

Well Name: RED HILLS 32-5 FEDERAL COM	Well Location: T25S / R33E / SEC 32 / NWE / 32.093408 / -103.59349	County or Parish/State: LEA / NM
Well Number: 173H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM106040	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002550782	Operator: CIMAREX ENERGY COMPANY OF COLORADO	

Notice of Intent

Sundry ID: 2830699

Type of Submission: Notice of Intent	Type of Action: APD Change
Date Sundry Submitted: 04/01/2025	Time Sundry Submitted: 08:04
Date proposed operation will begin: 05/01/2025	

Procedure Description: Cimarex Energy of Colorado requests the following changes to the Red Hills Federal Com 173H: BHL from 100 FSL/1907 FEL to 100 FSL/1380 FEL TVD from 10300' to 12,865' Formation change from Bone Spring to Wolfcamp Updated Pool Name to WC-025 G-09 S253236A; UPR WOLFCAMP (98158) Please see the attached updated plat and documents for this request.

NOI Attachments

Procedure Description

RH_32_5_173H_Sundry_06032025_20250603072216.pdf

Conditions of Approval

Specialist Review

Red_Hills_32_5_Federal_Com_173H_Sundry_ID_2830699_20250623134256.pdf

Received by OCD: 7/20/2025 9:53:18 AM

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Lease Number: NMNM106040	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002550782	Operator: CIMAREX ENERGY COMPANY OF COLORADO	

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: SHELLY BOWEN	Signed on: JUN 12, 2025 02:18 PM
Name: CIMAREX ENERGY COMPANY OF COLORADO	
Title: Regulatory Analyst	
Street Address: 6001 DEAUVILLE BLVD STE 300N	
City: MIDLAND	State: TX
Phone: (432) 620-1644	
Email address: DL_PBUREGULATORY@COTERRA.COM	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

BLM Point of Contact

BLM POC Name: LONG VO	BLM POC Title: Petroleum Engineer
BLM POC Phone: 5759885402	BLM POC Email Address: LVO@BLM.GOV
Disposition: Approved	Disposition Date: 06/23/2025
Signature: Long Vo	

Form 3160-5 (June 2019)	UNITED STATES DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT	FORM APPROVED OMB No. 1004-0137 Expires: October 31, 2021
SUNDRY NOTICES AND REPORTS ON WELLS <i>Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.</i>		5. Lease Serial No.
		6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2		7. If Unit of CA/Agreement, Name and/or No.
1. Type of Well ☐ Oil Well ☐ Gas Well ☐ Other		8. Well Name and No.
2. Name of Operator		9. API Well No.
3a. Address	3b. Phone No. (include area code)	10. Field and Pool or Exploratory Area
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)		11. Country or Parish, State

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA				
TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)		
	Title	
Signature	Date	

THE SPACE FOR FEDERAL OR STATE OFFICE USE		
Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

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

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

Additional Information

Location of Well

0. SHL: NWNE / 330 FNL / 2345 FEL / TWSP: 25S / RANGE: 33E / SECTION: 32 / LAT: 32.093408 / LONG: -103.59349 (TVD: 0 feet, MD: 0 feet)

PPP: NWNE / 0 FNL / 1907 FWL / TWSP: 26S / RANGE: 33E / SECTION: 5 / LAT: 32.0798 / LONG: -103.591931 (TVD: 10300 feet, MD: 15611 feet)

PPP: NWNE / 330 FNL / 1907 FEL / TWSP: 25S / RANGE: 33E / SECTION: 32 / LAT: 32.092361 / LONG: -103.591933 (TVD: 10300 feet, MD: 10595 feet)

PPP: SWNE / 1320 FNL / 1907 FWL / TWSP: 26S / RANGE: 33E / SECTION: 5 / LAT: 32.076167 / LONG: -103.591931 (TVD: 10300 feet, MD: 16487 feet)

BHL: SWSE / 100 FSL / 1907 FEL / TWSP: 26S / RANGE: 33E / SECTION: 5 / LAT: 32.065567 / LONG: -103.59193 (TVD: 10300 feet, MD: 20344 feet)

CONFIDENTIAL

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 30-025-50782	Pool Code 98158	Pool Name WC-025 G-09 S253236A; UPR WOLFCAMP
Property Code 326032	Property Name RED HILLS 32-5 FED COM	Well Number 173H
OGRID No. 162683	Operator Name CIMAREX ENERGY CO. OF COLORADO	Ground Level Elevation 3409.1'
Surface Owner: ☒ State ☐ Fee ☐ Tribal ☒ Federal Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		

Surface Location

UL B	Section 32	Township 25S	Range 33E	Lot	Ft. from N/S 330 NORTH	Ft. from E/W 2345 EAST	Latitude (NAD 83) 32.093408°	Longitude (NAD 83) -103.593349°	County LEA
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Bottom Hole Location

UL O	Section 5	Township 26S	Range 33E	Lot	Ft. from N/S 100 SOUTH	Ft. from E/W 1380 EAST	Latitude (NAD 83) 32.065565°	Longitude (NAD 83) -103.590229°	County LEA
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Dedicated Acres 320	Infill or Defining Well Infill	Defining Well API 30-025-21030	Overlapping Spacing Unit (Y/N) Y	Consolidation Code C
Order Numbers. NMNM105417597 & NMNM106319490			Well setbacks are under Common Ownership: ☒ Yes ☐ No	

Kick Off Point (KOP)

UL B	Section 32	Township 25S	Range 33E	Lot	Ft. from N/S 100 NORTH	Ft. from E/W 1380 EAST	Latitude (NAD 83) 32.094037°	Longitude (NAD 83) -103.590233°	County LEA
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First Take Point (FTP)

UL B	Section 32	Township 25S	Range 33E	Lot	Ft. from N/S 100 NORTH	Ft. from E/W 1380 EAST	Latitude (NAD 83) 32.094037°	Longitude (NAD 83) -103.590233°	County LEA
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Last Take Point (LTP)

UL O	Section 5	Township 26S	Range 33E	Lot	Ft. from N/S 100 SOUTH	Ft. from E/W 1380 EAST	Latitude (NAD 83) 32.065565°	Longitude (NAD 83) -103.590229°	County LEA
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Unitized Area or Area of Uniform Interest NA	Spacing Unit Type ☒ Horizontal ☐ Vertical	Ground Floor Elevation: 3409.1
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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> Signature Date Shelly Bowen Printed Name shellybowen@coterra.com Email Address 6/1/2025	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 May 01, 2018 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.

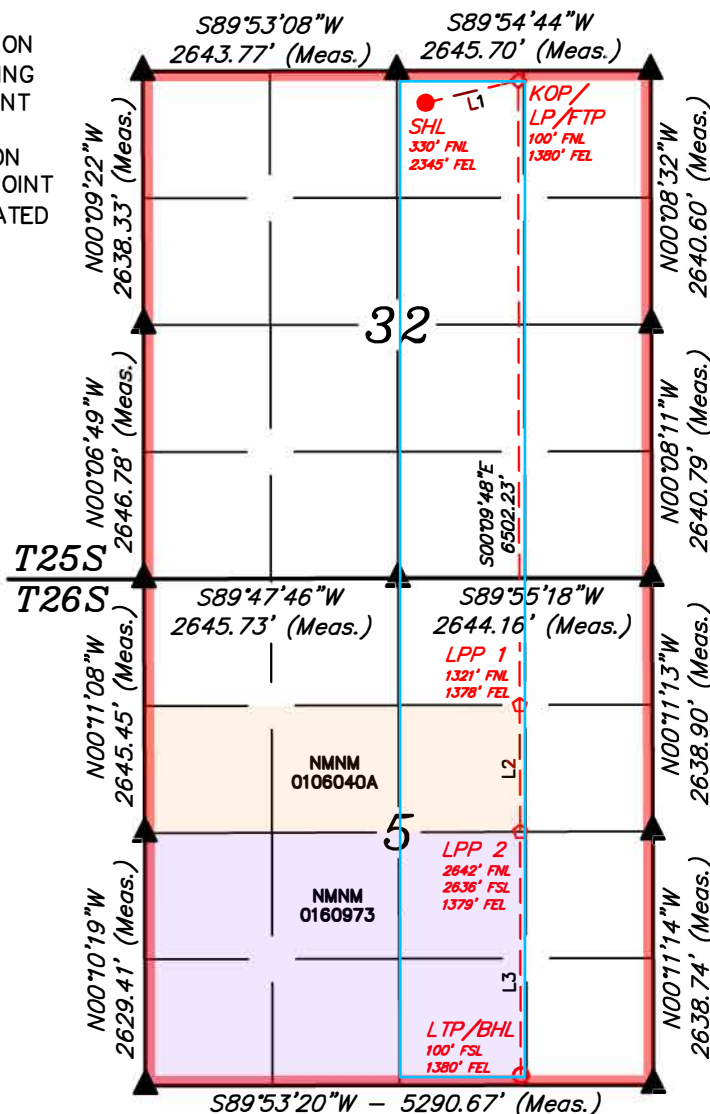
Property Name RED HILLS 32-5 FED COM	Well Number 173H	Drawn By D.J.S. 02-12-20	Revised By REV. 3 T.I.R. 01-21-25 (UPDATE WELLBORE)
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- = SURFACE HOLE LOCATION
- ◆ = KICK OFF POINT/LANDING POINT/FIRST TAKE POINT
- = LAST TAKE POINT/BOTTOM HOLE LOCATION
- ◇ = LEASE PENETRATION POINT
- ▲ = SECTION CORNER LOCATED
- △ = SECTION CORNER RE-ESTABLISHED.
(Not Set on Ground.)
- = DEDICATED ACREAGE

NOTE:

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

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N76°30'10"E	991.76'
L2	S00°09'48"E	1321.06'
L3	S00°09'48"E	2536.30'



NAD 83 (SURFACE HOLE LOCATION)	
LATITUDE = 32°05'36.27" (32.093408°)	
LONGITUDE = -103°35'36.06" (-103.593349°)	
NAD 27 (SURFACE HOLE LOCATION)	
LATITUDE = 32°05'35.82" (32.093283°)	
LONGITUDE = -103°35'34.36" (-103.592878°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 398504.90' E: 770493.77'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 398447.26' E: 729307.32'	

NAD 83 (KOP/LP/FTP)	
LATITUDE = 32°05'38.53" (32.094037°)	
LONGITUDE = -103°35'24.84" (-103.590233°)	
NAD 27 (KOP/LP/FTP)	
LATITUDE = 32°05'38.08" (32.093912°)	
LONGITUDE = -103°35'23.15" (-103.589763°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 398740.35' E: 771457.00'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 398682.72' E: 730270.55'	

NAD 83 (LPP 1)	
LATITUDE = 32°04'34.20" (32.076167°)	
LONGITUDE = -103°35'24.83" (-103.590231°)	
NAD 27 (LPP 1)	
LATITUDE = 32°04'33.75" (32.076042°)	
LONGITUDE = -103°35'23.14" (-103.589761°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 392239.40' E: 771502.64'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 392181.93' E: 730315.89'	

NAD 83 (LPP 2)	
LATITUDE = 32°04'21.13" (32.072536°)	
LONGITUDE = -103°35'24.83" (-103.590230°)	
NAD 27 (LPP 2)	
LATITUDE = 32°04'20.68" (32.072411°)	
LONGITUDE = -103°35'23.14" (-103.589761°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 390918.60' E: 771511.91'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 390861.16' E: 730325.10'	

NAD 83 (LTP/BHL)	
LATITUDE = 32°03'56.04" (32.065565°)	
LONGITUDE = -103°35'24.82" (-103.590229°)	
NAD 27 (LTP/BHL)	
LATITUDE = 32°03'55.59" (32.065441°)	
LONGITUDE = -103°35'23.14" (-103.589760°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 388382.80' E: 771529.71'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 388325.42' E: 730342.78'	



1. Geological Formations

TVD of target 10,300

Pilot Hole TD N/A

MD at TD 20,344

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	959	N/A	
Top of Salt	1374	N/A	
Base of Salt	4892	N/A	
Bell Canyon	4954	N/A	
Cherry Canyon	6026	N/A	
Brushy Canyon	7562	N/A	
Bone Spring	9064	Hydrocarbons	
Upper Avalon Shale	9381	Hydrocarbons	
1st Bone Spring	10061	Hydrocarbons	
2nd Bone Spring	10248	Hydrocarbons	
3rd Bone Spring	11042	Hydrocarbons	
Wolfcamp	12153	Hydrocarbons	
Wolfcamp B - Target	13013	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
14 3/4	0	1066	1066	10-3/4"	40.50	J-55	BT&C	3.42	6.78	14.57
9 7/8	0	12468	12403	7-5/8"	29.70	HCL-80	BT&C	3.01	1.19	1.85
6 3/4	0	11968	11968	5-1/2"	20.00	P-110	BT&C	1.56	1.73	2.77
6 3/4	11968	23166	12865	5"	18.00	P-110	BT&C	1.83	1.85	81.16
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.

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

Cimarex Energy Co., Red Hills 32-5 Federal Com 173H

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

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	414	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	111	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	990	10.30	3.64	22.18	12	Lead: Tuned Light + LCM
	198	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Production	1674	14.80	1.34	6.32	9.5	Tail: Class C + LCM
	1725	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	45
Intermediate	0	49
Production	12268	25

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

4. Pressure Control Equipment

X	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.				
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
9 7/8	13 5/8	10M	Annular	X	100% of working pressure
			Blind Ram		10M
			Pipe Ram		
			Double Ram	X	
			Other		
6 3/4	13 5/8	10M	Annular	X	100% of working pressure
			Blind Ram		10M
			Pipe Ram	X	
			Double Ram	X	
			Other		

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

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1066'	Fresh Water	7.83 - 8.33	28	N/C
1066' to 12468'	Brine Diesel Emulsion	8.50 - 9.00	30-35	N/C
12468' to 23166'	Oil Based Mud	10.50 - 11.00	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.

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

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

Additional Logs Planned	Interval
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7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	7358 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

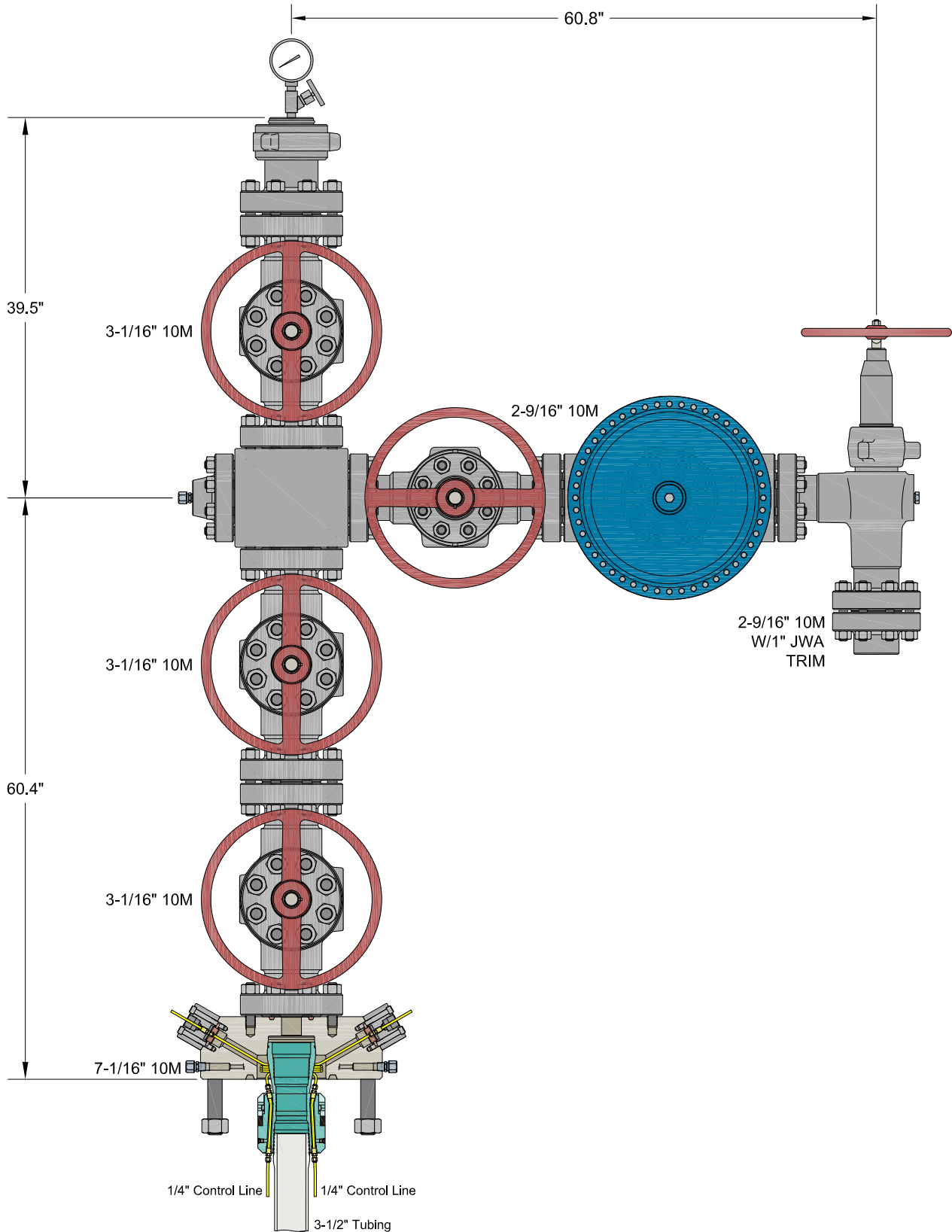
1. In the event wellbore pressure encroaches to the maximum rated pressure of the annular, primary pressure control will be switched to the higher rated components (i.e., switch from annular to pipe rams) – upper pipe rams will be closed, and the annular opened in order to not exceed maximum rated pressures.



ALL DIMENSIONS APPROXIMATE

COTERRA ENERGY INC
HOBBS, NM

DRAWN	VJK	07JUL23
APPRV		
DRAWING NO. HBE0000965		



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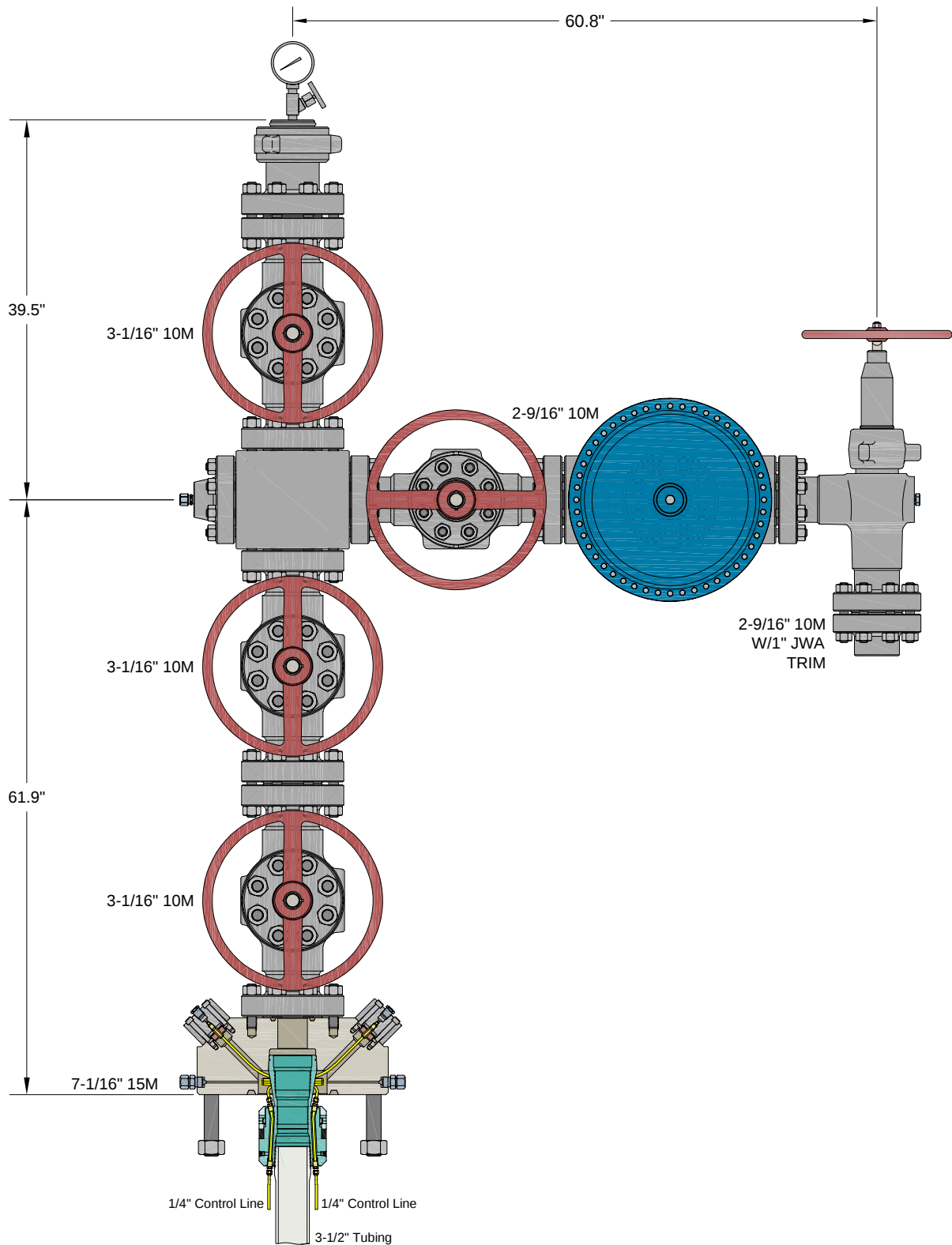
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

CIMAREX
HOBBS, NM

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

DRAWN	VJK	05SEP23
APPRV		
DRAWING NO.	HBE0001018	



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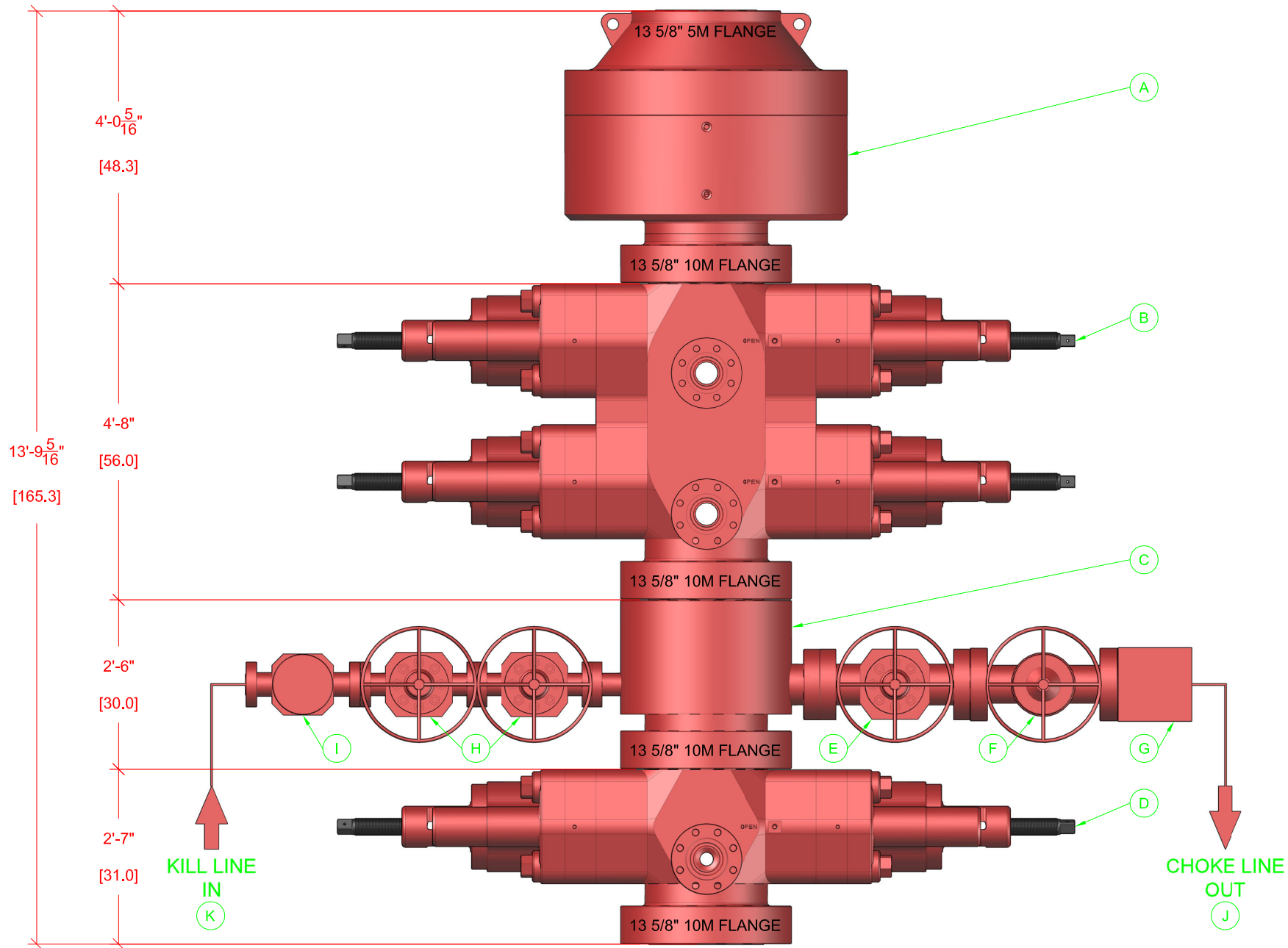
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

