,664.34	8,651.64	132.95	55.70	110.62	17,514.09	975.10	1,677.95	1,526.99	150.96	11.115	
27,000.00	8,572.34	8,634.72	8,622.03	133.68	55.69	109.33	17,514.44	976.04	1,608.91	1,454.26	154.65	10.404	
27,100.00	8,542.55	8,603.81	8,591.14	134.42	55.68	107.97	17,515.02	976.83	1,542.65	1,384.12	158.53	9.731	
27,200.00	8,512.48	8,571.19	8,558.53	135.15	55.66	107.14	17,515.87	977.45	1,479.57	1,316.99	162.58	9.100	
27,300.00	8,479.97	8,536.06	8,523.42	135.89	55.65	106.42	17,516.63	978.22	1,420.55	1,253.77	166.78	8.517	
27,400.00	8,446.90	8,502.80	8,490.17	136.62	55.63	104.92	17,516.92	979.29	1,365.60	1,194.46	171.14	7.979	
27,500.00	8,413.83	8,469.50	8,456.90	137.35	55.62	103.39	17,516.85	980.64	1,315.14	1,139.57	175.57	7.491	
27,600.00	8,380.76	8,430.62	8,418.05	138.09	55.60	101.59	17,516.90	982.01	1,269.61	1,089.70	179.91	7.057	
27,700.00	8,347.68	8,389.76	8,377.21	138.82	55.58	99.69	17,517.31	983.04	1,229.45	1,045.38	184.07	6.679	
27,800.00	8,314.61	8,348.87	8,336.33	139.55	55.56	97.78	17,518.07	983.65	1,195.12	1,007.18	187.95	6.359	
27,900.00	8,281.54	8,316.44	8,303.90	140.29	55.55	96.25	17,518.45	984.15	1,167.30	975.85	191.45	6.097	
28,000.00	8,248.84	8,286.64	8,274.11	141.02	55.53	94.65	17,518.42	984.78	1,146.59	952.22	194.38	5.899	
28,100.00	8,218.98	8,261.38	8,248.87	141.76	55.52	93.15	17,518.11	985.44	1,133.37	936.78	196.60	5.765	
28,200.00	8,191.54	8,232.00	8,219.50	142.50	55.50	91.67	17,517.41	986.36	1,128.23	930.27	197.96	5.699	
28,213.25	8,187.92	8,232.00	8,219.50	142.59	55.50	91.67	17,517.41	986.36	1,128.15	930.08	198.07	5.696	CC, ES, SF
28,300.00	8,164.21	8,214.58	8,202.10	143.24	55.50	90.81	17,516.89	986.93	1,131.36	932.98	198.38	5.703	
28,400.00	8,136.88	8,185.81	8,173.35	143.98	55.49	89.40	17,516.10	987.80	1,142.71	944.82	197.89	5.775	
28,500.00	8,109.55	8,154.03	8,141.60	144.72	55.48	87.84	17,515.33	988.64	1,161.94	965.39	196.55	5.912	
28,600.00	8,082.22	8,115.46	8,103.03	145.46	55.46	85.96	17,514.93	989.44	1,188.54	994.00	194.54	6.110	
28,700.00	8,054.88	8,076.00	8,063.58	146.20	55.44	84.06	17,515.20	990.02	1,221.85	1,029.88	191.97	6.365	
28,800.00	8,027.55	8,076.00	8,063.58	146.94	55.44	84.06	17,515.20	990.02	1,261.81	1,073.14	188.67	6.688	
28,827.63	8,020.00	8,046.62	8,034.21	147.14	55.42	82.65	17,515.52	990.42	1,273.56	1,085.64	187.92	6.777	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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) SHETLAND SWD 001 - Vertical - Surveys

Survey Program: 357-3_INC-Only, 9770-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 Reference (usft)	Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
20,700.00	9,859.56	9,770.00	9,760.34	87.81	311.02	99.25	12,244.26	926.31	2,287.04	1,922.94	364.09	6.281	
20,800.00	9,846.63	9,770.00	9,760.34	88.52	311.02	99.25	12,244.26	926.31	2,198.29	1,832.91	365.38	6.017	
20,900.00	9,833.69	9,770.00	9,760.34	89.22	311.02	99.25	12,244.26	926.31	2,110.55	1,743.77	366.78	5.754	
21,000.00	9,820.76	9,762.82	9,753.16	89.93	310.82	98.86	12,243.98	926.33	2,023.94	1,655.89	368.05	5.499	
21,100.00	9,807.82	9,759.00	9,749.35	90.64	310.71	98.65	12,243.83	926.34	1,938.58	1,568.98	369.59	5.245	
21,200.00	9,794.89	9,759.00	9,749.35	91.36	310.71	98.65	12,243.83	926.34	1,854.67	1,483.24	371.43	4.993	
21,300.00	9,781.96	9,759.00	9,749.35	92.07	310.71	98.65	12,243.83	926.34	1,772.44	1,399.00	373.44	4.746	
21,400.00	9,769.02	9,759.00	9,749.35	92.78	310.71	98.65	12,243.83	926.34	1,692.13	1,316.50	375.63	4.505	
21,500.00	9,756.09	9,759.00	9,749.35	93.50	310.71	98.65	12,243.83	926.34	1,614.02	1,236.01	378.01	4.270	
21,600.00	9,741.94	9,743.52	9,734.23	94.21	309.93	99.65	12,243.72	926.34	1,538.49	1,158.77	379.72	4.052	
21,700.00	9,726.22	9,729.69	9,720.41	94.93	309.22	98.90	12,243.64	926.34	1,465.94	1,084.20	381.75	3.840	
21,800.00	9,710.50	9,715.65	9,706.37	95.65	308.51	98.14	12,243.57	926.34	1,396.64	1,012.68	383.97	3.637	
21,900.00	9,694.79	9,701.39	9,692.12	96.37	307.79	97.36	12,243.52	926.34	1,331.09	944.72	386.38	3.445	
22,000.00	9,679.07	9,686.91	9,677.64	97.09	307.05	96.57	12,243.48	926.34	1,269.86	880.93	388.94	3.265	
22,100.00	9,663.35	9,672.20	9,662.94	97.81	306.31	95.77	12,243.46	926.34	1,213.61	822.01	391.60	3.099	
22,200.00	9,647.64	9,656.82	9,647.64	98.53	305.53	94.93	12,243.83	926.34	1,163.23	768.97	394.25	2.950	
22,300.00	9,631.92	9,641.10	9,631.92	99.25	304.73	94.06	12,243.83	926.34	1,119.09	722.26	396.83	2.820	
22,400.00	9,616.20	9,625.38	9,616.20	99.97	303.93	93.19	12,243.83	926.34	1,082.19	682.99	399.20	2.711	
22,500.00	9,600.49	9,609.66	9,600.49	100.70	303.13	92.32	12,243.83	926.34	1,053.28	652.08	401.20	2.625	
22,600.00	9,583.89	9,593.07	9,583.89	101.42	302.29	91.68	12,243.83	926.34	1,033.07	630.43	402.64	2.566	
22,700.00	9,564.62	9,573.80	9,564.62	102.14	301.31	90.73	12,243.83	926.34	1,022.04	618.77	403.27	2.534	
22,767.86	9,551.36	9,560.63	9,551.56	102.64	300.73	90.01	12,244.03	926.34	1,019.89	616.52	403.36	2.528	CC, ES, SF
22,800.00	9,545.07	9,553.83	9,544.76	102.87	300.44	89.64	12,244.14	926.34	1,020.37	617.10	403.27	2.530	
22,900.00	9,525.53	9,534.16	9,525.10	103.60	299.62	88.56	12,244.32	926.34	1,028.05	625.51	402.54	2.554	
23,000.00	9,505.99	9,515.04	9,505.99	104.32	298.82	87.50	12,243.83	926.34	1,045.02	643.95	401.07	2.606	
23,100.00	9,486.44	9,495.49	9,486.44	105.05	298.00	86.43	12,243.83	926.34	1,070.69	671.75	398.94	2.684	
23,200.00	9,466.90	9,467.44	9,458.53	105.78	296.88	84.90	12,244.26	926.34	1,104.37	708.36	396.01	2.789	
23,300.00	9,447.35	9,448.85	9,439.96	106.51	296.16	83.89	12,244.58	926.34	1,145.42	752.35	393.07	2.914	
23,400.00	9,427.81	9,431.24	9,422.36	107.24	295.48	82.94	12,244.79	926.34	1,193.13	803.22	389.91	3.060	
23,500.00	9,408.27	9,414.52	9,405.65	107.97	294.83	82.03	12,244.89	926.34	1,246.78	860.13	386.65	3.225	
23,600.00	9,388.72	9,397.56	9,388.72	108.70	294.17	81.11	12,243.83	926.34	1,306.31	923.00	383.30	3.408	
23,700.00	9,369.18	9,378.02	9,369.18	109.43	293.42	80.06	12,243.83	926.34	1,369.73	989.78	379.95	3.605	
23,800.00	9,349.63	9,358.48	9,349.63	110.16	292.66	79.02	12,243.83	926.34	1,437.05	1,060.36	376.69	3.815	
23,900.00	9,330.09	9,338.93	9,330.09	110.89	291.90	77.99	12,243.83	926.34	1,507.75	1,134.20	373.56	4.036	
24,000.00	9,310.55	9,301.74	9,292.99	111.63	290.39	76.05	12,244.24	926.34	1,581.16	1,211.22	369.94	4.274	
24,100.00	9,291.00	9,291.89	9,283.14	112.36	289.97	75.54	12,244.34	926.34	1,657.15	1,289.77	367.37	4.511	
24,200.00	9,271.46	9,280.19	9,271.46	113.09	289.47	74.93	12,243.83	926.34	1,735.89	1,371.02	364.87	4.758	
24,300.00	9,251.91	9,260.64	9,251.91	113.82	288.64	73.94	12,243.83	926.34	1,816.16	1,453.91	362.25	5.014	
24,400.00	9,232.37	9,214.81	9,206.40	114.56	286.78	71.65	12,244.50	926.34	1,897.73	1,538.78	358.95	5.287	
24,500.00	9,212.83	9,198.05	9,189.64	115.29	286.11	70.83	12,244.75	926.34	1,980.88	1,624.12	356.75	5.553	
24,600.00	9,193.28	9,181.68	9,173.29	116.03	285.45	70.03	12,244.95	926.34	2,065.35	1,710.66	354.69	5.823	
24,700.00	9,173.74	9,165.71	9,157.32	116.76	284.81	69.26	12,245.11	926.34	2,151.00	1,798.25	352.75	6.098	
24,800.00	9,154.19	9,150.11	9,141.73	117.50	284.19	68.51	12,245.23	926.34	2,237.70	1,886.77	350.93	6.377	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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:					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
27,400.00	8,446.90	8,407.76	8,380.54	136.62	29.80	101.82	18,098.15	1,693.57	2,285.55	2,142.66	142.88	15.996	
27,500.00	8,413.83	8,385.75	8,358.61	137.35	29.72	101.18	18,096.31	1,694.17	2,230.07	2,084.24	145.83	15.292	
27,600.00	8,380.76	8,362.91	8,335.86	138.09	29.64	100.51	18,094.43	1,694.81	2,177.52	2,028.71	148.81	14.633	
27,700.00	8,347.68	8,339.90	8,312.94	138.82	29.56	99.84	18,092.56	1,695.46	2,128.10	1,976.31	151.79	14.020	
27,800.00	8,314.61	8,316.72	8,289.84	139.55	29.48	99.16	18,090.70	1,696.14	2,082.03	1,927.28	154.75	13.454	
27,900.00	8,281.54	8,292.46	8,265.67	140.29	29.40	98.44	18,088.78	1,696.86	2,039.54	1,881.88	157.66	12.937	
28,000.00	8,248.84	8,266.27	8,239.57	141.02	29.30	97.29	18,086.70	1,697.63	2,000.77	1,840.30	160.47	12.468	
28,100.00	8,218.98	8,243.16	8,216.54	141.76	29.22	95.85	18,084.86	1,698.30	1,965.67	1,802.49	163.19	12.046	
28,200.00	8,191.54	8,222.66	8,196.12	142.50	29.15	95.05	18,083.23	1,698.89	1,934.62	1,768.86	165.76	11.671	
28,300.00	8,164.21	8,202.31	8,175.84	143.24	29.08	94.44	18,081.60	1,699.46	1,908.10	1,739.96	168.14	11.349	
28,400.00	8,136.88	8,183.08	8,156.68	143.98	29.01	93.85	18,080.07	1,700.00	1,886.30	1,716.03	170.27	11.079	
28,500.00	8,109.55	8,163.93	8,137.60	144.72	28.94	93.27	18,078.54	1,700.54	1,869.40	1,697.29	172.11	10.862	
28,600.00	8,082.22	8,144.73	8,118.47	145.46	28.87	92.69	18,077.02	1,701.08	1,857.54	1,683.91	173.64	10.698	
28,700.00	8,054.88	8,125.48	8,099.29	146.20	28.81	92.11	18,075.50	1,701.63	1,850.81	1,676.00	174.81	10.587	
28,779.71	8,033.10	8,110.10	8,083.96	146.79	28.75	91.64	18,074.29	1,702.07	1,849.16	1,673.67	175.49	10.537	CC
28,800.00	8,027.55	8,106.18	8,080.05	146.94	28.74	91.52	18,073.98	1,702.19	1,849.27	1,673.64	175.63	10.529	ES
28,827.63	8,020.00	8,100.83	8,074.73	147.14	28.72	91.36	18,073.56	1,702.34	1,849.76	1,673.97	175.79	10.523	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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 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)			
26,000.00	8,864.39	8,871.92	8,864.39	126.33	293.30	98.60	16,542.99	1,835.39	2,271.06	1,865.99	405.06	5.607	
26,100.00	8,838.14	8,845.56	8,838.14	127.07	291.63	97.88	16,542.99	1,835.39	2,224.46	1,818.46	406.00	5.479	
26,200.00	8,810.58	8,817.87	8,810.58	127.80	289.90	97.95	16,542.99	1,835.39	2,181.30	1,774.46	406.84	5.362	
26,300.00	8,780.85	8,788.09	8,780.85	128.54	288.01	97.29	16,542.99	1,835.39	2,141.84	1,734.38	407.45	5.257	
26,400.00	8,751.06	8,758.17	8,751.06	129.27	286.12	96.48	16,542.99	1,835.39	2,105.98	1,697.99	407.98	5.162	
26,500.00	8,721.27	8,728.27	8,721.27	130.01	284.29	95.66	16,542.99	1,835.39	2,073.89	1,665.41	408.48	5.077	
26,600.00	8,691.49	8,707.56	8,700.75	130.74	283.06	95.10	16,543.54	1,835.39	2,045.94	1,636.50	409.44	4.997	
26,700.00	8,661.70	8,668.47	8,661.70	131.48	280.74	94.02	16,542.99	1,835.39	2,021.76	1,612.63	409.13	4.942	
26,800.00	8,631.91	8,638.56	8,631.91	132.21	278.89	93.19	16,542.99	1,835.39	2,002.02	1,592.91	409.11	4.894	
26,900.00	8,602.12	8,608.63	8,602.12	132.95	276.94	92.36	16,542.99	1,835.39	1,986.67	1,577.90	408.77	4.860	
27,000.00	8,572.34	8,578.72	8,572.34	133.68	274.95	91.54	16,542.99	1,835.39	1,975.83	1,567.68	408.15	4.841	
27,100.00	8,542.55	8,548.77	8,542.55	134.42	273.01	90.71	16,542.99	1,835.39	1,969.55	1,562.22	407.33	4.835	SF
27,185.99	8,516.43	8,522.50	8,516.43	135.05	271.26	90.00	16,542.99	1,835.39	1,967.85	1,561.54	406.31	4.843	CC, ES
27,200.00	8,512.48	8,518.55	8,512.48	135.15	270.99	89.88	16,542.99	1,835.39	1,967.89	1,561.75	406.14	4.845	
27,300.00	8,479.97	8,485.84	8,479.97	135.89	268.71	88.96	16,542.99	1,835.39	1,970.81	1,566.39	404.42	4.873	
27,400.00	8,446.90	8,448.39	8,442.74	136.62	266.07	87.94	16,543.30	1,835.39	1,978.20	1,576.13	402.07	4.920	
27,500.00	8,413.83	8,418.15	8,412.63	137.35	263.92	87.11	16,543.25	1,835.39	1,990.06	1,590.13	399.93	4.976	
27,600.00	8,380.76	8,386.09	8,380.76	138.09	261.64	86.24	16,542.99	1,835.39	2,006.34	1,608.94	397.40	5.049	
27,700.00	8,347.68	8,352.86	8,347.68	138.82	259.37	85.34	16,542.99	1,835.39	2,026.85	1,632.22	394.64	5.136	
27,800.00	8,314.61	8,308.83	8,304.00	139.55	256.38	84.15	16,543.64	1,835.39	2,051.35	1,660.39	390.96	5.247	
27,900.00	8,281.54	8,286.32	8,281.54	140.29	254.86	83.54	16,542.99	1,835.39	2,080.15	1,691.67	388.48	5.355	
28,000.00	8,248.84	8,250.73	8,246.10	141.02	252.48	82.91	16,543.40	1,835.39	2,112.53	1,727.52	385.00	5.487	
28,100.00	8,218.98	8,221.84	8,217.32	141.76	250.56	82.90	16,543.26	1,835.39	2,149.13	1,767.34	381.79	5.629	
28,200.00	8,191.54	8,195.56	8,191.18	142.50	248.83	82.40	16,543.32	1,835.39	2,189.53	1,810.91	378.62	5.783	
28,300.00	8,164.21	8,165.46	8,161.21	143.24	246.95	81.57	16,543.32	1,835.39	2,233.38	1,858.18	375.21	5.952	
28,400.00	8,136.88	8,134.55	8,130.43	143.98	245.04	80.73	16,543.37	1,835.39	2,280.43	1,908.76	371.67	6.136	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 501H - OH - Plan #2