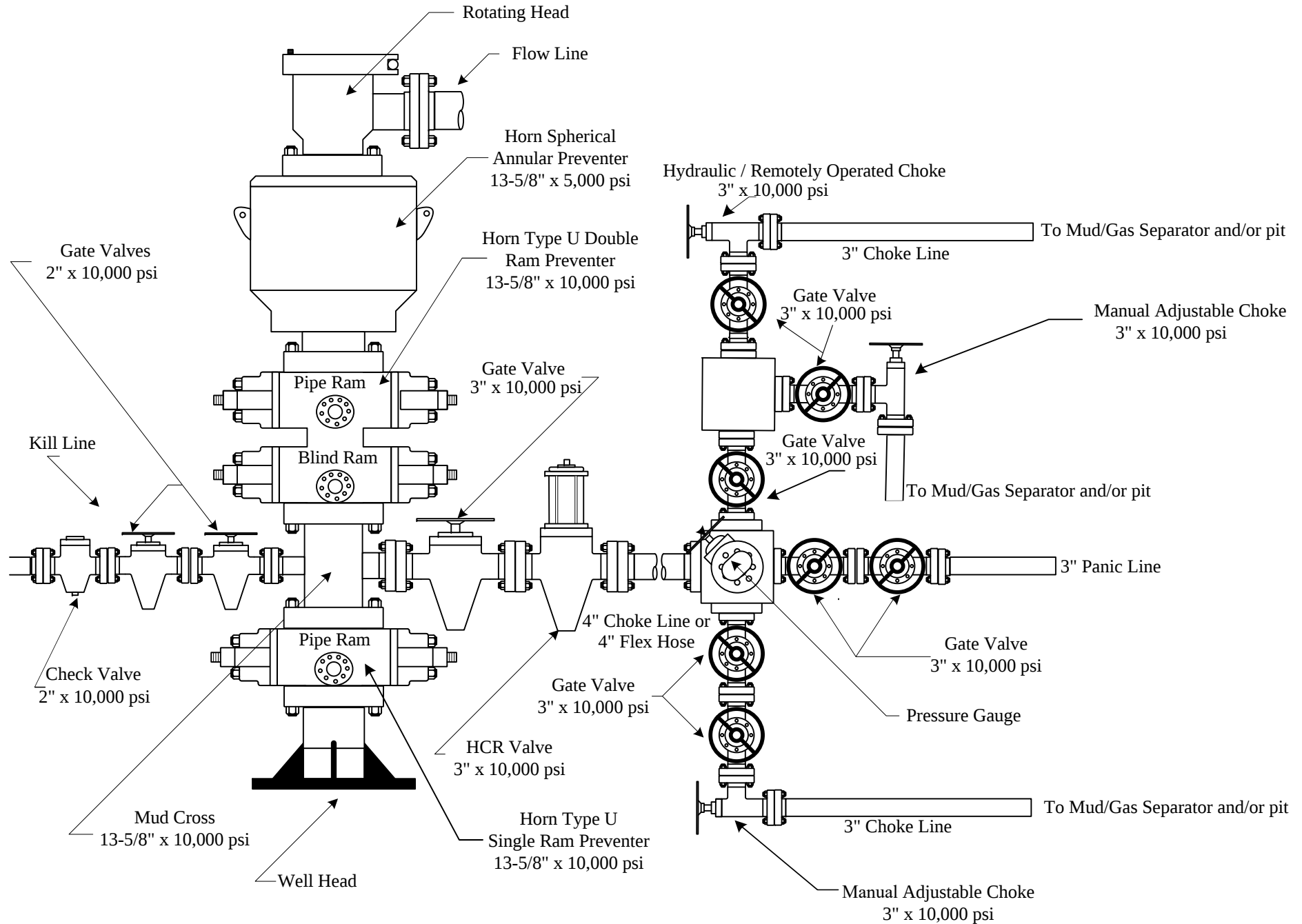
CIMAREX
HOBBS, NM

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

DRAWN	VJK	13DEC23
APPRV		
DRAWING NO.	HBE0001018	



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



Coterra: H2S Plan



H2S Drilling Operations Plan

Training

All company and contract personnel admitted on location must be trained by a qualified H2S safety instructor to do the following:

1. Characteristics of H2S
2. Physical effects and hazards
3. Principle and operation of H2S detectors, warning system, and briefing areas
4. Evacuation procedure, routes and first aid
5. Proper use of safety equipment & life support systems
6. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.

H2S Detection and Alarm Systems

1. H2S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary
2. An audio alarm system will be installed on the derrick floor and in the top doghouse

Windsock and/or wind streamers

1. Windsock at mudpit area should be high enough to be visible
2. Windsock on the rig floor and / or top of doghouse should be high enough to be visible

Condition Flags & Signs

1. Warning signs on access road to location
2. Flags are to be displayed on sign at the entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates

Coterra: H2S Plan

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

Well Control Equipment

1. See the pressure control section of this submission.

Communication

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

Drillstem Testing

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

Coterra: H2S Plan

H2S Contingency Plan

Emergency Procedures

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

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

Ignition of the Gas Source

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

Contacting Authorities

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

Coterra: H2S Plan

Emergency Contacts

Coterra Energy

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

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

Third Party

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



COTERRA

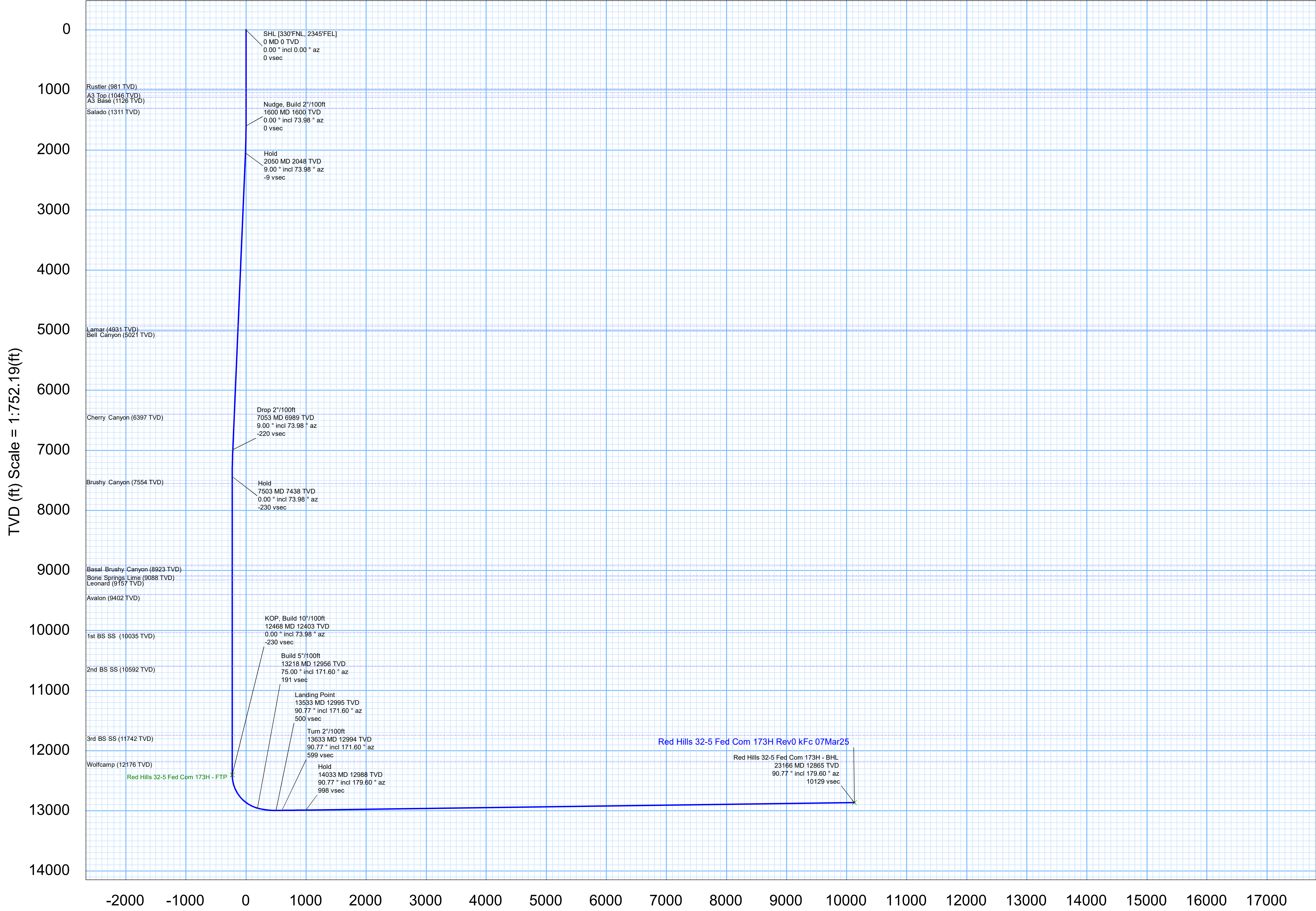
Rev0



Borehole:	Well:	Field:	Structure:
Red Hills 32-5 Fed Com 173H	Red Hills 32-5 Fed Com 173H	NM Lea County (NAD 83)	Coterra Red Hills 32-5 Fed Com Pad B

Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model:	HDGM 2025	Dip:	59.566°	Date:	07-Mar-2025	Lat:	N 32 5 36.27	Northing:	398504.9ftUS	Grid Conv:	0.3932°
MagDec:	6.104°	FS:	47122.228nT	Gravity FS:	998.429mgn (9.80665 Based)	Lon:	W 103 35 36.06	Easting:	770493.77ftUS	Scale Fact:	0.99996924
								Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25			
								TVD Ref: RKB (3432.100 ft above MSL)			

Critical Points		Critical Points		Critical Points		Critical Points		Critical Points	
	MD	INCL	AZIM	TVD	VSEC	N(+)S(-)	E(+)W(-)	DLS	
SHL [330°FNL, 2345°FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rustler	981.00	0.00	73.98	981.00	0.00	0.00	0.00	0.00	
A3 Top	1046.00	0.00	73.98	1046.00	0.00	0.00	0.00	0.00	
A3 Base	1126.00	0.00	73.98	1126.00	0.00	0.00	0.00	0.00	
Salado	1311.00	0.00	73.98	1311.00	0.00	0.00	0.00	0.00	
Nudge, Build 2°/100ft	1600.00	0.00	73.98	1600.00	0.00	0.00	0.00	0.00	
Hold	2049.98	9.00	73.98	2048.13	-9.50	9.73	33.90	2.00	
Lamar	4968.78	9.00	73.98	4931.00	-132.44	135.75	472.75	0.00	
Bel Canyon	5059.90	9.00	73.98	5021.00	-136.28	139.68	486.45	0.00	
Cherry Canyon	6453.05	9.00	73.98	6397.00	-194.96	199.83	695.91	0.00	
Drop 2°/100ft	7052.92	9.00	73.98	6989.49	-220.23	225.72	786.10	0.00	
Hold	7502.91	0.00	73.98	7437.62	-229.73	235.46	820.00	2.00	
Brushy Canyon	7619.29	0.00	73.98	7554.00	-229.73	235.46	820.00	0.00	
Basal Brushy Canyon	8988.29	0.00	73.98	8923.00	-229.73	235.46	820.00	0.00	
Bone Springs Lime	9153.29	0.00	73.98	9088.00	-229.73	235.46	820.00	0.00	
Leonard	9222.29	0.00	73.98	9157.00	-229.73	235.46	820.00	0.00	
Avalon	9467.29	0.00	73.98	9402.00	-229.73	235.46	820.00	0.00	
1st BS SS	10100.29	0.00	73.98	10035.00	-229.73	235.46	820.00	0.00	
2nd BS SS	10657.29	0.00	73.98	10592.00	-229.73	235.46	820.00	0.00	
3rd BS SS	11807.29	0.00	73.98	11742.00	-229.73	235.46	820.00	0.00	
Wolfcamp	12241.29	0.00	73.98	12176.00	-229.73	235.46	820.00	0.00	
KOP, Build 10°/100ft	12467.91	0.00	73.98	12402.62	-229.73	235.46	820.00	0.00	
Pool NMNM0024368A exit to NMNM0005792 enter	13024.20	55.63	171.60	12875.54	17.34	-11.36	856.45	10.00	
Build 5°/100ft	13217.91	75.00	171.60	12956.05	190.81	-184.65	882.04	10.00	
Landing Point	13533.31	90.77	171.60	12995.00	499.75	-493.29	927.61	5.00	
Turn 2°/100ft	13633.31	90.77	171.60	12993.65	598.77	-592.21	942.22	0.00	
Section 33-4 Line Cross, Pool NMNM0005792 exit to NMNM009425 enter	14033.47	90.77	179.60	12988.26	997.61	-990.84	972.88	2.00	
Red Hills 32-5 Fed Com 173H - BHL	15663.20	90.77	179.60	12966.26	2627.18	-2620.38	984.14	0.00	
	23166.12	90.77	179.60	12865.00	10129.42	-10122.43	1035.97	0.00	



Vertical Section (ft) Azim = 179.60° Scale = 1:752.19(ft) Origin = 0N/-S, 0E/-W

Grid North
Tot Corr (M->G 5.711°)
Mag Dec (6.104°)
Grid Conv (0.393°)

CONTROLLED

Plan ref: Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25

Drawing ref: of 3

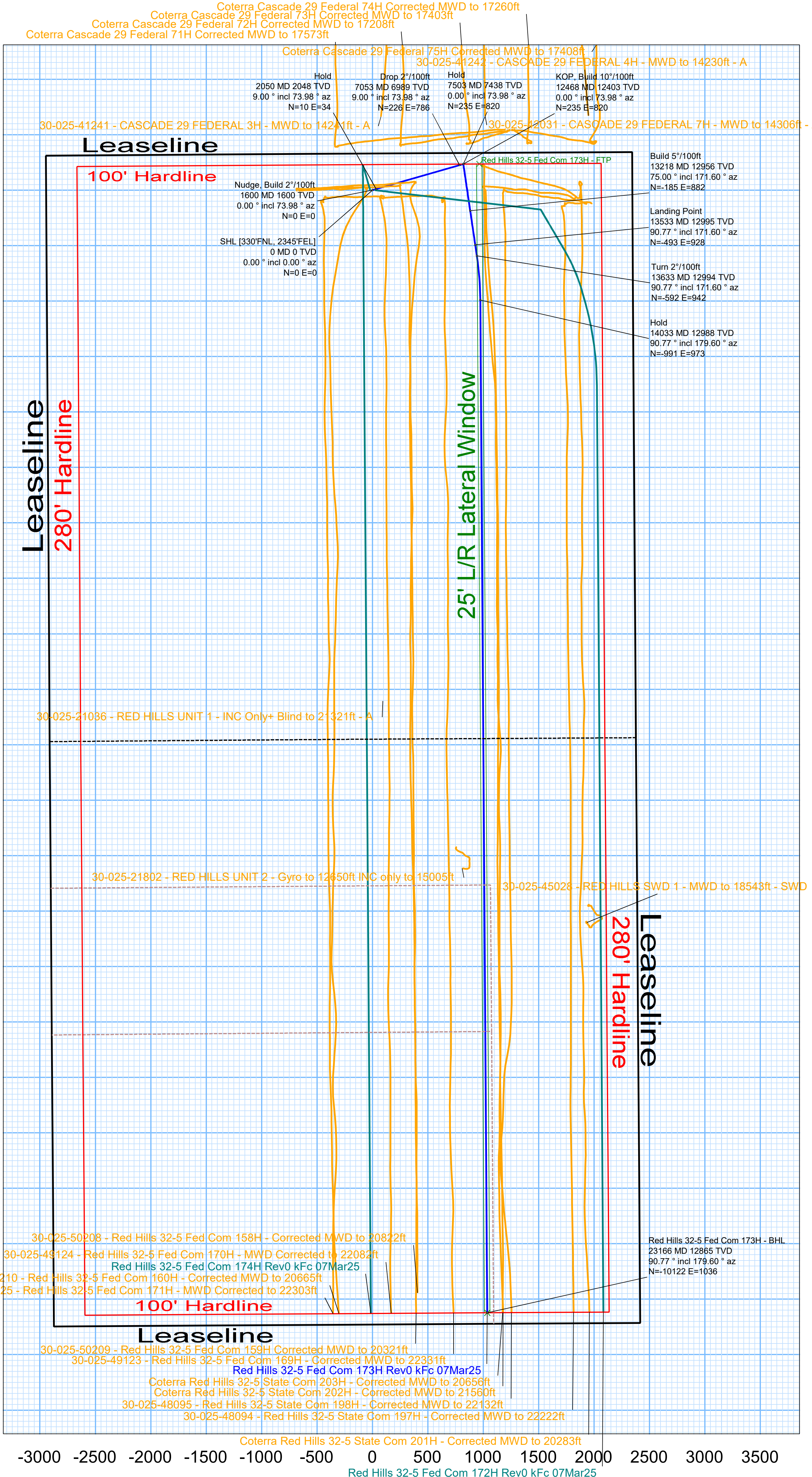
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1	Client	
2	Client	
3	Office	
4	Office	

Copy number for

NS (ft) Scale = 1:530.17(ft)

EW (ft) Scale = 1:530.17(ft)



EW (ft) Scale = 1:530.17(ft)

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
Red Hills 32-5 Fed Com 173H - I	22,100.00	90.77	179.60	12,879.39	9,447.29	9,063.40	-9,056.44	1,028.61	389,448.76	771,522.34	32.06849568	-103.59022918	0.00	0.00	0.00
	22,200.00	90.77	179.60	12,878.04	9,445.94	9,163.39	-9,156.42	1,029.30	389,348.78	771,523.04	32.06822083	-103.59022917	0.00	0.00	0.00
	22,300.00	90.77	179.60	12,876.69	9,444.59	9,263.38	-9,256.41	1,029.99	389,248.79	771,523.73	32.06794599	-103.59022916	0.00	0.00	0.00
	22,400.00	90.77	179.60	12,875.34	9,443.24	9,363.37	-9,356.40	1,030.68	389,148.80	771,524.42	32.06767114	-103.59022916	0.00	0.00	0.00
	22,500.00	90.77	179.60	12,873.99	9,441.89	9,463.36	-9,456.39	1,031.37	389,048.82	771,525.11	32.06739629	-103.59022915	0.00	0.00	0.00
	22,600.00	90.77	179.60	12,872.64	9,440.54	9,563.35	-9,556.38	1,032.06	388,948.83	771,525.80	32.06712145	-103.59022914	0.00	0.00	0.00
	22,700.00	90.77	179.60	12,871.29	9,439.19	9,663.34	-9,656.37	1,032.75	388,848.85	771,526.49	32.06684660	-103.59022913	0.00	0.00	0.00
	22,800.00	90.77	179.60	12,869.94	9,437.84	9,763.33	-9,756.36	1,033.44	388,748.86	771,527.18	32.06657175	-103.59022913	0.00	0.00	0.00
	22,900.00	90.77	179.60	12,868.59	9,436.49	9,863.32	-9,856.34	1,034.14	388,648.88	771,527.87	32.06629691	-103.59022912	0.00	0.00	0.00
	23,000.00	90.77	179.60	12,867.24	9,435.14	9,963.31	-9,956.33	1,034.83	388,548.89	771,528.56	32.06602206	-103.59022911	0.00	0.00	0.00
	23,100.00	90.77	179.60	12,865.89	9,433.79	10,063.31	-10,056.32	1,035.52	388,448.91	771,529.25	32.06574721	-103.59022910	0.00	0.00	0.00
	23,166.12	90.77	179.60	12,865.00	9,432.90	10,129.42	-10,122.43	1,035.97	388,382.80	771,529.71	32.06556549	-103.59022910	0.00	0.00	0.00

Survey Type: Def Plan

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

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	12,400.000	1/100.000' .5 – 12.25 – 8.75 3.375 – 9.625 – 7				A001Mb_MWD		Red Hills 32-5 Fed Com 173H / Red Hills 32-5 Fec
	1	12,400.000	23,166.118	1/100.000	8.75 – 6	7 – 6		A008Mb_MWD+IFR1+MS		Red Hills 32-5 Fed Com 173H / Red Hills 32-5 Fec

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
1,299.600	17.500	13.375	
4,936.989	12.250	9.625	
12,565.355	8.750	7.000	
23,166.118	6.000		



Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25 Proposal Geodetic Report

Def Plan

Report Date:	March 07, 2025 - 07:03 PM (UTC 0)	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	COTERRA	Vertical Section Azimuth:	179.600 °(GRID North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Coterra Red Hills 32-5 Fed Com Pad B / Red Hills 32-5 Fed Com 173H	TVD Reference Datum:	RKB
Well:	Red Hills 32-5 Fed Com 173H	TVD Reference Elevation:	3432.100 ft above MSL
Borehole:	Red Hills 32-5 Fed Com 173H	Seabed / Ground Elevation:	3409.100 ft above MSL
UBHI / API#:	Unknown / Unknown	Magnetic Declination:	6.104°
Survey Name:	Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25	Total Gravity Field Strength:	998.4291mgn (9.80665 Based)
Survey Date:	March 07, 2025	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	116.773 ° / 11221.721 ft / 6.368 / 0.864	Total Magnetic Field Strength:	47122.228 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.566°
Location Lat / Long:	32°5'36.26906"N , 103°35'36.05619"W	Declination Date:	March 07, 2025
Location Grid N/E Y/X:	N 398504.900 ftUS , E 770493.770 ftUS	Magnetic Declination Model:	HDGM 2025
CRS Grid Convergence Angle:	0.393°	North Reference:	Grid North
Grid Scale Factor:	0.99996924(Applied)	Grid Convergence Used:	0.393°
Version / Patch:	2024.5.0.1	Total Corr Mag North->Grid North:	5.711°
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
SHL [330°FNL, 2345°FEL]	0.00	0.00	0.00	0.00	-3,432.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894			
Nudge, Build 2"/100ft	1,600.00	0.00	73.98	1,600.00	-1,832.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
Hold	2,049.98	9.00	73.98	2,048.13	-1,383.97	-9.50	9.73	33.90	398,514.63	770,527.67	32.09343419	-103.59323928	2.00	2.00	0.00
Drop 2"/100ft	7,052.92	9.00	73.98	6,989.49	3,557.39	-220.23	225.72	786.10	398,730.62	771,279.85	32.09401366	-103.59080573	0.00	0.00	0.00
Hold	7,502.91	0.00	73.98	7,437.62	4,005.52	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	2.00	-2.00	0.00
KOP, Build 10"/100ft	12,467.91	0.00	73.98	12,402.62	8,970.52	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
Build 5"/100ft	13,217.91	75.00	171.60	12,956.05	9,523.95	190.81	-184.65	882.04	398,320.25	771,375.78	32.09288386	-103.59050510	10.00	10.00	0.00
Landing Point	13,533.31	90.77	171.60	12,995.00	9,562.90	499.75	-493.29	927.61	398,011.63	771,421.35	32.09203466	-103.59036481	5.00	5.00	0.00
Turn 2"/100ft	13,633.31	90.77	171.60	12,993.65	9,561.55	598.77	-592.21	942.22	397,912.71	771,435.96	32.09176250	-103.59031985	0.00	0.00	0.00
Hold	14,033.47	90.77	179.60	12,988.26	9,556.16	997.61	-990.84	972.88	397,514.09	771,466.62	32.09066622	-103.59022973	2.00	0.00	2.00
Red Hills 32-5 Fed Com 173H - BHL	23,166.12	90.77	179.60	12,865.00	9,432.90	10,129.42	-10,122.43	1,035.97	388,382.80	771,529.71	32.06556549	-103.59022910	0.00	0.00	0.00

Survey Type: Def Plan

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

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	12,400.000	1/100.000' 5 – 12.25 – 8.75 3.375 – 9.625 – 7				A001Mb_MWD		Red Hills 32-5 Fed Com 173H / Red Hills 32-5 Fed Com 173H
	1	12,400.000	23,166.118	1/100.000	8.75 – 6	7 – 6		A008Mb_MWD+IFR1+MS		Red Hills 32-5 Fed Com 173H / Red Hills 32-5 Fed Com 173H

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
1,299.600	17.500	13.375	
4,936.989	12.250	9.625	
12,565.355	8.750	7.000	
23,166.118	6.000		



Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25 Anti-Collision Summary Report

Analysis Date-24hr Time:	March 07, 2025 - 07:00 PM (UTC 0)	Analysis Method:	3D Least Distance
Client:	COTERRA	Reference Trajectory:	Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25 (Def Plan)
Field:	NM Lea County (NAD 83)	Depth Interval:	Every 10.00 Measured Depth (ft)
Structure:	Coterra Red Hills 32-5 Fed Com Pad B	Rule Set:	NAL Procedure: D&M AntiCollision Standard S002
Slot:	Red Hills 32-5 Fed Com 173H	Min Pts:	Absolute minima indicated.
Well:	Red Hills 32-5 Fed Com 173H	Engine Version:	2024.5.0.1
Borehole:	Red Hills 32-5 Fed Com 173H	Database \ Project:	Red Hills 32-5 Fed Com 173H-COTERRA
Scan MD Range:	0.00ft ~ 23166.12ft		

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

Offset Trajectories Summary

Offset Selection Criteria

Bounding box scan: minimum Ct-Ct separation <= 1999ft
Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

24 out of 27 are selected

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

Results highlighted in red: Sep-Factor <= 1.5

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

Red Hills 32-5 Fed Com 174H Rev0 kFc 07Mar25 (DefinitivePlan) - Fail Minor

20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	0.00	0.00	CtCt<=15.00m			Enter Alert
20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	23.00	23.00				WRP
20.00	18.25	7.40	1.75	1.65	OSF1.50	1190.00	1190.00				MinPts
20.00	20.05	6.30	-0.05	1.50	OSF1.50	1330.00	1330.00	OSF<=1.50			Enter Minor
20.00	24.11	3.60	-4.11	1.23	OSF1.50	1600.00	1600.00				MinPt-CtCt
20.15	24.56	3.45	-4.41	1.22	OSF1.50	1630.00	1630.00				MinPt-EOU
20.27	24.71	3.47	-4.44	1.22	OSF1.50	1640.00	1640.00				MinPts
26.79	27.08	8.41	-0.29	1.48	OSF1.50	1800.00	1799.84	OSF>1.50			Exit Minor
120.35	36.98	95.37	83.37	4.97	OSF1.50	2470.00	2462.98	OSF>5.00			Exit Alert
906.59	186.33	782.05	720.27	7.33	OSF1.50	12467.91	12402.62				MinPts
906.59	186.33	782.05	720.27	7.33	OSF1.50	12470.00	12404.71				MinPt-SF
1050.14	315.85	839.25	734.30	5.00	OSF1.50	20710.00	12898.15	OSF<=5.00			Enter Alert
1049.85	382.19	794.73	667.66	4.13	OSF1.50	23166.12	12865.00				MinPts

30-025-21802 - RED HILLS UNIT 2 - Gyro to 12650ft INC only to 15005ft (DefinitiveSurvey) - Fail Minor

5973.12	32.81	5971.14	5940.31	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
5973.03	32.81	5971.04	5940.22	555610.42	MAS = 10.00 (m)	20.00	20.00				MinPt-SF
5973.02	32.81	5971.03	5940.21	592445.60	MAS = 10.00 (m)	23.00	23.00				WRP
5973.01	32.81	5970.97	5940.20	99126.62	MAS = 10.00 (m)	40.00	40.00				MinPts
5973.06	32.81	5965.41	5940.25	1053.88	MAS = 10.00 (m)	650.00	650.00				MinPts
5974.86	32.81	5961.95	5942.05	546.70	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
5976.10	32.81	5961.11	5943.29	451.60	MAS = 10.00 (m)	1440.00	1440.00				MinPt-EOU
6313.78	140.22	6219.76	6173.56	68.31	OSF1.50	9200.00	9134.71				MinPt-ADP
6327.59	146.70	6229.25	6180.88	65.40	OSF1.50	9620.00	9554.71				MinPt-ADP
6346.54	156.82	6241.45	6189.71	61.32	OSF1.50	10340.00	10274.71				MinPts
6348.47	159.14	6241.84	6189.33	60.44	OSF1.50	10450.00	10384.71				MinPt-EOU
6348.84	159.57	6241.92	6189.27	60.28	OSF1.50	10490.00	10424.71				MinPt-ADP
6352.49	163.71	6242.81	6188.78	58.77	OSF1.50	10770.00	10704.71				MinPt-EOU
6352.96	164.26	6242.92	6188.70	58.57	OSF1.50	10820.00	10754.71				MinPt-ADP
6354.76	166.99	6242.90	6187.77	57.62	OSF1.50	11000.00	10934.71				MinPt-EOU
6355.35	167.68	6243.02	6187.66	57.39	OSF1.50	11060.00	10994.71				MinPt-ADP
648.49	198.46	515.68	450.03	4.93	OSF1.50	18540.00	12927.43	OSF<=5.00			Enter Alert
225.71	227.06	73.84	-1.35	1.49	OSF1.50	19050.00	12920.55	OSF<=1.50			Enter Minor
198.52	236.97	40.04	-38.44	1.26	OSF1.50	19157.41	12919.10				MinPt-CtCt
198.54	237.00	40.04	-38.46	1.26	OSF1.50	19160.00	12919.07				MinPts
228.22	228.99	75.06	-0.77	1.49	OSF1.50	19270.00	12917.58	OSF>1.50			Exit Minor
662.95	201.81	527.91	461.14	4.95	OSF1.50	19790.00	12910.56	OSF>5.00			Exit Alert
4013.26	203.58	3877.04	3809.68	29.78	OSF1.50	23166.12	12865.00				TD

Red Hills 32-5 Fed Com 172H Rev0 kFc 07Mar25 (DefinitivePlan) - Warning Alert

20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	0.00	0.00	CtCt<=15.00m			Enter Alert
20.00	16.26	18.71	3.74	13204.33	MAS = 4.96 (m)	23.00	23.00				WRP
20.00	16.26	13.42	3.74	3.53	MAS = 4.96 (m)	590.00	590.00				MinPts
20.16	16.26	13.18	3.90	3.31	MAS = 4.96 (m)	630.00	630.00				MinPt-EOU
21.41	16.26	13.84	5.15	3.20	MAS = 4.96 (m)	690.00	690.00				MinPt-SF
49.10	16.26	38.21	32.84	4.98	MAS = 4.96 (m)	1030.00	1030.00	OSF>5.00			Exit Alert
809.70	190.46	682.40	619.25	6.40	OSF1.50	12460.00	12394.71				MinPt-EOU
809.76	190.55	682.40	619.22	6.40	OSF1.50	12467.91	12402.62				MinPt-ADP
720.19	187.05	595.16	533.14	5.80	OSF1.50	13410.00	12990.02				MinPt-CtCt
720.25	187.20	595.12	533.05	5.79	OSF1.50	13420.00	12990.92				MinPt-EOU
720.38	187.36	595.15	533.02	5.79	OSF1.50	13430.00	12991.73				MinPt-ADP
723.35	188.56	597.32	534.79	5.78	OSF1.50	13500.00	12994.96				MinPt-SF
1047.46	315.15	837.03	732.31	5.00	OSF1.50	20850.00	12896.26	OSF<=5.00			Enter Alert
1047.69	377.36	795.79	670.33	4.17	OSF1.50	23166.12	12865.00				MinPts

30-025-49125 - Red Hills 32-5 Fed Com 171H - MWD Corrected to 22303ft (DefinitiveSurvey) - Warning Alert

84.84	32.81	83.67	52.03	550671.06	MAS = 10.00 (m)	0.00	0.00				Surface
84.80	32.81	83.61	52.00	4694.47	MAS = 10.00 (m)	23.00	23.00				WRP
73.71	32.81	67.28	40.90	13.81	MAS = 10.00 (m)	610.00	610.00				MinPts
74.02	32.81	63.64	41.21	7.91	MAS = 10.00 (m)	1010.00	1010.00				MinPt-EOU
62.43	32.81	49.10	29.62	4.98	MAS = 10.00 (m)	1470.00	1470.00	OSF<=5.00			Enter Alert
57.49	32.81	42.57	24.68	4.05	MAS = 10.00 (m)	1677.31	1677.30				MinPts
57.59	32.81	42.49	24.78	4.01	MAS = 10.00 (m)	1700.00	1699.98				MinPt-EOU
58.34	32.81	42.92	25.54	3.97	MAS = 10.00 (m)	1740.00	1739.94				MinPt-SF
82.02	32.81	64.73	49.21	4.97	MAS = 10.00 (m)	1970.00	1968.97	OSF>5.00			Exit Alert

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
1298.03	122.62		1215.95	1175.41	16.00	OSF1.50	8690.00	8624.71				MinPt-EOU
1305.43	132.72		1216.62	1172.71	14.85	OSF1.50	9390.00	9324.71				MinPt-EOU
1307.71	135.57		1217.00	1172.14	14.56	OSF1.50	9590.00	9524.71				MinPt-ADP
1301.86	154.16		1198.76	1147.70	12.74	OSF1.50	10870.00	10804.71				MinPt-CtCt
1302.33	155.80		1198.13	1146.52	12.61	OSF1.50	10990.00	10924.71				MinPt-EOU
1302.77	156.33		1198.22	1146.44	12.57	OSF1.50	11030.00	10964.71				MinPt-ADP
1309.97	161.38		1202.05	1148.58	12.24	OSF1.50	11370.00	11304.71				MinPt-EOU
1310.28	161.77		1202.11	1148.51	12.21	OSF1.50	11400.00	11334.71				MinPt-ADP
1326.80	172.05		1211.77	1154.75	11.63	OSF1.50	12180.00	12114.71				MinPt-CtCt
1326.81	172.12		1211.74	1154.70	11.62	OSF1.50	12190.00	12124.71				MinPt-EOU
1326.88	172.18		1211.76	1154.69	11.62	OSF1.50	12200.00	12134.71				MinPt-ADP
1328.58	172.59		1213.19	1155.99	11.60	OSF1.50	12270.00	12204.71				MinPt-SF
1462.80	170.13		1349.05	1292.67	12.96	OSF1.50	13610.00	12993.97				MinPt-SF
1467.91	170.73		1353.77	1297.18	12.96	OSF1.50	13690.00	12992.89				MinPt-SF
1473.12	175.40		1355.86	1297.72	12.66	OSF1.50	14410.00	12983.17				MinPt-CtCt
1473.21	175.64		1355.79	1297.57	12.64	OSF1.50	14440.00	12982.77				MinPt-EOU
1472.35	176.93		1354.07	1295.42	12.54	OSF1.50	14590.00	12980.74				MinPt-CtCt
1472.45	177.20		1353.99	1295.25	12.53	OSF1.50	14620.00	12980.34				MinPt-EOU
1473.23	178.35		1354.00	1294.88	12.45	OSF1.50	14740.00	12978.72				MinPt-EOU
1473.40	178.55		1354.04	1294.85	12.44	OSF1.50	14760.00	12978.45				MinPt-ADP
1462.66	193.81		1333.13	1268.85	11.37	OSF1.50	15960.00	12962.25				MinPt-CtCt
1463.01	194.85		1332.78	1268.16	11.31	OSF1.50	16030.00	12961.31				MinPt-EOU
1460.45	202.92		1324.84	1257.53	10.84	OSF1.50	16520.00	12954.70				MinPt-CtCt
1460.70	203.57		1324.66	1257.14	10.81	OSF1.50	16560.00	12954.16				MinPt-EOU
1460.84	203.73		1324.69	1257.11	10.80	OSF1.50	16570.00	12954.02				MinPt-ADP
1458.40	210.37		1317.83	1248.04	10.44	OSF1.50	16930.00	12949.16				MinPt-CtCt
1458.62	211.05		1317.59	1247.57	10.41	OSF1.50	16970.00	12948.62				MinPt-EOU
1458.91	211.40		1317.66	1247.52	10.39	OSF1.50	16990.00	12948.35				MinPt-ADP
1450.79	217.18		1305.68	1233.62	10.06	OSF1.50	17280.00	12944.44				MinPt-CtCt
1450.98	217.71		1305.52	1233.28	10.04	OSF1.50	17310.00	12944.04				MinPt-EOU
1451.12	217.88		1305.54	1233.24	10.03	OSF1.50	17320.00	12943.90				MinPt-ADP
1469.55	237.93		1310.60	1231.62	9.30	OSF1.50	18250.00	12931.35				MinPt-CtCt
1468.89	248.74		1302.73	1220.14	8.89	OSF1.50	18720.00	12925.01				MinPt-CtCt
1457.26	270.32		1276.72	1186.94	8.11	OSF1.50	19610.00	12912.99				MinPt-CtCt
1458.11	272.44		1276.16	1185.67	8.05	OSF1.50	19700.00	12911.78				MinPt-EOU
1458.60	281.53		1270.58	1177.06	7.79	OSF1.50	20050.00	12907.06				MinPt-CtCt
1460.06	287.57		1268.02	1172.49	7.64	OSF1.50	20290.00	12903.82				MinPt-EOU
1462.53	301.40		1261.27	1161.13	7.30	OSF1.50	20810.00	12896.80				MinPt-CtCt
1450.29	317.55		1238.27	1132.75	6.87	OSF1.50	21410.00	12888.70				MinPt-CtCt
1436.51	342.66		1207.73	1093.84	6.30	OSF1.50	22320.00	12876.42				MinPt-CtCt
1437.11	344.41		1207.18	1092.70	6.27	OSF1.50	22390.00	12875.47				MinPt-EOU
1438.28	347.44		1206.33	1090.84	6.22	OSF1.50	22490.00	12874.12				MinPt-CtCt
1437.97	359.04		1198.29	1078.94	6.02	OSF1.50	22900.00	12868.59				MinPt-CtCt
1439.71	366.61		1194.97	1073.10	5.90	OSF1.50	23166.12	12865.00				MinPts
30-025-49124 - Red Hills 32-5 Fed Com 170H - MWD Corrected to 22082ft (DefinitiveSurvey) - Warning Alert												
99.99	32.81		98.71	67.18	988041.86	MAS = 10.00 (m)	0.00	0.00				Surface
99.97	32.81		98.68	67.17	10541.46	MAS = 10.00 (m)	23.00	23.00				WRP
95.54	32.81		89.90	62.73	21.16	MAS = 10.00 (m)	550.00	550.00				MinPts
96.15	32.81		88.87	63.34	15.56	MAS = 10.00 (m)	720.00	720.00				MinPt-EOU
83.99	32.81		66.24	51.18	4.95	MAS = 10.00 (m)	2040.00	2038.27	OSF<=5.00			Enter Alert
80.66	32.81		61.76	47.85	4.45	MAS = 10.00 (m)	2165.53	2162.26				MinPts
80.76	32.81		61.63	47.95	4.40	MAS = 10.00 (m)	2190.00	2186.43				MinPt-EOU
83.21	32.81		63.15	50.40	4.31	MAS = 10.00 (m)	2290.00	2285.20				MinPt-SF
116.32	35.68		92.20	80.63	4.99	OSF1.50	2730.00	2719.78	OSF>5.00			Exit Alert
784.21	144.38		687.63	639.83	8.19	OSF1.50	10210.00	10144.71				MinPt-CtCt
784.71	145.73		687.23	638.98	8.12	OSF1.50	10310.00	10244.71				MinPt-EOU
789.49	153.46		686.86	636.03	7.76	OSF1.50	10840.00	10774.71				MinPt-EOU
789.81	153.84		686.92	635.97	7.74	OSF1.50	10870.00	10804.71				MinPt-ADP
806.23	161.40		698.31	644.83	7.53	OSF1.50	11390.00	11324.71				MinPt-ADP
811.57	167.19		699.78	644.38	7.32	OSF1.50	11780.00	11714.71				MinPt-EOU
812.13	167.89		699.87	644.24	7.29	OSF1.50	11830.00	11764.71				MinPt-ADP
813.71	168.43		701.10	645.29	7.28	OSF1.50	11890.00	11824.71				MinPt-SF
1070.99	154.25		967.83	916.74	10.47	OSF1.50	13610.00	12993.97				MinPt-CtCt
1071.10	154.51		967.77	916.59	10.46	OSF1.50	13630.00	12993.70				MinPt-EOU
1071.22	154.65		967.80	916.58	10.45	OSF1.50	13640.00	12993.56				MinPt-ADP
1073.19	162.63		964.44	910.56	9.95	OSF1.50	14540.00	12981.42				MinPt-CtCt
1073.20	162.70		964.41	910.50	9.95	OSF1.50	14550.00	12981.28				MinPt-EOU
1073.26	162.77		964.41	910.49	9.94	OSF1.50	14560.00	12981.15				MinPt-ADP
1073.77	164.93		963.49	908.84	9.82	OSF1.50	14790.00	12978.05				MinPt-CtCt
1073.94	165.42		963.33	908.52	9.79	OSF1.50	14840.00	12977.37				MinPt-EOU
1074.19	165.73		963.37	908.46	9.77	OSF1.50	14870.00	12976.97				MinPt-ADP
1077.38	172.09		962.33	905.29	9.44	OSF1.50	15390.00	12969.95				MinPt-CtCt
1077.94	173.53		961.92	904.40	9.36	OSF1.50	15500.00	12968.46				MinPt-EOU
1079.13	175.90		961.53	903.22	9.25	OSF1.50	15670.00	12966.17				MinPt-EOU
1079.60	176.45		961.63	903.14	9.22	OSF1.50	15710.00	12965.63				MinPt-ADP
1080.13	181.42		958.85	898.71	8.97	OSF1.50	16030.00	12961.31				MinPt-CtCt
1079.55	186.31		955.02	893.24	8.73	OSF1.50	16320.00	12957.40				MinPt-CtCt
1067.02	207.06		928.65	859.96	7.76	OSF1.50	17390.00	12942.96				MinPt-CtCt
1066.19	210.89		925.27	855.30	7.61	OSF1.50	17570.00	12940.53				MinPt-CtCt
1064.89	214.92		921.29	849.97	7.46	OSF1.50	17750.00	12938.10				MinPt-CtCt
1058.91	232.05		903.88	826.86	6.87	OSF1.50	18490.00	12928.11				MinPt-CtCt
1059.73	234.64		902.97	825.09	6.80	OSF1.50	18600.00	12926.63				MinPt-EOU
1064.79	245.40		900.86	819.39	6.53	OSF1.50	19030.00	12920.82				MinPt-CtCt
1066.28	255.10		895.88	811.18	6.29	OSF1.50	19410.00	12915.69				MinPt-CtCt
1065.60	269.94		885.32	795.66	5.94	OSF1.50	19980.00	12908.00				MinPt-CtCt
1066.19	271.70		884.73	794.49	5.90	OSF1.50	20050.00	12907.06				MinPt-EOU
1066.83	272.45		884.87	794.38	5.89	OSF1.50	20080.00	12906.65				MinPt-ADP
1051.90	303.87		849.00	748.04	5.20	OSF1.50	21230.00	12891.13				MinPt-CtCt
1050.29	316.02		839.28	734.27	5.00	OSF1.50	21660.00	12885.33	OSF<=5.00			Enter Alert
1050.24	317.71		838.10	732.53	4.97	OSF1.50	21720.00	12884.52				MinPt-CtCt
1046.69	335.21		822.89	711.48	4.69	OSF1.50	22340.00	12876.15				MinPt-CtCt

Offset Trajectory	Separation			Allow	Sep.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.		MD (ft)	TVD (ft)	Alert	Minor	Major	
	1048.66	340.33	821.45	708.33	4.63	OSF1.50	22520.00	12873.72				MinPt-EOU
	1042.43	359.29	802.58	683.14	4.36	OSF1.50	23166.12	12865.00				MinPts
30-025-49123 - Red Hills 32-5 Fed Com 169H - Corrected MWD to 22331ft (DefinitiveSurvey) - Warning Alert												
	116.60	32.81	115.42	83.79	850753.57	MAS = 10.00 (m)	0.00	0.00				MinPts
	116.62	32.81	115.44	83.82	10926.78	MAS = 10.00 (m)	23.00	23.00				WRP
	116.75	32.81	115.38	83.94	608.75	MAS = 10.00 (m)	60.00	60.00				MinPt-EOU
	125.71	32.81	115.41	92.90	13.65	MAS = 10.00 (m)	1000.00	1000.00				MinPt-EOU
	125.99	32.81	115.50	93.19	13.23	MAS = 10.00 (m)	1040.00	1040.00				MinPt-EOU
	138.87	32.81	126.17	106.06	11.77	MAS = 10.00 (m)	1390.00	1390.00				MinPt-SF
	185.27	32.81	163.85	152.46	9.02	MAS = 10.00 (m)	2430.00	2423.47				MinPts
	185.70	33.06	163.33	152.64	8.64	OSF1.50	2530.00	2522.24				MinPt-EOU
	181.40	41.19	153.62	140.21	6.73	OSF1.50	3070.00	3055.59				MinPt-CtCt
	181.79	42.25	153.30	139.54	6.57	OSF1.50	3140.00	3124.73				MinPt-EOU
	182.29	42.86	153.39	139.43	6.49	OSF1.50	3180.00	3164.24				MinPt-ADP
	189.51	49.54	156.16	139.98	5.82	OSF1.50	3600.00	3579.07				MinPt-EOU
	190.18	50.33	156.30	139.85	5.75	OSF1.50	3650.00	3628.45				MinPt-ADP
	196.63	59.81	156.43	136.82	4.99	OSF1.50	4230.00	4201.31	OSF<=5.00			Enter Alert
	197.13	60.79	156.28	136.34	4.92	OSF1.50	4290.00	4260.58				MinPt-EOU
	197.95	61.77	156.44	136.17	4.86	OSF1.50	4350.00	4319.84				MinPt-ADP
	209.01	67.47	163.70	141.54	4.69	OSF1.50	4700.00	4665.53				MinPt-SF
	241.68	84.80	184.82	156.88	4.31	OSF1.50	5720.00	5672.97				MinPt-EOU
	244.07	87.75	185.24	156.31	4.20	OSF1.50	5900.00	5850.76				MinPt-ADP
	253.27	92.54	191.25	160.73	4.13	OSF1.50	6210.00	6156.94				MinPt-SF
	347.34	112.61	271.94	234.73	4.65	OSF1.50	7720.00	7654.71				MinPt-ADP
	359.04	122.38	277.12	236.66	4.42	OSF1.50	8440.00	8374.71				MinPt-ADP
	375.85	139.10	282.79	236.75	4.07	OSF1.50	9630.00	9564.71				MinPt-EOU
	377.65	143.76	281.48	233.89	3.96	OSF1.50	9960.00	9894.71				MinPt-EOU
	377.98	144.16	281.55	233.83	3.95	OSF1.50	9990.00	9924.71				MinPt-ADP
	384.51	150.13	284.10	234.38	3.86	OSF1.50	10400.00	10334.71				MinPt-ADP
	362.91	173.28	247.06	189.63	3.15	OSF1.50	12000.00	11934.71				MinPts
	523.98	158.87	417.73	365.11	4.97	OSF1.50	12590.00	12523.79	OSF>5.00			Exit Alert
	553.57	135.29	463.05	418.29	6.17	OSF1.50	13800.00	12991.41				MinPt-CtCt
	553.70	135.58	462.99	418.12	6.16	OSF1.50	13820.00	12991.14				MinPt-EOU
	553.85	135.73	463.03	418.11	6.15	OSF1.50	13830.00	12991.00				MinPt-ADP
	557.31	137.36	465.41	419.95	6.12	OSF1.50	13950.00	12989.38				MinPt-SF
	554.95	145.76	457.44	409.19	5.74	OSF1.50	14930.00	12976.16				MinPt-CtCt
	555.22	146.66	457.12	408.56	5.71	OSF1.50	14980.00	12975.48				MinPt-EOU
	555.86	147.44	457.24	408.43	5.68	OSF1.50	15020.00	12974.94				MinPt-ADP
	551.51	162.53	442.83	388.98	5.11	OSF1.50	16020.00	12961.45				MinPt-CtCt
	552.21	164.52	442.20	387.69	5.06	OSF1.50	16110.00	12960.23				MinPt-EOU
	553.15	165.63	442.41	387.53	5.03	OSF1.50	16160.00	12959.56				MinPt-ADP
	555.43	167.39	443.51	388.04	5.00	OSF1.50	16250.00	12958.34	OSF<=5.00			Enter Alert
	552.55	173.62	436.47	378.93	4.79	OSF1.50	16570.00	12954.02				MinPt-CtCt
	551.33	188.45	425.36	362.88	4.40	OSF1.50	17240.00	12944.98				MinPt-CtCt
	552.34	192.34	423.78	360.00	4.32	OSF1.50	17400.00	12942.82				MinPt-EOU
	553.45	193.67	424.00	359.77	4.30	OSF1.50	17450.00	12942.15				MinPt-ADP
	553.71	200.54	419.69	353.17	4.15	OSF1.50	17720.00	12938.50				MinPt-CtCt
	554.22	202.28	419.04	351.94	4.12	OSF1.50	17780.00	12937.69				MinPt-EOU
	554.91	203.16	419.14	351.75	4.11	OSF1.50	17810.00	12937.29				MinPt-ADP
	543.92	227.19	392.13	316.73	3.60	OSF1.50	18750.00	12924.60				MinPt-CtCt
	541.00	239.23	381.18	301.77	3.40	OSF1.50	19220.00	12918.26				MinPt-CtCt
	529.62	262.17	354.51	267.45	3.04	OSF1.50	20060.00	12906.92				MinPt-CtCt
	525.35	272.96	343.05	252.39	2.89	OSF1.50	20440.00	12901.79				MinPt-CtCt
	524.97	278.12	339.23	246.85	2.84	OSF1.50	20620.00	12899.36				MinPt-CtCt
	524.25	285.76	333.41	238.49	2.76	OSF1.50	20880.00	12895.85				MinPt-CtCt
	526.03	289.51	332.69	236.51	2.73	OSF1.50	21000.00	12894.23				MinPt-EOU
	526.94	293.57	330.89	233.36	2.70	OSF1.50	21140.00	12892.34				MinPt-CtCt
	527.40	295.18	330.28	232.21	2.68	OSF1.50	21190.00	12891.67				MinPt-EOU
	528.14	296.12	330.40	232.02	2.68	OSF1.50	21220.00	12891.27				MinPt-ADP
	530.21	302.05	328.52	228.16	2.64	OSF1.50	21430.00	12888.43				MinPt-CtCt
	504.91	329.68	284.79	175.22	2.30	OSF1.50	22380.00	12875.61				MinPt-CtCt
	505.61	331.70	284.15	173.91	2.29	OSF1.50	22440.00	12874.80				MinPt-EOU
	493.40	353.38	257.49	140.02	2.10	OSF1.50	23166.12	12865.00				MinPts
Coterra Red Hills 32-5 State Com 202H - Corrected MWD to 21560ft (DefinitiveSurvey) - Warning Alert												
	1856.44	32.81	1855.15	1823.63	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1856.37	32.81	1855.07	1823.56	210196.20	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	1856.35	32.81	1855.06	1823.54	#####	MAS = 10.00 (m)	20.00	20.00				MinPts
	1856.35	32.81	1855.06	1823.54	3796307.09	MAS = 10.00 (m)	23.00	23.00				WRP
	1857.10	32.81	1847.05	1824.29	211.91	MAS = 10.00 (m)	970.00	970.00				MinPt-EOU
	333.00	100.94	265.38	232.06	4.98	OSF1.50	6680.00	6621.15	OSF<=5.00			Enter Alert
	164.40	123.83	81.52	40.57	2.00	OSF1.50	8190.32	8125.03				MinPt-CtCt
	165.08	125.62	81.00	39.46	1.97	OSF1.50	8320.00	8254.71				MinPt-EOU
	173.62	136.06	82.59	37.56	1.92	OSF1.50	9060.00	8994.71				MinPt-EOU
	176.84	147.68	78.06	29.16	1.80	OSF1.50	9870.00	9804.71				MinPt-CtCt
	176.95	148.07	77.91	28.88	1.79	OSF1.50	9900.00	9834.71				MinPt-EOU
	177.16	148.33	77.94	28.82	1.79	OSF1.50	9920.00	9854.71				MinPt-ADP
	177.29	148.46	77.99	28.83	1.79	OSF1.50	9930.00	9864.71				MinPt-SF
	180.87	161.09	73.14	19.78	1.69	OSF1.50	10830.00	10764.71				MinPt-CtCt
	181.03	161.64	72.95	19.39	1.68	OSF1.50	10870.00	10804.71				MinPt-EOU
	181.13	161.77	72.95	19.36	1.68	OSF1.50	10880.00	10814.71				MinPt-ADP
	181.27	161.90	73.01	19.37	1.68	OSF1.50	10890.00	10824.71				MinPt-SF
	453.09	137.88	360.84	315.21	4.95	OSF1.50	11660.00	11594.71	OSF>5.00			Exit Alert
	1565.83	118.10	1486.77	1447.73	20.04	OSF1.50	13860.00	12990.60				MinPt-CtCt
	1566.05	118.79	1486.53	1447.26	19.93	OSF1.50	13930.00	12989.65				MinPt-EOU
	1566.39	119.21	1486.59	1447.19	19.86	OSF1.50	13970.00	12989.11				MinPt-ADP
	1567.86	122.57	1485.82	1445.29	19.33	OSF1.50	14270.00	12985.06				MinPt-EOU
	1568.20	122.98	1485.89	1445.23	19.27	OSF1.50	14300.00	12984.66				MinPt-ADP
	1561.12	136.02	1470.11	1425.10	17.33	OSF1.50	15140.00	12973.32				MinPt-CtCt
	1556.19	149.03	1456.51	1407.16	15.76	OSF1.50	15800.00	12964.41				MinPt-CtCt
	1547.57	168.96	1434.60	1378.61	13.81	OSF1.50	16670.00	12952.67				MinPt-CtCt