Survey Program: 0-MWD+IFR1+MS														Offset Site Error: 0.00 usft	
Reference Offset				Semi Major Axis		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)	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	89.91	0.03	19.99	19.99	19.44	0.55	36.247			
100.00	100.00	99.80	100.00	0.28	0.28	89.91	0.03	19.99	19.99	18.72	1.27	15.762			
200.00	200.00	199.80	200.00	0.63	0.63	89.91	0.03	19.99	19.99	18.00	1.99	10.069			
300.00	300.00	299.80	300.00	0.99	0.99	89.91	0.03	19.99	19.99	17.29	2.70	7.398			
400.00	400.00	399.80	400.00	1.35	1.35	89.91	0.03	19.99	19.99	16.57	3.42	5.847			
500.00	500.00	499.80	500.00	1.71	1.71	89.91	0.03	19.99	19.99	15.85	4.14	4.833			
600.00	600.00	599.80	600.00	2.07	2.07	89.91	0.03	19.99	19.99	15.14	4.85	4.119			
700.00	700.00	699.80	700.00	2.43	2.43	89.91	0.03	19.99	19.99	14.42	5.57	3.589			
800.00	800.00	799.80	800.00	2.79	2.78	89.91	0.03	19.99	19.99	13.70	6.29	3.180			
900.00	900.00	899.80	900.00	3.14	3.14	89.91	0.03	19.99	19.99	12.99	7.00	2.854			
1,000.00	1,000.00	999.80	1,000.00	3.50	3.50	89.91	0.03	19.99	19.99	12.27	7.72	2.589			
1,100.00	1,100.00	1,099.80	1,100.00	3.86	3.86	89.91	0.03	19.99	19.99	11.55	8.44	2.369			
1,200.00	1,200.00	1,199.80	1,200.00	4.22	4.22	89.91	0.03	19.99	19.99	10.84	9.15	2.184			
1,300.00	1,300.00	1,299.80	1,300.00	4.58	4.58	89.91	0.03	19.99	19.99	10.12	9.87	2.025			
1,400.00	1,400.00	1,399.80	1,400.00	4.94	4.94	89.91	0.03	19.99	19.99	9.40	10.59	1.888			
1,500.00	1,500.00	1,499.80	1,500.00	5.29	5.29	89.91	0.03	19.99	19.99	8.68	11.31	1.768			
1,600.00	1,600.00	1,599.80	1,600.00	5.65	5.65	89.91	0.03	19.99	19.99	7.97	12.02	1.663			
1,700.00	1,700.00	1,699.80	1,700.00	6.01	6.01	89.91	0.03	19.99	19.99	7.25	12.74	1.569			
1,800.00	1,800.00	1,799.80	1,800.00	6.37	6.37	89.91	0.03	19.99	19.99	6.50	13.42	1.485	Level 3, CC		
1,897.26	1,897.24	1,897.04	1,897.24	6.70	6.72	-90.00	0.03	19.99	19.92	6.48	13.44	1.483	Level 3, ES		
1,900.00	1,899.98	1,899.78	1,899.98	6.71	6.73	-90.27	0.03	19.99	19.92						
2,000.00	1,999.84	1,999.64	1,999.84	7.04	7.09	-104.94	0.03	19.99	20.62	6.50	14.12	1.461	Level 3		
2,100.00	2,099.45	2,099.25	2,099.45	7.36	7.44	-125.03	0.03	19.99	24.37	9.57	14.80	1.646			
2,200.00	2,198.76	2,198.56	2,198.76	7.70	7.80	-142.11	0.03	19.99	32.59	17.10	15.49	2.104			
2,300.00	2,298.01	2,297.81	2,298.01	8.03	8.15	-152.14	0.03	19.99	42.89	26.71	16.18	2.651			
2,400.00	2,397.27	2,397.07	2,397.27	8.36	8.51	-158.19	0.03	19.99	53.98	37.10	16.87	3.199			
2,500.00	2,496.52	2,496.32	2,496.52	8.70	8.87	-162.16	0.03	19.99	65.45	47.89	17.56	3.727			
2,600.00	2,595.78	2,595.58	2,595.78	9.04	9.22	-164.93	0.03	19.99	77.15	58.89	18.26	4.225			
2,700.00	2,695.03	2,694.83	2,695.03	9.38	9.58	-166.97	0.03	19.99	88.98	70.02	18.96	4.694			
2,800.00	2,794.29	2,794.09	2,794.29	9.72	9.93	-168.53	0.03	19.99	100.89	81.24	19.65	5.133			
2,900.00	2,893.54	2,893.34	2,893.54	10.07	10.29	-169.76	0.03	19.99	112.86	92.51	20.35	5.545			
3,000.00	2,992.80	2,992.60	2,992.80	10.42	10.65	-170.75	0.03	19.99	124.87	103.82	21.06	5.930			
3,100.00	3,092.05	3,091.85	3,092.05	10.77	11.00	-171.57	0.03	19.99	136.92	115.16	21.76	6.292			
3,200.00	3,191.31	3,191.11	3,191.31	11.12	11.36	-172.26	0.03	19.99	148.98	126.52	22.46	6.632			
3,300.00	3,290.56	3,290.36	3,290.56	11.47	11.71	-172.84	0.03	19.99	161.06	137.90	23.17	6.952			
3,400.00	3,389.82	3,389.62	3,389.82	11.83	12.07	-173.34	0.03	19.99	173.16	149.29	23.88	7.253			
3,500.00	3,489.07	3,488.87	3,489.07	12.18	12.42	-173.78	0.03	19.99	185.27	160.69	24.58	7.537			
3,600.00	3,588.33	3,593.82	3,594.00	12.54	12.78	-174.39	-1.32	19.25	196.11	170.81	25.30	7.751			
3,700.00	3,687.58	3,699.99	3,700.02	12.89	13.13	-175.47	-6.09	16.64	203.76	177.77	25.99	7.840			
3,800.00	3,787.05	3,806.45	3,806.07	13.25	13.48	-176.98	-14.34	12.13	206.29	179.63	26.66	7.738			
3,900.00	3,886.82	3,908.87	3,907.76	13.61	13.81	-178.82	-25.00	6.30	202.85	175.52	27.33	7.422			
4,000.00	3,986.76	4,008.40	4,006.55	13.96	14.14	179.26	-35.64	0.48	195.88	167.87	28.01	6.992			
4,100.00	4,086.76	4,107.68	4,105.09	14.30	14.47	-7.67	-46.26	-5.33	186.23	157.54	28.69	6.491			
4,200.00	4,186.76	4,206.94	4,203.61	14.65	14.80	-10.01	-56.88	-11.13	176.53	147.16	29.37	6.010			
4,300.00	4,286.76	4,306.19	4,302.12	14.99	15.13	-12.61	-67.49	-16.94	167.16	137.11	30.05	5.562			
4,400.00	4,386.76	4,405.45	4,400.64	15.33	15.46	-15.51	-78.10	-22.74	158.18	127.44	30.74	5.146			
4,500.00	4,486.76	4,504.70	4,499.15	15.68	15.80	-18.75	-88.72	-28.55	149.64	118.22	31.43	4.762			
4,600.00	4,586.76	4,603.96	4,597.66	16.03	16.14	-22.37	-99.33	-34.35	141.65	109.53	32.12	4.411			
4,700.00	4,686.76	4,703.21	4,696.18	16.37	16.47	-26.40	-109.95	-40.15	134.28	101.47	32.81	4.093			
4,800.00	4,786.76	4,802.46	4,794.69	16.72	16.81	-30.86	-120.56	-45.96	127.66	94.16	33.50	3.811			
4,900.00	4,886.76	4,901.72	4,893.21	17.07	17.15	-35.78	-131.17	-51.76	121.90	87.70	34.20	3.565			
5,000.00	4,986.76	5,000.97	4,991.72	17.42	17.49	-41.13	-141.79	-57.57	117.12	82.23	34.89	3.357			