Offset Trajectory	Separation			Allow	Sep.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.		MD (ft)	TVD (ft)	Alert	Minor	Major	
	1541.01	179.18	1421.23	1361.83	12.96	OSF1.50	17080.00	12947.14				MinPt-CtCt
	1541.19	184.05	1418.16	1357.14	12.62	OSF1.50	17270.00	12944.57				MinPt-CtCt
	1540.84	191.38	1412.93	1349.47	12.13	OSF1.50	17550.00	12940.80				MinPt-CtCt
	1522.35	222.44	1373.73	1299.91	10.30	OSF1.50	18680.00	12925.55				MinPt-CtCt
	1512.74	240.49	1352.08	1272.25	9.47	OSF1.50	19310.00	12917.04				MinPt-CtCt
	1510.28	246.61	1345.55	1263.67	9.22	OSF1.50	19520.00	12914.21				MinPt-CtCt
	1471.95	324.16	1255.51	1147.78	6.83	OSF1.50	22090.00	12879.52				MinPt-CtCt
	1472.63	326.28	1254.78	1146.35	6.79	OSF1.50	22160.00	12878.58				MinPt-EOU
	1455.33	357.38	1216.75	1097.95	6.12	OSF1.50	23166.12	12865.00				MinPts
Coterra Cascade 29 Federal 73H Corrected MWD to 17403ft (DefinitiveSurvey) - Warning Alert												
	1356.24	32.81	1355.06	1323.43	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1356.20	32.81	1355.01	1323.39	314371.32	MAS = 10.00 (m)	23.00	23.00				WRP
	1350.92	32.81	1341.20	1318.11	157.95	MAS = 10.00 (m)	950.00	950.00				MinPts
	309.57	93.70	246.78	215.87	4.99	OSF1.50	6160.00	6107.55	OSF<=5.00			Enter Alert
	185.03	126.90	100.10	58.13	2.19	OSF1.50	8211.48	8146.19				MinPt-CtCt
	187.62	142.82	92.08	44.80	1.97	OSF1.50	9380.00	9314.71				MinPt-CtCt
	189.09	145.93	91.47	43.16	1.95	OSF1.50	9600.00	9534.71				MinPt-EOU
	189.74	146.76	91.57	42.98	1.94	OSF1.50	9660.00	9594.71				MinPt-ADP
	189.89	146.90	91.63	43.00	1.94	OSF1.50	9670.00	9604.71				MinPt-SF
	203.46	155.54	99.44	47.93	1.97	OSF1.50	10290.00	10224.71				MinPt-EOU
	204.80	157.09	99.74	47.70	1.96	OSF1.50	10400.00	10334.71				MinPt-ADP
	213.10	164.04	103.42	49.06	1.95	OSF1.50	10890.00	10824.71				MinPt-SF
	223.91	171.14	109.49	52.77	1.97	OSF1.50	11370.00	11304.71				MinPt-CtCt
	223.84	179.54	103.82	44.31	1.87	OSF1.50	11940.00	11874.71				MinPt-CtCt
	223.89	179.68	103.78	44.21	1.87	OSF1.50	11950.00	11884.71				MinPt-EOU
	224.00	179.81	103.80	44.19	1.87	OSF1.50	11960.00	11894.71				MinPts
	548.14	167.82	435.93	380.32	4.92	OSF1.50	12740.00	12664.60	OSF>5.00			Exit Alert
	10619.00	200.27	10485.15	10418.72	79.92	OSF1.50	23166.12	12865.00				TD
Coterra Red Hills 32-5 State Com 203H - Corrected MWD to 20656ft (DefinitiveSurvey) - Warning Alert												
	1836.46	32.81	1835.18	1803.65	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1836.39	32.81	1835.10	1803.58	218880.92	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	1836.38	32.81	1835.09	1803.57	1883633.36	MAS = 10.00 (m)	23.00	23.00				WRP
	1827.36	32.81	1817.26	1794.55	207.13	MAS = 10.00 (m)	970.00	970.00				MinPt-EOU
	1826.82	32.81	1814.71	1794.01	166.34	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	1826.65	32.81	1813.71	1793.85	152.66	MAS = 10.00 (m)	1290.00	1290.00				MinPts
	347.78	105.27	277.27	242.51	4.99	OSF1.50	6760.00	6700.17	OSF<=5.00			Enter Alert
	267.85	124.11	184.78	143.74	3.25	OSF1.50	7900.00	7834.71				MinPt-CtCt
	268.42	126.29	183.90	142.13	3.20	OSF1.50	8060.00	7994.71				MinPt-EOU
	269.30	127.36	184.07	141.95	3.18	OSF1.50	8140.00	8074.71				MinPt-ADP
	287.69	143.47	191.72	144.22	3.02	OSF1.50	9330.00	9264.71				MinPt-ADP
	291.63	146.18	193.84	145.44	3.00	OSF1.50	9530.00	9464.71				MinPt-SF
	309.35	155.94	205.07	153.42	2.99	OSF1.50	10230.00	10164.71				MinPt-SF
	477.76	145.85	380.20	331.91	4.94	OSF1.50	10800.00	10734.71	OSF>5.00			Exit Alert
	2215.25	129.61	2128.51	2085.64	25.82	OSF1.50	15100.00	12973.86				MinPt-CtCt
	2214.31	136.69	2122.86	2077.62	24.46	OSF1.50	15480.00	12968.73				MinPt-CtCt
	2211.18	153.42	2108.57	2057.76	21.75	OSF1.50	16260.00	12958.21				MinPt-CtCt
	2174.02	215.48	2030.04	1958.54	15.20	OSF1.50	18630.00	12926.22				MinPt-CtCt
	2106.16	352.54	1870.80	1753.62	8.98	OSF1.50	23166.12	12865.00				MinPts
Coterra Cascade 29 Federal 72H Corrected MWD to 17208ft (DefinitiveSurvey) - Warning Alert												
	1337.91	32.81	1336.74	1305.10	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1337.88	32.81	1336.70	1305.07	1332949.18	MAS = 10.00 (m)	23.00	23.00				WRP
	289.41	87.71	230.60	201.69	4.99	OSF1.50	5540.00	5495.19	OSF<=5.00			Enter Alert
	285.08	90.56	224.38	194.53	4.76	OSF1.50	5699.02	5652.25				MinPt-CtCt
	285.25	91.08	224.21	194.18	4.73	OSF1.50	5730.00	5682.85				MinPt-EOU
	285.54	91.40	224.27	194.14	4.72	OSF1.50	5750.00	5702.60				MinPt-ADP
	288.01	92.66	225.90	195.34	4.70	OSF1.50	5830.00	5781.62				MinPt-SF
	320.47	96.93	255.52	223.54	4.99	OSF1.50	6150.00	6097.68	OSF>5.00			Exit Alert
	576.45	118.56	497.08	457.89	7.34	OSF1.50	7700.00	7634.71				MinPt-ADP
	582.86	125.95	498.57	456.92	6.98	OSF1.50	8220.00	8154.71				MinPt-EOU
	586.19	146.15	488.43	440.04	6.05	OSF1.50	9650.00	9584.71				MinPt-CtCt
	586.85	148.24	487.70	438.61	5.97	OSF1.50	9800.00	9734.71				MinPt-EOU
	587.31	148.80	487.78	438.51	5.95	OSF1.50	9840.00	9774.71				MinPt-ADP
	594.99	176.20	477.19	418.79	5.09	OSF1.50	11750.00	11684.71				MinPt-CtCt
	595.12	176.74	476.97	418.38	5.07	OSF1.50	11790.00	11724.71				MinPts
	596.60	177.46	477.97	419.14	5.06	OSF1.50	11850.00	11784.71				MinPt-SF
	10638.75	201.87	10503.84	10436.88	79.43	OSF1.50	23166.12	12865.00				TD
30-025-48095 - Red Hills 32-5 State Com 198H - Corrected MWD to 22132ft (DefinitiveSurvey) - Warning Alert												
	1939.84	32.81	1938.66	1907.03	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1939.76	32.81	1938.57	1906.95	198443.34	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	1939.74	32.81	1938.56	1906.93	4044688.31	MAS = 10.00 (m)	23.00	23.00				WRP
	440.82	132.94	351.87	307.88	5.00	OSF1.50	9160.00	9094.71	OSF<=5.00			Enter Alert
	430.12	148.90	330.53	281.22	4.35	OSF1.50	10278.71	10213.43				MinPt-CtCt
	431.57	154.39	328.32	277.18	4.21	OSF1.50	10670.00	10604.71				MinPt-EOU
	432.88	155.92	328.61	276.96	4.18	OSF1.50	10780.00	10714.71				MinPt-ADP
	434.40	157.81	328.87	276.59	4.15	OSF1.50	10910.00	10844.71				MinPt-EOU
	435.43	159.09	329.04	276.34	4.12	OSF1.50	11000.00	10934.71				MinPt-ADP
	441.04	166.83	329.49	274.21	3.98	OSF1.50	11530.00	11464.71				MinPt-CtCt
	441.42	167.53	329.41	273.89	3.97	OSF1.50	11580.00	11514.71				MinPt-EOU
	442.42	168.83	329.54	273.60	3.95	OSF1.50	11670.00	11604.71				MinPt-ADP
	443.32	169.39	330.07	273.93	3.94	OSF1.50	11720.00	11654.71				MinPt-SF
	544.78	165.27	434.27	379.51	4.97	OSF1.50	12200.00	12134.71	OSF>5.00			Exit Alert
	693.99	127.48	608.67	566.51	8.22	OSF1.50	13950.00	12989.38				MinPts
	694.02	127.52	608.68	566.50	8.22	OSF1.50	13960.00	12989.25				MinPt-ADP
	693.99	128.02	608.32	565.98	8.18	OSF1.50	14070.00	12987.76				MinPt-CtCt
	694.14	128.47	608.17	565.67	8.16	OSF1.50	14130.00	12986.95				MinPt-EOU
	694.20	134.57	604.16	559.64	7.78	OSF1.50	14760.00	12978.45				MinPt-CtCt
	695.05	136.28	603.87	558.77	7.69	OSF1.50	14890.00	12976.70				MinPt-EOU
	696.88	140.44	602.92	556.44	7.49	OSF1.50	15190.00	12972.65				MinPt-CtCt

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
	697.25	141.56	602.55	555.69	7.43	OSF1.50	15260.00	12971.70				MinPt-EOU
	698.98	144.23	602.50	554.75	7.31	OSF1.50	15430.00	12969.41				MinPt-EOU
	698.78	149.14	599.03	549.64	7.06	OSF1.50	15730.00	12965.36				MinPt-CtCt
	691.97	168.28	579.45	523.69	6.20	OSF1.50	16680.00	12952.54				MinPt-CtCt
	688.43	174.99	571.44	513.44	5.93	OSF1.50	16970.00	12948.62				MinPt-CtCt
	686.64	181.43	565.36	505.21	5.70	OSF1.50	17240.00	12944.98				MinPt-CtCt
	685.36	186.48	560.71	498.88	5.53	OSF1.50	17440.00	12942.28				MinPt-CtCt
	685.45	189.29	558.93	496.16	5.45	OSF1.50	17550.00	12940.80				MinPt-CtCt
	680.81	205.14	543.72	475.67	4.99	OSF1.50	18180.00	12932.29	OSF<=5.00			Enter Alert
	679.67	212.83	537.46	466.84	4.81	OSF1.50	18470.00	12928.38				MinPt-CtCt
	676.95	223.14	527.86	453.81	4.56	OSF1.50	18850.00	12923.25				MinPt-CtCt
	672.93	241.88	511.35	431.06	4.18	OSF1.50	19520.00	12914.21				MinPt-CtCt
	657.48	269.01	477.81	388.47	3.67	OSF1.50	20460.00	12901.52				MinPt-CtCt
	616.49	304.30	413.30	312.19	3.04	OSF1.50	21740.00	12884.25				MinPt-CtCt
	617.20	306.33	412.65	310.87	3.03	OSF1.50	21800.00	12883.44				MinPt-EOU
	618.68	318.17	406.24	300.51	2.92	OSF1.50	22180.00	12878.31				MinPt-CtCt
	623.25	330.38	402.66	292.86	2.83	OSF1.50	22550.00	12873.32				MinPt-EOU
	620.04	347.86	387.81	272.18	2.68	OSF1.50	23100.00	12865.89				MinPt-CtCt
	620.45	350.03	386.77	270.42	2.66	OSF1.50	23166.12	12865.00				MinPts
30-025-42031 - CASCADE 29 FEDERAL 7H - MWD to 14306ft - A (DefinitiveSurvey) - Warning Alert												
	5473.64	32.81	5471.66	5440.83	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	5473.62	32.81	5471.64	5440.81	1873192.56	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	5473.61	32.81	5471.63	5440.80	4729056.19	MAS = 10.00 (m)	23.00	23.00				WRP
	5468.28	32.81	5454.98	5435.47	483.20	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	521.08	157.75	415.38	363.34	4.99	OSF1.50	9720.00	9654.71	OSF<=5.00			Enter Alert
	476.74	166.73	365.04	310.01	4.32	OSF1.50	9930.36	9865.07				MinPt-CtCt
	476.83	166.93	365.01	309.91	4.31	OSF1.50	9940.00	9874.71				MinPts
	477.14	167.10	365.20	310.04	4.31	OSF1.50	9950.00	9884.71				MinPt-SF
	542.86	164.38	432.73	378.48	4.99	OSF1.50	10190.00	10124.71	OSF>5.00			Exit Alert
	11201.37	202.11	11066.12	10999.25	83.74	OSF1.50	23166.12	12865.00				TD
30-025-48094 - Red Hills 32-5 State Com 197H - Corrected MWD to 22222ft (DefinitiveSurvey) - Warning Alert												
	1979.67	32.81	1978.38	1946.86	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1979.60	32.81	1978.31	1946.79	248004.20	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	1979.59	32.81	1978.30	1946.78	#####	MAS = 10.00 (m)	20.00	20.00				MinPts
	1979.59	32.81	1978.30	1946.78	5749050.97	MAS = 10.00 (m)	23.00	23.00				WRP
	986.21	105.33	915.67	880.88	14.16	OSF1.50	7480.00	7414.71				MinPt-CtCt
	989.69	132.20	901.23	857.49	11.30	OSF1.50	9390.00	9324.71				MinPt-CtCt
	964.87	167.24	853.05	797.63	8.70	OSF1.50	11820.00	11754.71				MinPt-CtCt
	965.06	169.07	852.02	795.99	8.60	OSF1.50	11950.00	11884.71				MinPt-EOU
	965.15	169.18	852.04	795.97	8.60	OSF1.50	11960.00	11894.71				MinPt-ADP
	968.00	170.18	854.22	797.82	8.57	OSF1.50	12060.00	11994.71				MinPt-SF
	880.45	166.48	769.14	713.98	7.97	OSF1.50	14330.00	12984.25				MinPt-CtCt
	880.48	166.55	769.12	713.93	7.97	OSF1.50	14340.00	12984.12				MinPt-EOU
	880.55	166.63	769.13	713.91	7.96	OSF1.50	14350.00	12983.98				MinPt-ADP
	886.11	181.90	764.51	704.21	7.34	OSF1.50	15640.00	12966.57				MinPt-CtCt
	880.34	191.97	752.03	688.37	6.91	OSF1.50	16260.00	12958.21				MinPt-CtCt
	880.23	199.99	746.57	680.24	6.63	OSF1.50	16690.00	12952.40				MinPt-CtCt
	878.24	207.58	739.53	670.66	6.37	OSF1.50	17070.00	12947.27				MinPt-CtCt
	878.89	212.21	737.08	666.67	6.23	OSF1.50	17290.00	12944.30				MinPt-CtCt
	879.10	218.05	733.41	661.05	6.07	OSF1.50	17560.00	12940.66				MinPt-CtCt
	880.39	221.53	732.37	658.86	5.98	OSF1.50	17720.00	12938.50				MinPt-EOU
	885.29	231.94	730.33	653.34	5.74	OSF1.50	18180.00	12932.29				MinPt-CtCt
	876.18	263.57	700.14	612.62	5.00	OSF1.50	19480.00	12914.75	OSF<=5.00			Enter Alert
	866.82	289.13	673.74	577.70	4.51	OSF1.50	20460.00	12901.52				MinPt-CtCt
	853.52	319.24	640.37	534.28	4.02	OSF1.50	21561.77	12886.65				MinPt-CtCt
	854.41	336.45	629.78	517.96	3.82	OSF1.50	22170.00	12878.44				MinPt-CtCt
	855.58	355.03	618.57	500.55	3.62	OSF1.50	22820.00	12869.67				MinPt-CtCt
	855.03	363.09	612.64	491.94	3.54	OSF1.50	23100.00	12865.89				MinPt-CtCt
	855.29	364.97	611.65	490.32	3.52	OSF1.50	23166.12	12865.00				MinPts
30-025-21036 - RED HILLS UNIT 1 - INC Only+ Blind to 21321ft - A (DefinitiveSurvey) - Warning Alert												
	4607.11	32.81	4605.13	4574.31	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	4607.09	32.81	4605.11	4574.28	1513851.99	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	4607.08	32.81	4605.10	4574.27	N/A	MAS = 10.00 (m)	23.00	23.00				WRP
	4607.08	96.14	4542.40	4510.94	73.19	OSF1.50	1600.00	1600.00				MinPt-CtCt
	4613.26	116.20	4535.20	4497.06	60.44	OSF1.50	1970.00	1968.97				MinPt-EOU
	4698.28	231.19	4543.57	4467.09	30.71	OSF1.50	3850.00	3825.99				MinPt-EOU
	4719.12	262.49	4543.54	4456.63	27.14	OSF1.50	4260.00	4230.95				MinPt-EOU
	4752.64	306.71	4547.58	4445.93	23.37	OSF1.50	4890.00	4853.19				MinPt-ADP
	4768.68	323.15	4552.71	4445.53	22.24	OSF1.50	5180.00	5139.62				MinPt-ADP
	2576.43	776.45	2058.29	1799.98	4.98	OSF1.50	15230.00	12972.11	OSF<=5.00			Enter Alert
	903.77	780.56	382.90	123.22	1.74	OSF1.50	17642.93	12939.54				MinPts
	2570.94	774.41	2054.17	1796.54	4.99	OSF1.50	20050.00	12907.06	OSF>5.00			Exit Alert
	5596.15	771.53	5081.30	4824.62	10.90	OSF1.50	23166.12	12865.00				TD
Coterra Cascade 29 Federal 71H Corrected MWD to 17573ft (DefinitiveSurvey) - Pass												
	1319.64	32.81	1318.46	1286.83	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1319.61	32.81	1318.43	1286.80	736826.42	MAS = 10.00 (m)	23.00	23.00				WRP
	1313.78	32.81	1304.56	1280.97	163.09	MAS = 10.00 (m)	900.00	900.00				MinPts
	1314.05	32.81	1304.28	1281.24	152.91	MAS = 10.00 (m)	960.00	960.00				MinPt-EOU
	358.86	75.44	308.24	283.42	7.21	OSF1.50	4715.57	4680.91				MinPt-CtCt
	358.92	75.68	308.14	283.24	7.19	OSF1.50	4730.00	4695.16				MinPt-EOU
	359.21	76.02	308.20	283.19	7.16	OSF1.50	4750.00	4714.91				MinPt-ADP
	366.19	78.31	313.65	287.87	7.08	OSF1.50	4890.00	4853.19				MinPt-SF
	1144.44	123.39	1061.85	1021.05	14.01	OSF1.50	7930.00	7864.71				MinPt-CtCt
	1143.81	128.98	1057.49	1014.83	13.39	OSF1.50	8340.00	8274.71				MinPt-CtCt
	1143.15	133.37	1053.91	1009.78	12.94	OSF1.50	8660.00	8594.71				MinPt-CtCt
	1143.73	141.13	1049.31	1002.60	12.23	OSF1.50	9220.00	9154.71				MinPt-CtCt
	1143.67	143.90	1047.40	999.76	11.99	OSF1.50	9420.00	9354.71				MinPt-CtCt
	1144.71	147.27	1046.21	997.45	11.73	OSF1.50	9660.00	9594.71				MinPt-EOU

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
	1142.80	156.95	1037.85	985.86	10.98	OSF1.50	10350.00	10284.71				MinPt-CtCt
	1140.00	166.21	1028.87	973.79	10.34	OSF1.50	11010.00	10944.71				MinPt-CtCt
	1140.32	167.17	1028.55	973.15	10.28	OSF1.50	11080.00	11014.71				MinPt-EOU
	1140.94	167.87	1028.70	973.07	10.25	OSF1.50	11130.00	11064.71				MinPt-ADP
	1186.32	185.64	1062.23	1000.68	9.63	OSF1.50	12370.00	12304.71				MinPt-SF
	10645.05	205.69	10507.59	10439.36	78.00	OSF1.50	23166.12	12865.00				TD

30-025-50208 - Red Hills 32-5 Fed Com 158H - Corrected MWD to 20822ft (DefinitiveSurvey) - Pass

	639.31	32.81	638.03	606.50	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts
	639.34	32.81	638.04	606.53	48764.89	MAS = 10.00 (m)	23.00	23.00				WRP
	639.40	32.81	638.03	606.60	7470.57	MAS = 10.00 (m)	40.00	40.00				MinPt-EOU
	637.27	32.81	627.34	604.46	73.56	MAS = 10.00 (m)	950.00	950.00				MinPt-EOU
	636.87	32.81	625.61	604.07	62.72	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	493.62	68.72	447.48	424.90	10.91	OSF1.50	4830.00	4793.93				MinPt-CtCt
	493.86	69.53	447.18	424.33	10.79	OSF1.50	4890.00	4853.19				MinPt-EOU
	494.05	69.76	447.22	424.29	10.75	OSF1.50	4910.00	4872.94				MinPt-ADP
	431.31	89.03	371.62	342.27	7.33	OSF1.50	6762.54	6702.68				MinPt-CtCt
	431.41	89.37	371.50	342.04	7.30	OSF1.50	6790.00	6729.80				MinPt-EOU
	431.62	89.61	371.55	342.01	7.29	OSF1.50	6810.00	6749.55				MinPt-ADP
	436.35	91.22	375.21	345.13	7.24	OSF1.50	6950.00	6887.83				MinPt-SF
	457.86	99.58	391.15	358.28	6.95	OSF1.50	7720.00	7654.71				MinPt-CtCt
	454.85	110.38	380.94	344.47	6.22	OSF1.50	8630.00	8564.71				MinPt-CtCt
	454.22	115.13	377.15	339.10	5.96	OSF1.50	9020.00	8954.71				MinPt-CtCt
	454.93	117.74	376.11	337.20	5.83	OSF1.50	9240.00	9174.71				MinPt-EOU
	455.42	118.32	376.21	337.10	5.81	OSF1.50	9290.00	9224.71				MinPt-ADP
	458.30	122.19	376.51	336.10	5.66	OSF1.50	9600.00	9534.71				MinPt-EOU
	458.48	122.40	376.55	336.08	5.65	OSF1.50	9620.00	9554.71				MinPt-ADP
	460.76	124.53	377.41	336.23	5.58	OSF1.50	9780.00	9714.71				MinPt-CtCt
	461.03	125.45	377.07	335.58	5.54	OSF1.50	9860.00	9794.71				MinPt-EOU
	461.31	125.79	377.12	335.52	5.53	OSF1.50	9890.00	9824.71				MinPt-ADP
	474.05	131.46	386.08	342.58	5.44	OSF1.50	10350.00	10284.71				MinPt-SF
	2046.47	112.93	1970.86	1933.54	27.41	OSF1.50	13620.00	12993.83				MinPt-CtCt
	2046.53	113.10	1970.80	1933.43	27.37	OSF1.50	13640.00	12993.56				MinPt-EOU
	2046.61	113.19	1970.82	1933.42	27.35	OSF1.50	13650.00	12993.43				MinPt-ADP
	2057.00	115.74	1979.51	1941.26	26.88	OSF1.50	13880.00	12990.33				MinPt-SF
	2070.77	119.39	1990.84	1951.37	26.22	OSF1.50	14280.00	12984.93				MinPt-EOU
	2071.74	120.61	1991.00	1951.12	25.97	OSF1.50	14380.00	12983.58				MinPt-ADP
	2073.05	122.94	1990.76	1950.11	25.49	OSF1.50	14560.00	12981.15				MinPt-CtCt
	2073.65	124.91	1990.05	1948.74	25.09	OSF1.50	14700.00	12979.26				MinPt-EOU
	2076.73	130.92	1989.12	1945.81	23.96	OSF1.50	15080.00	12974.13				MinPt-EOU
	2077.64	134.44	1987.69	1943.20	23.34	OSF1.50	15280.00	12971.43				MinPt-CtCt
	2077.82	140.49	1983.83	1937.33	22.33	OSF1.50	15600.00	12967.11				MinPt-CtCt
	2055.43	181.89	1933.84	1873.54	17.03	OSF1.50	17380.00	12943.09				MinPt-CtCt
	2055.78	185.30	1931.92	1870.48	16.72	OSF1.50	17510.00	12941.34				MinPt-CtCt
	2017.85	252.41	1849.25	1765.44	12.03	OSF1.50	19900.00	12909.08				MinPt-CtCt
	2017.82	257.43	1845.87	1760.39	11.80	OSF1.50	20070.00	12906.79				MinPt-CtCt
	1972.32	346.88	1740.74	1625.44	8.55	OSF1.50	23010.00	12867.11				MinPt-CtCt
	1972.58	347.55	1740.55	1625.03	8.53	OSF1.50	23040.00	12866.70				MinPt-EOU
	1972.77	347.76	1740.60	1625.01	8.53	OSF1.50	23050.00	12866.57				MinPt-ADP
	1978.19	349.64	1744.77	1628.55	8.51	OSF1.50	23160.00	12865.08				MinPt-SF
	1978.68	349.72	1745.20	1628.95	8.51	OSF1.50	23166.12	12865.00				TD

30-025-50209 - Red Hills 32-5 Fed Com 159H Corrected MWD to 20321ft (DefinitiveSurvey) - Pass

	659.31	32.81	657.34	626.51	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts
	659.32	32.81	657.34	626.52	139021.07	MAS = 10.00 (m)	23.00	23.00				WRP
	661.52	32.81	656.87	628.71	246.70	MAS = 10.00 (m)	350.00	350.00				MinPt-EOU
	664.23	32.81	655.00	631.42	91.41	MAS = 10.00 (m)	810.00	810.00				MinPts
	664.52	32.81	651.51	631.71	60.09	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	659.19	32.81	641.41	626.38	41.05	MAS = 10.00 (m)	1690.00	1689.99				MinPts
	538.01	101.88	469.56	436.14	8.02	OSF1.50	6587.81	6530.10				MinPt-CtCt
	538.15	102.37	469.36	435.78	7.99	OSF1.50	6620.00	6561.89				MinPt-EOU
	538.38	102.67	469.40	435.71	7.97	OSF1.50	6640.00	6581.65				MinPt-ADP
	547.70	105.83	476.61	441.88	7.86	OSF1.50	6860.00	6798.94				MinPt-SF
	604.34	140.04	510.44	464.30	6.53	OSF1.50	9340.00	9274.71				MinPt-EOU
	606.49	145.63	508.86	460.86	6.30	OSF1.50	9720.00	9654.71				MinPt-CtCt
	606.63	146.11	508.68	460.52	6.28	OSF1.50	9760.00	9694.71				MinPt-EOU
	606.81	146.34	508.71	460.47	6.27	OSF1.50	9780.00	9714.71				MinPt-ADP
	608.95	147.44	510.11	461.50	6.25	OSF1.50	9880.00	9814.71				MinPt-SF
	2691.13	115.87	2613.38	2575.26	35.28	OSF1.50	14250.00	12985.33				MinPt-CtCt
	2683.91	120.37	2603.16	2563.54	33.85	OSF1.50	14610.00	12980.47				MinPt-CtCt
	2684.96	123.06	2602.42	2561.90	33.11	OSF1.50	14800.00	12977.91				MinPt-EOU
	2685.70	123.95	2602.56	2561.75	32.88	OSF1.50	14860.00	12977.10				MinPt-ADP
	2689.53	127.54	2604.00	2561.99	31.99	OSF1.50	15080.00	12974.13				MinPt-EOU
	2690.94	136.06	2599.73	2554.88	29.98	OSF1.50	15540.00	12967.92				MinPt-CtCt
	2689.01	145.18	2591.72	2543.83	28.06	OSF1.50	15980.00	12961.98				MinPt-CtCt
	2689.51	146.75	2591.18	2542.76	27.76	OSF1.50	16060.00	12960.91				MinPt-EOU
	2689.81	164.55	2579.61	2525.26	24.73	OSF1.50	16810.00	12950.78				MinPt-CtCt
	2691.13	177.98	2571.98	2513.15	22.86	OSF1.50	17340.00	12943.63				MinPt-CtCt
	2693.86	184.21	2570.55	2509.65	22.10	OSF1.50	17590.00	12940.26				MinPt-EOU
	2694.45	184.88	2570.70	2509.57	22.03	OSF1.50	17620.00	12939.85				MinPt-ADP
	2677.15	217.65	2531.55	2459.50	18.57	OSF1.50	18790.00	12924.06				MinPt-CtCt
	2677.63	227.12	2525.72	2450.51	17.79	OSF1.50	19120.00	12919.61				MinPt-CtCt
	2650.40	265.76	2472.73	2384.65	15.04	OSF1.50	20430.00	12901.93				MinPt-CtCt
	2647.18	277.19	2461.89	2370.00	14.40	OSF1.50	20810.00	12896.80				MinPt-CtCt
	2634.15	291.47	2439.34	2342.68	13.62	OSF1.50	21280.00	12890.46				MinPt-CtCt
	2636.47	303.41	2433.70	2333.07	13.09	OSF1.50	21670.00	12885.19				MinPt-CtCt
	2637.31	305.98	2432.83	2331.34	12.99	OSF1.50	21770.00	12883.84				MinPt-EOU
	2638.15	306.99	2432.99	2331.16	12.95	OSF1.50	21810.00	12883.30				MinPt-ADP
	2597.01	349.99	2363.18	2247.01	11.17	OSF1.50	23166.12	12865.00				MinPts

Coterra Cascade 29 Federal 74H Corrected MWD to 17260ft (DefinitiveSurvey) - Pass

1374.60	32.81	1373.43	1341.79	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
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Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
1374.56	32.81		1373.38	1341.75	1366261.06	MAS = 10.00 (m)	10.00	10.00				MinPts
1374.56	32.81		1373.38	1341.75	7952935.04	MAS = 10.00 (m)	23.00	23.00				WRP
1374.22	32.81		1370.34	1341.42	507.93	MAS = 10.00 (m)	360.00	360.00				MinPts
1372.82	32.81		1363.34	1340.02	165.03	MAS = 10.00 (m)	930.00	930.00				MinPts
1372.85	32.81		1363.18	1340.04	161.55	MAS = 10.00 (m)	950.00	950.00				MinPt-EOU
639.03	118.93		559.42	520.10	8.11	OSF1.50	8000.00	7934.71				MinPt-CtCt
642.18	126.26		557.68	515.93	7.68	OSF1.50	8510.00	8444.71				MinPt-EOU
648.05	143.07		552.35	504.99	6.83	OSF1.50	9670.00	9604.71				MinPt-CtCt
638.84	156.08		534.45	482.75	6.17	OSF1.50	10570.00	10504.71				MinPt-CtCt
639.47	157.84		533.91	481.63	6.11	OSF1.50	10690.00	10624.71				MinPt-EOU
605.86	176.60		487.80	429.26	5.17	OSF1.50	11979.35	11914.06				MinPt-CtCt
605.97	176.91		487.71	429.06	5.16	OSF1.50	12000.00	11934.71				MinPt-EOU
606.10	177.05		487.74	429.05	5.16	OSF1.50	12010.00	11944.71				MinPt-ADP
607.56	177.72		488.75	429.83	5.15	OSF1.50	12060.00	11994.71				MinPt-SF
10591.67	200.29		10457.82	10391.39	79.71	OSF1.50	23166.12	12865.00				TD

30-025-50210 - Red Hills 32-5 Fed Com 160H - Corrected MWD to 20665ft (DefinitiveSurvey) - Pass

679.31	32.81		678.02	646.50	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
679.30	32.81		678.02	646.50	#####	MAS = 10.00 (m)	1.36	1.36				MinPts
679.31	32.81		678.02	646.50	315885.47	MAS = 10.00 (m)	23.00	23.00				WRP
679.75	32.81		677.28	646.94	572.61	MAS = 10.00 (m)	200.00	200.00				MinPt-EOU
682.35	32.81		672.34	649.55	78.01	MAS = 10.00 (m)	960.00	960.00				MinPt-EOU
682.23	32.81		672.08	649.42	75.51	MAS = 10.00 (m)	1010.00	1010.00				MinPts
682.59	32.81		671.85	649.78	70.94	MAS = 10.00 (m)	1110.00	1110.00				MinPt-EOU
686.13	32.81		671.24	653.32	49.24	MAS = 10.00 (m)	1680.00	1679.99				MinPts
686.24	32.81		671.17	653.43	48.68	MAS = 10.00 (m)	1700.00	1699.98				MinPt-EOU
727.47	44.07		697.76	683.39	25.29	OSF1.50	3260.00	3243.26				MinPt-ADP
768.46	64.47		725.15	703.99	18.13	OSF1.50	4610.00	4576.64				MinPt-EOU
768.94	65.07		725.23	703.86	17.97	OSF1.50	4650.00	4616.14				MinPt-ADP
784.33	72.81		735.46	711.52	16.36	OSF1.50	5360.00	5317.40				MinPt-EOU
784.81	73.40		735.55	711.41	16.24	OSF1.50	5420.00	5376.66				MinPt-ADP
787.51	75.99		736.53	711.52	15.73	OSF1.50	5680.00	5633.46				MinPt-ADP
839.67	87.76		780.84	751.91	14.50	OSF1.50	6770.00	6710.05				MinPt-SF
900.77	109.40		827.51	791.37	12.45	OSF1.50	8640.00	8574.71				MinPt-CtCt
890.95	123.16		808.51	767.79	10.93	OSF1.50	9740.00	9674.71				MinPt-CtCt
891.16	123.84		808.27	767.32	10.87	OSF1.50	9800.00	9734.71				MinPt-EOU
891.45	124.17		808.34	767.28	10.84	OSF1.50	9830.00	9764.71				MinPt-ADP
892.96	126.77		808.12	766.19	10.64	OSF1.50	10030.00	9964.71				MinPt-EOU
893.24	127.10		808.18	766.14	10.61	OSF1.50	10060.00	9994.71				MinPt-ADP
894.48	127.73		808.99	766.74	10.57	OSF1.50	10130.00	10064.71				MinPt-SF
2635.43	153.72		2532.62	2481.70	25.87	OSF1.50	16050.00	12961.04				MinPt-CtCt
2634.26	157.78		2528.74	2476.48	25.19	OSF1.50	16240.00	12958.48				MinPt-CtCt
2634.62	158.93		2528.34	2475.69	25.01	OSF1.50	16300.00	12957.67				MinPt-EOU
2635.28	159.72		2528.47	2475.56	24.89	OSF1.50	16340.00	12957.13				MinPt-ADP
2658.84	183.26		2536.34	2475.58	21.87	OSF1.50	17310.00	12944.04				MinPt-EOU
2659.82	184.40		2536.56	2475.42	21.74	OSF1.50	17360.00	12943.36				MinPt-ADP
2657.14	192.32		2528.60	2464.82	20.82	OSF1.50	17650.00	12939.45				MinPt-CtCt
2639.15	212.05		2497.45	2427.10	18.75	OSF1.50	18380.00	12929.59				MinPt-CtCt
2639.56	213.40		2496.96	2426.16	18.63	OSF1.50	18440.00	12928.78				MinPt-EOU
2640.10	214.07		2497.06	2426.03	18.58	OSF1.50	18470.00	12928.38				MinPt-ADP
2635.78	230.62		2481.70	2405.16	17.21	OSF1.50	19050.00	12920.55				MinPt-CtCt
2637.48	234.79		2480.62	2402.69	16.91	OSF1.50	19210.00	12918.39				MinPt-EOU
2638.50	236.06		2480.79	2402.43	16.83	OSF1.50	19260.00	12917.72				MinPt-ADP
2644.61	244.84		2481.05	2399.77	16.26	OSF1.50	19560.00	12913.67				MinPt-EOU
2645.82	248.42		2479.88	2397.40	16.03	OSF1.50	19670.00	12912.18				MinPt-CtCt
2647.00	252.08		2478.62	2394.92	15.81	OSF1.50	19810.00	12910.29				MinPt-EOU
2648.07	253.34		2478.85	2394.73	15.73	OSF1.50	19860.00	12909.62				MinPt-ADP
2614.78	272.94		2432.49	2341.84	14.42	OSF1.50	20510.00	12900.85				MinPt-CtCt
2615.25	274.33		2432.04	2340.93	14.35	OSF1.50	20570.00	12900.04				MinPt-EOU
2615.62	274.78		2432.11	2340.85	14.32	OSF1.50	20590.00	12899.77				MinPt-ADP
2598.63	305.33		2394.75	2293.31	12.80	OSF1.50	21590.00	12886.27				MinPt-CtCt
2600.20	312.43		2391.59	2287.77	12.52	OSF1.50	21840.00	12882.90				MinPt-EOU
2601.03	313.43		2391.75	2287.60	12.48	OSF1.50	21880.00	12882.36				MinPt-ADP
2568.29	353.71		2332.15	2214.57	10.92	OSF1.50	23166.12	12865.00				MinPts

30-025-41241 - CASCADE 29 FEDERAL 3H - MWD to 14241ft - A (DefinitiveSurvey) - Pass

5282.27	32.81		5280.29	5249.47	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
5282.27	32.81		5280.24	5249.46	104330.44	MAS = 10.00 (m)	23.00	23.00				WRP
5281.81	32.81		5275.41	5249.00	1195.70	MAS = 10.00 (m)	410.00	410.00				MinPts
5282.60	32.81		5270.52	5249.79	522.69	MAS = 10.00 (m)	1080.00	1080.00				MinPts
5282.62	32.81		5269.49	5249.81	473.54	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
5282.62	32.81		5269.52	5249.81	466.04	MAS = 10.00 (m)	1210.00	1210.00				MinPts
857.22	243.29		694.49	613.94	5.31	OSF1.50	9936.54	9871.26				MinPt-CtCt
857.23	243.30		694.49	613.93	5.31	OSF1.50	9940.00	9874.71				MinPts
11233.88	201.14		11099.29	11032.74	84.39	OSF1.50	23166.12	12865.00				TD

30-025-45028 - RED HILLS SWD 1 - MWD to 18543ft - SWD (DefinitiveSurvey) - Pass

6730.84	32.81		6728.86	6698.03	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
6730.75	32.81		6728.76	6697.94	528670.04	MAS = 10.00 (m)	20.00	20.00				MinPt-SF
6730.74	32.81		6728.75	6697.93	533462.41	MAS = 10.00 (m)	23.00	23.00				WRP
6730.71	32.81		6728.67	6697.90	111687.28	MAS = 10.00 (m)	40.00	40.00				MinPts
6732.18	32.81		6726.72	6699.37	1933.93	MAS = 10.00 (m)	470.00	470.00				MinPt-EOU
6733.39	32.81		6724.53	6700.58	977.15	MAS = 10.00 (m)	790.00	790.00				MinPts
6734.54	32.81		6721.64	6701.73	616.41	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
6734.46	32.81		6721.40	6701.65	595.48	MAS = 10.00 (m)	1240.00	1240.00				MinPts
6735.42	32.81		6717.92	6702.61	427.78	MAS = 10.00 (m)	1690.00	1689.99				MinPts
6735.35	32.81		6715.93	6702.55	381.31	MAS = 10.00 (m)	1890.00	1889.50				MinPts
6735.33	34.15		6711.98	6701.18	311.84	OSF1.50	2280.00	2275.32				MinPt-CtCt
6735.77	35.62		6711.43	6700.14	298.31	OSF1.50	2400.00	2393.84				MinPt-EOU
6736.28	36.22		6711.55	6700.06	293.18	OSF1.50	2450.00	2443.23				MinPt-ADP
6738.71	39.88		6711.54	6698.83	265.09	OSF1.50	2670.00	2660.52				MinPt-EOU
6739.35	40.65		6711.66	6698.70	259.90	OSF1.50	2730.00	2719.78				MinPt-ADP

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
	6740.70	44.66	6710.34	6696.04	235.61	OSF1.50	2970.00	2956.83				MinPt-EOU
	6743.42	49.61	6709.75	6693.80	211.32	OSF1.50	3280.00	3263.01				MinPt-EOU
	6744.76	52.63	6709.09	6692.13	198.85	OSF1.50	3470.00	3450.67				MinPt-EOU
	6744.89	55.48	6707.31	6689.40	188.27	OSF1.50	3620.00	3598.82				MinPt-CtCt
	6745.36	56.87	6706.86	6688.49	183.55	OSF1.50	3730.00	3707.47				MinPt-EOU
	6745.88	57.50	6706.96	6688.38	181.49	OSF1.50	3780.00	3756.85				MinPt-ADP
	6746.66	58.79	6706.88	6687.87	177.42	OSF1.50	3850.00	3825.99				MinPt-EOU
	6747.21	59.43	6707.00	6687.78	175.45	OSF1.50	3900.00	3875.38				MinPt-ADP
	6786.43	71.91	6737.90	6714.52	145.08	OSF1.50	4770.00	4734.67				MinPts
	6855.97	91.29	6794.58	6764.68	114.66	OSF1.50	5890.00	5840.88				MinPts
	6863.32	96.63	6798.36	6766.69	108.32	OSF1.50	6170.00	6117.43				MinPt-ADP
	6866.14	99.51	6799.26	6766.62	105.18	OSF1.50	6340.00	6285.34				MinPt-ADP
	6869.92	102.64	6800.95	6767.28	101.98	OSF1.50	6530.00	6473.00				MinPt-EOU
	6870.08	102.81	6801.00	6767.27	101.81	OSF1.50	6540.00	6482.88				MinPt-ADP
	6875.71	107.38	6803.59	6768.33	97.49	OSF1.50	6810.00	6749.55				MinPt-EOU
	6877.19	109.01	6803.98	6768.19	96.04	OSF1.50	6910.00	6848.32				MinPt-ADP
	6883.59	113.83	6807.17	6769.77	92.00	OSF1.50	7220.00	7155.17				MinPt-ADP
	6889.23	118.52	6809.68	6770.71	88.38	OSF1.50	7570.00	7504.71				MinPt-ADP
	6894.97	122.65	6812.66	6772.31	85.43	OSF1.50	7870.00	7804.71				MinPt-ADP
	6896.25	124.00	6813.05	6772.25	84.51	OSF1.50	7960.00	7894.71				MinPt-ADP
	6906.83	133.12	6817.54	6773.70	78.76	OSF1.50	8600.00	8534.71				MinPt-EOU
	6907.05	133.39	6817.59	6773.67	78.61	OSF1.50	8620.00	8554.71				MinPt-ADP
	6910.18	136.12	6818.89	6774.06	77.05	OSF1.50	8820.00	8754.71				MinPt-ADP
	6913.68	141.38	6818.89	6772.30	74.18	OSF1.50	9170.00	9104.71				MinPt-EOU
	6915.32	144.28	6818.60	6771.05	72.69	OSF1.50	9370.00	9304.71				MinPt-EOU
	6915.86	144.94	6818.70	6770.93	72.36	OSF1.50	9430.00	9364.71				MinPt-ADP
	6923.91	156.09	6819.32	6767.83	67.22	OSF1.50	10210.00	10144.71				MinPt-EOU
	6924.49	156.76	6819.44	6767.73	66.93	OSF1.50	10270.00	10204.71				MinPt-ADP
	6926.86	160.35	6819.42	6766.51	65.44	OSF1.50	10510.00	10444.71				MinPt-EOU
	6929.12	164.46	6818.94	6764.66	63.81	OSF1.50	10800.00	10734.71				MinPt-EOU
	6930.12	166.61	6818.51	6763.51	62.99	OSF1.50	10950.00	10884.71				MinPt-EOU
	6930.66	167.26	6818.62	6763.40	62.74	OSF1.50	11010.00	10944.71				MinPt-ADP
	6932.52	169.18	6819.19	6763.34	62.04	OSF1.50	11150.00	11084.71				MinPt-ADP
	6935.43	171.85	6820.33	6763.58	61.10	OSF1.50	11340.00	11274.71				MinPt-ADP
	6938.73	174.60	6821.80	6764.14	60.15	OSF1.50	11540.00	11474.71				MinPt-ADP
	968.19	245.62	803.94	722.57	5.94	OSF1.50	19685.07	12911.98				MinPt-CtCt
	968.20	245.69	803.91	722.51	5.94	OSF1.50	19690.00	12911.91				MinPt-EOU
	968.30	245.82	803.92	722.48	5.94	OSF1.50	19700.00	12911.78				MinPt-ADP
	969.23	246.17	804.61	723.05	5.93	OSF1.50	19730.00	12911.37				MinPt-SF
	3613.16	212.85	3470.76	3400.31	25.63	OSF1.50	23166.12	12865.00				TD

Coterra Red Hills 32-5 State Com 201H - Corrected MWD to 20283ft (DefinitiveSurvey) - Pass

1876.43	32.81	1875.14	1843.62	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1876.35	32.81	1875.06	1843.55	207256.68	MAS = 10.00 (m)	10.00	10.00	MinPt-SF
1876.33	32.81	1875.05	1843.53	2869431.70	MAS = 10.00 (m)	23.00	23.00	WRP
1869.23	32.81	1859.08	1836.42	210.89	MAS = 10.00 (m)	980.00	980.00	MinPt-EOU
1869.16	32.81	1857.57	1836.35	178.69	MAS = 10.00 (m)	1140.00	1140.00	MinPts
1869.22	32.81	1857.17	1836.41	171.11	MAS = 10.00 (m)	1190.00	1190.00	MinPt-EOU
1059.07	118.66	979.64	940.41	13.49	OSF1.50	7948.83	7883.55	MinPt-CtCt
1061.98	138.31	969.45	923.67	11.59	OSF1.50	9320.00	9254.71	MinPt-CtCt
1063.58	141.73	968.77	921.85	11.32	OSF1.50	9560.00	9494.71	MinPt-EOU
1064.28	142.58	968.90	921.71	11.26	OSF1.50	9620.00	9554.71	MinPt-ADP
1081.61	148.63	982.20	932.98	10.98	OSF1.50	10080.00	10014.71	MinPt-SF
2740.67	122.16	2658.90	2618.51	33.91	OSF1.50	14000.00	12988.71	MinPt-CtCt
2741.25	123.96	2658.29	2617.30	33.43	OSF1.50	14210.00	12985.87	MinPt-EOU
2738.41	127.45	2653.12	2610.97	32.47	OSF1.50	14520.00	12981.69	MinPt-CtCt
2738.65	128.20	2652.85	2610.45	32.28	OSF1.50	14580.00	12980.88	MinPt-EOU
2735.71	138.65	2642.95	2597.06	29.80	OSF1.50	15240.00	12971.97	MinPt-CtCt
2736.43	140.74	2642.28	2595.69	29.36	OSF1.50	15360.00	12970.35	MinPt-EOU
2731.30	148.69	2631.84	2582.60	27.73	OSF1.50	15770.00	12964.82	MinPt-CtCt
2731.77	152.72	2629.62	2579.05	26.99	OSF1.50	15970.00	12962.12	MinPt-CtCt
2730.16	157.43	2624.88	2572.73	26.17	OSF1.50	16190.00	12959.15	MinPt-CtCt
2715.10	181.14	2594.01	2533.95	22.60	OSF1.50	17200.00	12945.52	MinPt-CtCt
2717.14	187.00	2592.14	2530.14	21.90	OSF1.50	17440.00	12942.28	MinPt-EOU
2715.09	193.16	2585.99	2521.93	21.18	OSF1.50	17660.00	12939.31	MinPt-CtCt
2715.59	194.71	2585.45	2520.88	21.02	OSF1.50	17730.00	12938.37	MinPt-EOU
2713.26	208.47	2573.95	2504.79	19.61	OSF1.50	18240.00	12931.48	MinPt-CtCt
2685.38	248.35	2519.48	2437.03	16.28	OSF1.50	19670.00	12912.18	MinPt-CtCt
2685.47	254.82	2515.26	2430.65	15.86	OSF1.50	19890.00	12909.21	MinPt-CtCt
2686.67	258.26	2514.17	2428.41	15.66	OSF1.50	20020.00	12907.46	MinPt-EOU
2672.83	298.14	2473.75	2374.69	13.49	OSF1.50	21340.00	12889.65	MinPt-CtCt
2673.72	300.75	2472.89	2372.97	13.37	OSF1.50	21440.00	12888.30	MinPt-EOU
2672.77	309.42	2466.16	2363.35	12.99	OSF1.50	21710.00	12884.65	MinPt-CtCt
2656.44	335.74	2432.28	2320.69	11.90	OSF1.50	22570.00	12873.05	MinPt-CtCt
2657.35	344.15	2427.59	2313.20	11.61	OSF1.50	22840.00	12869.40	MinPt-CtCt
2657.93	353.80	2421.73	2304.13	11.30	OSF1.50	23150.00	12865.22	MinPt-CtCt
2657.96	354.25	2421.46	2303.71	11.28	OSF1.50	23166.12	12865.00	MinPts

Coterra Cascade 29 Federal 75H Corrected MWD to 17408ft (DefinitiveSurvey) - Pass

1393.02	32.81	1391.84	1360.21	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1392.97	32.81	1391.79	1360.16	333868.99	MAS = 10.00 (m)	23.00	23.00	WRP
1390.68	32.81	1387.10	1357.87	578.20	MAS = 10.00 (m)	330.00	330.00	MinPts
1390.93	32.81	1386.81	1358.12	472.94	MAS = 10.00 (m)	390.00	390.00	MinPt-EOU
1386.34	32.81	1372.36	1353.53	106.60	MAS = 10.00 (m)	1400.00	1400.00	MinPts
1361.26	32.81	1339.83	1328.45	66.53	MAS = 10.00 (m)	2280.00	2275.32	MinPts
1361.33	34.63	1337.91	1326.69	60.64	OSF1.50	2480.00	2472.86	MinPt-CtCt
1361.62	37.79	1336.10	1323.83	55.45	OSF1.50	2690.00	2680.27	MinPt-CtCt
1363.49	44.21	1333.68	1319.27	47.28	OSF1.50	3120.00	3104.98	MinPt-EOU
1364.06	44.93	1333.78	1319.13	46.53	OSF1.50	3170.00	3154.36	MinPt-ADP
1173.94	111.79	1099.09	1062.16	15.88	OSF1.50	7420.00	7354.73	MinPt-CtCt
1174.03	112.08	1098.98	1061.95	15.84	OSF1.50	7440.00	7374.72	MinPt-EOU
1174.13	112.23	1098.99	1061.91	15.82	OSF1.50	7450.00	7384.72	MinPt-ADP

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	
	1215.90	145.68	1118.45	1070.22	12.59	OSF1.50	9770.00	9704.71				MinPt-CtCt
	1160.10	177.39	1041.51	982.71	9.86	OSF1.50	11997.30	11932.01				MinPt-CtCt
	1160.15	177.57	1041.44	982.58	9.85	OSF1.50	12010.00	11944.71				MinPt-EOU
	1160.26	177.71	1041.46	982.55	9.84	OSF1.50	12020.00	11954.71				MinPt-ADP
	1163.95	178.77	1044.44	985.17	9.81	OSF1.50	12110.00	12044.71				MinPt-SF
	10649.93	202.06	10514.90	10447.88	79.44	OSF1.50	23166.12	12865.00				TD
30-025-41242 - CASCADE 29 FEDERAL 4H - MWD to 14230ft - A (DefinitiveSurvey) - Pass												
	5520.24	32.81	5518.26	5487.43	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	5520.21	32.81	5518.23	5487.41	2173568.17	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	5520.21	32.81	5518.23	5487.40	4811835.84	MAS = 10.00 (m)	23.00	23.00				WRP
	5519.91	32.81	5517.08	5487.10	6518.24	MAS = 10.00 (m)	160.00	160.00				MinPts
	5520.39	32.81	5516.86	5487.59	3551.50	MAS = 10.00 (m)	250.00	250.00				MinPt-EOU
	5522.24	32.81	5516.75	5489.43	1572.31	MAS = 10.00 (m)	450.00	450.00				MinPt-EOU
	5524.13	32.81	5516.43	5491.32	966.13	MAS = 10.00 (m)	670.00	670.00				MinPt-EOU
	5528.67	32.81	5517.33	5495.86	590.87	MAS = 10.00 (m)	1040.00	1040.00				MinPt-EOU
	1210.61	262.27	1035.22	948.34	6.96	OSF1.50	9956.80	9891.51				MinPt-CtCt
	1210.61	262.29	1035.21	948.32	6.96	OSF1.50	9960.00	9894.71				MinPts
	1210.83	262.40	1035.36	948.43	6.96	OSF1.50	9980.00	9914.71				MinPt-SF
	11232.95	203.41	11096.85	11029.54	83.44	OSF1.50	23166.12	12865.00				TD

Coterra: Well Control Plan



Well Control Plan

Warning Signs of a Kick

If a kick is ever suspected, perform flow check.