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

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 501H - 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	5,086.76	5,100.23	5,090.24	17.76	17.83	-46.87	-152.40	-63.37	113.47	77.88	35.59	3.189	
5,200.00	5,186.76	5,199.48	5,188.75	18.11	18.18	-52.93	-163.02	-69.18	111.03	74.75	36.28	3.061	
5,300.00	5,286.76	5,298.74	5,287.27	18.46	18.52	-59.18	-173.63	-74.98	109.90	72.93	36.97	2.973	
5,333.96	5,320.72	5,332.44	5,320.72	18.58	18.64	-61.33	-177.23	-76.95	109.82	72.62	37.20	2.952	
5,400.00	5,386.76	5,397.99	5,385.78	18.81	18.87	-65.49	-184.24	-80.79	110.12	72.46	37.66	2.924	
5,500.00	5,486.76	5,497.25	5,484.29	19.16	19.21	-71.69	-194.86	-86.59	111.67	73.33	38.35	2.912	
5,600.00	5,586.76	5,596.50	5,582.81	19.51	19.56	-77.66	-205.47	-92.40	114.51	75.48	39.03	2.934	
5,700.00	5,686.76	5,696.44	5,682.04	19.86	19.91	-83.17	-215.86	-98.08	118.41	78.69	39.73	2.981	
5,800.00	5,786.76	5,797.77	5,782.97	20.21	20.26	-87.10	-223.76	-102.40	122.02	81.58	40.44	3.017	
5,900.00	5,886.76	5,899.62	5,884.67	20.57	20.62	-89.36	-228.55	-105.02	124.44	83.29	41.16	3.024	
6,000.00	5,986.76	6,001.73	5,986.75	20.92	20.97	-90.11	-230.16	-105.90	125.30	83.44	41.86	2.993	
6,100.00	6,086.76	6,101.74	6,086.76	21.27	21.32	-90.11	-230.16	-105.90	125.30	82.74	42.56	2.944	
6,200.00	6,186.76	6,201.74	6,186.76	21.62	21.67	-90.11	-230.16	-105.90	125.30	82.03	43.27	2.896	
6,300.00	6,286.76	6,301.74	6,286.76	21.97	22.03	-90.11	-230.16	-105.90	125.30	81.33	43.97	2.850	
6,400.00	6,386.76	6,401.74	6,386.76	22.32	22.38	-90.11	-230.16	-105.90	125.30	80.63	44.67	2.805	
6,500.00	6,486.76	6,501.74	6,486.76	22.68	22.73	-90.11	-230.16	-105.90	125.30	79.92	45.38	2.761	
6,600.00	6,586.76	6,601.74	6,586.76	23.03	23.08	-90.11	-230.16	-105.90	125.30	79.22	46.08	2.719	
6,700.00	6,686.76	6,701.74	6,686.76	23.38	23.43	-90.11	-230.16	-105.90	125.30	78.51	46.79	2.678	
6,800.00	6,786.76	6,801.74	6,786.76	23.74	23.79	-90.11	-230.16	-105.90	125.30	77.81	47.49	2.638	
6,900.00	6,886.76	6,901.74	6,886.76	24.09	24.14	-90.11	-230.16	-105.90	125.30	77.10	48.20	2.600	
7,000.00	6,986.76	7,001.74	6,986.76	24.44	24.49	-90.11	-230.16	-105.90	125.30	76.40	48.90	2.562	
7,100.00	7,086.76	7,101.74	7,086.76	24.80	24.84	-90.11	-230.16	-105.90	125.30	75.69	49.61	2.526	
7,200.00	7,186.76	7,201.74	7,186.76	25.15	25.20	-90.11	-230.16	-105.90	125.30	74.99	50.31	2.490	
7,300.00	7,286.76	7,301.74	7,286.76	25.50	25.55	-90.11	-230.16	-105.90	125.30	74.28	51.02	2.456	
7,400.00	7,386.76	7,401.74	7,386.76	25.86	25.90	-90.11	-230.16	-105.90	125.30	73.57	51.73	2.422	
7,500.00	7,486.76	7,501.74	7,486.76	26.21	26.26	-90.11	-230.16	-105.90	125.30	72.87	52.43	2.390	
7,600.00	7,586.76	7,601.74	7,586.76	26.57	26.61	-90.11	-230.16	-105.90	125.30	72.16	53.14	2.358	
7,700.00	7,686.76	7,701.74	7,686.76	26.92	26.96	-90.11	-230.16	-105.90	125.30	71.45	53.85	2.327	
7,800.00	7,786.76	7,801.74	7,786.76	27.27	27.32	-90.11	-230.16	-105.90	125.30	70.74	54.56	2.297	
7,900.00	7,886.76	7,901.74	7,886.76	27.63	27.67	-90.11	-230.16	-105.90	125.30	70.04	55.26	2.267	
8,000.00	7,986.76	8,001.74	7,986.76	27.98	28.03	-90.11	-230.16	-105.90	125.30	69.33	55.97	2.239	
8,100.00	8,086.76	8,101.74	8,086.76	28.34	28.38	-90.11	-230.16	-105.90	125.30	68.62	56.68	2.211	
8,200.00	8,186.76	8,201.74	8,186.76	28.69	28.73	-90.11	-230.16	-105.90	125.30	67.91	57.39	2.183	
8,300.00	8,286.76	8,301.74	8,286.76	29.05	29.09	-90.11	-230.16	-105.90	125.30	67.20	58.10	2.157	
8,400.00	8,386.76	8,401.74	8,386.76	29.40	29.44	-90.11	-230.16	-105.90	125.30	66.49	58.81	2.131	
8,500.00	8,486.76	8,501.74	8,486.76	29.76	29.80	-90.11	-230.16	-105.90	125.30	65.78	59.52	2.105	
8,600.00	8,586.76	8,601.74	8,586.76	30.11	30.15	-90.11	-230.16	-105.90	125.30	65.07	60.23	2.080	
8,700.00	8,686.76	8,701.74	8,686.76	30.47	30.51	-90.11	-230.16	-105.90	125.30	64.36	60.94	2.056	
8,800.00	8,786.76	8,801.74	8,786.76	30.82	30.86	-90.11	-230.16	-105.90	125.30	63.65	61.65	2.033	
8,900.00	8,886.76	8,901.74	8,886.76	31.18	31.22	-90.11	-230.16	-105.90	125.30	62.94	62.36	2.009	
9,000.00	8,986.76	9,001.74	8,986.76	31.54	31.57	-90.11	-230.16	-105.90	125.30	62.23	63.07	1.987	
9,100.00	9,086.76	9,101.74	9,086.76	31.89	31.93	-90.11	-230.16	-105.90	125.30	61.52	63.78	1.965	
9,200.00	9,186.76	9,201.74	9,186.76	32.25	32.28	-90.11	-230.16	-105.90	125.30	60.81	64.49	1.943	
9,300.00	9,286.76	9,301.74	9,286.76	32.60	32.64	-90.11	-230.16	-105.90	125.30	60.10	65.20	1.922	
9,400.00	9,386.76	9,401.74	9,386.76	32.96	32.99	-90.11	-230.16	-105.90	125.30	59.39	65.91	1.901	
9,413.49	9,400.25	9,415.23	9,400.25	33.01	33.04	-90.11	-230.16	-105.90	125.30	59.30	66.01	1.898	
9,500.00	9,486.76	9,501.72	9,486.75	33.31	33.35	-90.07	-230.09	-105.90	125.30	58.68	66.62	1.881	
9,504.11	9,490.87	9,505.82	9,490.85	33.33	33.36	-90.04	-230.01	-105.90	125.30	58.65	66.65	1.880	
9,600.00	9,586.76	9,600.00	9,584.40	33.67	33.69	-85.54	-220.15	-105.99	125.79	58.48	67.32	1.869	
9,700.00	9,686.76	9,692.85	9,673.83	34.03	34.00	-74.70	-195.56	-106.21	130.87	63.12	67.75	1.932	
9,800.00	9,786.76	9,775.74	9,749.39	34.38	34.25	-61.54	-161.67	-106.52	148.03	81.06	66.96	2.211	
9,900.00	9,886.76	9,850.00	9,812.31	34.74	34.45	-49.57	-122.33	-106.88	181.84	117.10	64.74	2.809	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 501H - 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)			
10,000.00	9,986.56	9,910.70	9,859.62	35.09	34.61	-38.57	-84.35	-107.22	227.97	166.72	61.25	3.722	
10,100.00	10,084.11	9,971.82	9,902.93	35.43	34.75	-30.79	-41.26	-107.61	274.42	216.42	58.01	4.731	
10,200.00	10,176.46	10,031.63	9,940.63	35.74	34.88	-25.63	5.13	-108.04	317.66	262.80	54.85	5.791	
10,300.00	10,260.80	10,090.48	9,972.81	36.03	35.00	-22.13	54.37	-108.48	356.07	304.21	51.86	6.866	
10,400.00	10,334.58	10,150.00	10,000.05	36.28	35.10	-19.70	107.26	-108.96	388.75	339.53	49.21	7.899	
10,500.00	10,395.54	10,200.00	10,018.59	36.49	35.17	-18.14	153.68	-109.38	415.15	368.71	46.44	8.939	
10,600.00	10,441.84	10,268.98	10,037.68	36.67	35.26	-16.96	219.93	-109.98	434.44	389.28	45.16	9.621	
10,700.00	10,472.32	10,341.65	10,052.63	36.80	35.34	-16.41	291.03	-110.63	444.27	399.89	44.38	10.012	
10,800.00	10,491.92	10,414.30	10,063.03	36.91	35.41	-16.20	362.92	-111.28	449.41	405.47	43.94	10.228	
10,900.00	10,502.91	10,500.00	10,069.42	37.00	35.50	-16.08	448.36	-112.06	452.53	408.55	43.98	10.289	
10,908.81	10,503.46	10,500.00	10,069.42	37.01	35.50	-16.08	448.36	-112.06	452.48	408.57	43.91	10.304	
11,000.00	10,505.19	10,563.13	10,070.12	37.09	35.55	-16.07	511.47	-112.63	452.76	408.64	44.12	10.263	
11,100.00	10,502.44	10,663.10	10,069.55	37.19	35.65	-16.15	611.44	-113.53	450.66	406.13	44.53	10.120	
11,200.00	10,499.66	10,763.08	10,068.98	37.31	35.76	-16.22	711.41	-114.44	448.54	403.54	45.00	9.967	
11,300.00	10,496.88	10,863.05	10,068.41	37.44	35.89	-16.30	811.38	-115.35	446.42	400.90	45.52	9.807	
11,400.00	10,494.10	10,963.03	10,067.84	37.58	36.03	-16.38	911.35	-116.25	444.30	398.22	46.08	9.641	
11,500.00	10,491.32	11,063.00	10,067.27	37.74	36.19	-16.46	1,011.32	-117.16	442.18	395.49	46.70	9.470	
11,600.00	10,488.54	11,162.98	10,066.70	37.92	36.37	-16.55	1,111.29	-118.06	440.06	392.71	47.35	9.294	
11,700.00	10,485.76	11,262.96	10,066.13	38.11	36.56	-16.63	1,211.26	-118.97	437.94	389.90	48.05	9.115	
11,800.00	10,482.98	11,362.93	10,065.56	38.32	36.76	-16.71	1,311.23	-119.87	435.83	387.04	48.79	8.933	
11,900.00	10,480.19	11,462.91	10,064.98	38.53	36.98	-16.80	1,411.20	-120.78	433.71	384.15	49.56	8.750	
12,000.00	10,477.41	11,562.88	10,064.41	38.77	37.22	-16.88	1,511.17	-121.69	431.60	381.22	50.38	8.567	
12,100.00	10,474.63	11,662.86	10,063.84	39.01	37.47	-16.97	1,611.14	-122.59	429.48	378.25	51.23	8.384	
12,200.00	10,471.85	11,762.83	10,063.27	39.28	37.73	-17.05	1,711.11	-123.50	427.37	375.26	52.11	8.201	
12,300.00	10,469.07	11,862.81	10,062.70	39.55	38.01	-17.14	1,811.08	-124.40	425.26	372.23	53.03	8.020	
12,400.00	10,466.29	11,962.78	10,062.13	39.84	38.30	-17.23	1,911.05	-125.31	423.15	369.17	53.97	7.840	
12,500.00	10,463.51	12,062.76	10,061.56	40.14	38.61	-17.32	2,011.02	-126.22	421.04	366.09	54.95	7.663	
12,600.00	10,460.73	12,162.74	10,060.99	40.45	38.92	-17.41	2,110.99	-127.12	418.93	362.98	55.95	7.488	
12,700.00	10,457.95	12,262.71	10,060.42	40.77	39.25	-17.50	2,210.96	-128.03	416.82	359.84	56.97	7.316	
12,800.00	10,455.17	12,355.14	10,059.37	41.11	39.57	-17.56	2,303.38	-128.86	415.28	357.20	58.07	7.151	
12,809.92	10,454.89	12,363.86	10,059.14	41.14	39.60	-17.56	2,312.09	-128.94	415.26	357.07	58.19	7.137	
12,900.00	10,452.39	12,446.67	10,055.80	41.46	39.90	-17.52	2,394.83	-129.69	416.31	357.13	59.18	7.035	
13,000.00	10,449.57	12,546.65	10,051.19	41.82	40.28	-17.44	2,494.70	-130.60	418.03	357.80	60.23	6.941	
13,100.00	10,444.55	12,646.65	10,046.57	42.19	40.67	-17.46	2,594.59	-131.50	417.64	356.32	61.32	6.811	
13,200.00	10,437.52	12,746.62	10,041.96	42.59	41.06	-17.56	2,694.45	-132.40	415.33	352.88	62.45	6.651	
13,300.00	10,430.47	12,846.59	10,037.35	42.99	41.47	-17.67	2,794.31	-133.31	413.01	349.41	63.60	6.494	
13,400.00	10,423.43	12,946.56	10,032.74	43.40	41.89	-17.77	2,894.17	-134.21	410.69	345.92	64.77	6.341	
13,500.00	10,416.39	13,046.53	10,028.13	43.83	42.32	-17.87	2,994.02	-135.12	408.37	342.42	65.95	6.192	
13,600.00	10,409.34	13,146.50	10,023.52	44.26	42.76	-17.98	3,093.88	-136.02	406.05	338.90	67.15	6.047	
13,700.00	10,402.30	13,246.47	10,018.90	44.70	43.21	-18.08	3,193.74	-136.92	403.74	335.37	68.37	5.905	
13,800.00	10,395.25	13,346.44	10,014.29	45.15	43.66	-18.19	3,293.60	-137.83	401.42	331.82	69.60	5.767	
13,900.00	10,388.21	13,446.41	10,009.68	45.61	44.13	-18.30	3,393.46	-138.73	399.11	328.26	70.85	5.633	
14,000.00	10,381.14	13,546.38	10,005.07	46.08	44.60	-18.41	3,493.32	-139.64	396.78	324.67	72.10	5.503	
14,100.00	10,372.66	13,646.31	10,000.46	46.55	45.08	-18.60	3,593.14	-140.54	393.10	319.71	73.39	5.357	
14,200.00	10,363.95	13,740.66	9,995.09	47.04	45.55	-18.73	3,687.33	-141.39	390.21	315.48	74.73	5.222	
14,300.00	10,355.25	13,840.63	9,988.98	47.54	46.05	-18.86	3,787.11	-142.30	387.75	311.73	76.02	5.101	
14,400.00	10,346.54	13,940.59	9,982.86	48.04	46.55	-18.98	3,886.88	-143.20	385.30	307.98	77.32	4.983	
14,500.00	10,337.83	14,040.56	9,976.75	48.55	47.07	-19.11	3,986.66	-144.10	382.84	304.21	78.63	4.869	
14,600.00	10,329.13	14,140.53	9,970.63	49.06	47.59	-19.24	4,086.43	-145.01	380.39	300.44	79.95	4.758	
14,700.00	10,320.42	14,240.49	9,964.52	49.59	48.12	-19.37	4,186.21	-145.91	377.94	296.66	81.28	4.650	
14,800.00	10,311.71	14,340.46	9,958.40	50.12	48.66	-19.50	4,285.98	-146.81	375.49	292.88	82.62	4.545	
14,900.00	10,303.00	14,440.42	9,952.29	50.65	49.20	-19.63	4,385.76	-147.72	373.05	289.08	83.96	4.443	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 501H - 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)			
15,000.00	10,294.29	14,540.39	9,946.17	51.19	49.74	-19.77	4,485.53	-148.62	370.59	285.28	85.32	4.344	
15,100.00	10,284.69	14,640.33	9,940.06	51.74	50.30	-19.96	4,585.28	-149.53	367.31	280.62	86.69	4.237	
15,200.00	10,275.02	14,740.27	9,933.94	52.29	50.86	-20.15	4,685.03	-150.43	363.96	275.89	88.07	4.133	
15,300.00	10,265.35	14,840.20	9,927.83	52.85	51.42	-20.34	4,784.77	-151.33	360.62	271.17	89.45	4.031	
15,400.00	10,255.68	14,940.14	9,921.72	53.42	51.99	-20.54	4,884.52	-152.24	357.28	266.44	90.85	3.933	
15,500.00	10,246.01	15,040.08	9,915.60	53.99	52.57	-20.74	4,984.26	-153.14	353.95	261.71	92.25	3.837	
15,600.00	10,236.35	15,140.01	9,909.49	54.57	53.15	-20.95	5,084.01	-154.04	350.62	256.97	93.65	3.744	
15,700.00	10,226.68	15,239.95	9,903.37	55.15	53.73	-21.16	5,183.75	-154.95	347.30	252.24	95.06	3.653	
15,800.00	10,217.01	15,339.89	9,897.26	55.73	54.32	-21.37	5,283.50	-155.85	343.98	247.50	96.48	3.565	
15,900.00	10,207.34	15,439.82	9,891.15	56.32	54.91	-21.59	5,383.24	-156.75	340.67	242.77	97.90	3.480	
16,000.00	10,197.68	15,539.76	9,885.03	56.91	55.51	-21.81	5,482.99	-157.66	337.36	238.03	99.33	3.396	
16,100.00	10,189.84	15,639.74	9,878.92	57.51	56.11	-21.91	5,582.78	-158.56	335.76	235.03	100.74	3.333	
16,200.00	10,183.38	15,739.74	9,872.80	58.10	56.72	-21.93	5,682.59	-159.46	335.45	233.31	102.14	3.284	
16,300.00	10,176.93	15,839.74	9,866.68	58.70	57.33	-21.95	5,782.39	-160.37	335.13	231.59	103.54	3.237	
16,400.00	10,170.47	15,939.74	9,860.56	59.30	57.95	-21.98	5,882.20	-161.27	334.81	229.87	104.95	3.190	
16,500.00	10,164.01	16,039.74	9,854.45	59.91	58.56	-22.00	5,982.01	-162.18	334.50	228.14	106.36	3.145	
16,600.00	10,157.55	16,139.74	9,848.33	60.52	59.19	-22.02	6,081.82	-163.08	334.18	226.41	107.77	3.101	
16,700.00	10,151.09	16,239.74	9,842.21	61.14	59.81	-22.04	6,181.63	-163.98	333.87	224.67	109.19	3.058	
16,800.00	10,144.64	16,339.73	9,836.09	61.76	60.44	-22.06	6,281.43	-164.89	333.55	222.93	110.62	3.015	
16,900.00	10,138.18	16,439.73	9,829.98	62.38	61.07	-22.09	6,381.24	-165.79	333.23	221.19	112.05	2.974	
17,000.00	10,131.72	16,539.73	9,823.86	63.00	61.71	-22.11	6,481.05	-166.70	332.92	219.44	113.48	2.934	
17,100.00	10,125.26	16,639.73	9,817.74	63.63	62.34	-22.13	6,580.86	-167.60	332.60	217.69	114.91	2.894	
17,200.00	10,118.80	16,739.73	9,811.62	64.26	62.98	-22.15	6,680.67	-168.50	332.28	215.93	116.35	2.856	
17,300.00	10,112.34	16,839.73	9,805.51	64.90	63.63	-22.17	6,780.47	-169.41	331.97	214.18	117.79	2.818	
17,400.00	10,105.89	16,939.73	9,799.39	65.53	64.28	-22.20	6,880.28	-170.31	331.65	212.42	119.23	2.782	
17,500.00	10,099.43	17,039.73	9,793.27	66.17	64.92	-22.22	6,980.09	-171.22	331.34	210.66	120.68	2.746	
17,600.00	10,092.97	17,139.73	9,787.15	66.82	65.58	-22.24	7,079.90	-172.12	331.02	208.89	122.13	2.710	
17,700.00	10,086.51	17,239.73	9,781.03	67.46	66.23	-22.26	7,179.71	-173.02	330.70	207.12	123.58	2.676	
17,800.00	10,080.05	17,339.73	9,774.92	68.11	66.89	-22.29	7,279.51	-173.93	330.39	205.35	125.04	2.642	
17,900.00	10,073.59	17,439.73	9,768.80	68.76	67.55	-22.31	7,379.32	-174.83	330.07	203.58	126.50	2.609	
18,000.00	10,067.14	17,539.73	9,762.68	69.41	68.21	-22.33	7,479.13	-175.74	329.76	201.80	127.96	2.577	
18,100.00	10,060.68	17,639.73	9,756.56	70.07	68.87	-22.35	7,578.94	-176.64	329.44	200.02	129.42	2.546	
18,200.00	10,054.22	17,739.73	9,750.45	70.73	69.54	-22.38	7,678.75	-177.54	329.13	198.24	130.88	2.515	
18,300.00	10,047.76	17,839.73	9,744.33	71.39	70.21	-22.40	7,778.55	-178.45	328.81	196.46	132.35	2.484	
18,400.00	10,041.30	17,939.73	9,738.21	72.05	70.88	-22.42	7,878.36	-179.35	328.49	194.68	133.82	2.455	
18,500.00	10,034.85	18,039.72	9,732.09	72.71	71.55	-22.44	7,978.17	-180.26	328.18	192.89	135.29	2.426	
18,600.00	10,028.39	18,139.72	9,725.98	73.38	72.23	-22.47	8,077.98	-181.16	327.86	191.10	136.76	2.397	
18,700.00	10,021.93	18,239.72	9,719.86	74.05	72.90	-22.49	8,177.79	-182.06	327.55	189.31	138.24	2.369	
18,800.00	10,015.47	18,339.72	9,713.74	74.72	73.58	-22.51	8,277.59	-182.97	327.23	187.52	139.72	2.342	
18,900.00	10,009.01	18,439.72	9,707.62	75.39	74.26	-22.54	8,377.40	-183.87	326.92	185.72	141.19	2.315	
19,000.00	10,002.55	18,539.72	9,701.51	76.06	74.94	-22.56	8,477.21	-184.78	326.60	183.93	142.67	2.289	
19,032.16	10,000.48	18,570.85	9,699.59	76.28	75.15	-22.56	8,508.28	-185.06	326.52	183.36	143.16	2.281	
19,100.00	9,996.10	18,632.22	9,694.97	76.74	75.57	-22.52	8,569.47	-185.61	327.19	183.00	144.19	2.269	
19,200.00	9,989.64	18,729.75	9,688.90	77.42	76.25	-22.34	8,666.57	-186.49	329.82	184.17	145.65	2.264	
19,300.00	9,983.18	18,829.71	9,676.50	78.10	76.94	-22.14	8,766.08	-187.39	332.55	185.44	147.10	2.261	
19,400.00	9,976.72	18,929.66	9,667.11	78.78	77.63	-21.95	8,865.59	-188.30	335.28	186.71	148.56	2.257	
19,500.00	9,970.26	19,029.62	9,657.72	79.46	78.32	-21.77	8,965.10	-189.20	338.01	187.99	150.02	2.253	
19,600.00	9,962.33	19,129.60	9,648.33	80.15	79.02	-21.67	9,064.64	-190.10	339.38	187.88	151.50	2.240	
19,700.00	9,953.48	19,229.60	9,638.93	80.84	79.71	-21.63	9,164.19	-191.00	339.89	186.91	152.98	2.222	
19,800.00	9,944.64	19,329.60	9,629.54	81.53	80.41	-21.60	9,263.75	-191.90	340.40	185.94	154.46	2.204	
19,900.00	9,935.79	19,429.60	9,620.14	82.22	81.11	-21.56	9,363.30	-192.81	340.91	184.96	155.95	2.186	
20,000.00	9,926.94	19,529.60	9,610.75	82.91	81.81	-21.53	9,462.85	-193.71	341.42	183.99	157.43	2.169	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 501H - 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)			
20,100.00	9,918.09	19,629.60	9,601.35	83.61	82.52	-21.50	9,562.40	-194.61	341.93	183.01	158.92	2.152	
20,200.00	9,909.25	19,729.60	9,591.96	84.30	83.22	-21.46	9,661.96	-195.51	342.44	182.04	160.41	2.135	
20,300.00	9,900.40	19,829.59	9,582.56	85.00	83.92	-21.43	9,761.51	-196.41	342.96	181.06	161.90	2.118	
20,400.00	9,891.55	19,929.59	9,573.17	85.70	84.63	-21.40	9,861.06	-197.32	343.47	180.08	163.39	2.102	
20,500.00	9,882.70	20,029.59	9,563.77	86.40	85.33	-21.36	9,960.61	-198.22	343.98	179.10	164.88	2.086	
20,600.00	9,872.38	20,123.36	9,554.42	87.10	86.00	-21.38	10,053.91	-199.06	343.68	177.33	166.35	2.066	
20,669.93	9,863.74	20,187.41	9,546.48	87.60	86.45	-21.38	10,117.46	-199.64	343.70	176.38	167.32	2.054	
20,700.00	9,859.56	20,217.48	9,542.52	87.81	86.67	-21.39	10,147.26	-199.91	343.49	175.72	167.77	2.047	
20,800.00	9,846.63	20,317.48	9,529.37	88.52	87.38	-21.38	10,246.39	-200.80	343.70	174.43	169.26	2.031	
20,900.00	9,833.69	20,417.48	9,516.21	89.22	88.09	-21.37	10,345.52	-201.70	343.90	173.15	170.75	2.014	
21,000.00	9,820.76	20,517.48	9,503.05	89.93	88.81	-21.35	10,444.64	-202.60	344.11	171.87	172.24	1.998	
21,100.00	9,807.82	20,617.47	9,489.90	90.64	89.53	-21.34	10,543.77	-203.50	344.32	170.58	173.74	1.982	
21,200.00	9,794.89	20,717.47	9,476.74	91.36	90.24	-21.33	10,642.89	-204.39	344.53	169.30	175.23	1.966	
21,300.00	9,781.96	20,817.47	9,463.59	92.07	90.96	-21.31	10,742.02	-205.29	344.74	168.01	176.73	1.951	
21,400.00	9,769.02	20,917.47	9,450.43	92.78	91.68	-21.30	10,841.15	-206.19	344.94	166.72	178.22	1.935	
21,500.00	9,756.09	21,017.47	9,437.27	93.50	92.40	-21.28	10,940.27	-207.09	345.15	165.43	179.72	1.920	
21,600.00	9,741.94	21,117.46	9,424.12	94.21	93.12	-21.35	11,039.39	-207.98	344.22	162.99	181.22	1.899	
21,700.00	9,726.22	21,217.43	9,410.97	94.93	93.84	-21.51	11,138.49	-208.88	341.81	159.07	182.73	1.871	
21,800.00	9,710.50	21,317.40	9,397.82	95.65	94.56	-21.67	11,237.58	-209.78	339.40	155.15	184.25	1.842	
21,900.00	9,694.79	21,417.36	9,384.66	96.37	95.28	-21.83	11,336.67	-210.68	337.00	151.24	185.76	1.814	
22,000.00	9,679.07	21,517.33	9,371.51	97.09	96.00	-22.00	11,435.77	-211.57	334.60	147.32	187.27	1.787	
22,100.00	9,663.35	21,613.73	9,358.64	97.81	96.70	-22.15	11,531.30	-212.44	332.40	143.68	188.72	1.761	
22,145.32	9,656.23	21,654.65	9,352.50	98.13	97.00	-22.16	11,571.76	-212.80	332.10	142.81	189.29	1.754	
22,200.00	9,647.64	21,704.34	9,344.26	98.53	97.36	-22.14	11,620.75	-213.25	332.53	142.59	189.95	1.751	
22,300.00	9,631.92	21,804.33	9,326.95	99.25	98.09	-22.03	11,719.23	-214.14	334.03	142.60	191.43	1.745	
22,400.00	9,616.20	21,904.31	9,309.64	99.97	98.81	-21.93	11,817.70	-215.03	335.54	142.62	192.91	1.739	
22,500.00	9,600.49	22,004.30	9,292.32	100.70	99.54	-21.83	11,916.17	-215.92	337.04	142.64	194.40	1.734	
22,600.00	9,583.89	22,104.29	9,275.01	101.42	100.27	-21.78	12,014.65	-216.82	337.72	141.83	195.89	1.724	
22,700.00	9,564.62	22,204.27	9,257.70	102.14	101.00	-21.91	12,113.11	-217.71	335.87	138.48	197.40	1.702	
22,800.00	9,545.07	22,304.25	9,240.39	102.87	101.73	-22.05	12,211.57	-218.60	333.77	134.87	198.90	1.678	
22,900.00	9,525.53	22,404.22	9,223.08	103.60	102.46	-22.20	12,310.03	-219.49	331.67	131.26	200.41	1.655	
23,000.00	9,505.99	22,504.20	9,205.76	104.32	103.19	-22.35	12,408.49	-220.38	329.57	127.66	201.92	1.632	
23,100.00	9,486.44	22,604.17	9,188.45	105.05	103.92	-22.50	12,506.95	-221.28	327.48	124.05	203.42	1.610	
23,200.00	9,466.90	22,704.15	9,171.14	105.78	104.65	-22.65	12,605.41	-222.17	325.38	120.45	204.93	1.588	
23,300.00	9,447.35	22,804.12	9,153.83	106.51	105.38	-22.81	12,703.87	-223.06	323.29	116.85	206.44	1.566	
23,400.00	9,427.81	22,904.09	9,136.52	107.24	106.12	-22.96	12,802.33	-223.95	321.20	113.25	207.95	1.545	
23,500.00	9,408.27	23,004.07	9,119.21	107.97	106.85	-23.12	12,900.80	-224.84	319.12	109.65	209.47	1.523	
23,600.00	9,388.72	23,104.04	9,101.90	108.70	107.58	-23.28	12,999.26	-225.73	317.03	106.06	210.98	1.503	
23,700.00	9,369.18	23,204.02	9,084.59	109.43	108.32	-23.45	13,097.72	-226.63	314.95	102.46	212.49	1.482	Level 3
23,800.00	9,349.63	23,303.99	9,067.27	110.16	109.05	-23.61	13,196.18	-227.52	312.87	98.87	214.00	1.462	Level 3
23,900.00	9,330.09	23,403.97	9,049.96	110.89	109.79	-23.78	13,294.64	-228.41	310.80	95.28	215.52	1.442	Level 3
24,000.00	9,310.55	23,503.94	9,032.65	111.63	110.52	-23.95	13,393.10	-229.30	308.72	91.69	217.03	1.422	Level 3
24,100.00	9,291.00	23,603.91	9,015.34	112.36	111.26	-24.12	13,491.56	-230.19	306.65	88.10	218.55	1.403	Level 3
24,200.00	9,271.46	23,703.89	8,998.03	113.09	111.99	-24.30	13,590.02	-231.09	304.59	84.52	220.07	1.384	Level 3
24,300.00	9,251.91	23,803.86	8,980.72	113.82	112.73	-24.47	13,688.48	-231.98	302.52	80.94	221.58	1.365	Level 3
24,400.00	9,232.37	23,900.00	8,963.86	114.56	113.44	-24.63	13,783.12	-232.84	300.68	77.76	222.93	1.349	Level 3
24,431.92	9,226.13	23,929.57	8,958.23	114.79	113.66	-24.64	13,812.14	-233.10	300.53	77.25	223.28	1.346	Level 3
24,500.00	9,212.83	23,991.70	8,945.42	115.29	114.11	-24.59	13,872.94	-233.65	301.20	77.27	223.94	1.345	Level 3, SF
24,600.00	9,193.28	24,083.85	8,924.04	116.03	114.79	-24.31	13,962.57	-234.46	304.61	79.79	224.82	1.355	Level 3
24,700.00	9,173.74	24,183.73	8,899.65	116.76	115.53	-23.93	14,059.41	-235.34	309.17	82.90	226.27	1.366	Level 3
24,800.00	9,154.19	24,283.60	8,875.26	117.50	116.26	-23.56	14,156.26	-236.22	313.74	86.02	227.72	1.378	Level 3
24,900.00	9,134.65	24,383.48	8,850.88	118.23	117.00	-23.20	14,253.11	-237.09	318.32	89.16	229.17	1.389	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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 501H - OH - Plan #2