While Drilling:

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

While Tripping:

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

While Out of the Hole:

1. Flow
2. Pit gain

Well Control Procedures with Diverter

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

If rotating head is installed:

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

Coterra: Well Control Plan

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

If rotating head is not installed:

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

Well Control Procedures

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

General Well Control

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

Hard Shut-In

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

Coterra: Well Control Plan

Flow Check when on Bottom

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

Shutting in while Drilling

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

Flow Check while Tripping

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

Shutting in while Tripping

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

Shutting in while Out of Hole

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

Information to Record while Shut-In

1. Shut in drill pipe pressure every 5 minutes

Coterra: Well Control Plan

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

H2S with Annular Diverter:

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

H2S with BOP's:

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

Procedure for Closing Blind Rams

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

Procedure for Opening Blind Rams

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

Coterra: Well Control Plan

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

BOP Drills

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

Choke Manifold Freeze Prevention

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

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Well Name: RED HILLS 32-5 FEDERAL COM	Well Location: T25S / R33E / SEC 32 / NWNE / 32.093408 / -103.59349	County or Parish/State: LEA / NM
Well Number: 173H	Type of Well: OIL WELL	Allottee or Tribe Name:
Lease Number: NMNM106040	Unit or CA Name:	Unit or CA Number:
US Well Number: 3002550782	Operator: CIMAREX ENERGY COMPANY OF COLORADO	

Operator

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: SHELLY BOWEN	Signed on: JUN 12, 2025 02:18 PM
Name: CIMAREX ENERGY COMPANY OF COLORADO	
Title: Regulatory Analyst	
Street Address: 6001 DEAUVILLE BLVD STE 300N	
City: MIDLAND	State: TX
Phone: (432) 620-1644	
Email address: DL_PBUREGULATORY@COTERRA.COM	

Field

Representative Name:		
Street Address:		
City:	State:	Zip:
Phone:		
Email address:		

APPROVED by Long Vo
Petroleum Engineer
Carlsbad Field Office
575-988-50402
LVO@BLM.GOV

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Company of Colorado ▼
LOCATION:	Section 32, T.25 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico ▼

WELL NAME & NO.:	Red Hills 32-5 Federal Com 173H
ATS/API ID:	3002550782
APD ID:	10400073997
Sundry ID:	2830699

COA

H2S	Yes ▼		
Potash	None ▼	None ▼	
Cave/Karst Potential	Low ▼		
Cave/Karst Potential	☐ Critical		
Variance	☒ None	☒ Flex Hose	☒ Other
Wellhead	Conventional and Multibowl ▼		
Other	☐ 4 String ☐ 5 String	Capitan Reef None ▼	☐ WIPP
Other	Pilot Hole None ▼	☐ Open Annulus	
Cementing	Contingency Squeeze None ▼	Echo-Meter None ▼	Primary Cement Squeeze None ▼
Special Requirements	☐ Water Disposal/Injection	☒ COM	☒ Unit
Special Requirements	☐ Batch Sundry	Waste Prevention None ▼	
Special Requirements Variance	☐ BOPE Break Testing ☐ Offline BOPE Testing	☐ Offline Cementing	☒ Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated 500 feet prior to drilling into the **Wolfcamp and Pennsylvanian** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **1170 feet** (a minimum of 70 feet into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **14 3/4** inch in diameter.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
- 2.

Option 1:

- a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Annular which shall be tested to 5000 (5M) psi.**
- b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **7-5/8** inch intermediate casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **10-3/4** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**

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

D. SPECIAL REQUIREMENT (S)**Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.

- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

Commercial Well Determination

- A commercial well determination shall be submitted after production has been established for at least six months if the well penetrate a federal exploratory unit acreage, in addition the unit number and participating area number shall be on the well sign when the well is determined to be a Unit well.
- If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

Casing Clearance

Operator casing variance is approved for the utilization of 5-1/2 inch P110 BTC 18#/ft **from** base of curve and a minimum of 500 feet or the minimum tie-back requirement above, whichever is greater into the previous casing shoe.

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are less than 0.5 micron before cementing.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172 and API STD 53 Sec. 5.3**.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke

manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be

initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and

disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

Long Vo (LVO) 6/23/2025

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.	
6. If Indian, Allottee or Tribe Name	
7. If Unit of CA/Agreement, Name and/or No.	
8. Well Name and No.	
9. API Well No.	
10. Field and Pool or Exploratory Area	
11. Country or Parish, State	

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well		
☐ Oil Well	☐ Gas Well	☐ Other
2. Name of Operator		
3a. Address	3b. Phone No. (include area code)	
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description)		

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION				
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off	
☐ Subsequent Report	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity	
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other	
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon		
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal		

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleate horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed)	Title
Signature	Date

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by	Title	Date
Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.	Office	

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

(Instructions on page 2)

GENERAL INSTRUCTIONS

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

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

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

AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.

PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c) and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.

ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.

EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.

Response to this request is mandatory.

The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

Additional Information

Location of Well

0. SHL: NWNE / 330 FNL / 2345 FEL / TWSP: 25S / RANGE: 33E / SECTION: 32 / LAT: 32.093408 / LONG: -103.59349 (TVD: 0 feet, MD: 0 feet)

PPP: NWNE / 0 FNL / 1907 FWL / TWSP: 26S / RANGE: 33E / SECTION: 5 / LAT: 32.0798 / LONG: -103.591931 (TVD: 10300 feet, MD: 15611 feet)

PPP: NWNE / 330 FNL / 1907 FEL / TWSP: 25S / RANGE: 33E / SECTION: 32 / LAT: 32.092361 / LONG: -103.591933 (TVD: 10300 feet, MD: 10595 feet)

PPP: SWNE / 1320 FNL / 1907 FWL / TWSP: 26S / RANGE: 33E / SECTION: 5 / LAT: 32.076167 / LONG: -103.591931 (TVD: 10300 feet, MD: 16487 feet)

BHL: SWSE / 100 FSL / 1907 FEL / TWSP: 26S / RANGE: 33E / SECTION: 5 / LAT: 32.065567 / LONG: -103.59193 (TVD: 10300 feet, MD: 20344 feet)

CONFIDENTIAL

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 30-025-50782	Pool Code 98158	Pool Name WC-025 G-09 S253236A; UPR WOLFCAMP
Property Code	Property Name RED HILLS 32-5 FED COM	Well Number 173H
OGRID No. 215099	Operator Name CIMAREX ENERGY CO. OF COLORADO	Ground Level Elevation 3409.1'
Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal		

Surface Location

UL B	Section 32	Township 25S	Range 33E	Lot	Ft. from N/S 330 NORTH	Ft. from E/W 2345 EAST	Latitude (NAD 83) 32.093408°	Longitude (NAD 83) -103.593349°	County LEA
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Bottom Hole Location

UL O	Section 5	Township 26S	Range 33E	Lot	Ft. from N/S 100 SOUTH	Ft. from E/W 1380 EAST	Latitude (NAD 83) 32.065565°	Longitude (NAD 83) -103.590229°	County LEA
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Dedicated Acres 1280	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
Order Numbers. Well setbacks are under Common Ownership: ☐ Yes ☐ No				

Kick Off Point (KOP)

UL B	Section 32	Township 25S	Range 33E	Lot	Ft. from N/S 100 NORTH	Ft. from E/W 1380 EAST	Latitude (NAD 83) 32.094037°	Longitude (NAD 83) -103.590233°	County LEA
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First Take Point (FTP)

UL B	Section 32	Township 25S	Range 33E	Lot	Ft. from N/S 100 NORTH	Ft. from E/W 1380 EAST	Latitude (NAD 83) 32.094037°	Longitude (NAD 83) -103.590233°	County LEA
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Last Take Point (LTP)

UL O	Section 5	Township 26S	Range 33E	Lot	Ft. from N/S 100 SOUTH	Ft. from E/W 1380 EAST	Latitude (NAD 83) 32.065565°	Longitude (NAD 83) -103.590229°	County LEA
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Unitized Area or Area of Uniform Interest	Spacing Unit Type ☐ Horizontal ☐ Vertical	Ground Floor Elevation:
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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> 4/1/2025 Signature _____ Date _____ Shelly Bowen Printed Name _____ shellybowen@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 May 01, 2018 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.

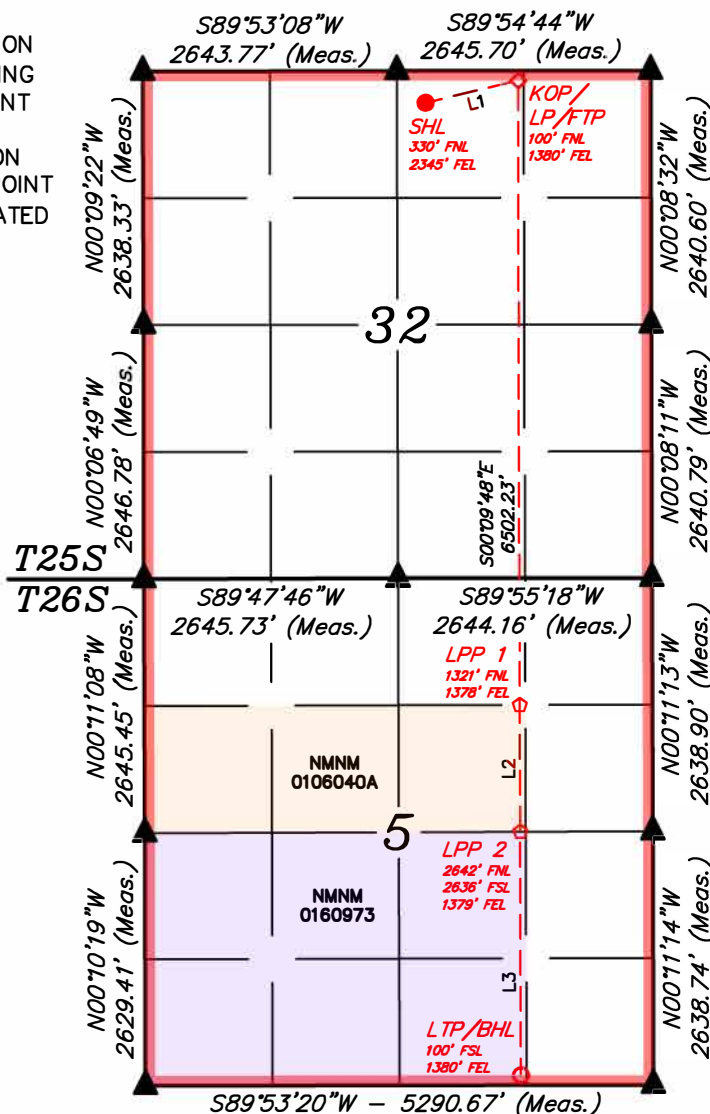
Property Name RED HILLS 32-5 FED COM	Well Number 173H	Drawn By D.J.S. 02-12-20	Revised By REV. 3 T.I.R. 01-21-25 (UPDATE WELLBORE)
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- = SURFACE HOLE LOCATION
- ◆ = KICK OFF POINT/LANDING POINT/FIRST TAKE POINT
- = LAST TAKE POINT/BOTTOM HOLE LOCATION
- ◇ = LEASE PENETRATION POINT
- ▲ = SECTION CORNER LOCATED
- △ = SECTION CORNER RE-ESTABLISHED.
(Not Set on Ground.)
- = DEDICATED ACREAGE

NOTE:

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

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	N76°30'10"E	991.76'
L2	S00°09'48"E	1321.06'
L3	S00°09'48"E	2536.30'



NAD 83 (SURFACE HOLE LOCATION)	
LATITUDE = 32°05'36.27" (32.093408°)	
LONGITUDE = -103°35'36.06" (-103.593349°)	
NAD 27 (SURFACE HOLE LOCATION)	
LATITUDE = 32°05'35.82" (32.093283°)	
LONGITUDE = -103°35'34.36" (-103.592878°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 398504.90' E: 770493.77'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 398447.26' E: 729307.32'	

NAD 83 (KOP/LP/FTP)	
LATITUDE = 32°05'38.53" (32.094037°)	
LONGITUDE = -103°35'24.84" (-103.590233°)	
NAD 27 (KOP/LP/FTP)	
LATITUDE = 32°05'38.08" (32.093912°)	
LONGITUDE = -103°35'23.15" (-103.589763°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 398740.35' E: 771457.00'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 398682.72' E: 730270.55'	

NAD 83 (LPP 1)	
LATITUDE = 32°04'34.20" (32.076167°)	
LONGITUDE = -103°35'24.83" (-103.590231°)	
NAD 27 (LPP 1)	
LATITUDE = 32°04'33.75" (32.076042°)	
LONGITUDE = -103°35'23.14" (-103.589761°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 392239.40' E: 771502.64'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 392181.93' E: 730315.89'	

NAD 83 (LPP 2)	
LATITUDE = 32°04'21.13" (32.072536°)	
LONGITUDE = -103°35'24.83" (-103.590230°)	
NAD 27 (LPP 2)	
LATITUDE = 32°04'20.68" (32.072411°)	
LONGITUDE = -103°35'23.14" (-103.589761°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 390918.60' E: 771511.91'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 390861.16' E: 730325.10'	

NAD 83 (LTP/BHL)	
LATITUDE = 32°03'56.04" (32.065565°)	
LONGITUDE = -103°35'24.82" (-103.590229°)	
NAD 27 (LTP/BHL)	
LATITUDE = 32°03'55.59" (32.065441°)	
LONGITUDE = -103°35'23.14" (-103.589760°)	
STATE PLANE NAD 83 (N.M. EAST)	
N: 388382.80' E: 771529.71'	
STATE PLANE NAD 27 (N.M. EAST)	
N: 388325.42' E: 730342.78'	



1. Geological Formations

TVD of target 10,300

Pilot Hole TD N/A

MD at TD 20,344

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	959	N/A	
Top of Salt	1374	N/A	
Base of Salt	4892	N/A	
Bell Canyon	4954	N/A	
Cherry Canyon	6026	N/A	
Brushy Canyon	7562	N/A	
Bone Spring	9064	Hydrocarbons	
Upper Avalon Shale	9381	Hydrocarbons	
1st Bone Spring	10061	Hydrocarbons	
2nd Bone Spring	10248	Hydrocarbons	
3rd Bone Spring	11042	Hydrocarbons	
Wolfcamp	12153	Hydrocarbons	
Wolfcamp B - Target	13013	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
14 3/4	0	1066	1066	10-3/4"	40.50	J-55	BT&C	3.42	6.78	14.57
9 7/8	0	12468	12403	7-5/8"	29.70	HCL-80	BT&C	3.01	1.19	1.85
6 3/4	0	11968	11968	5-1/2"	20.00	P-110	BT&C	1.56	1.73	2.77
6 3/4	11968	23166	12865	5"	18.00	P-110	BT&C	1.83	1.85	81.16
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.

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

Cimarex Energy Co., Red Hills 32-5 Federal Com 173H

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

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	414	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	111	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	990	10.30	3.64	22.18	12	Lead: Tuned Light + LCM
	198	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Production	1674	14.80	1.34	6.32	9.5	Tail: Class C + LCM
	1725	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	45
Intermediate	0	49
Production	12268	25

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

4. Pressure Control Equipment

X	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.				
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
9 7/8	13 5/8	10M	Annular	X	100% of working pressure
			Blind Ram		10M
			Pipe Ram		
			Double Ram	X	
			Other		
6 3/4	13 5/8	10M	Annular	X	100% of working pressure
			Blind Ram		10M
			Pipe Ram	X	
			Double Ram	X	
			Other		

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

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1066'	Fresh Water	7.83 - 8.33	28	N/C
1066' to 12468'	Brine Diesel Emulsion	8.50 - 9.00	30-35	N/C
12468' to 23166'	Oil Based Mud	10.50 - 11.00	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.

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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6. Logging and Testing Procedures

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

Additional Logs Planned	Interval
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7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	7358 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.

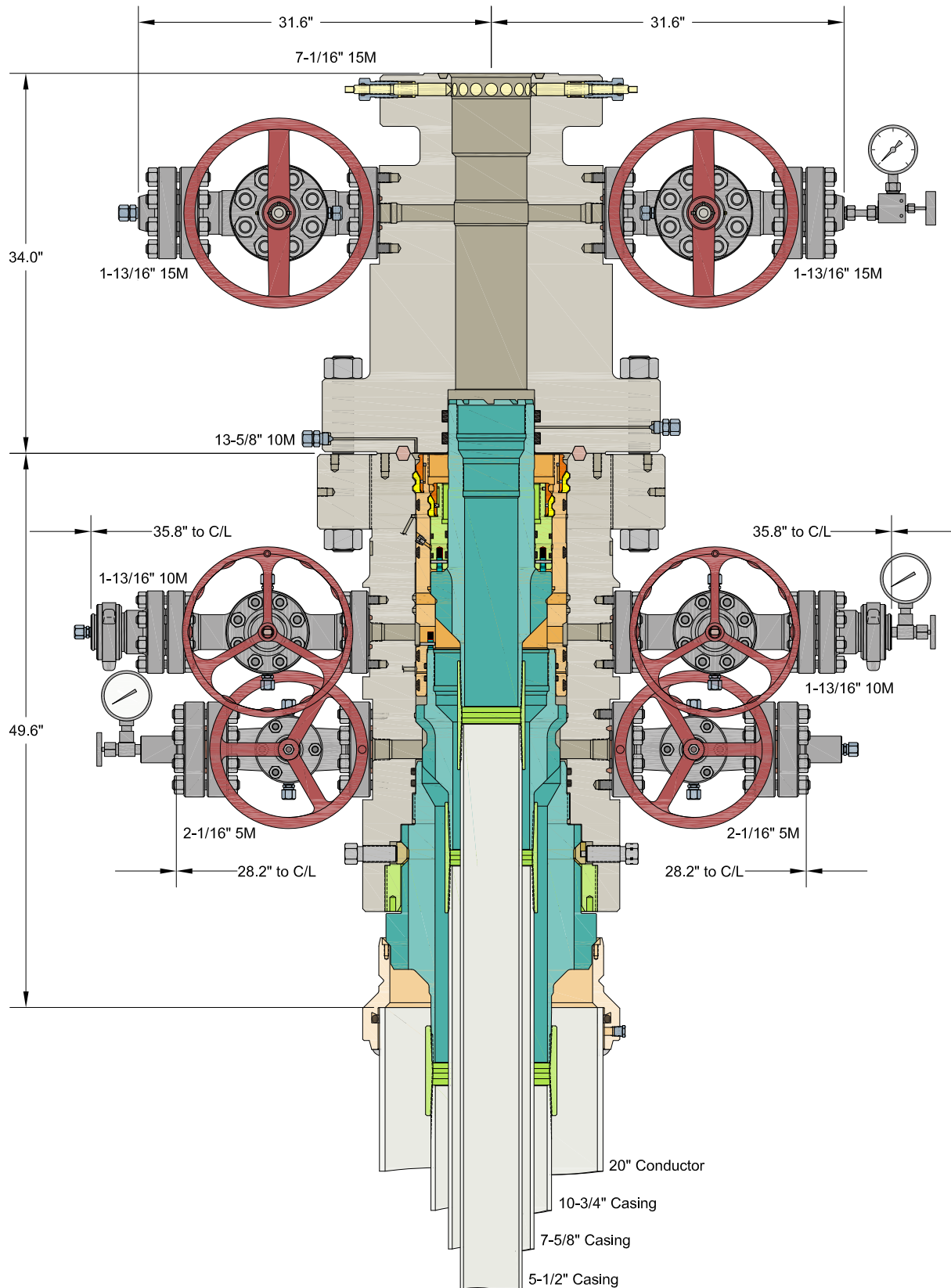
3. A remote kill line is included in the BOPE system

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.



INFORMATION CONTAINED HEREIN IS THE PROPERTY OF CACTUS WELLHEAD, LLC. REPRODUCTION, DISCLOSURE, OR USE THEREOF IS PERMISSIBLE ONLY AS PROVIDED BY CONTRACT OR AS EXPRESSLY AUTHORIZED BY CACTUS WELLHEAD, LLC.

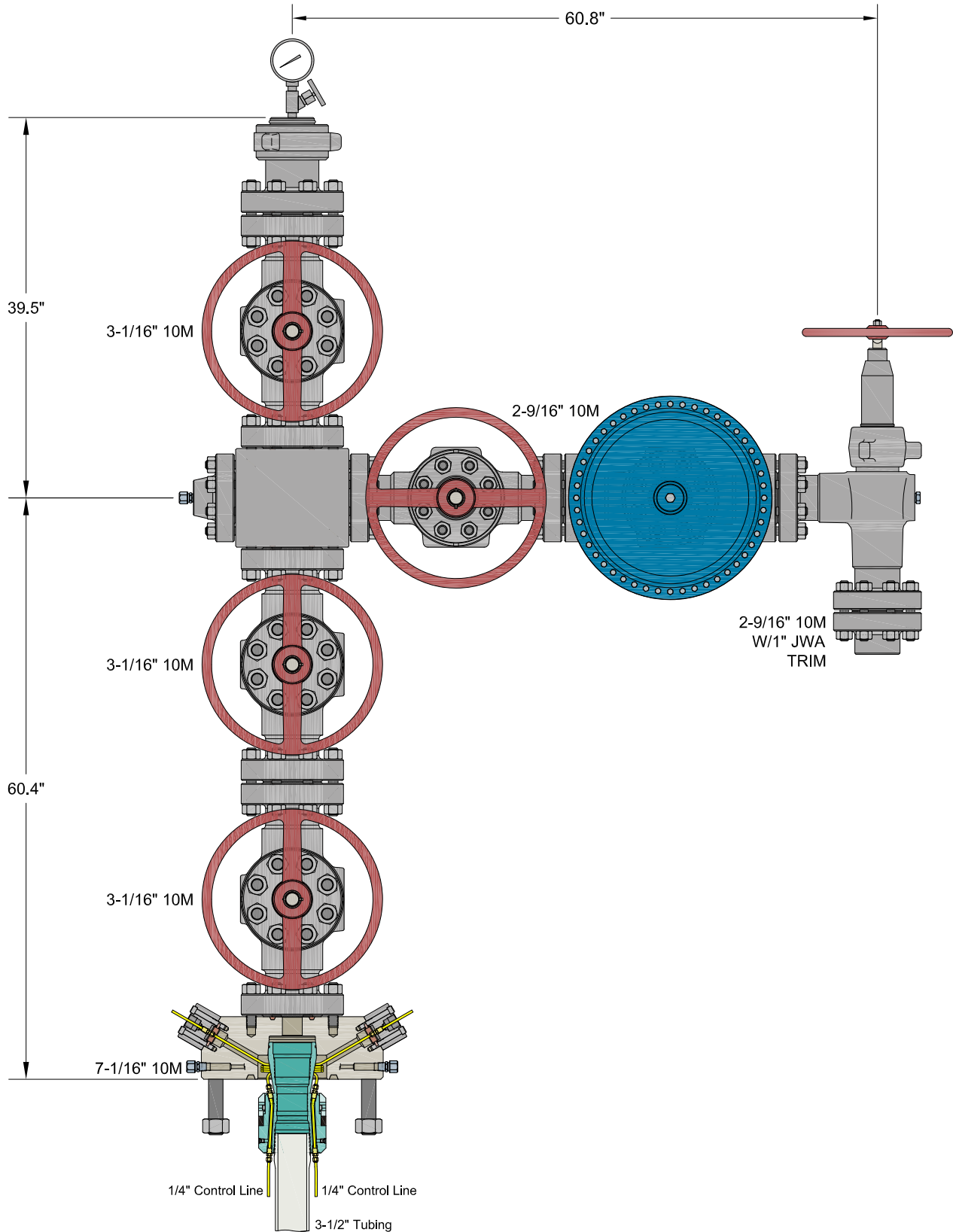
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

COTERRA ENERGY INC
HOBBS, NM

20" x 10-3/4" x 7-5/8" x 5-1/2" MBU-3T-CFL-R-DBLO-SF Wellhead
With 13-5/8" 10M x 7-1/16" 15M CTH-DBLHPS-SB Tubing Head
And 7-5/8" & 5-1/2" Mandrel Casing Hangers

DRAWN	VJK	07JUL23
APPRV		
DRAWING NO.	HBE0000965	



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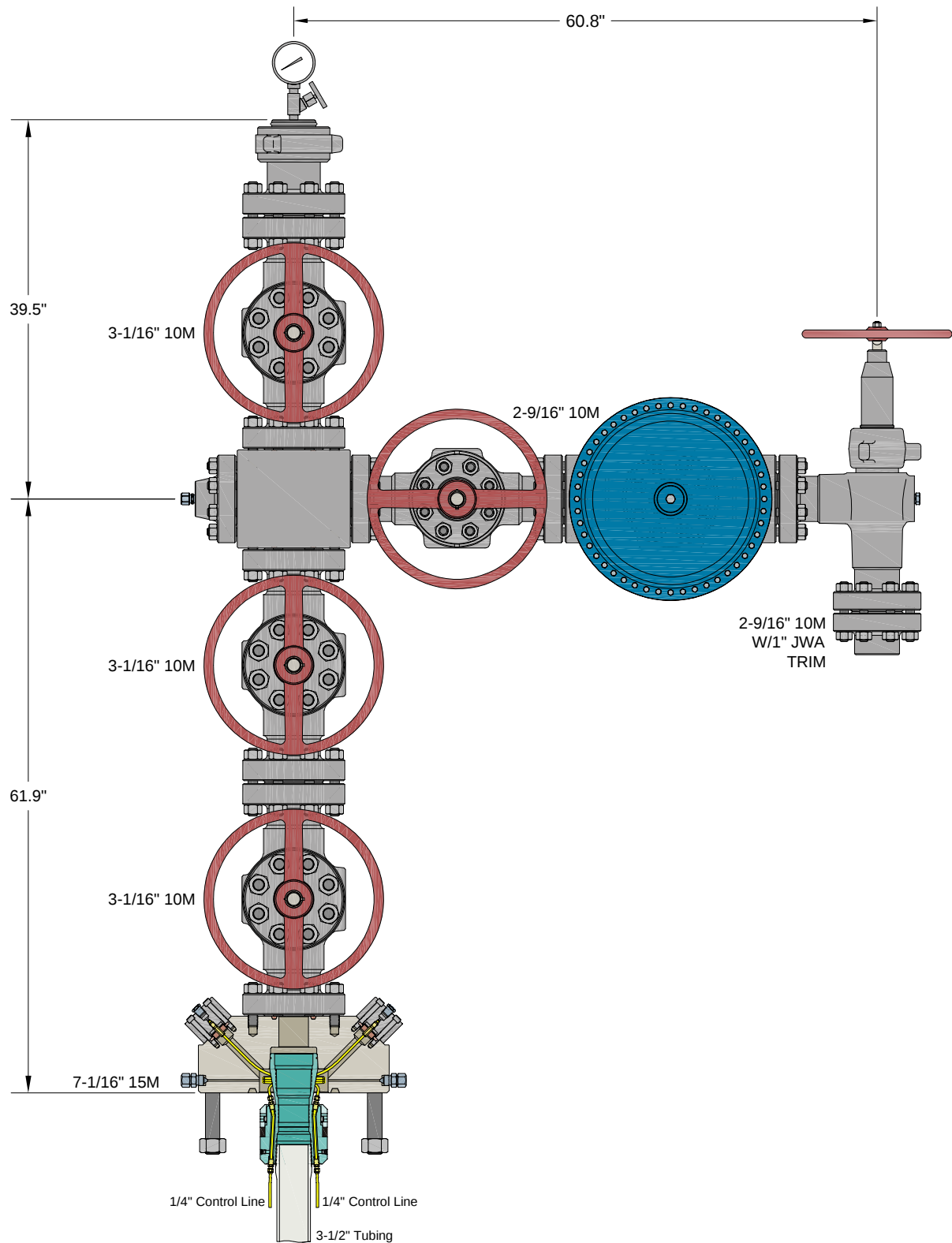
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

CIMAREX
HOBBS, NM

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

DRAWN	VJK	05SEP23
APPRV		
DRAWING NO.	HBE0001018	



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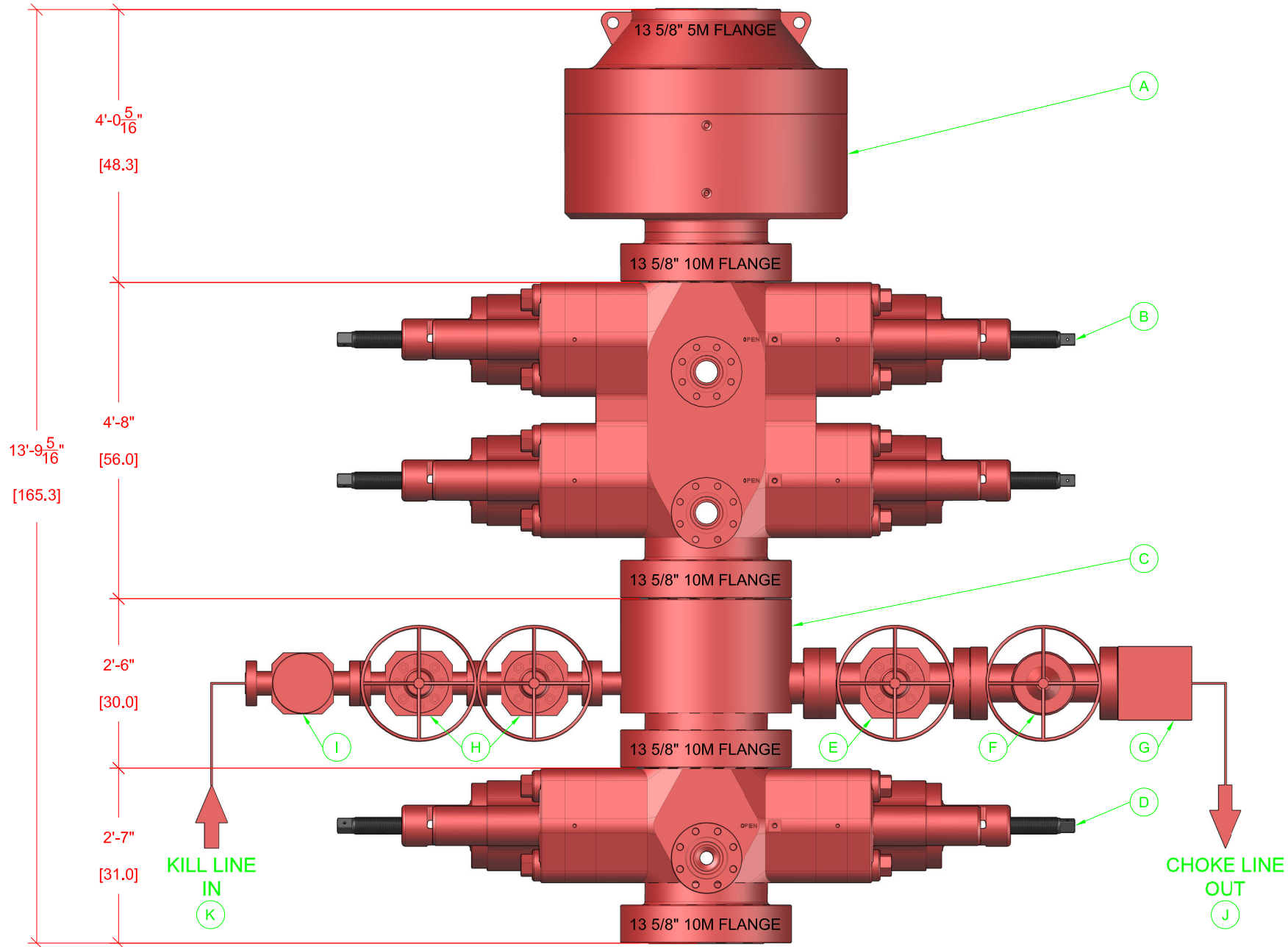
ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC

CIMAREX
HOBBS, NM

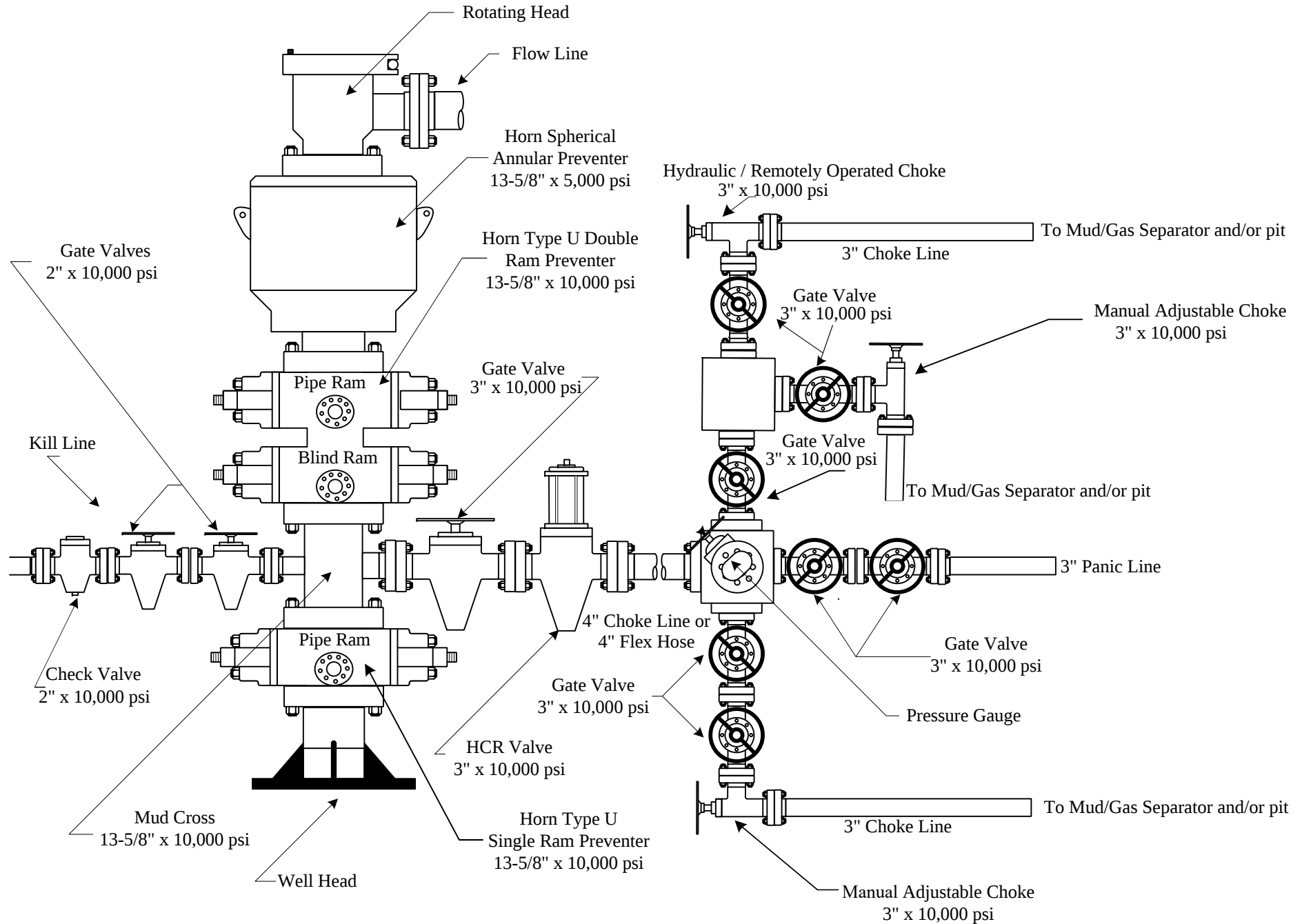
7-1/16" 15M x 3-1/16" x 2-9/16" 10M Production Tree Assembly
With 7-1/16" 15M x 3-1/16" 10M T40-CCL Tubing Head Adapter
And 7-1/16" 3-1/2" T40-CCL Tubing Hanger

DRAWN	VJK	13DEC23
APPRV		
DRAWING NO.	HBE0001018	



BOP EQUIPMENT INFORMATION

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



Coterra: H2S Plan



H2S Drilling Operations Plan

Training

All company and contract personnel admitted on location must be trained by a qualified H2S safety instructor to do the following:

1. Characteristics of H2S
2. Physical effects and hazards
3. Principle and operation of H2S detectors, warning system, and briefing areas
4. Evacuation procedure, routes and first aid
5. Proper use of safety equipment & life support systems
6. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.

H2S Detection and Alarm Systems

1. H2S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may be placed as deemed necessary
2. An audio alarm system will be installed on the derrick floor and in the top doghouse

Windsock and/or wind streamers

1. Windsock at mudpit area should be high enough to be visible
2. Windsock on the rig floor and / or top of doghouse should be high enough to be visible

Condition Flags & Signs

1. Warning signs on access road to location
2. Flags are to be displayed on sign at the entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates

Coterra: H2S Plan

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

Well Control Equipment

1. See the pressure control section of this submission.

Communication

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

Drillstem Testing

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

Coterra: H2S Plan

H2S Contingency Plan

Emergency Procedures

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

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

Ignition of the Gas Source

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

Contacting Authorities

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

Coterra: H2S Plan

Emergency Contacts

Coterra Energy

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

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

Third Party

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



COTERRA

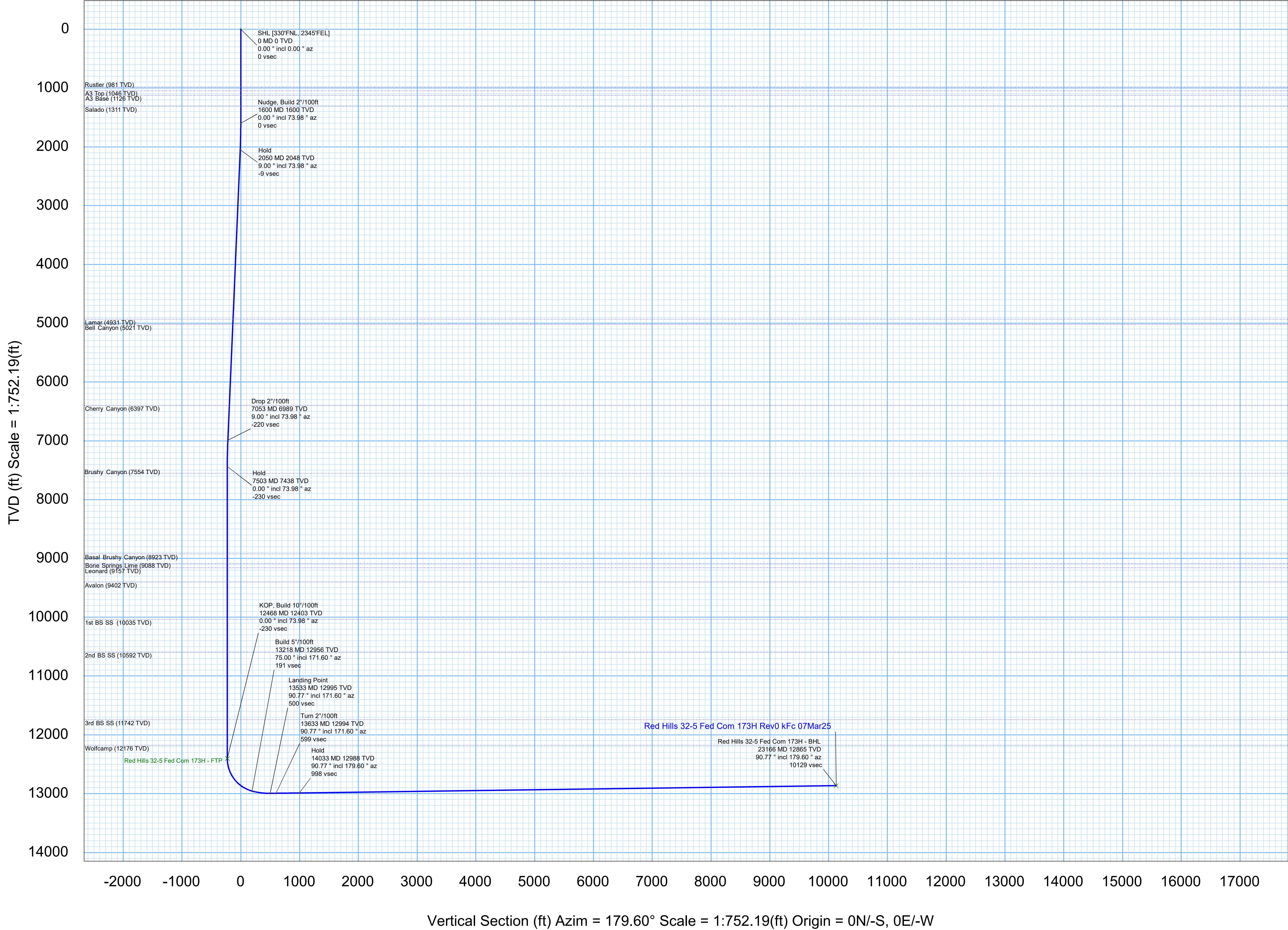
Rev0



Borehole: Red Hills 32-5 Fed Com 173H		Well: Red Hills 32-5 Fed Com 173H		Field: NM Lea County (NAD 83)		Structure: Coterra Red Hills 32-5 Fed Com Pad B	
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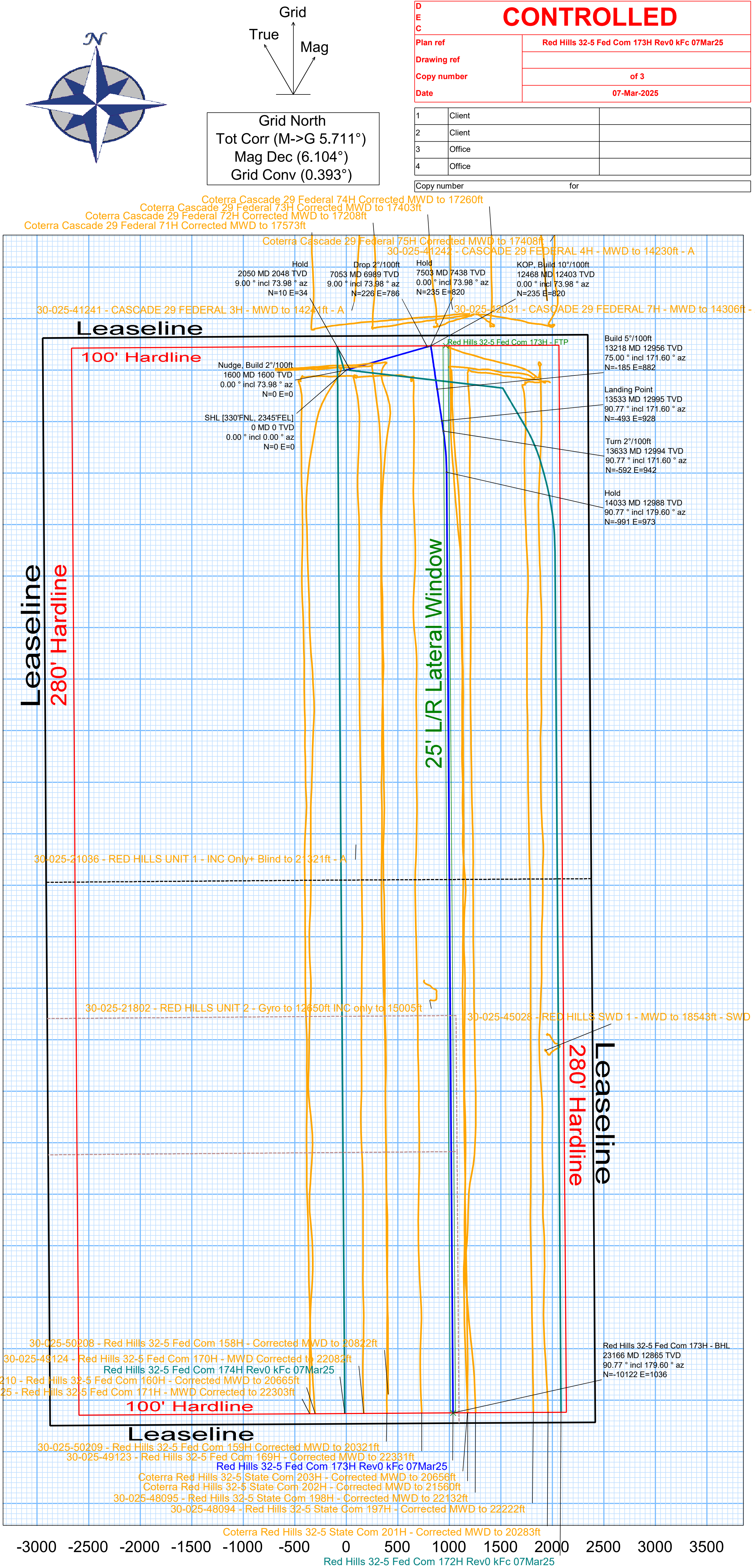
Gravity & Magnetic Parameters				Surface Location				Miscellaneous			
Model:	HDGM 2025	Dip:	59.566°	Date:	07-Mar-2025	Lat:	N 32 5 36.27	Northing:	398504.9ftUS	Grid Conv:	0.3932°
MagDec:	6.104°	FS:	47122.228nT	Gravity FS:	998.429mgn (9.80665 Based)	Lon:	W 103 35 36.06	Easting:	770493.77ftUS	Scale Fact:	0.99996924
								Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25			
								TVD Ref: RKB (3432.100 ft above MSL)			

Critical Point		MD	INCL	AZIM	Critical Points		TVD	VSEC	N(+)S(-)	E(+)W(-)	DLS
SHL [330°FNL, 2345°FEL]		0.00	0.00	0.00			0.00	0.00	0.00	0.00	0.00
Rustler		981.00	0.00	73.98			981.00	0.00	0.00	0.00	0.00
A3 Top		1046.00	0.00	73.98			1046.00	0.00	0.00	0.00	0.00
A3 Base		1126.00	0.00	73.98			1126.00	0.00	0.00	0.00	0.00
Salado		1311.00	0.00	73.98			1311.00	0.00	0.00	0.00	0.00
Nudge, Build 2°/100ft		1600.00	0.00	73.98			1600.00	0.00	0.00	0.00	0.00
Hold		2049.98	9.00	73.98			2048.13	-9.50	9.73	33.90	2.00
Lamar		4968.78	9.00	73.98			4931.00	-132.44	135.75	472.75	0.00
Bell Canyon		5059.90	9.00	73.98			5021.00	-136.28	139.68	486.45	0.00
Cherry Canyon		6453.05	9.00	73.98			6397.00	-194.96	199.83	695.91	0.00
Drop 2°/100ft		7052.92	9.00	73.98			6989.49	-220.23	225.72	786.10	0.00
Hold		7502.91	0.00	73.98			7437.62	-229.73	235.46	820.00	2.00
Brushy Canyon		7619.29	0.00	73.98			7554.00	-229.73	235.46	820.00	0.00
Basal Brushy Canyon		8988.29	0.00	73.98			8923.00	-229.73	235.46	820.00	0.00
Bone Springs Lime		9153.29	0.00	73.98			9088.00	-229.73	235.46	820.00	0.00
Leonard		9222.29	0.00	73.98			9157.00	-229.73	235.46	820.00	0.00
Avalon		9467.29	0.00	73.98			9402.00	-229.73	235.46	820.00	0.00
1st BS SS		10100.29	0.00	73.98			10035.00	-229.73	235.46	820.00	0.00
2nd BS SS		10657.29	0.00	73.98			10592.00	-229.73	235.46	820.00	0.00
3rd BS SS		11807.29	0.00	73.98			11742.00	-229.73	235.46	820.00	0.00
Wolfcamp		12241.29	0.00	73.98			12176.00	-229.73	235.46	820.00	0.00
KOP, Build 10°/100ft		12467.91	0.00	73.98			12402.62	-229.73	235.46	820.00	0.00
Pool NMNM0024368A exit to NMNM0005792 enter		13024.20	55.63	171.60			12875.54	17.34	-11.36	856.45	10.00
Build 5°/100ft		13217.91	75.00	171.60			12956.05	190.81	-184.65	882.04	10.00
Landing Point		13533.31	90.77	171.60			12995.00	499.75	-493.29	927.61	5.00
Turn 2°/100ft		13633.31	90.77	171.60			12993.65	598.77	-592.21	942.22	0.00
Section 33-4 Line Cross, Pool NMNM0005792 exit to NMNM009425 enter		14033.47	90.77	179.60			12988.26	997.61	-990.84	972.88	2.00
Red Hills 32-5 Fed Com 173H - BHL		15663.20	90.77	179.60			12966.26	2627.18	-2620.38	984.14	0.00
		23166.12	90.77	179.60			12865.00	10129.42	-10122.43	1035.97	0.00