Survey Program: 0-MWD+IFR1+MS													Offset Site Error:	0.00 usft
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	
25,000.00	9,115.11	24,483.35	8,826.49	118.97	117.74	-22.86	14,349.96	-237.97	322.92	92.30	230.62	1.400	Level 3	
25,100.00	9,095.47	24,583.23	8,802.10	119.70	118.48	-22.51	14,446.81	-238.85	327.44	95.37	232.08	1.411	Level 3	
25,200.00	9,073.45	24,683.20	8,777.70	120.44	119.21	-22.33	14,543.75	-239.73	329.72	96.17	233.55	1.412	Level 3	
25,300.00	9,048.14	24,783.19	8,753.28	121.18	119.95	-22.40	14,640.71	-240.61	328.86	93.83	235.04	1.399	Level 3	
25,400.00	9,021.89	24,883.17	8,728.87	121.91	120.69	-22.52	14,737.66	-241.48	327.11	90.58	236.53	1.383	Level 3	
25,470.96	9,003.26	24,948.40	8,712.44	122.43	121.17	-22.57	14,800.79	-242.06	326.40	89.31	237.09	1.377	Level 3	
25,500.00	8,995.64	24,974.68	8,705.43	122.65	121.37	-22.57	14,826.11	-242.29	326.52	89.26	237.26	1.376	Level 3	
25,600.00	8,969.39	25,065.10	8,679.53	123.38	122.03	-22.41	14,912.73	-243.07	328.83	91.13	237.69	1.383	Level 3	
25,700.00	8,943.14	25,157.88	8,650.23	124.12	122.71	-22.08	15,000.76	-243.87	333.95	95.70	238.25	1.402	Level 3	
25,800.00	8,916.89	25,257.67	8,617.95	124.86	123.44	-21.67	15,095.18	-244.72	339.87	100.22	239.65	1.418	Level 3	
25,900.00	8,890.64	25,357.47	8,585.66	125.59	124.17	-21.28	15,189.61	-245.58	345.81	104.75	241.06	1.435	Level 3	
26,000.00	8,864.39	25,457.26	8,553.37	126.33	124.91	-20.91	15,284.03	-246.43	351.76	109.30	242.47	1.451	Level 3	
26,100.00	8,838.14	25,557.06	8,521.08	127.07	125.64	-20.54	15,378.46	-247.29	357.73	113.86	243.88	1.467	Level 3	
26,200.00	8,810.58	25,656.93	8,488.77	127.80	126.37	-20.23	15,472.95	-248.14	362.45	117.15	245.30	1.478	Level 3	
26,300.00	8,780.85	25,756.89	8,456.43	128.54	127.10	-20.08	15,567.53	-249.00	365.03	118.30	246.73	1.479	Level 3	
26,400.00	8,751.06	25,856.86	8,424.09	129.27	127.84	-19.94	15,662.12	-249.86	367.57	119.40	248.17	1.481	Level 3	
26,500.00	8,721.27	25,956.82	8,391.75	130.01	128.57	-19.80	15,756.70	-250.71	370.11	120.51	249.60	1.483	Level 3	
26,600.00	8,691.49	26,056.78	8,359.41	130.74	129.30	-19.65	15,851.28	-251.57	372.65	121.61	251.04	1.484	Level 3	
26,700.00	8,661.70	26,156.75	8,327.07	131.48	130.04	-19.52	15,945.87	-252.43	375.19	122.72	252.48	1.486	Level 3	
26,800.00	8,631.91	26,256.71	8,294.72	132.21	130.77	-19.38	16,040.45	-253.28	377.74	123.83	253.91	1.488	Level 3	
26,900.00	8,602.12	26,356.67	8,262.38	132.95	131.51	-19.24	16,135.03	-254.14	380.29	124.93	255.35	1.489	Level 3	
27,000.00	8,572.34	26,456.64	8,230.04	133.68	132.24	-19.11	16,229.61	-255.00	382.84	126.04	256.79	1.491	Level 3	
27,100.00	8,542.55	26,556.60	8,197.70	134.42	132.98	-18.98	16,324.20	-255.85	385.39	127.15	258.24	1.492	Level 3	
27,200.00	8,512.48	26,656.57	8,165.35	135.15	133.71	-18.86	16,418.79	-256.71	387.66	127.99	259.68	1.493	Level 3	
27,300.00	8,479.97	26,754.74	8,133.56	135.89	134.43	-18.86	16,511.67	-257.55	387.54	126.63	260.91	1.485	Level 3	
27,308.45	8,477.17	26,762.23	8,131.09	135.95	134.49	-18.86	16,518.74	-257.62	387.53	126.61	260.92	1.485	Level 3	
27,400.00	8,446.90	26,849.09	8,101.54	136.62	135.12	-18.82	16,600.41	-258.36	388.39	126.74	261.65	1.484	Level 3	
27,500.00	8,413.83	26,949.08	8,067.27	137.35	135.85	-18.76	16,694.34	-259.21	389.60	126.52	263.08	1.481	Level 3	
27,600.00	8,380.76	27,049.07	8,033.00	138.09	136.59	-18.70	16,788.27	-260.06	390.81	126.29	264.52	1.477	Level 3	
27,700.00	8,347.68	27,149.06	7,998.73	138.82	137.32	-18.64	16,882.20	-260.91	392.02	126.07	265.96	1.474	Level 3	
27,800.00	8,314.61	27,249.06	7,964.45	139.55	138.05	-18.58	16,976.13	-261.76	393.23	125.84	267.39	1.471	Level 3	
27,900.00	8,281.54	27,349.05	7,930.18	140.29	138.79	-18.52	17,070.06	-262.61	394.45	125.61	268.83	1.467	Level 3	
28,000.00	8,248.84	27,449.03	7,895.91	141.02	139.52	-18.45	17,163.99	-263.46	396.03	125.75	270.27	1.465	Level 3	
28,100.00	8,218.98	27,550.49	7,861.16	141.76	140.26	-18.27	17,259.31	-264.32	400.43	128.53	271.90	1.473	Level 3	
28,200.00	8,191.54	27,665.79	7,824.28	142.50	141.11	-18.03	17,368.53	-265.31	404.95	129.86	275.09	1.472	Level 3	
28,300.00	8,164.21	27,767.29	7,794.12	143.24	141.86	-17.92	17,465.44	-266.19	407.32	130.61	276.71	1.472	Level 3	
28,400.00	8,136.88	27,867.26	7,764.44	143.98	142.60	-17.81	17,560.90	-267.05	409.66	131.48	278.18	1.473	Level 3	
28,500.00	8,109.55	27,967.22	7,734.75	144.72	143.34	-17.71	17,656.36	-267.92	412.01	132.36	279.65	1.473	Level 3	
28,600.00	8,082.22	28,067.19	7,705.07	145.46	144.08	-17.61	17,751.81	-268.78	414.36	133.24	281.11	1.474	Level 3	
28,700.00	8,054.88	28,167.16	7,675.38	146.20	144.82	-17.50	17,847.27	-269.65	416.71	134.13	282.58	1.475	Level 3	
28,800.00	8,027.55	28,267.13	7,645.70	146.94	145.56	-17.40	17,942.73	-270.51	419.06	135.01	284.05	1.475	Level 3	
28,827.63	8,020.00	28,294.76	7,637.50	147.14	145.76	-17.37	17,969.10	-270.75	419.71	135.25	284.46	1.475	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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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													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	
0.00	0.00	0.00	0.30	0.00	0.00	89.89	0.11	59.99	59.99					
100.00	100.00	99.70	100.00	0.28	0.28	89.89	0.11	59.99	59.99	59.44	0.55	108.832		
200.00	200.00	199.70	200.00	0.63	0.63	89.89	0.11	59.99	59.99	58.72	1.27	47.314		
300.00	300.00	299.70	300.00	0.99	0.99	89.89	0.11	59.99	59.99	58.01	1.98	30.224		
400.00	400.00	399.70	400.00	1.35	1.35	89.89	0.11	59.99	59.99	57.29	2.70	22.204		
500.00	500.00	499.70	500.00	1.71	1.71	89.89	0.11	59.99	59.99	56.57	3.42	17.547		
600.00	600.00	599.70	600.00	2.07	2.07	89.89	0.11	59.99	59.99	55.85	4.14	14.505		
700.00	700.00	699.70	700.00	2.43	2.43	89.89	0.11	59.99	59.99	55.14	4.85	12.362		
800.00	800.00	799.70	800.00	2.79	2.78	89.89	0.11	59.99	59.99	54.42	5.57	10.771		
900.00	900.00	899.70	900.00	3.14	3.14	89.89	0.11	59.99	59.99	53.70	6.29	9.543		
1,000.00	1,000.00	999.70	1,000.00	3.50	3.50	89.89	0.11	59.99	59.99	52.99	7.00	8.566		
1,100.00	1,100.00	1,099.70	1,100.00	3.86	3.86	89.89	0.11	59.99	59.99	52.27	7.72	7.770		
1,200.00	1,200.00	1,199.70	1,200.00	4.22	4.22	89.89	0.11	59.99	59.99	51.55	8.44	7.110		
1,300.00	1,300.00	1,299.70	1,300.00	4.58	4.58	89.89	0.11	59.99	59.99	50.84	9.15	6.553		
1,400.00	1,400.00	1,399.70	1,400.00	4.94	4.94	89.89	0.11	59.99	59.99	50.12	9.87	6.077		
1,500.00	1,500.00	1,499.70	1,500.00	5.29	5.29	89.89	0.11	59.99	59.99	49.40	10.59	5.666		
1,600.00	1,600.00	1,599.70	1,600.00	5.65	5.65	89.89	0.11	59.99	59.99	48.68	11.31	5.306	CC, ES	
1,700.00	1,700.00	1,697.65	1,697.93	6.01	5.99	90.17	-0.18	61.63	61.66	49.66	12.00	5.139		
1,800.00	1,800.00	1,795.36	1,795.51	6.37	6.33	90.91	-1.06	66.55	66.71	54.03	12.67	5.264		
1,900.00	1,899.88	1,892.65	1,892.44	6.71	6.66	-84.39	-2.51	74.69	74.93	61.62	13.31	5.629		
2,000.00	1,999.94	1,989.30	1,988.40	7.04	6.99	-86.28	-4.52	85.99	86.20	72.28	13.92	6.191		
2,100.00	2,099.45	2,085.06	2,083.05	7.36	7.33	-89.13	-7.08	100.32	100.72	86.19	14.52	6.934		
2,200.00	2,198.76	2,182.93	2,179.45	7.70	7.67	-92.57	-10.04	116.97	117.56	102.38	15.19	7.741		
2,300.00	2,298.01	2,281.23	2,276.26	8.03	8.02	-95.46	-13.03	133.73	134.82	118.96	15.86	8.498		
2,400.00	2,397.27	2,379.53	2,373.07	8.36	8.37	-97.70	-16.02	150.49	152.34	135.79	16.55	9.206		
2,500.00	2,496.52	2,477.83	2,469.89	8.70	8.72	-99.47	-19.00	167.24	170.04	152.80	17.24	9.865		
2,600.00	2,595.78	2,576.13	2,566.70	9.04	9.07	-100.91	-21.99	184.00	187.86	169.94	17.93	10.479		
2,700.00	2,695.03	2,674.43	2,663.52	9.38	9.42	-102.10	-24.97	200.75	205.78	187.16	18.62	11.050		
2,800.00	2,794.29	2,772.73	2,760.33	9.72	9.78	-103.09	-27.96	217.51	223.78	204.46	19.32	11.582		
2,900.00	2,893.54	2,871.03	2,857.15	10.07	10.14	-103.94	-30.94	234.27	241.83	221.80	20.02	12.078		
3,000.00	2,992.80	2,969.33	2,953.96	10.42	10.50	-104.67	-33.93	251.02	259.92	239.19	20.73	12.541		
3,100.00	3,092.05	3,067.63	3,050.78	10.77	10.85	-105.31	-36.92	267.78	278.05	256.62	21.43	12.974		
3,200.00	3,191.31	3,165.92	3,147.59	11.12	11.21	-105.87	-39.90	284.53	296.20	274.06	22.14	13.379		
3,300.00	3,290.56	3,264.22	3,244.41	11.47	11.57	-106.36	-42.89	301.29	314.39	291.54	22.85	13.759		
3,400.00	3,389.82	3,362.52	3,341.22	11.83	11.94	-106.80	-45.87	318.05	332.59	309.03	23.56	14.115		
3,500.00	3,489.07	3,460.82	3,438.03	12.18	12.30	-107.20	-48.86	334.80	350.81	326.53	24.28	14.451		
3,600.00	3,588.33	3,559.12	3,534.85	12.54	12.66	-107.55	-51.84	351.56	369.04	344.05	24.99	14.767		
3,700.00	3,687.58	3,657.42	3,631.66	12.89	13.02	-107.90	-54.83	368.31	387.28	361.58	25.71	15.065		
3,800.00	3,787.05	3,755.85	3,728.60	13.25	13.39	-108.26	-57.82	385.09	404.93	378.51	26.42	15.324		
3,900.00	3,886.82	3,854.41	3,825.67	13.61	13.75	-108.14	-60.81	401.89	421.52	394.38	27.14	15.532		
4,000.00	3,986.76	3,952.98	3,922.76	13.96	14.12	-107.60	-63.81	418.70	437.09	409.24	27.85	15.695		
4,100.00	4,086.76	4,051.49	4,019.78	14.30	14.48	68.59	-66.80	435.49	451.91	423.36	28.55	15.827		
4,200.00	4,186.76	4,149.98	4,116.78	14.65	14.85	69.70	-69.79	452.28	466.82	437.56	29.26	15.955		
4,300.00	4,286.76	4,248.47	4,213.78	14.99	15.22	70.74	-72.78	469.06	481.89	451.93	29.96	16.083		
4,400.00	4,386.76	4,346.96	4,310.78	15.33	15.58	71.71	-75.77	485.85	497.11	466.44	30.67	16.208		
4,500.00	4,486.76	4,445.45	4,407.79	15.68	15.95	72.63	-78.76	502.64	512.45	481.08	31.38	16.332		
4,600.00	4,586.76	4,543.94	4,504.79	16.03	16.32	73.49	-81.76	519.43	527.92	495.84	32.09	16.454		
4,700.00	4,686.76	4,642.43	4,601.79	16.37	16.68	74.31	-84.75	536.22	543.51	510.71	32.79	16.573		
4,800.00	4,786.76	4,740.91	4,698.79	16.72	17.05	75.08	-87.74	553.01	559.19	525.68	33.51	16.690		
4,900.00	4,886.76	4,839.40	4,795.79	17.07	17.42	75.81	-90.73	569.80	574.97	540.75	34.22	16.804		
5,000.00	4,986.76	4,937.89	4,892.80	17.42	17.79	76.50	-93.72	586.58	590.83	555.90	34.93	16.916		
5,100.00	5,086.76	5,036.38	4,989.80	17.76	18.16	77.15	-96.71	603.37	606.77	571.13	35.64	17.025		

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

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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		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)			
5,200.00	5,186.76	5,134.87	5,086.80	18.11	18.53	77.77			-99.71	620.16	622.79	586.43	36.35	17.132	
5,300.00	5,286.76	5,233.36	5,183.80	18.46	18.89	78.36			-102.70	636.95	638.87	601.80	37.07	17.236	
5,400.00	5,386.76	5,331.85	5,280.81	18.81	19.26	78.92			-105.69	653.74	655.02	617.24	37.78	17.337	
5,500.00	5,486.76	5,430.34	5,377.81	19.16	19.63	79.45			-108.68	670.53	671.22	632.73	38.50	17.436	
5,600.00	5,586.76	5,528.83	5,474.81	19.51	20.00	79.96			-111.67	687.31	687.48	648.27	39.21	17.533	
5,700.00	5,686.76	5,627.32	5,571.81	19.86	20.37	80.44			-114.66	704.10	703.79	663.86	39.93	17.627	
5,800.00	5,786.76	5,725.81	5,668.81	20.21	20.74	80.91			-117.65	720.89	720.14	679.50	40.64	17.719	
5,900.00	5,886.76	5,824.30	5,765.82	20.57	21.11	81.35			-120.65	737.68	736.54	695.19	41.36	17.808	
6,000.00	5,986.76	5,922.79	5,862.82	20.92	21.48	81.77			-123.64	754.47	752.99	710.91	42.08	17.896	
6,100.00	6,086.76	6,021.28	5,959.82	21.27	21.85	82.18			-126.63	771.26	769.46	726.67	42.79	17.981	
6,200.00	6,186.76	6,119.77	6,056.82	21.62	22.22	82.56			-129.62	788.05	785.98	742.47	43.51	18.064	
6,300.00	6,286.76	6,218.26	6,153.82	21.97	22.59	82.94			-132.61	804.83	802.53	758.30	44.23	18.144	
6,400.00	6,386.76	6,316.75	6,250.83	22.32	22.96	83.29			-135.60	821.62	819.11	774.16	44.95	18.223	
6,500.00	6,486.76	6,415.24	6,347.83	22.68	23.33	83.64			-138.59	838.41	835.72	790.05	45.67	18.300	
6,600.00	6,586.76	6,513.73	6,444.83	23.03	23.70	83.97			-141.59	855.20	852.36	805.97	46.39	18.375	
6,700.00	6,686.76	6,612.22	6,541.83	23.38	24.08	84.28			-144.58	871.99	869.02	821.91	47.11	18.448	
6,800.00	6,786.76	6,710.71	6,638.83	23.74	24.45	84.59			-147.57	888.78	885.71	837.88	47.83	18.519	
6,900.00	6,886.76	6,809.20	6,735.84	24.09	24.82	84.88			-150.56	905.57	902.42	853.88	48.55	18.589	
7,000.00	6,986.76	6,907.69	6,832.84	24.44	25.19	85.17			-153.55	922.35	919.16	869.89	49.27	18.657	
7,100.00	7,086.76	7,006.18	6,929.84	24.80	25.56	85.44			-156.54	939.14	935.91	885.93	49.99	18.723	
7,200.00	7,186.76	7,104.67	7,026.84	25.15	25.93	85.70			-159.54	955.93	952.69	901.98	50.71	18.787	
7,300.00	7,286.76	7,203.16	7,123.85	25.50	26.30	85.96			-162.53	972.72	969.49	918.06	51.43	18.851	
7,400.00	7,386.76	7,301.65	7,220.85	25.86	26.67	86.20			-165.52	989.51	986.30	934.15	52.15	18.912	
7,500.00	7,486.76	7,400.14	7,317.85	26.21	27.04	86.44			-168.51	1,006.30	1,003.13	950.26	52.87	18.972	
7,600.00	7,586.76	7,498.62	7,414.85	26.57	27.42	86.67			-171.50	1,023.09	1,019.98	966.38	53.60	19.031	
7,700.00	7,686.76	7,597.11	7,511.85	26.92	27.79	86.89			-174.49	1,039.87	1,036.84	982.52	54.32	19.088	
7,800.00	7,786.76	7,695.60	7,608.86	27.27	28.16	87.11			-177.48	1,056.66	1,053.71	998.67	55.04	19.145	
7,900.00	7,886.76	7,794.09	7,705.86	27.63	28.53	87.31			-180.48	1,073.45	1,070.60	1,014.84	55.76	19.199	
8,000.00	7,986.76	7,892.58	7,802.86	27.98	28.90	87.52			-183.47	1,090.24	1,087.51	1,031.02	56.49	19.253	
8,100.00	8,086.76	7,991.07	7,899.86	28.34	29.27	87.71			-186.46	1,107.03	1,104.43	1,047.22	57.21	19.305	
8,200.00	8,186.76	8,089.56	7,996.86	28.69	29.65	87.90			-189.45	1,123.82	1,121.35	1,063.42	57.93	19.356	
8,300.00	8,286.76	8,188.05	8,093.87	29.05	30.02	88.09			-192.44	1,140.60	1,138.29	1,079.64	58.66	19.407	
8,400.00	8,386.76	8,286.54	8,190.87	29.40	30.39	88.26			-195.43	1,157.39	1,155.25	1,095.87	59.38	19.456	
8,500.00	8,486.76	8,385.03	8,287.87	29.76	30.76	88.44			-198.43	1,174.18	1,172.21	1,112.11	60.10	19.503	
8,600.00	8,586.76	8,483.52	8,384.87	30.11	31.13	88.61			-201.42	1,190.97	1,189.18	1,128.35	60.83	19.550	
8,700.00	8,686.76	8,582.01	8,481.87	30.47	31.51	88.77			-204.41	1,207.76	1,206.16	1,144.61	61.55	19.596	
8,800.00	8,786.76	8,680.50	8,578.88	30.82	31.88	88.93			-207.40	1,224.55	1,223.15	1,160.88	62.27	19.641	
8,900.00	8,886.76	8,778.99	8,675.88	31.18	32.25	89.08			-210.39	1,241.34	1,240.15	1,177.15	63.00	19.685	
9,000.00	8,986.76	8,877.48	8,772.88	31.54	32.62	89.23			-213.38	1,258.12	1,257.16	1,193.44	63.72	19.728	
9,100.00	9,086.76	8,975.97	8,869.88	31.89	33.00	89.38			-216.37	1,274.91	1,274.18	1,209.73	64.45	19.770	
9,200.00	9,186.76	9,074.46	8,966.88	32.25	33.37	89.52			-219.37	1,291.70	1,291.20	1,226.03	65.17	19.812	
9,300.00	9,286.76	9,172.95	9,063.89	32.60	33.74	89.66			-222.36	1,308.49	1,308.24	1,242.34	65.90	19.852	
9,400.00	9,386.76	9,271.44	9,160.89	32.96	34.11	89.80			-225.35	1,325.28	1,325.28	1,258.65	66.62	19.892	
9,500.00	9,486.76	9,458.53	9,345.90	33.31	34.81	89.80			-228.17	1,352.33	1,340.36	1,272.47	67.89	19.744	
9,600.00	9,586.76	9,698.30	9,583.56	33.67	35.63	88.65			-198.17	1,364.48	1,345.46	1,276.49	68.97	19.508	
9,700.00	9,686.76	9,790.08	9,672.12	34.03	35.92	87.64			-174.45	1,364.23	1,346.05	1,276.41	69.65	19.327	
9,800.00	9,786.76	9,872.53	9,747.55	34.38	36.17	86.23			-141.33	1,363.88	1,347.96	1,277.66	70.31	19.173	
9,900.00	9,886.76	9,944.17	9,808.64	34.74	36.37	84.65			-104.02	1,363.48	1,352.22	1,281.31	70.92	19.068	
10,000.00	9,986.56	10,007.39	9,858.33	35.09	36.52	83.08			-64.99	1,363.06	1,359.28	1,287.85	71.44	19.027	
10,100.00	10,084.11	10,068.56	9,902.04	35.43	36.66	80.88			-22.23	1,362.61	1,367.83	1,295.98	71.85	19.037	
10,200.00	10,176.46	10,128.45	9,940.17	35.74	36.77	78.80			23.91	1,362.12	1,377.05	1,304.90	72.15	19.086	
10,300.00	10,260.80	10,187.38	9,972.80	36.03	36.86	76.93			72.95	1,361.60	1,386.22	1,313.88	72.34	19.161	

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

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Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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		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	Offset	Reference	Offset		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
10,400.00	10,334.58	10,250.00	10,001.75	36.28	36.94	75.25			128.44	1,361.01	1,394.72	1,322.24	72.48	19.243	
10,500.00	10,395.54	10,300.00	10,020.42	36.49	36.99	74.02			174.80	1,360.51	1,401.97	1,329.46	72.51	19.335	
10,600.00	10,441.84	10,365.03	10,038.70	36.67	37.04	72.98			237.18	1,359.85	1,407.49	1,334.90	72.59	19.389	
10,700.00	10,472.32	10,437.78	10,054.00	36.80	37.08	72.46			308.28	1,359.09	1,410.27	1,337.54	72.73	19.391	
10,800.00	10,491.92	10,500.00	10,063.48	36.91	37.11	72.27			369.77	1,358.43	1,411.66	1,338.80	72.86	19.375	
10,900.00	10,502.91	10,583.13	10,070.92	37.00	37.15	72.16			452.54	1,357.55	1,412.22	1,339.15	73.07	19.328	
11,000.00	10,505.19	10,655.72	10,072.49	37.09	37.19	72.16			525.09	1,356.78	1,412.10	1,338.83	73.27	19.272	
11,100.00	10,502.44	10,750.86	10,070.54	37.19	37.26	72.18			620.21	1,355.76	1,411.73	1,338.18	73.54	19.196	
11,200.00	10,499.66	10,850.85	10,068.42	37.31	37.37	72.21			720.18	1,354.70	1,411.37	1,337.52	73.86	19.110	
11,300.00	10,496.88	10,950.85	10,066.29	37.44	37.51	72.23			820.15	1,353.63	1,411.02	1,336.82	74.20	19.017	
11,400.00	10,494.10	11,050.85	10,064.17	37.58	37.66	72.25			920.12	1,352.56	1,410.67	1,336.10	74.57	18.918	
11,500.00	10,491.32	11,150.85	10,062.04	37.74	37.84	72.28			1,020.09	1,351.50	1,410.31	1,335.34	74.97	18.812	
11,600.00	10,488.54	11,250.85	10,059.92	37.92	38.04	72.30			1,120.06	1,350.43	1,409.96	1,334.56	75.40	18.699	
11,700.00	10,485.76	11,350.84	10,057.79	38.11	38.24	72.32			1,220.03	1,349.36	1,409.61	1,333.75	75.86	18.581	
11,800.00	10,482.98	11,450.84	10,055.67	38.32	38.47	72.35			1,319.99	1,348.30	1,409.25	1,332.90	76.35	18.458	
11,900.00	10,480.19	11,550.84	10,053.55	38.53	38.71	72.37			1,419.96	1,347.23	1,408.90	1,332.04	76.87	18.329	
12,000.00	10,477.41	11,650.84	10,051.42	38.77	38.96	72.39			1,519.93	1,346.16	1,408.55	1,331.14	77.41	18.196	
12,100.00	10,474.63	11,750.83	10,049.30	39.01	39.22	72.42			1,619.90	1,345.10	1,408.20	1,330.22	77.98	18.059	
12,200.00	10,471.85	11,850.83	10,047.17	39.28	39.50	72.44			1,719.87	1,344.03	1,407.85	1,329.27	78.58	17.917	
12,300.00	10,469.07	11,950.83	10,045.05	39.55	39.79	72.47			1,819.84	1,342.96	1,407.49	1,328.30	79.20	17.772	
12,400.00	10,466.29	12,050.83	10,042.92	39.84	40.09	72.49			1,919.81	1,341.90	1,407.14	1,327.30	79.84	17.624	
12,500.00	10,463.51	12,150.82	10,040.80	40.14	40.40	72.51			2,019.78	1,340.83	1,406.79	1,326.28	80.51	17.473	
12,600.00	10,460.73	12,250.82	10,038.67	40.45	40.73	72.54			2,119.75	1,339.76	1,406.44	1,325.23	81.21	17.319	
12,700.00	10,457.95	12,350.82	10,036.55	40.77	41.07	72.56			2,219.72	1,338.70	1,406.09	1,324.17	81.93	17.163	
12,800.00	10,455.17	12,450.82	10,034.43	41.11	41.41	72.58			2,319.69	1,337.63	1,405.74	1,323.08	82.67	17.005	
12,900.00	10,452.39	12,550.82	10,032.30	41.46	41.77	72.61			2,419.66	1,336.56	1,405.39	1,321.96	83.43	16.846	
13,000.00	10,449.57	12,650.07	10,030.19	41.82	42.14	72.63			2,518.88	1,335.51	1,405.03	1,320.83	84.21	16.686	
13,100.00	10,444.55	12,737.24	10,026.86	42.19	42.47	72.68			2,605.98	1,334.58	1,404.52	1,319.53	84.99	16.525	
13,200.00	10,437.52	12,835.75	10,021.27	42.59	42.86	72.73			2,704.33	1,333.54	1,403.97	1,318.14	85.83	16.357	
13,300.00	10,430.47	12,935.74	10,015.57	42.99	43.27	72.78			2,804.15	1,332.48	1,403.42	1,316.73	86.70	16.188	
13,400.00	10,423.43	13,035.73	10,009.88	43.40	43.69	72.83			2,903.97	1,331.42	1,402.88	1,315.30	87.58	16.018	
13,500.00	10,416.39	13,135.72	10,004.19	43.83	44.12	72.89			3,003.80	1,330.36	1,402.33	1,313.85	88.48	15.849	
13,600.00	10,409.34	13,235.71	9,998.49	44.26	44.56	72.94			3,103.62	1,329.30	1,401.78	1,312.39	89.40	15.680	
13,700.00	10,402.30	13,335.70	9,992.80	44.70	45.00	72.99			3,203.44	1,328.24	1,401.24	1,310.91	90.33	15.512	
13,800.00	10,395.25	13,435.69	9,987.11	45.15	45.46	73.04			3,303.27	1,327.18	1,400.70	1,309.41	91.28	15.344	
13,900.00	10,388.21	13,535.68	9,981.41	45.61	45.92	73.09			3,403.09	1,326.12	1,400.16	1,307.90	92.25	15.178	
14,000.00	10,381.14	13,635.67	9,975.72	46.08	46.39	73.14			3,502.91	1,325.07	1,399.61	1,306.37	93.23	15.012	
14,100.00	10,372.66	13,735.63	9,970.03	46.55	46.87	73.26			3,602.70	1,324.01	1,398.65	1,304.42	94.23	14.842	
14,200.00	10,363.95	13,835.59	9,964.34	47.04	47.35	73.37			3,702.49	1,322.95	1,397.63	1,302.38	95.25	14.673	
14,300.00	10,355.25	13,935.54	9,958.65	47.54	47.84	73.49			3,802.28	1,321.89	1,396.62	1,300.34	96.28	14.506	
14,400.00	10,346.54	14,035.50	9,952.96	48.04	48.34	73.61			3,902.06	1,320.83	1,395.62	1,298.30	97.32	14.340	
14,500.00	10,337.83	14,135.45	9,947.27	48.55	48.85	73.72			4,001.85	1,319.77	1,394.62	1,296.24	98.38	14.176	
14,600.00	10,329.13	14,235.41	9,941.57	49.06	49.36	73.84			4,101.64	1,318.72	1,393.63	1,294.18	99.45	14.014	
14,700.00	10,320.42	14,335.36	9,935.88	49.59	49.88	73.96			4,201.42	1,317.66	1,392.64	1,292.11	100.52	13.854	
14,800.00	10,311.71	14,435.31	9,930.19	50.12	50.41	74.08			4,301.21	1,316.60	1,391.66	1,290.04	101.61	13.695	
14,900.00	10,303.00	14,535.27	9,924.50	50.65	50.94	74.19			4,400.99	1,315.54	1,390.68	1,287.97	102.72	13.539	
15,000.00	10,294.29	14,635.22	9,918.81	51.19	51.48	74.31			4,500.78	1,314.48	1,389.71	1,285.88	103.83	13.385	
15,100.00	10,284.69	14,735.15	9,913.12	51.74	52.02	74.47			4,600.54	1,313.42	1,388.51	1,283.56	104.95	13.230	
15,200.00	10,275.02	14,835.07	9,907.43	52.29	52.57	74.63			4,700.29	1,312.37	1,387.29	1,281.21	106.08	13.078	
15,300.00	10,265.35	14,934.99	9,901.74	52.85	53.13	74.79			4,800.04	1,311.31	1,386.09	1,278.87	107.22	12.927	
15,400.00	10,255.68	15,034.91	9,896.05	53.42	53.69	74.94			4,899.79	1,310.25	1,384.90	1,276.53	108.37	12.779	
15,500.00	10,246.01	15,134.83	9,890.36	53.99	54.25	75.10			4,999.55	1,309.19	1,383.72	1,274.19	109.53	12.633	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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		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)			
15,600.00	10,236.35	15,234.75	9,884.68	54.57	54.82	75.26	5,099.30	1,308.13	1,382.55	1,271.85	110.70	12.489	
15,700.00	10,226.68	15,334.67	9,878.99	55.15	55.40	75.42	5,199.05	1,307.08	1,381.39	1,269.52	111.87	12.348	
15,800.00	10,217.01	15,431.36	9,873.31	55.73	55.96	75.56	5,295.58	1,306.05	1,380.29	1,267.25	113.05	12.210	
15,900.00	10,207.34	15,531.32	9,866.68	56.32	56.54	75.68	5,395.30	1,304.99	1,379.39	1,265.15	114.24	12.074	
16,000.00	10,197.68	15,631.27	9,860.06	56.91	57.13	75.81	5,495.03	1,303.94	1,378.49	1,263.04	115.44	11.941	
16,100.00	10,189.84	15,731.26	9,853.43	57.51	57.73	75.84	5,594.79	1,302.88	1,378.04	1,261.39	116.65	11.814	
16,200.00	10,183.38	15,831.26	9,846.80	58.10	58.33	75.84	5,694.57	1,301.82	1,377.93	1,260.07	117.87	11.691	
16,300.00	10,176.93	15,931.26	9,840.17	58.70	58.93	75.83	5,794.34	1,300.76	1,377.82	1,258.73	119.09	11.570	
16,400.00	10,170.47	16,031.26	9,833.54	59.30	59.53	75.82	5,894.12	1,299.70	1,377.72	1,257.40	120.32	11.450	
16,500.00	10,164.01	16,131.26	9,826.91	59.91	60.14	75.81	5,993.89	1,298.64	1,377.61	1,256.05	121.56	11.333	
16,600.00	10,157.55	16,231.26	9,820.28	60.52	60.76	75.80	6,093.67	1,297.59	1,377.50	1,254.70	122.80	11.217	
16,700.00	10,151.09	16,331.26	9,813.66	61.14	61.38	75.79	6,193.44	1,296.53	1,377.39	1,253.34	124.06	11.103	
16,800.00	10,144.64	16,431.26	9,807.03	61.76	62.00	75.78	6,293.21	1,295.47	1,377.28	1,251.97	125.31	10.991	
16,900.00	10,138.18	16,531.26	9,800.40	62.38	62.62	75.78	6,392.99	1,294.41	1,377.18	1,250.60	126.58	10.880	
17,000.00	10,131.72	16,631.26	9,793.77	63.00	63.25	75.77	6,492.76	1,293.35	1,377.07	1,249.22	127.85	10.771	
17,100.00	10,125.26	16,731.26	9,787.14	63.63	63.88	75.76	6,592.54	1,292.29	1,376.96	1,247.83	129.13	10.664	
17,200.00	10,118.80	16,831.26	9,780.51	64.26	64.51	75.75	6,692.31	1,291.23	1,376.85	1,246.44	130.41	10.558	
17,300.00	10,112.34	16,931.26	9,773.88	64.90	65.15	75.74	6,792.08	1,290.18	1,376.74	1,245.04	131.70	10.454	
17,400.00	10,105.89	17,031.26	9,767.25	65.53	65.79	75.73	6,891.86	1,289.12	1,376.64	1,243.64	132.99	10.351	
17,500.00	10,099.43	17,131.26	9,760.63	66.17	66.43	75.73	6,991.63	1,288.06	1,376.53	1,242.24	134.29	10.250	
17,600.00	10,092.97	17,231.26	9,754.00	66.82	67.07	75.72	7,091.41	1,287.00	1,376.42	1,240.82	135.60	10.151	
17,700.00	10,086.51	17,331.26	9,747.37	67.46	67.72	75.71	7,191.18	1,285.94	1,376.31	1,239.41	136.91	10.053	
17,800.00	10,080.05	17,431.25	9,740.74	68.11	68.37	75.70	7,290.96	1,284.88	1,376.20	1,237.98	138.22	9.957	
17,900.00	10,073.59	17,531.25	9,734.11	68.76	69.02	75.69	7,390.73	1,283.83	1,376.10	1,236.56	139.54	9.862	
18,000.00	10,067.14	17,631.25	9,727.48	69.41	69.68	75.68	7,490.50	1,282.77	1,375.99	1,235.12	140.86	9.768	
18,100.00	10,060.68	17,731.25	9,720.85	70.07	70.34	75.67	7,590.28	1,281.71	1,375.88	1,233.69	142.19	9.676	
18,200.00	10,054.22	17,831.25	9,714.22	70.73	70.99	75.67	7,690.05	1,280.65	1,375.77	1,232.25	143.53	9.586	
18,300.00	10,047.76	17,931.25	9,707.60	71.39	71.66	75.66	7,789.83	1,279.59	1,375.67	1,230.80	144.86	9.496	
18,400.00	10,041.30	18,031.25	9,700.97	72.05	72.32	75.65	7,889.60	1,278.53	1,375.56	1,229.36	146.20	9.409	
18,500.00	10,034.85	18,131.25	9,694.34	72.71	72.99	75.64	7,989.38	1,277.47	1,375.45	1,227.90	147.55	9.322	
18,600.00	10,028.39	18,231.25	9,687.71	73.38	73.65	75.63	8,089.15	1,276.42	1,375.34	1,226.45	148.90	9.237	
18,700.00	10,021.93	18,331.25	9,681.08	74.05	74.32	75.62	8,188.92	1,275.36	1,375.24	1,224.99	150.25	9.153	
18,800.00	10,015.47	18,431.25	9,674.45	74.72	75.00	75.61	8,288.70	1,274.30	1,375.13	1,223.52	151.61	9.070	
18,900.00	10,009.01	18,531.25	9,667.82	75.39	75.67	75.61	8,388.47	1,273.24	1,375.02	1,222.05	152.97	8.989	
19,000.00	10,002.55	18,631.25	9,661.19	76.06	76.34	75.60	8,488.25	1,272.18	1,374.91	1,220.58	154.33	8.909	
19,100.00	9,996.10	18,731.25	9,654.57	76.74	77.02	75.59	8,588.02	1,271.12	1,374.81	1,219.11	155.70	8.830	
19,200.00	9,989.64	18,831.25	9,647.94	77.42	77.70	75.58	8,687.79	1,270.06	1,374.70	1,217.63	157.07	8.752	
19,300.00	9,983.18	18,931.25	9,641.31	78.10	78.38	75.57	8,787.57	1,269.01	1,374.59	1,216.15	158.44	8.676	
19,400.00	9,976.72	19,031.25	9,634.68	78.78	79.06	75.56	8,887.34	1,267.95	1,374.48	1,214.67	159.82	8.600	
19,500.00	9,970.26	19,131.25	9,628.05	79.46	79.75	75.56	8,987.12	1,266.89	1,374.38	1,213.18	161.20	8.526	
19,600.00	9,962.33	19,231.25	9,621.19	80.15	80.38	75.57	9,087.99	1,265.91	1,374.11	1,211.56	162.55	8.453	
19,700.00	9,953.48	19,322.57	9,612.12	80.84	81.06	75.56	9,177.75	1,264.87	1,374.04	1,210.10	163.94	8.381	
19,800.00	9,944.64	19,422.57	9,602.97	81.53	81.75	75.55	9,277.33	1,263.81	1,373.96	1,208.63	165.33	8.310	
19,900.00	9,935.79	19,522.57	9,593.81	82.22	82.45	75.53	9,376.90	1,262.75	1,373.89	1,207.16	166.73	8.240	
20,000.00	9,926.94	19,622.57	9,584.66	82.91	83.14	75.52	9,476.48	1,261.70	1,373.82	1,205.69	168.13	8.171	
20,100.00	9,918.09	19,722.57	9,575.51	83.61	83.84	75.50	9,576.05	1,260.64	1,373.75	1,204.21	169.53	8.103	
20,200.00	9,909.25	19,822.57	9,566.35	84.30	84.53	75.49	9,675.62	1,259.58	1,373.67	1,202.74	170.94	8.036	
20,300.00	9,900.40	19,922.57	9,557.20	85.00	85.23	75.48	9,775.20	1,258.53	1,373.60	1,201.26	172.35	7.970	
20,400.00	9,891.55	20,022.57	9,548.05	85.70	85.93	75.46	9,874.77	1,257.47	1,373.53	1,199.77	173.76	7.905	
20,500.00	9,882.70	20,122.57	9,538.89	86.40	86.63	75.45	9,974.34	1,256.41	1,373.46	1,198.29	175.17	7.841	
20,600.00	9,872.38	20,216.03	9,529.82	87.10	87.29	75.47	10,067.36	1,255.43	1,373.16	1,196.61	176.55	7.778	
20,700.00	9,859.56	20,310.32	9,518.26	87.81	87.95	75.50	10,160.93	1,254.43	1,372.86	1,194.92	177.94	7.715	

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

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Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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		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)			
20,800.00	9,846.63	20,410.32	9,505.57	88.52	88.66	75.51	10,260.12	1,253.38	1,372.65	1,193.29	179.36	7.653	
20,900.00	9,833.69	20,510.32	9,492.89	89.22	89.37	75.51	10,359.31	1,252.33	1,372.44	1,191.65	180.79	7.591	
21,000.00	9,820.76	20,610.32	9,480.21	89.93	90.08	75.52	10,458.49	1,251.28	1,372.23	1,190.01	182.21	7.531	
21,100.00	9,807.82	20,710.32	9,467.53	90.64	90.79	75.53	10,557.68	1,250.23	1,372.01	1,188.37	183.64	7.471	
21,200.00	9,794.89	20,810.32	9,454.85	91.36	91.50	75.54	10,656.87	1,249.17	1,371.80	1,186.73	185.07	7.412	
21,300.00	9,781.96	20,910.32	9,442.16	92.07	92.21	75.55	10,756.05	1,248.12	1,371.59	1,185.09	186.50	7.354	
21,400.00	9,769.02	21,010.32	9,429.48	92.78	92.92	75.56	10,855.24	1,247.07	1,371.38	1,183.44	187.93	7.297	
21,500.00	9,756.09	21,110.32	9,416.80	93.50	93.64	75.57	10,954.43	1,246.02	1,371.17	1,181.80	189.37	7.241	
21,600.00	9,741.94	21,210.30	9,404.12	94.21	94.35	75.63	11,053.60	1,244.97	1,370.65	1,179.85	190.80	7.184	
21,700.00	9,726.22	21,310.26	9,391.44	94.93	95.07	75.76	11,152.74	1,243.91	1,369.74	1,177.52	192.22	7.126	
21,800.00	9,710.50	21,410.21	9,378.77	95.65	95.78	75.88	11,251.88	1,242.86	1,368.84	1,175.19	193.65	7.069	
21,900.00	9,694.79	21,503.44	9,365.89	96.37	96.45	75.95	11,344.21	1,241.88	1,368.22	1,173.17	195.05	7.015	
22,000.00	9,679.07	21,603.44	9,351.20	97.09	97.17	75.99	11,443.12	1,240.83	1,367.82	1,171.33	196.49	6.961	
22,100.00	9,663.35	21,703.43	9,336.51	97.81	97.89	76.03	11,542.02	1,239.78	1,367.42	1,169.49	197.93	6.909	
22,200.00	9,647.64	21,803.43	9,321.83	98.53	98.61	76.07	11,640.92	1,238.73	1,367.01	1,167.64	199.37	6.857	
22,300.00	9,631.92	21,903.42	9,307.14	99.25	99.33	76.11	11,739.83	1,237.69	1,366.61	1,165.80	200.82	6.805	
22,400.00	9,616.20	22,003.42	9,292.46	99.97	100.06	76.15	11,838.73	1,236.64	1,366.21	1,163.95	202.26	6.755	
22,500.00	9,600.49	22,103.41	9,277.77	100.70	100.78	76.19	11,937.64	1,235.59	1,365.82	1,162.11	203.71	6.705	
22,600.00	9,583.89	22,203.39	9,263.09	101.42	101.50	76.28	12,036.53	1,234.54	1,365.21	1,160.06	205.15	6.655	
22,700.00	9,564.62	22,303.28	9,248.42	102.14	102.23	76.48	12,135.33	1,233.49	1,363.96	1,157.38	206.58	6.603	
22,800.00	9,545.07	22,403.16	9,233.75	102.87	102.95	76.68	12,234.12	1,232.44	1,362.67	1,154.66	208.01	6.551	
22,900.00	9,525.53	22,503.04	9,219.08	103.60	103.67	76.88	12,332.91	1,231.39	1,361.39	1,151.95	209.43	6.500	
23,000.00	9,505.99	22,602.91	9,204.41	104.32	104.40	77.08	12,431.70	1,230.35	1,360.13	1,149.26	210.86	6.450	
23,100.00	9,486.44	22,700.00	9,190.12	105.05	105.10	77.27	12,527.72	1,229.33	1,358.89	1,146.62	212.28	6.402	
23,200.00	9,466.90	22,793.48	9,174.48	105.78	105.78	77.38	12,619.88	1,228.35	1,358.12	1,144.44	213.68	6.356	
23,300.00	9,447.35	22,893.47	9,156.73	106.51	106.51	77.46	12,718.27	1,227.31	1,357.57	1,142.44	215.13	6.310	
23,400.00	9,427.81	22,993.45	9,138.99	107.24	107.24	77.53	12,816.66	1,226.26	1,357.02	1,140.44	216.58	6.266	
23,500.00	9,408.27	23,093.43	9,121.25	107.97	107.97	77.60	12,915.05	1,225.22	1,356.48	1,138.45	218.03	6.221	
23,600.00	9,388.72	23,193.42	9,103.50	108.70	108.70	77.68	13,013.44	1,224.17	1,355.94	1,136.45	219.49	6.178	
23,700.00	9,369.18	23,293.40	9,085.76	109.43	109.43	77.75	13,111.83	1,223.13	1,355.40	1,134.46	220.94	6.135	
23,800.00	9,349.63	23,393.38	9,068.02	110.16	110.16	77.83	13,210.22	1,222.09	1,354.87	1,132.47	222.40	6.092	
23,900.00	9,330.09	23,493.36	9,050.28	110.89	110.89	77.90	13,308.61	1,221.04	1,354.33	1,130.48	223.85	6.050	
24,000.00	9,310.55	23,593.35	9,032.53	111.63	111.63	77.97	13,407.00	1,220.00	1,353.80	1,128.49	225.31	6.009	
24,100.00	9,291.00	23,693.33	9,014.79	112.36	112.36	78.05	13,505.39	1,218.96	1,353.27	1,126.51	226.77	5.968	
24,200.00	9,271.46	23,793.31	8,997.05	113.09	113.09	78.12	13,603.78	1,217.91	1,352.75	1,124.52	228.22	5.927	
24,300.00	9,251.91	23,893.30	8,979.30	113.82	113.82	78.20	13,702.17	1,216.87	1,352.22	1,122.54	229.68	5.887	
24,400.00	9,232.37	23,989.95	8,961.95	114.56	114.53	78.26	13,797.25	1,215.86	1,351.74	1,120.63	231.12	5.849	
24,442.85	9,224.00	24,029.05	8,954.28	114.87	114.82	78.26	13,835.58	1,215.45	1,351.69	1,119.96	231.72	5.833	
24,500.00	9,212.83	24,082.73	8,942.96	115.29	115.21	78.22	13,888.06	1,214.90	1,351.78	1,119.24	232.54	5.813	
24,600.00	9,193.28	24,182.71	8,921.47	116.03	115.95	78.14	13,985.70	1,213.86	1,352.04	1,118.02	234.03	5.777	
24,700.00	9,173.74	24,282.69	8,899.98	116.76	116.68	78.06	14,083.34	1,212.82	1,352.31	1,116.80	235.51	5.742	
24,800.00	9,154.19	24,382.67	8,878.48	117.50	117.42	77.97	14,180.97	1,211.79	1,352.58	1,115.58	237.00	5.707	
24,900.00	9,134.65	24,482.65	8,856.99	118.23	118.15	77.89	14,278.61	1,210.75	1,352.84	1,114.36	238.48	5.673	
25,000.00	9,115.11	24,582.63	8,835.50	118.97	118.89	77.80	14,376.25	1,209.72	1,353.12	1,113.15	239.97	5.639	
25,100.00	9,095.47	24,682.62	8,814.00	119.70	119.62	77.72	14,473.89	1,208.68	1,353.37	1,111.92	241.46	5.605	
25,200.00	9,073.45	24,782.61	8,792.51	120.44	120.36	77.75	14,571.54	1,207.64	1,353.11	1,110.18	242.93	5.570	
25,300.00	9,048.14	24,882.53	8,771.03	121.18	121.10	77.92	14,669.11	1,206.61	1,352.13	1,107.76	244.38	5.533	
25,400.00	9,021.89	24,982.41	8,749.56	121.91	121.83	78.13	14,766.65	1,205.57	1,350.97	1,105.15	245.82	5.496	
25,500.00	8,995.64	25,082.29	8,728.09	122.65	122.57	78.33	14,864.19	1,204.54	1,349.82	1,102.55	247.27	5.459	
25,600.00	8,969.39	25,182.17	8,706.61	123.38	123.31	78.53	14,961.73	1,203.51	1,348.69	1,099.98	248.71	5.423	
25,700.00	8,943.14	25,278.06	8,685.68	124.12	124.01	78.71	15,055.30	1,202.51	1,347.64	1,097.52	250.12	5.388	
25,800.00	8,916.89	25,369.62	8,663.23	124.86	124.69	78.78	15,144.06	1,201.57	1,347.15	1,095.64	251.51	5.356	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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)					
25,823.60	8,910.69	25,391.23	8,657.52	125.03	124.85	78.77	15,164.90	1,201.35	1,347.12	1,095.28	251.84	5.349			
25,900.00	8,890.64	25,461.19	8,637.95	125.59	125.36	78.72	15,232.06	1,200.64	1,347.27	1,094.37	252.90	5.327			
26,000.00	8,864.39	25,560.68	8,608.80	126.33	126.09	78.59	15,327.18	1,199.63	1,347.75	1,093.36	254.39	5.298			
26,100.00	8,838.14	25,660.63	8,579.51	127.07	126.83	78.46	15,422.74	1,198.62	1,348.24	1,092.36	255.88	5.269			
26,200.00	8,810.58	25,760.61	8,550.21	127.80	127.56	78.37	15,518.32	1,197.60	1,348.46	1,091.10	257.37	5.239			
26,300.00	8,780.85	25,860.61	8,520.91	128.54	128.29	78.39	15,613.92	1,196.59	1,348.22	1,089.39	258.83	5.209			
26,400.00	8,751.06	25,960.61	8,491.60	129.27	129.03	78.41	15,709.53	1,195.57	1,347.98	1,087.68	260.30	5.179			
26,500.00	8,721.27	26,060.61	8,462.30	130.01	129.76	78.43	15,805.13	1,194.56	1,347.73	1,085.96	261.77	5.149			
26,600.00	8,691.49	26,160.60	8,432.99	130.74	130.50	78.45	15,900.73	1,193.54	1,347.49	1,084.25	263.24	5.119			
26,700.00	8,661.70	26,260.60	8,403.69	131.48	131.24	78.47	15,996.34	1,192.53	1,347.24	1,082.53	264.71	5.090			
26,800.00	8,631.91	26,360.60	8,374.38	132.21	131.97	78.49	16,091.94	1,191.52	1,347.00	1,080.82	266.18	5.061			
26,900.00	8,602.12	26,460.60	8,345.08	132.95	132.71	78.51	16,187.54	1,190.50	1,346.75	1,079.11	267.65	5.032			
27,000.00	8,572.34	26,560.60	8,315.77	133.68	133.44	78.53	16,283.14	1,189.49	1,346.50	1,077.39	269.12	5.003			
27,100.00	8,542.55	26,660.60	8,286.46	134.42	134.18	78.55	16,378.75	1,188.47	1,346.26	1,075.67	270.59	4.975			
27,200.00	8,512.48	26,760.59	8,257.16	135.15	134.92	78.59	16,474.35	1,187.46	1,345.96	1,073.90	272.05	4.947			
27,300.00	8,479.97	26,864.20	8,227.37	135.89	135.68	78.76	16,573.57	1,186.41	1,345.03	1,071.50	273.54	4.917			
27,400.00	8,446.90	26,964.06	8,199.44	136.62	136.41	78.99	16,669.44	1,185.39	1,343.85	1,068.88	274.98	4.887			
27,500.00	8,413.83	27,063.91	8,171.51	137.35	137.15	79.21	16,765.30	1,184.37	1,342.69	1,066.28	276.41	4.858			
27,600.00	8,380.76	27,163.77	8,143.58	138.09	137.89	79.43	16,861.17	1,183.36	1,341.55	1,063.70	277.85	4.828			
27,700.00	8,347.68	27,263.63	8,115.64	138.82	138.63	79.66	16,957.03	1,182.34	1,340.43	1,061.15	279.28	4.800			
27,800.00	8,314.61	27,363.48	8,087.71	139.55	139.36	79.88	17,052.90	1,181.32	1,339.33	1,058.61	280.72	4.771			
27,900.00	8,281.54	27,463.34	8,059.78	140.29	140.10	80.10	17,148.76	1,180.30	1,338.26	1,056.10	282.16	4.743			
28,000.00	8,248.84	27,563.21	8,031.84	141.02	140.84	80.30	17,244.65	1,179.29	1,337.26	1,053.67	283.60	4.715			
28,100.00	8,218.98	27,663.19	8,003.88	141.76	141.58	80.38	17,340.62	1,178.27	1,336.78	1,051.73	285.06	4.689			
28,200.00	8,191.54	27,763.19	7,975.90	142.50	142.32	80.35	17,436.63	1,177.25	1,336.73	1,050.19	286.54	4.665			
28,300.00	8,164.21	27,863.19	7,947.93	143.24	143.06	80.32	17,532.63	1,176.23	1,336.70	1,048.67	288.03	4.641			
28,400.00	8,136.88	27,963.18	7,919.96	143.98	143.80	80.29	17,628.63	1,175.21	1,336.66	1,047.15	289.51	4.617			
28,500.00	8,109.55	28,063.18	7,891.99	144.72	144.54	80.26	17,724.63	1,174.19	1,336.63	1,045.63	291.00	4.593			
28,600.00	8,082.22	28,163.18	7,864.02	145.46	145.28	80.23	17,820.63	1,173.18	1,336.60	1,044.11	292.49	4.570			
28,700.00	8,054.88	28,263.18	7,836.04	146.20	146.02	80.21	17,916.63	1,172.16	1,336.56	1,042.59	293.97	4.547			
28,800.00	8,027.55	28,363.17	7,808.07	146.94	146.76	80.18	18,012.63	1,171.14	1,336.53	1,041.07	295.46	4.524			
28,827.63	8,020.00	28,390.81	7,800.34	147.14	146.96	80.17	18,039.16	1,170.86	1,336.52	1,040.65	295.87	4.517	SF		

Total Directional Anticollision Report



Company:	Coterra Energy	Local Co-ordinate Reference:	Well Rope State Com 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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		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)			
7,800.00	7,786.76	8,150.26	8,101.77	27.27	29.57	88.67	-176.89	2,300.26	2,303.12	2,246.59	56.53	40.744	
7,900.00	7,886.76	8,249.29	8,199.83	27.63	29.93	88.74	-179.87	2,286.79	2,289.45	2,232.20	57.25	39.992	
8,000.00	7,986.76	8,348.31	8,297.88	27.98	30.30	88.80	-182.84	2,273.31	2,275.77	2,217.81	57.97	39.259	
8,100.00	8,086.76	8,447.34	8,395.94	28.34	30.67	88.87	-185.81	2,259.84	2,262.10	2,203.42	58.69	38.544	
8,200.00	8,186.76	8,546.36	8,494.00	28.69	31.04	88.94	-188.79	2,246.37	2,248.44	2,189.03	59.41	37.847	
8,300.00	8,286.76	8,645.39	8,592.06	29.05	31.41	89.01	-191.76	2,232.89	2,234.77	2,174.64	60.13	37.165	
8,400.00	8,386.76	8,744.41	8,690.12	29.40	31.77	89.08	-194.74	2,219.42	2,221.12	2,160.26	60.85	36.501	
8,500.00	8,486.76	8,843.43	8,788.18	29.76	32.14	89.16	-197.71	2,205.95	2,207.46	2,145.89	61.57	35.851	
8,600.00	8,586.76	8,942.46	8,886.24	30.11	32.51	89.23	-200.68	2,192.47	2,193.81	2,131.51	62.29	35.217	
8,700.00	8,686.76	9,041.48	8,984.29	30.47	32.88	89.30	-203.66	2,179.00	2,180.16	2,117.14	63.02	34.597	
8,800.00	8,786.76	9,140.51	9,082.35	30.82	33.25	89.38	-206.63	2,165.53	2,166.51	2,102.77	63.74	33.991	
8,900.00	8,886.76	9,239.53	9,180.41	31.18	33.62	89.45	-209.60	2,152.05	2,152.87	2,088.41	64.46	33.399	
9,000.00	8,986.76	9,338.56	9,278.47	31.54	33.98	89.53	-212.58	2,138.58	2,139.23	2,074.05	65.18	32.819	
9,100.00	9,086.76	9,437.58	9,376.53	31.89	34.35	89.61	-215.55	2,125.11	2,125.60	2,059.69	65.90	32.253	
9,200.00	9,186.76	9,536.61	9,474.59	32.25	34.72	89.69	-218.53	2,111.63	2,111.97	2,045.34	66.63	31.699	
9,300.00	9,286.76	9,635.63	9,572.65	32.60	35.09	89.77	-221.50	2,098.16	2,098.34	2,030.99	67.35	31.156	
9,400.00	9,386.76	9,735.65	9,671.67	32.96	35.46	89.84	-224.47	2,084.69	2,084.74	2,016.69	68.05	30.634	
9,500.00	9,486.76	9,835.67	9,771.69	33.31	35.83	89.91	-227.44	2,071.22	2,071.22	2,003.87	68.73	30.158	
9,600.00	9,586.76	9,935.69	9,867.71	33.67	36.20	89.98	-230.41	2,057.75	2,057.75	1,991.40	69.41	29.682	
9,700.00	9,686.76	10,035.71	9,971.73	34.03	36.57	90.05	-233.38	2,044.28	2,044.28	1,978.84	70.09	29.206	
9,800.00	9,786.76	10,135.73	10,071.75	34.38	36.94	90.12	-236.35	2,030.81	2,030.81	1,966.37	70.77	28.730	
9,900.00	9,886.76	10,235.75	10,171.77	34.74	37.31	90.19	-239.32	2,017.34	2,017.34	1,953.90	71.45	28.254	
10,000.00	9,986.76	10,335.77	10,271.79	35.09	37.68	90.26	-242.29	2,003.87	2,003.87	1,941.43	72.13	27.778	
10,100.00	10,086.76	10,435.79	10,371.81	35.45	38.05	90.33	-245.26	1,990.40	1,990.40	1,928.96	72.81	27.302	
10,200.00	10,186.76	10,535.81	10,471.83	35.81	38.42	90.40	-248.23	1,976.93	1,976.93	1,916.49	73.49	26.826	
10,300.00	10,286.76	10,635.83	10,571.85	36.17	38.79	90.47	-251.20	1,963.46	1,963.46	1,904.02	74.17	26.350	
10,400.00	10,386.76	10,735.85	10,671.87	36.53	39.16	90.54	-254.17	1,950.00	1,950.00	1,891.55	74.85	25.874	
10,500.00	10,486.76	10,835.87	10,771.89	36.89	39.53	90.61	-257.14	1,936.53	1,936.53	1,879.08	75.53	25.398	
10,600.00	10,586.76	10,935.89	10,871.91	37.25	39.90	90.68	-260.11	1,923.06	1,923.06	1,866.61	76.21	24.922	
10,700.00	10,686.76	11,035.91	10,971.93	37.61	40.27	90.75	-263.08	1,909.59	1,909.59	1,854.14	76.89	24.446	
10,800.00	10,786.76	11,135.93	11,071.95	37.97	40.64	90.82	-266.05	1,896.12	1,896.12	1,841.67	77.57	23.970	
10,900.00	10,886.76	11,235.95	11,171.97	38.33	41.01	90.89	-269.02	1,882.65	1,882.65	1,829.20	78.25	23.494	
11,000.00	10,986.76	11,335.97	11,271.99	38.69	41.38	90.96	-271.99	1,869.18	1,869.18	1,816.73	78.93	23.018	
11,100.00	11,086.76	11,436.00	11,372.01	39.05	41.75	91.03	-274.96	1,855.71	1,855.71	1,804.26	79.61	22.542	
11,200.00	11,186.76	11,536.02	11,472.03	39.41	42.12	91.10	-277.93	1,842.24	1,842.24	1,791.79	80.29	22.066	
11,300.00	11,286.76	11,636.04	11,572.05	39.77	42.49	91.17	-280.90	1,828.77	1,828.77	1,779.32	80.97	21.590	
11,400.00	11,386.76	11,736.06	11,672.07	40.13	42.86	91.24	-283.87	1,815.30	1,815.30	1,766.85	81.65	21.114	
11,500.00	11,486.76	11,836.08	11,772.09	40.49	43.23	91.31	-286.84	1,801.83	1,801.83	1,754.38	82.33	20.638	
11,600.00	11,586.76	11,936.10	11,872.11	40.85	43.60	91.38	-289.81	1,788.36	1,788.36	1,741.91	83.01	20.162	
11,700.00	11,686.76	12,036.12	11,972.13	41.21	43.97	91.45	-292.78	1,774.89	1,774.89	1,729.44	83.69	19.686	
11,800.00	11,786.76	12,136.14	12,072.15	41.57	44.34	91.52	-295.75	1,761.42	1,761.42	1,716.97	84.37	19.210	
11,900.00	11,886.76	12,236.16	12,172.17	41.93	44.71	91.59	-298.72	1,747.95	1,747.95	1,704.50	85.05	18.734	
12,000.00	11,986.76	12,336.18	12,272.19	42.29	45.08	91.66	-301.69	1,734.48	1,734.48	1,692.03	85.73	18.258	
12,100.00	12,086.76	12,436.20	12,372.21	42.65	45.45	91.73	-304.66	1,721.01	1,721.01	1,679.56	86.41	17.782	
12,200.00	12,186.76	12,536.22	12,472.23	43.01	45.82	91.80	-307.63	1,707.54	1,707.54	1,667.09	87.09	17.306	
12,300.00	12,286.76	12,636.24	12,572.25	43.37	46.19	91.87	-310.60	1,694.07	1,694.07	1,654.62	87.77	16.830	
12,400.00	12,386.76	12,736.26	12,672.27	43.73	46.56	91.94	-313.57	1,680.60	1,680.60	1,642.15	88.45	16.354	
12,500.00	12,486.76	12,836.28	12,772.29	44.09	46.93	92.01	-316.54	1,667.13	1,667.13	1,629.68	89.13	15.878	
12,600.00	12,586.76	12,936.30	12,872.31	44.45	47.30	92.08	-319.51	1,653.66	1,653.66	1,617.21	89.81	15.402	
12,700.00	12,686.76	13,036.32	12,972.33	44.81	47.67	92.15	-322.48	1,640.19	1,640.19	1,604.74	90.49	14.926	
12,800.00	12,786.76	13,136.34	13,072.35	45.17	48.04	92.22	-325.45	1,626.72	1,626.72	1,592.27	91.17	14.450	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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)			
12,900.00	10,452.39	12,928.28	10,314.49	41.46	43.10	86.13	2,423.78	2,036.25	2,045.49	1,961.58	83.90	24.379	
13,000.00	10,449.57	13,028.09	10,305.54	41.82	43.48	85.96	2,523.18	2,035.18	2,045.75	1,961.15	84.60	24.181	
13,100.00	10,444.55	13,128.00	10,296.57	42.19	43.87	85.84	2,622.68	2,034.11	2,045.86	1,960.52	85.34	23.973	
13,200.00	10,437.52	13,227.98	10,287.60	42.59	44.27	85.79	2,722.26	2,033.04	2,045.84	1,959.73	86.11	23.758	
13,300.00	10,430.47	13,327.97	10,278.63	42.99	44.68	85.73	2,821.83	2,031.97	2,045.81	1,958.91	86.91	23.541	
13,400.00	10,423.43	13,427.95	10,269.66	43.40	45.10	85.68	2,921.40	2,030.90	2,045.79	1,958.07	87.72	23.322	
13,500.00	10,416.39	13,527.93	10,260.68	43.83	45.53	85.62	3,020.97	2,029.83	2,045.77	1,957.22	88.55	23.103	
13,600.00	10,409.34	13,627.91	10,251.71	44.26	45.96	85.57	3,120.54	2,028.76	2,045.75	1,956.35	89.40	22.882	
13,700.00	10,402.30	13,727.89	10,242.74	44.70	46.41	85.52	3,220.12	2,027.69	2,045.74	1,955.46	90.27	22.662	
13,800.00	10,395.25	13,827.87	10,233.77	45.15	46.86	85.46	3,319.69	2,026.63	2,045.72	1,954.56	91.16	22.441	
13,900.00	10,388.21	13,927.85	10,224.80	45.61	47.32	85.41	3,419.26	2,025.56	2,045.71	1,953.65	92.06	22.221	
14,000.00	10,381.14	14,027.83	10,215.83	46.08	47.79	85.35	3,518.83	2,024.49	2,045.70	1,952.71	92.98	22.001	
14,100.00	10,372.66	14,127.83	10,206.85	46.55	48.26	85.34	3,618.42	2,023.42	2,045.57	1,951.64	93.93	21.778	
14,200.00	10,363.95	14,227.83	10,197.88	47.04	48.75	85.33	3,718.01	2,022.35	2,045.42	1,950.53	94.89	21.555	
14,300.00	10,355.25	14,327.83	10,188.91	47.54	49.24	85.32	3,817.60	2,021.28	2,045.28	1,949.40	95.87	21.334	
14,400.00	10,346.54	14,427.83	10,179.94	48.04	49.74	85.32	3,917.19	2,020.21	2,045.13	1,948.26	96.87	21.113	
14,500.00	10,337.83	14,527.83	10,170.96	48.55	50.24	85.31	4,016.78	2,019.14	2,044.98	1,947.11	97.87	20.894	
14,600.00	10,329.13	14,627.83	10,161.99	49.06	50.75	85.30	4,116.37	2,018.07	2,044.84	1,945.94	98.90	20.677	
14,700.00	10,320.42	14,727.83	10,153.02	49.59	51.27	85.29	4,215.96	2,017.00	2,044.69	1,944.76	99.93	20.461	
14,800.00	10,311.71	14,827.83	10,144.04	50.12	51.79	85.29	4,315.55	2,015.93	2,044.54	1,943.57	100.98	20.247	
14,900.00	10,303.00	14,927.83	10,135.07	50.65	52.32	85.28	4,415.14	2,014.86	2,044.40	1,942.36	102.04	20.035	
15,000.00	10,294.29	15,027.83	10,126.10	51.19	52.86	85.27	4,514.73	2,013.79	2,044.25	1,941.14	103.11	19.826	
15,100.00	10,284.69	15,127.82	10,117.12	51.74	53.40	85.29	4,614.32	2,012.72	2,044.03	1,939.83	104.20	19.616	
15,200.00	10,275.02	15,227.82	10,108.15	52.29	53.95	85.31	4,713.91	2,011.65	2,043.81	1,938.50	105.30	19.409	
15,300.00	10,265.35	15,327.82	10,099.18	52.85	54.50	85.33	4,813.50	2,010.58	2,043.59	1,937.17	106.42	19.203	
15,400.00	10,255.68	15,427.82	10,090.21	53.42	55.06	85.35	4,913.09	2,009.51	2,043.36	1,935.82	107.54	19.000	
15,500.00	10,246.01	15,527.81	10,081.23	53.99	55.62	85.36	5,012.68	2,008.44	2,043.14	1,934.46	108.68	18.800	
15,600.00	10,236.35	15,627.81	10,072.26	54.57	56.19	85.38	5,112.26	2,007.37	2,042.91	1,933.09	109.82	18.602	
15,700.00	10,226.68	15,727.81	10,063.29	55.15	56.76	85.40	5,211.85	2,006.30	2,042.69	1,931.71	110.98	18.406	
15,800.00	10,217.01	15,827.81	10,054.31	55.73	57.34	85.42	5,311.44	2,005.23	2,042.47	1,930.33	112.14	18.213	
15,900.00	10,207.34	15,927.80	10,045.34	56.32	57.92	85.44	5,411.03	2,004.16	2,042.25	1,928.93	113.31	18.023	
16,000.00	10,197.68	16,027.80	10,036.37	56.91	58.50	85.46	5,510.62	2,003.09	2,042.02	1,927.53	114.50	17.835	
16,086.48	10,190.57	16,114.28	10,028.61	57.43	59.01	85.44	5,596.74	2,002.16	2,041.93	1,926.42	115.51	17.677	
16,100.00	10,189.84	16,127.79	10,027.40	57.51	59.09	85.43	5,610.20	2,002.02	2,041.95	1,926.28	115.67	17.653	
16,200.00	10,183.38	16,227.76	10,018.43	58.10	59.69	85.36	5,709.76	2,000.95	2,041.98	1,925.14	116.85	17.476	
16,300.00	10,176.93	16,327.73	10,009.46	58.70	60.29	85.28	5,809.32	1,999.88	2,042.02	1,923.99	118.03	17.301	
16,400.00	10,170.47	16,427.69	10,000.49	59.30	60.89	85.21	5,908.87	1,998.81	2,042.06	1,922.84	119.22	17.128	
16,500.00	10,164.01	16,527.66	9,991.52	59.91	61.49	85.14	6,008.43	1,997.74	2,042.11	1,921.69	120.42	16.958	
16,600.00	10,157.55	16,627.63	9,982.55	60.52	62.10	85.07	6,107.99	1,996.67	2,042.16	1,920.53	121.63	16.790	
16,700.00	10,151.09	16,727.60	9,973.58	61.14	62.71	85.00	6,207.55	1,995.60	2,042.21	1,919.37	122.84	16.625	
16,800.00	10,144.64	16,827.57	9,964.61	61.76	63.33	84.93	6,307.11	1,994.53	2,042.26	1,918.20	124.06	16.462	
16,900.00	10,138.18	16,927.53	9,955.63	62.38	63.95	84.86	6,406.67	1,993.46	2,042.32	1,917.03	125.29	16.301	
17,000.00	10,131.72	17,027.50	9,946.66	63.00	64.57	84.79	6,506.23	1,992.39	2,042.38	1,915.86	126.52	16.143	
17,100.00	10,125.26	17,127.47	9,937.69	63.63	65.20	84.72	6,605.79	1,991.33	2,042.44	1,914.68	127.76	15.986	
17,200.00	10,118.80	17,227.44	9,928.72	64.26	65.82	84.65	6,705.35	1,990.26	2,042.51	1,913.50	129.01	15.832	
17,300.00	10,112.34	17,327.41	9,919.75	64.90	66.46	84.58	6,804.91	1,989.19	2,042.58	1,912.32	130.26	15.681	
17,400.00	10,105.89	17,427.37	9,910.78	65.53	67.09	84.50	6,904.47	1,988.12	2,042.65	1,911.13	131.52	15.531	
17,500.00	10,099.43	17,527.34	9,901.81	66.17	67.73	84.43	7,004.02	1,987.05	2,042.73	1,909.95	132.78	15.384	
17,600.00	10,092.97	17,627.31	9,892.84	66.82	68.37	84.36	7,103.58	1,985.98	2,042.81	1,908.76	134.05	15.239	
17,700.00	10,086.51	17,727.28	9,883.87	67.46	69.01	84.29	7,203.14	1,984.91	2,042.89	1,907.56	135.33	15.096	
17,800.00	10,080.05	17,827.25	9,874.90	68.11	69.66	84.22	7,302.70	1,983.84	2,042.98	1,906.37	136.61	14.955	
17,900.00	10,073.59	17,927.22	9,865.93	68.76	70.30	84.15	7,402.26	1,982.77	2,043.07	1,905.17	137.89	14.816	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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		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
18,000.00	10,067.14	18,027.18	9,856.96	69.41	70.95	84.08		7,501.82	1,981.70	2,043.16	1,903.97	139.18	14.680	
18,100.00	10,060.68	18,127.15	9,847.99	70.07	71.61	84.01		7,601.38	1,980.63	2,043.25	1,902.77	140.48	14.545	
18,200.00	10,054.22	18,227.12	9,839.02	70.73	72.26	83.94		7,700.94	1,979.56	2,043.35	1,901.57	141.78	14.412	
18,300.00	10,047.76	18,327.09	9,830.05	71.39	72.92	83.87		7,800.50	1,978.49	2,043.45	1,900.37	143.08	14.282	
18,400.00	10,041.30	18,427.06	9,821.08	72.05	73.58	83.80		7,900.06	1,977.42	2,043.56	1,899.16	144.39	14.153	
18,500.00	10,034.85	18,527.02	9,812.11	72.71	74.24	83.73		7,999.61	1,976.35	2,043.66	1,897.96	145.70	14.026	
18,600.00	10,028.39	18,626.99	9,803.14	73.38	74.90	83.66		8,099.17	1,975.28	2,043.77	1,896.75	147.02	13.901	
18,700.00	10,021.93	18,726.96	9,794.17	74.05	75.57	83.58		8,198.73	1,974.21	2,043.89	1,895.54	148.34	13.778	
18,800.00	10,015.47	18,826.93	9,785.20	74.72	76.24	83.51		8,298.29	1,973.14	2,044.00	1,894.33	149.67	13.657	
18,900.00	10,009.01	18,926.90	9,776.23	75.39	76.90	83.44		8,397.85	1,972.07	2,044.12	1,893.12	151.00	13.537	
19,000.00	10,002.55	19,026.86	9,767.26	76.06	77.58	83.37		8,497.41	1,971.01	2,044.25	1,891.91	152.33	13.420	
19,100.00	9,996.10	19,126.83	9,758.29	76.74	78.25	83.30		8,596.97	1,969.94	2,044.37	1,890.70	153.67	13.304	
19,200.00	9,989.64	19,226.80	9,749.32	77.42	78.92	83.23		8,696.53	1,968.87	2,044.50	1,889.49	155.01	13.190	
19,300.00	9,983.18	19,326.77	9,740.35	78.10	79.60	83.16		8,796.09	1,967.80	2,044.63	1,888.28	156.35	13.077	
19,400.00	9,976.72	19,426.74	9,731.38	78.78	80.28	83.09		8,895.65	1,966.73	2,044.77	1,887.07	157.70	12.966	
19,500.00	9,970.26	19,526.70	9,722.41	79.46	80.96	83.02		8,995.21	1,965.66	2,044.91	1,885.86	159.05	12.857	
19,600.00	9,962.33	19,626.69	9,713.44	80.15	81.64	82.99		9,094.79	1,964.59	2,044.87	1,884.45	160.42	12.747	
19,700.00	9,953.48	19,726.69	9,704.46	80.84	82.32	82.98		9,194.38	1,963.52	2,044.72	1,882.93	161.79	12.638	
19,800.00	9,944.64	19,826.69	9,695.49	81.53	83.01	82.98		9,293.97	1,962.45	2,044.57	1,881.40	163.17	12.531	
19,900.00	9,935.79	19,926.69	9,686.52	82.22	83.69	82.98		9,393.56	1,961.38	2,044.42	1,879.87	164.55	12.425	
20,000.00	9,926.94	20,026.69	9,677.54	82.91	84.38	82.97		9,493.15	1,960.31	2,044.27	1,878.34	165.93	12.320	
20,100.00	9,918.09	20,126.69	9,668.57	83.61	85.07	82.97		9,592.74	1,959.24	2,044.11	1,876.80	167.31	12.217	
20,200.00	9,909.25	20,226.69	9,659.60	84.30	85.76	82.96		9,692.33	1,958.17	2,043.96	1,875.26	168.70	12.116	
20,300.00	9,900.40	20,326.69	9,650.63	85.00	86.45	82.96		9,791.92	1,957.10	2,043.81	1,873.72	170.09	12.016	
20,400.00	9,891.55	20,426.69	9,641.65	85.70	87.15	82.96		9,891.51	1,956.03	2,043.66	1,872.18	171.48	11.917	
20,500.00	9,882.70	20,526.69	9,632.68	86.40	87.84	82.95		9,991.10	1,954.96	2,043.51	1,870.63	172.88	11.820	
20,600.00	9,872.38	20,626.68	9,623.71	87.10	88.54	83.00		10,090.68	1,953.89	2,043.18	1,868.89	174.29	11.723	
20,700.00	9,859.56	20,726.60	9,614.74	87.81	89.23	83.11		10,190.20	1,952.82	2,042.54	1,866.83	175.71	11.624	
20,800.00	9,846.63	20,826.52	9,605.78	88.52	89.93	83.22		10,289.71	1,951.75	2,041.90	1,864.76	177.14	11.527	
20,900.00	9,833.69	20,926.44	9,596.81	89.22	90.63	83.33		10,389.22	1,950.68	2,041.27	1,862.70	178.57	11.431	
21,000.00	9,820.76	21,026.36	9,587.84	89.93	91.33	83.44		10,488.73	1,949.61	2,040.64	1,860.64	180.00	11.337	
21,100.00	9,807.82	21,126.29	9,578.88	90.64	92.03	83.55		10,588.24	1,948.55	2,040.03	1,858.59	181.44	11.244	
21,200.00	9,794.89	21,226.21	9,569.91	91.36	92.73	83.66		10,687.75	1,947.48	2,039.41	1,856.54	182.87	11.152	
21,300.00	9,781.96	21,326.13	9,560.95	92.07	93.43	83.77		10,787.26	1,946.41	2,038.81	1,854.50	184.31	11.062	
21,400.00	9,769.02	21,426.05	9,551.98	92.78	94.14	83.88		10,886.78	1,945.34	2,038.22	1,852.47	185.75	10.973	
21,500.00	9,756.09	21,525.97	9,543.01	93.50	94.84	83.99		10,986.29	1,944.27	2,037.63	1,850.44	187.19	10.885	
21,600.00	9,741.94	21,625.83	9,534.05	94.21	95.55	84.15		11,085.74	1,943.20	2,036.92	1,848.28	188.64	10.798	
21,700.00	9,726.22	21,725.60	9,525.10	94.93	96.26	84.34		11,185.10	1,942.13	2,036.07	1,845.97	190.10	10.711	
21,800.00	9,710.50	21,825.36	9,516.15	95.65	96.96	84.53		11,284.46	1,941.07	2,035.24	1,843.68	191.56	10.625	
21,900.00	9,694.79	21,925.13	9,507.20	96.37	97.67	84.72		11,383.82	1,940.00	2,034.43	1,841.41	193.02	10.540	
22,000.00	9,679.07	22,024.90	9,498.24	97.09	98.38	84.90		11,483.18	1,938.93	2,033.65	1,839.16	194.49	10.456	
22,100.00	9,663.35	22,124.67	9,489.29	97.81	99.09	85.09		11,582.54	1,937.86	2,032.89	1,836.94	195.95	10.374	
22,200.00	9,647.64	22,224.44	9,480.34	98.53	99.80	85.28		11,681.90	1,936.80	2,032.15	1,834.73	197.42	10.294	
22,300.00	9,631.92	22,324.21	9,471.39	99.25	100.51	85.47		11,781.26	1,935.73	2,031.43	1,832.54	198.89	10.214	
22,400.00	9,616.20	22,423.98	9,462.43	99.97	101.22	85.67		11,880.63	1,934.66	2,030.74	1,830.38	200.36	10.136	
22,500.00	9,600.49	22,523.75	9,453.48	100.70	101.94	85.86		11,979.99	1,933.60	2,030.07	1,828.24	201.83	10.058	
22,600.00	9,583.89	22,623.45	9,444.54	101.42	102.65	86.08		12,079.28	1,932.53	2,029.36	1,826.05	203.31	9.982	
22,700.00	9,566.62	22,722.91	9,435.61	102.14	103.36	86.38		12,178.33	1,931.46	2,028.50	1,823.71	204.79	9.905	
22,800.00	9,549.07	22,822.34	9,426.69	102.87	104.08	86.68		12,277.35	1,930.40	2,027.69	1,821.40	206.29	9.829	
22,900.00	9,525.53	22,921.76	9,417.77	103.60	104.79	86.98		12,376.38	1,929.34	2,026.92	1,819.14	207.78	9.755	
23,000.00	9,505.99	23,021.19	9,408.85	104.32	105.50	87.28		12,475.40	1,928.27	2,026.22	1,816.95	209.27	9.682	
23,100.00	9,486.44	23,120.62	9,399.92	105.05	106.22	87.57		12,574.42	1,927.21	2,025.57	1,814.80	210.77	9.610	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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)			
23,200.00	9,466.90	23,220.05	9,391.00	105.78	106.94	87.87	12,673.44	1,926.15	2,024.97	1,812.71	212.26	9.540	
23,300.00	9,447.35	23,319.48	9,382.08	106.51	107.65	88.17	12,772.47	1,925.08	2,024.43	1,810.68	213.76	9.471	
23,400.00	9,427.81	23,418.91	9,373.16	107.24	108.37	88.47	12,871.49	1,924.02	2,023.95	1,808.70	215.25	9.403	
23,500.00	9,408.27	23,518.34	9,364.24	107.97	109.09	88.77	12,970.51	1,922.95	2,023.53	1,806.78	216.75	9.336	
23,600.00	9,388.72	23,617.77	9,355.31	108.70	109.81	89.07	13,069.53	1,921.89	2,023.16	1,804.91	218.25	9.270	
23,700.00	9,369.18	23,717.20	9,346.39	109.43	110.53	89.37	13,168.56	1,920.83	2,022.84	1,803.09	219.75	9.205	
23,800.00	9,349.63	23,816.63	9,337.47	110.16	111.25	89.67	13,267.58	1,919.76	2,022.59	1,801.34	221.25	9.142	
23,900.00	9,330.09	23,916.06	9,328.55	110.89	111.97	89.98	13,366.60	1,918.70	2,022.38	1,799.64	222.75	9.079	
24,000.00	9,310.55	24,015.49	9,319.63	111.63	112.69	90.28	13,465.63	1,917.64	2,022.24	1,797.99	224.25	9.018	
24,100.00	9,291.00	24,114.92	9,310.70	112.36	113.41	90.58	13,564.65	1,916.57	2,022.15	1,796.40	225.75	8.957	
24,200.00	9,271.46	24,214.35	9,301.78	113.09	114.13	90.88	13,663.67	1,915.51	2,022.12	1,794.87	227.25	8.898	
24,207.62	9,269.97	24,221.92	9,301.10	113.15	114.19	90.90	13,671.21	1,915.43	2,022.12	1,794.75	227.37	8.894	CC
24,300.00	9,251.91	24,313.78	9,292.86	113.82	114.85	91.18	13,762.69	1,914.45	2,022.14	1,793.39	228.76	8.840	
24,400.00	9,232.37	24,413.21	9,283.94	114.56	115.58	91.48	13,861.72	1,913.38	2,022.22	1,791.96	230.26	8.782	
24,500.00	9,212.83	24,512.64	9,275.02	115.29	116.30	91.78	13,960.74	1,912.32	2,022.36	1,790.60	231.76	8.726	
24,600.00	9,193.28	24,612.07	9,266.10	116.03	117.03	92.08	14,059.76	1,911.25	2,022.55	1,789.28	233.27	8.671	
24,700.00	9,173.74	24,711.50	9,257.17	116.76	117.75	92.38	14,158.78	1,910.19	2,022.80	1,788.03	234.77	8.616	
24,800.00	9,154.19	24,810.93	9,248.25	117.50	118.48	92.68	14,257.81	1,909.13	2,023.11	1,786.83	236.28	8.562	
24,900.00	9,134.65	24,910.36	9,239.33	118.23	119.20	92.98	14,356.83	1,908.06	2,023.47	1,785.68	237.78	8.510	
25,000.00	9,115.11	25,009.78	9,230.41	118.97	119.93	93.28	14,455.85	1,907.00	2,023.88	1,784.59	239.29	8.458	
25,100.00	9,095.47	25,109.20	9,221.49	119.70	120.66	93.58	14,554.87	1,905.94	2,024.36	1,783.57	240.80	8.407	
25,200.00	9,073.45	25,208.33	9,212.59	120.44	121.38	93.93	14,653.58	1,904.88	2,025.07	1,782.75	242.31	8.357	
25,300.00	9,048.14	25,306.95	9,203.74	121.18	122.10	94.38	14,751.80	1,903.82	2,026.11	1,782.28	243.83	8.309	
25,400.00	9,021.89	25,405.41	9,194.91	121.91	122.83	94.87	14,849.86	1,902.77	2,027.37	1,782.01	245.36	8.263	
25,500.00	8,995.64	25,503.87	9,186.07	122.65	123.55	95.35	14,947.91	1,901.71	2,028.78	1,781.90	246.88	8.218	ES
25,600.00	8,969.39	25,602.32	9,177.24	123.38	124.27	95.83	15,045.97	1,900.66	2,030.34	1,781.94	248.41	8.173	
25,700.00	8,943.14	25,700.78	9,168.40	124.12	124.99	96.32	15,144.02	1,899.61	2,032.05	1,782.12	249.93	8.130	
25,800.00	8,916.89	25,799.24	9,159.57	124.86	125.71	96.80	15,242.08	1,898.55	2,033.91	1,782.46	251.45	8.089	
25,900.00	8,890.64	25,897.70	9,150.73	125.59	126.44	97.28	15,340.14	1,897.50	2,035.92	1,782.94	252.97	8.048	
26,000.00	8,864.39	25,996.16	9,141.90	126.33	127.16	97.76	15,438.19	1,896.45	2,038.07	1,783.57	254.50	8.008	
26,100.00	8,838.14	26,094.62	9,133.06	127.07	127.89	98.24	15,536.25	1,895.39	2,040.37	1,784.36	256.02	7.970	
26,200.00	8,810.58	26,192.83	9,124.25	127.80	128.61	98.71	15,634.06	1,894.34	2,043.03	1,785.49	257.54	7.933	
26,300.00	8,780.85	26,290.59	9,115.48	128.54	129.33	99.27	15,731.42	1,893.30	2,046.22	1,787.16	259.06	7.899	
26,400.00	8,751.06	26,388.34	9,106.71	129.27	130.05	99.84	15,828.76	1,892.25	2,049.63	1,789.05	260.58	7.866	
26,500.00	8,721.27	26,486.09	9,097.94	130.01	130.77	100.41	15,926.11	1,891.21	2,053.26	1,791.15	262.11	7.834	
26,600.00	8,691.49	26,583.83	9,089.17	130.74	131.49	100.97	16,023.46	1,890.16	2,057.09	1,793.47	263.62	7.803	
26,700.00	8,661.70	26,681.58	9,080.40	131.48	132.21	101.54	16,120.81	1,889.11	2,061.13	1,795.99	265.14	7.774	
26,800.00	8,631.91	26,779.33	9,071.63	132.21	132.93	102.10	16,218.16	1,888.07	2,065.38	1,798.72	266.66	7.745	
26,900.00	8,602.12	26,877.08	9,062.85	132.95	133.66	102.66	16,315.51	1,887.02	2,069.84	1,801.67	268.18	7.718	
27,000.00	8,572.34	26,974.83	9,054.08	133.68	134.38	103.22	16,412.85	1,885.98	2,074.50	1,804.81	269.69	7.692	
27,100.00	8,542.55	27,072.57	9,045.31	134.42	135.10	103.77	16,510.20	1,884.93	2,079.37	1,808.17	271.20	7.667	
27,200.00	8,512.48	27,170.26	9,036.55	135.15	135.82	104.29	16,607.49	1,883.89	2,084.51	1,811.80	272.71	7.644	
27,300.00	8,479.97	27,267.36	9,027.83	135.89	136.54	104.84	16,704.19	1,882.85	2,090.52	1,816.30	274.22	7.623	
27,400.00	8,446.90	27,364.32	9,019.13	136.62	137.26	105.47	16,800.75	1,881.81	2,096.93	1,821.21	275.73	7.605	
27,500.00	8,413.83	27,461.28	9,010.43	137.35	137.98	106.10	16,897.32	1,880.77	2,103.62	1,826.39	277.23	7.588	
27,600.00	8,380.76	27,558.24	9,001.73	138.09	138.70	106.72	16,993.88	1,879.74	2,110.56	1,831.83	278.73	7.572	
27,700.00	8,347.68	27,655.20	8,993.03	138.82	139.42	107.34	17,090.44	1,878.70	2,117.77	1,837.54	280.23	7.557	
27,800.00	8,314.61	27,752.16	8,984.33	139.55	140.13	107.95	17,187.01	1,877.66	2,125.23	1,843.51	281.73	7.544	
27,900.00	8,281.54	27,849.12	8,975.63	140.29	140.85	108.56	17,283.57	1,876.62	2,132.95	1,849.73	283.22	7.531	
28,000.00	8,248.48	27,946.17	8,966.92	141.02	141.57	109.23	17,380.23	1,875.59	2,140.79	1,856.08	284.71	7.519	
28,100.00	8,218.98	28,043.90	8,958.15	141.76	142.30	109.88	17,477.55	1,874.54	2,147.87	1,861.66	286.21	7.504	
28,200.00	8,191.54	28,142.13	8,949.34	142.50	143.03	110.38	17,575.39	1,873.49	2,154.25	1,866.54	287.71	7.488	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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												Offset Site Error:	0.00 usft
Reference												Offset Well Error:	0.00 usft
Measured	Vertical	Measured	Vertical	Semi Major Axis		Highside	Offset Wellbore Centre		Distance		Minimum	Separation	Warning
Depth	Depth	Depth	Depth	Reference	Offset		+N/-S	+E/-W	Between	Between	Separation		
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	Toolface	(usft)	(usft)	Centres	Ellipses	(usft)	Factor	
						(°)			(usft)	(usft)			
28,300.00	8,164.21	28,240.39	8,940.52	143.24	143.76	110.83	17,673.24	1,872.44	2,160.73	1,871.53	289.21	7.471	
28,400.00	8,136.88	28,338.65	8,931.71	143.98	144.49	111.29	17,771.10	1,871.39	2,167.36	1,876.65	290.70	7.456	
28,500.00	8,109.55	28,436.90	8,922.89	144.72	145.22	111.74	17,868.95	1,870.34	2,174.12	1,881.92	292.20	7.441	
28,600.00	8,082.22	28,535.16	8,914.07	145.46	145.95	112.19	17,966.81	1,869.28	2,181.02	1,887.33	293.70	7.426	
28,700.00	8,054.88	28,633.42	8,905.26	146.20	146.68	112.63	18,064.66	1,868.23	2,188.06	1,892.87	295.19	7.412	SF
28,800.00	8,027.55	28,660.79	8,902.80	146.94	146.89	112.76	18,091.92	1,867.94	2,196.38	1,900.59	295.79	7.426	
28,827.63	8,020.00	28,660.79	8,902.80	147.14	146.89	112.76	18,091.92	1,867.94	2,199.43	1,903.64	295.78	7.436	

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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 3952.1' + KB 23' @ 3975.10usft

Coordinates are relative to: Rope State Com 601H

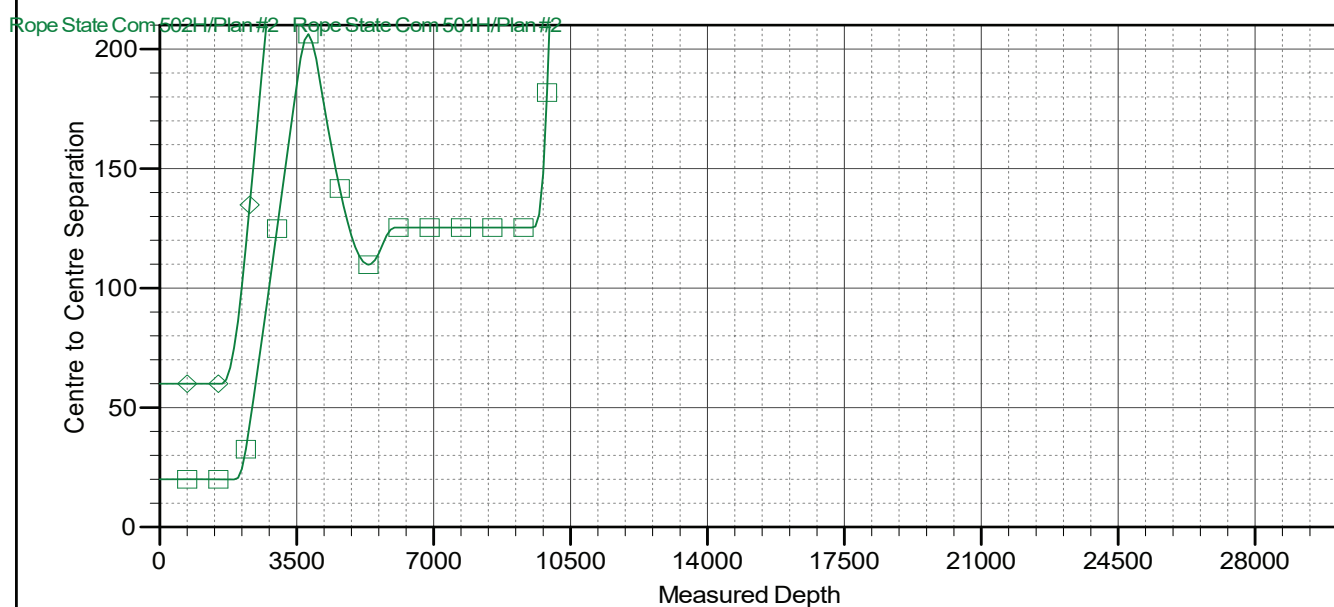
Offset Depths are relative to Offset Datum

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 002 P & A, Vertical, Surveys V0	Rope State Com 501H, OH, Plan #2 V0	(O) STATE AN 006 TA, Vertical, Surveys V0
RN STATE COM 111H, Horizontal - PRODUCING, Surveys V0	(O) AIRSTRIP 31 1835 RN STATE COM 131H, Horizontal - PRODUCING, Surveys V0	(O) B LEE STATE 006, Verticals, Surveys V0
Verticals, Surveys V0	(O) IRONHOUSE 19 STATE COM 001H, Horizontal - PRODUCING, Surveys V0	(O) BLACK JACK STATE 002, Verticals, Surveys V0
80 P & A, Vertical, Surveys V0	(O) IRONHOUSE 19 STATE COM 001H, Pilot, Pilot V0	(O) B LEE STATE 004, Verticals, Surveys V0
Verticals, Surveys V0	(O) OHIO STATE 005, Verticals, Surveys V0	(O) OHIO STATE 002, Verticals, Surveys V0
OH, Plan #2 V0	(O) AIRSTRIP 31 1835 RN STATE COM 132H, Horizontal - PRODUCING, Surveys V0	(O) IRONHOUSE 19 STATE COM 004H, Horizontal - P
P & A, Vertical, Surveys V0	(O) SHETLAND SWD 001, Vertical, Surveys V0	(O) AIRSTRIP 31 1835 RN STATE COM 201H, Horizontal - P
OH, Plan #2 V0	(O) LEO STATE 006 TA, Verticals, Surveys V0	(O) B LEE STATE 005 P & A, Vertical, Surveys V0
STATE 001 P & A, Vertical, Surveys V0	(O) LEAZD STATE 001 P & A, Vertical, Surveys V0	
001 P & A, Vertical, Surveys V0	(O) IRONHOUSE 19 STATE COM 004H, ST01, ST01 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 601H
Project:	Lea County, NM (NAD 83)	TVD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Reference Site:	Rope State Com Pad	MD Reference:	GE 3952.1' + KB 23' @ 3975.10usft
Site Error:	0.00 usft	North Reference:	Grid
Reference Well:	Rope State Com 601H	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 3952.1' + KB 23' @ 3975.10usft

Offset Depths are relative to Offset Datum

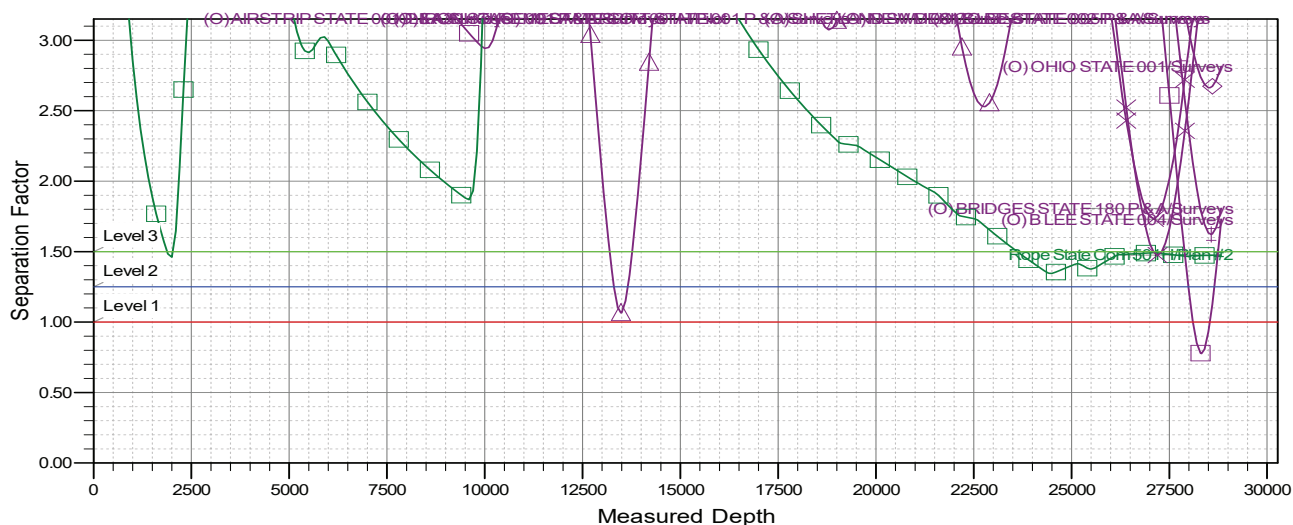
Central Meridian is -104.333333

Coordinates are relative to: Rope State Com 601H

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

Grid Convergence at Surface is: 0.45°

Separation Factor Plot



LEGEND

STATE 002 P & A, Vertical, Surveys V0	(O) ROPE STATE COM 501H, OH, Plan #2 V0	(O) STATE AN 006 TA, Vertical, Surveys V0
RN STATE COM 111H, Horizontal - PRODUCING, Surveys V0	(O) AIRSTRIP 31 18 35 RN STATE COM 131H, Horizontal - PRODUCING, Surveys V0	(O) B LEE STATE 006, Verticals, Surveys V0
Verticals, Surveys V0	(O) IRONHOUSE 19 STATE COM 001H, Horizontal - PRODUCING, Surveys V0	(O) BLACK JACK STATE 002, Verticals, Surveys V0
180 P & A, Vertical, Surveys V0	(O) IRONHOUSE 19 STATE COM 001H, Plot, Plot V0	(O) B LEE STATE 004, Verticals, Surveys V0
Verticals, Surveys V0	(O) OHIO STATE 005, Verticals, Surveys V0	(O) OHIO STATE 002, Verticals, Surveys V0
OH, Plan #2 V0	(O) AIRSTRIP 31 18 35 RN STATE COM 132H, Horizontal - PRODUCING, Surveys V0	(O) IRONHOUSE 19 STATE COM 004H, Horizontal - PRODUCING, Surveys V0
P & A, Vertical, Surveys V0	(O) SHETLAND SWD 001, Vertical, Surveys V0	(O) AIRSTRIP 31 18 35 RN STATE COM 201H, Horizontal - PRODUCING, Surveys V0
OH, Plan #2 V0	(O) LEO STATE 006 TA, Verticals, Surveys V0	(O) B LEE STATE 005 P & A, Vertical, Surveys V0
TATE 001 P & A, Vertical, Surveys V0	(O) LEAZD STATE 001 P & A, Vertical, Surveys V0	
001 P & A, Vertical, Surveys V0	(O) IRONHOUSE 19 STATE COM 004H, ST01, ST01 V0	

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

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Action 572955

CONDITIONS

Operator: Coterra Energy Operating Co. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 572955
	Action Type: [C-103A] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
matthew.gomez	No additives containing PFAS chemicals will be added to the drilling fluids or completion fluids used during drilling, completions, or recompletions operations.	4/20/2026
matthew.gomez	Cement is required to circulate on both surface and intermediate1 strings of casing.	4/20/2026
matthew.gomez	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.	4/20/2026
matthew.gomez	All conducted logs must be submitted to the OCD.	4/20/2026
matthew.gomez	Cement must be in place for at least eight hours AND achieve a minimum compressive strength of 500 PSI before performing any further operations on the well.	4/20/2026
matthew.gomez	If production is desired to occur outside of the Bone Spring formation, a second pool must be added and a DHC must be approved prior to producing the well.	4/20/2026
matthew.gomez	All previous COA's still apply.	4/20/2026