NS (ft) Scale = 1:530.17(ft)

EW (ft) Scale = 1:530.17(ft)





Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25 Proposal Geodetic Report

Def Plan

Report Date:	March 07, 2025 - 07:20 PM (UTC 0)	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	COTERRA	Vertical Section Azimuth:	179.600 °(GRID North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Coterra Red Hills 32-5 Fed Com Pad B / Red Hills 32-5 Fed Com 173H	TVD Reference Datum:	RKB
Well:	Red Hills 32-5 Fed Com 173H	TVD Reference Elevation:	3432.100 ft above MSL
Borehole:	Red Hills 32-5 Fed Com 173H	Seabed / Ground Elevation:	3409,100 ft above MSL
UBHI / API#:	Unknown / Unknown	Magnetic Declination:	6.104°
Survey Name:	Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25	Total Gravity Field Strength:	998.4291mgn (9.80665 Based)
Survey Date:	March 07, 2025	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	116.773 ° / 11221.721 ft / 6.368 / 0.864	Total Magnetic Field Strength:	47122.228 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.566°
Location Lat / Long:	32°5'36.26906"N , 103°35'36.05619"W	Declination Date:	March 07, 2025
Location Grid N/E Y/X:	N 398504.900 ftUS , E 770493.770 ftUS	Magnetic Declination Model:	HDGM 2025
CRS Grid Convergence Angle:	0.393°	North Reference:	Grid North
Grid Scale Factor:	0.99996924(Applied)	Grid Convergence Used:	0.393°
Version / Patch:	2024.5.0.1	Total Corr Mag North->Grid North:	5.711°
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (RUS)	Easting (RUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
SHL [330°FNL, 2345°FEL]	0.00	0.00	0.00	0.00	-3,432.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894			
	100.00	0.00	73.98	100.00	-3,332.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	200.00	0.00	73.98	200.00	-3,232.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	300.00	0.00	73.98	300.00	-3,132.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	400.00	0.00	73.98	400.00	-3,032.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	500.00	0.00	73.98	500.00	-2,932.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	600.00	0.00	73.98	600.00	-2,832.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	700.00	0.00	73.98	700.00	-2,732.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	800.00	0.00	73.98	800.00	-2,632.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	900.00	0.00	73.98	900.00	-2,532.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
Rustler	981.00	0.00	73.98	981.00	-2,451.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	1,000.00	0.00	73.98	1,000.00	-2,432.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
A3 Top	1,046.00	0.00	73.98	1,046.00	-2,386.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	1,100.00	0.00	73.98	1,100.00	-2,332.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
A3 Base	1,126.00	0.00	73.98	1,126.00	-2,306.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	1,200.00	0.00	73.98	1,200.00	-2,232.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	1,300.00	0.00	73.98	1,300.00	-2,132.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
Salado	1,311.00	0.00	73.98	1,311.00	-2,121.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	1,400.00	0.00	73.98	1,400.00	-2,032.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	1,500.00	0.00	73.98	1,500.00	-1,932.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
Nudge, Build 2°/100ft	1,600.00	0.00	73.98	1,600.00	-1,832.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
	1,700.00	2.00	73.98	1,699.98	-1,732.12	-0.47	0.48	1.68	398,505.38	770,495.45	32.09340937	-103.59334352	2.00	2.00	0.00
	1,800.00	4.00	73.98	1,799.84	-1,632.26	-1.88	1.93	6.71	398,506.83	770,500.48	32.09341324	-103.59332724	2.00	2.00	0.00
	1,900.00	6.00	73.98	1,899.45	-1,532.65	-4.23	4.33	15.08	398,509.23	770,508.85	32.09341969	-103.59330014	2.00	2.00	0.00
	2,000.00	8.00	73.98	1,998.70	-1,433.40	-7.51	7.69	26.80	398,512.59	770,520.57	32.09342872	-103.59326225	2.00	2.00	0.00
Hold	2,049.98	9.00	73.98	2,048.13	-1,383.97	-9.50	9.73	33.90	398,514.63	770,527.67	32.09343419	-103.59323928	2.00	2.00	0.00
	2,100.00	9.00	73.98	2,097.54	-1,334.56	-11.60	11.89	41.42	398,516.79	770,535.19	32.09343998	-103.59321495	0.00	0.00	0.00
	2,200.00	9.00	73.98	2,196.31	-1,235.79	-15.82	16.21	56.45	398,521.11	770,550.22	32.09345156	-103.59316631	0.00	0.00	0.00
	2,300.00	9.00	73.98	2,295.07	-1,137.03	-20.03	20.53	71.49	398,525.43	770,565.26	32.09346315	-103.59311766	0.00	0.00	0.00
	2,400.00	9.00	73.98	2,393.84	-1,038.26	-24.24	24.84	86.52	398,529.74	770,580.29	32.09347473	-103.59306902	0.00	0.00	0.00
	2,500.00	9.00	73.98	2,492.61	-939.49	-28.45	29.16	101.56	398,534.06	770,595.33	32.09348631	-103.59302038	0.00	0.00	0.00
	2,600.00	9.00	73.98	2,591.38	-840.72	-32.66	33.48	116.59	398,538.38	770,610.36	32.09349790	-103.59297174	0.00	0.00	0.00
	2,700.00	9.00	73.98	2,690.15	-741.95	-36.88	37.80	131.63	398,542.70	770,625.40	32.09350948	-103.59292310	0.00	0.00	0.00
	2,800.00	9.00	73.98	2,788.92	-643.18	-41.09	42.11	146.66	398,547.01	770,640.43	32.09352106	-103.59287445	0.00	0.00	0.00
	2,900.00	9.00	73.98	2,887.69	-544.41	-45.30	46.43	161.70	398,551.33	770,655.46	32.09353264	-103.59282581	0.00	0.00	0.00
	3,000.00	9.00	73.98	2,986.46	-445.64	-49.51	50.75	176.74	398,555.65	770,670.50	32.09354423	-103.59277717	0.00	0.00	0.00
	3,100.00	9.00	73.98	3,085.23	-346.87	-53.73	55.07	191.77	398,559.96	770,685.53	32.09355581	-103.59272853	0.00	0.00	0.00
	3,200.00	9.00	73.98	3,183.99	-248.11	-57.94	59.38	206.81	398,564.28	770,700.57	32.09356739	-103.59267988	0.00	0.00	0.00
	3,300.00	9.00	73.98	3,282.76	-149.34	-62.15	63.70	221.84	398,568.60	770,715.60	32.09357898	-103.59263124	0.00	0.00	0.00
	3,400.00	9.00	73.98	3,381.53	-50.57	-66.36	68.02	236.88	398,572.92	770,730.64	32.09359056	-103.59258260	0.00	0.00	0.00
	3,500.00	9.00	73.98	3,480.30	48.20	-70.57	72.33	251.91	398,577.23	770,745.67	32.09360214	-103.59253396	0.00	0.00	0.00
	3,600.00	9.00	73.98	3,579.07	146.97	-74.79	76.65	266.95	398,581.55	770,760.71	32.09361372	-103.59248532	0.00	0.00	0.00
	3,700.00	9.00	73.98	3,677.84	245.74	-79.00	80.97	281.98	398,585.87	770,775.74	32.09362531	-103.59243667	0.00	0.00	0.00
	3,800.00	9.00	73.98	3,776.61	344.51	-83.21	85.29	297.02	398,590.18	770,790.78	32.09363689	-103.59238803	0.00	0.00	0.00
	3,900.00	9.00	73.98	3,875.38	443.28	-87.42	89.60	312.05	398,594.50	770,805.81	32.09364847	-103.59233939	0.00	0.00	0.00
	4,000.00	9.00	73.98	3,974.15	542.05	-91.64	93.92	327.09	398,598.82	770,820.85	32.09366005	-103.59229075	0.00	0.00	0.00
	4,100.00	9.00	73.98	4,072.91	640.81	-95.85	98.24	342.12	398,603.14	770,835.88	32.09367164	-103.59224211	0.00	0.00	0.00
	4,200.00	9.00	73.98	4,171.68	739.58	-100.06	102.56	357.16	398,607.45	770,850.92	32.09368322	-103.59219346	0.00	0.00	0.00
	4,300.00	9.00	73.98	4,270.45	838.35	-104.27	106.87	372.19	398,611.77	770,865.95	32.09369480	-103.59214482	0.00	0.00	0.00
	4,400.00	9.00	73.98	4,369.22	937.12	-108.48	111.19	387.23	398,616.09	770,880.99	32.09370638	-103.59209618	0.00	0.00	0.00
	4,500.00	9.00	73.98	4,467.99	1,035.89	-112.70	115.51	402.26	398,620.40	770,896.02	32.09371797	-103.59204754	0.00	0.00	0.00
	4,600.00	9.00	73.98	4,566.76	1,134.66	-116.91	119.82	417.30	398,624.72	770,911.06	32.09372955	-103.59199889	0.00	0.00	0.00
	4,700.00	9.00	73.98	4,665.53	1,233.43	-1									

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
Avalon□	9,467.29	0.00	73.98	9,402.00	5,969.90	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	9,500.00	0.00	73.98	9,434.71	6,002.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	9,600.00	0.00	73.98	9,534.71	6,102.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	9,700.00	0.00	73.98	9,634.71	6,202.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	9,800.00	0.00	73.98	9,734.71	6,302.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	9,900.00	0.00	73.98	9,834.71	6,402.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,000.00	0.00	73.98	9,934.71	6,502.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,100.00	0.00	73.98	10,034.71	6,602.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
1st BS SS □	10,100.29	0.00	73.98	10,035.00	6,602.90	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,200.00	0.00	73.98	10,134.71	6,702.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,300.00	0.00	73.98	10,234.71	6,802.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,400.00	0.00	73.98	10,334.71	6,902.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,500.00	0.00	73.98	10,434.71	7,002.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,600.00	0.00	73.98	10,534.71	7,102.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,657.29	0.00	73.98	10,592.00	7,159.90	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,700.00	0.00	73.98	10,634.71	7,202.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
2nd BS SS□	10,800.00	0.00	73.98	10,734.71	7,302.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	10,900.00	0.00	73.98	10,834.71	7,402.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,000.00	0.00	73.98	10,934.71	7,502.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,100.00	0.00	73.98	11,034.71	7,602.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,200.00	0.00	73.98	11,134.71	7,702.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,300.00	0.00	73.98	11,234.71	7,802.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,400.00	0.00	73.98	11,334.71	7,902.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,500.00	0.00	73.98	11,434.71	8,002.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
3rd BS SS□	11,600.00	0.00	73.98	11,534.71	8,102.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,700.00	0.00	73.98	11,634.71	8,202.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,800.00	0.00	73.98	11,734.71	8,302.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,807.29	0.00	73.98	11,742.00	8,309.90	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	11,900.00	0.00	73.98	11,834.71	8,402.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	12,000.00	0.00	73.98	11,934.71	8,502.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	12,100.00	0.00	73.98	12,034.71	8,602.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	12,200.00	0.00	73.98	12,134.71	8,702.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
Wolfcamp□	12,241.29	0.00	73.98	12,176.00	8,743.90	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	12,300.00	0.00	73.98	12,234.71	8,802.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	12,400.00	0.00	73.98	12,334.71	8,902.61	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
KOP, Build 10"/100ft	12,467.91	0.00	73.98	12,402.62	8,970.52	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
	12,500.00	3.21	171.60	12,434.70	9,002.60	-228.84	234.57	820.13	398,739.46	771,313.87	32.09403732	-103.59069566	10.00	10.00	0.00
	12,600.00	13.21	171.60	12,533.55	9,101.45	-214.72	220.46	822.21	398,725.35	771,315.96	32.09399850	-103.59068925	10.00	10.00	0.00
	12,700.00	23.21	171.60	12,628.42	9,196.32	-183.81	189.59	826.77	398,694.48	771,320.52	32.09391355	-103.59067521	10.00	10.00	0.00
	12,800.00	33.21	171.60	12,716.43	9,284.33	-137.06	142.88	833.67	398,647.78	771,327.41	32.09378505	-103.59065398	10.00	10.00	0.00
	12,900.00	43.21	171.60	12,794.91	9,362.81	-75.89	81.77	842.69	398,586.67	771,336.44	32.09361691	-103.59062621	10.00	10.00	0.00
	13,000.00	53.21	171.60	12,861.46	9,429.36	-2.15	8.10	853.57	398,513.00	771,347.31	32.09341422	-103.59059272	10.00	10.00	0.00
	13,100.00	63.21	171.60	12,914.08	9,481.98	81.92	-75.87	865.97	398,429.03	771,359.72	32.09318316	-103.59055455	10.00	10.00	0.00
Build 5"/100ft	13,200.00	73.21	171.60	12,951.15	9,519.05	173.75	-167.62	879.52	398,337.29	771,373.26	32.09293073	-103.59051285	10.00	10.00	0.00
	13,217.91	75.00	171.60	12,956.05	9,523.95	190.81	-184.65	882.04	398,320.25	771,375.78	32.09288386	-103.59050510	10.00	10.00	0.00
	13,300.00	79.10	171.60	12,974.44	9,542.34	270.02	-263.78	893.72	398,241.12	771,387.46	32.09266613	-103.59046913	5.00	5.00	0.00
	13,400.00	84.10	171.60	12,989.04	9,556.94	367.95	-361.62	908.17	398,143.29	771,401.91	32.09239694	-103.59042466	5.00	5.00	0.00
Landing Point	13,500.00	89.10	171.60	12,994.96	9,562.86	466.77	-460.34	922.75	398,044.57	771,416.49	32.09212532	-103.59037979	5.00	5.00	0.00
	13,533.31	90.77	171.60	12,995.00	9,562.90	499.75	-493.29	927.61	398,011.63	771,421.35	32.09203466	-103.59036481	5.00	5.00	0.00
Turn 2"/100ft	13,600.00	90.77	171.60	12,994.10	9,562.00	565.79	-559.26	937.35	397,945.66	771,431.09	32.09185314	-103.59033483	0.00	0.00	0.00
	13,633.31	90.77	171.60	12,993.65	9,561.55	598.77	-592.21	942.22	397,912.71	771,435.96	32.09176250	-103.59031985	0.00	0.00	0.00
Hold	13,700.00	90.77	172.93	12,992.76	9,560.66	664.91	-658.29	951.19	397,846.63	771,444.93	32.09158070	-103.59029235	2.00	0.00	2.00
	13,800.00	90.77	174.93	12,991.41	9,559.31	764.41	-757.71	961.76	397,747.21	771,455.50	32.09130721	-103.59026045	2.00	0.00	2.00
	13,900.00	90.77	176.93	12,990.06	9,557.96	864.19	-857.45	968.85	397,647.48	771,462.59	32.09103294	-103.59023978	2.00	0.00	2.00
	14,000.00	90.77	178.93	12,988.71	9,556.61	964.13	-957.37	972.45	397,547.56	771,466.19	32.09075823	-103.59023036	2.00	0.00	2.00
	14,033.47	90.77	179.60	12,988.26	9,556.16	997.61	-990.84	972.88	397,514.09	771,466.62	32.09066622	-103.59022973	2.00	0.00	2.00
	14,100.00	90.77	179.60	12,987.36	9,555.26	1,064.12	-1,057.36	973.34	397,447.58	771,467.08	32.09048338	-103.59022973	0.00	0.00	0.00
	14,200.00	90.77	179.60	12,986.01	9,553.91	1,164.12	-1,157.34	974.03	397,347.59	771,467.77	32.09020854	-103.59022972	0.00	0.00	0.00
	14,300.00	90.77	179.60	12,984.66	9,552.56	1,264.11	-1,257.33	974.72	397,247.61	771,468.46	32.08993369	-103.59022971	0.00	0.00	0.00
	14,400.00	90.77	179.60	12,983.31	9,551.21	1,364.10	-1,357.32	975.41	397,147.62	771,469.15	32.08965884	-103.59022971	0.00	0.00	0.00
	14,500.00	90.77	179.60	12,981.96	9,549.86	1,464.09	-1,457.31	976.10	397,047.64	771,469.84	32.08938400	-103.59022970	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
Red Hills 32-5 Fed Com 173H - I	22,100.00	90.77	179.60	12,879.39	9,447.29	9,063.40	-9,056.44	1,028.61	389,448.76	771,522.34	32.06849568	-103.59022918	0.00	0.00	0.00
	22,200.00	90.77	179.60	12,878.04	9,445.94	9,163.39	-9,156.42	1,029.30	389,348.78	771,523.04	32.06822083	-103.59022917	0.00	0.00	0.00
	22,300.00	90.77	179.60	12,876.69	9,444.59	9,263.38	-9,256.41	1,029.99	389,248.79	771,523.73	32.06794599	-103.59022916	0.00	0.00	0.00
	22,400.00	90.77	179.60	12,875.34	9,443.24	9,363.37	-9,356.40	1,030.68	389,148.80	771,524.42	32.06767114	-103.59022916	0.00	0.00	0.00
	22,500.00	90.77	179.60	12,873.99	9,441.89	9,463.36	-9,456.39	1,031.37	389,048.82	771,525.11	32.06739629	-103.59022915	0.00	0.00	0.00
	22,600.00	90.77	179.60	12,872.64	9,440.54	9,563.35	-9,556.38	1,032.06	388,948.83	771,525.80	32.06712145	-103.59022914	0.00	0.00	0.00
	22,700.00	90.77	179.60	12,871.29	9,439.19	9,663.34	-9,656.37	1,032.75	388,848.85	771,526.49	32.06684660	-103.59022913	0.00	0.00	0.00
	22,800.00	90.77	179.60	12,869.94	9,437.84	9,763.33	-9,756.36	1,033.44	388,748.86	771,527.18	32.06657175	-103.59022913	0.00	0.00	0.00
	22,900.00	90.77	179.60	12,868.59	9,436.49	9,863.32	-9,856.34	1,034.14	388,648.88	771,527.87	32.06629691	-103.59022912	0.00	0.00	0.00
	23,000.00	90.77	179.60	12,867.24	9,435.14	9,963.31	-9,956.33	1,034.83	388,548.89	771,528.56	32.06602206	-103.59022911	0.00	0.00	0.00
	23,100.00	90.77	179.60	12,865.89	9,433.79	10,063.31	-10,056.32	1,035.52	388,448.91	771,529.25	32.06574721	-103.59022910	0.00	0.00	0.00
	23,166.12	90.77	179.60	12,865.00	9,432.90	10,129.42	-10,122.43	1,035.97	388,382.80	771,529.71	32.06556549	-103.59022910	0.00	0.00	0.00

Survey Type: Def Plan

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

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	12,400.000	1/100.000' .5 – 12.25 – 8.75 3.375 – 9.625 – 7				A001Mb_MWD		Red Hills 32-5 Fed Com 173H / Red Hills 32-5 Fec
	1	12,400.000	23,166.118	1/100.000	8.75 – 6	7 – 6		A008Mb_MWD+IFR1+MS		Red Hills 32-5 Fed Com 173H / Red Hills 32-5 Fec

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
1,299.600	17.500	13.375	
4,936.989	12.250	9.625	
12,565.355	8.750	7.000	
23,166.118	6.000		



Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25 Proposal Geodetic Report

Def Plan

Report Date:	March 07, 2025 - 07:03 PM (UTC 0)	Survey / DLS Computation:	Minimum Curvature / Lubinski
Client:	COTERRA	Vertical Section Azimuth:	179.600 °(GRID North)
Field:	NM Lea County (NAD 83)	Vertical Section Origin:	0.000 ft, 0.000 ft
Structure / Slot:	Coterra Red Hills 32-5 Fed Com Pad B / Red Hills 32-5 Fed Com 173H	TVD Reference Datum:	RKB
Well:	Red Hills 32-5 Fed Com 173H	TVD Reference Elevation:	3432.100 ft above MSL
Borehole:	Red Hills 32-5 Fed Com 173H	Seabed / Ground Elevation:	3409.100 ft above MSL
UBHI / API#:	Unknown / Unknown	Magnetic Declination:	6.104°
Survey Name:	Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25	Total Gravity Field Strength:	998.4291mgn (9.80665 Based)
Survey Date:	March 07, 2025	Gravity Model:	GARM
Tort / AHD / DDI / ERD Ratio:	116.773 ° / 11221.721 ft / 6.368 / 0.864	Total Magnetic Field Strength:	47122.228 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Magnetic Dip Angle:	59.566°
Location Lat / Long:	32°5'36.26906"N , 103°35'36.05619"W	Declination Date:	March 07, 2025
Location Grid N/E Y/X:	N 398504.900 ftUS , E 770493.770 ftUS	Magnetic Declination Model:	HDGM 2025
CRS Grid Convergence Angle:	0.393°	North Reference:	Grid North
Grid Scale Factor:	0.99996924(Applied)	Grid Convergence Used:	0.393°
Version / Patch:	2024.5.0.1	Total Corr Mag North->Grid North:	5.711°
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
SHL [330°FNL, 2345°FEL]	0.00	0.00	0.00	0.00	-3,432.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894			
Nudge, Build 2"/100ft	1,600.00	0.00	73.98	1,600.00	-1,832.10	0.00	0.00	0.00	398,504.90	770,493.77	32.09340807	-103.59334894	0.00	0.00	0.00
Hold	2,049.98	9.00	73.98	2,048.13	-1,383.97	-9.50	9.73	33.90	398,514.63	770,527.67	32.09343419	-103.59323928	2.00	2.00	0.00
Drop 2"/100ft	7,052.92	9.00	73.98	6,989.49	3,557.39	-220.23	225.72	786.10	398,730.62	771,279.85	32.09401366	-103.59080573	0.00	0.00	0.00
Hold	7,502.91	0.00	73.98	7,437.62	4,005.52	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	2.00	-2.00	0.00
KOP, Build 10"/100ft	12,467.91	0.00	73.98	12,402.62	8,970.52	-229.73	235.46	820.00	398,740.35	771,313.74	32.09403977	-103.59069607	0.00	0.00	0.00
Build 5"/100ft	13,217.91	75.00	171.60	12,956.05	9,523.95	190.81	-184.65	882.04	398,320.25	771,375.78	32.09288386	-103.59050510	10.00	10.00	0.00
Landing Point	13,533.31	90.77	171.60	12,995.00	9,562.90	499.75	-493.29	927.61	398,011.63	771,421.35	32.09203466	-103.59036481	5.00	5.00	0.00
Turn 2"/100ft	13,633.31	90.77	171.60	12,993.65	9,561.55	598.77	-592.21	942.22	397,912.71	771,435.96	32.09176250	-103.59031985	0.00	0.00	0.00
Hold	14,033.47	90.77	179.60	12,988.26	9,556.16	997.61	-990.84	972.88	397,514.09	771,466.62	32.09066622	-103.59022973	2.00	0.00	2.00
Red Hills 32-5 Fed Com 173H - BHL	23,166.12	90.77	179.60	12,865.00	9,432.90	10,129.42	-10,122.43	1,035.97	388,382.80	771,529.71	32.06556549	-103.59022910	0.00	0.00	0.00

Survey Type: Def Plan

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

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Vendor / Tool	Borehole / Survey
	1	0.000	12,400.000	1/100.000' 5 – 12.25 – 8.75 3.375 – 9.625 – 7				A001Mb_MWD		Red Hills 32-5 Fed Com 173H / Red Hills 32-5 Fed Com 173H
	1	12,400.000	23,166.118	1/100.000	8.75 – 6	7 – 6		A008Mb_MWD+IFR1+MS		Red Hills 32-5 Fed Com 173H / Red Hills 32-5 Fed Com 173H

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
1,299.600	17.500	13.375	
4,936.989	12.250	9.625	
12,565.355	8.750	7.000	
23,166.118	6.000		



Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25 Anti-Collision Summary Report

Analysis Date-24hr Time:	March 07, 2025 - 07:00 PM (UTC 0)	Analysis Method:	3D Least Distance
Client:	COTERRA	Reference Trajectory:	Red Hills 32-5 Fed Com 173H Rev0 kFc 07Mar25 (Def Plan)
Field:	NM Lea County (NAD 83)	Depth Interval:	Every 10.00 Measured Depth (ft)
Structure:	Coterra Red Hills 32-5 Fed Com Pad B	Rule Set:	NAL Procedure: D&M AntiCollision Standard S002
Slot:	Red Hills 32-5 Fed Com 173H	Min Pts:	Absolute minima indicated.
Well:	Red Hills 32-5 Fed Com 173H	Engine Version:	2024.5.0.1
Borehole:	Red Hills 32-5 Fed Com 173H	Database \ Project:	Red Hills 32-5 Fed Com 173H-COTERRA
Scan MD Range:	0.00ft ~ 23166.12ft		

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

Offset Trajectories Summary

Offset Selection Criteria

Bounding box scan: minimum Ct-Ct separation <= 1999ft
Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

24 out of 27 are selected

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

Results highlighted in red: Sep-Factor <= 1.5

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

Red Hills 32-5 Fed Com 174H Rev0 kFc 07Mar25 (DefinitivePlan) - Fail Minor

20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	0.00	0.00	CtCt<=15.00m	Enter Alert
20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	23.00	23.00		WRP
20.00	18.25	7.40	1.75	1.65	OSF1.50	1190.00	1190.00		MinPts
20.00	20.05	6.30	-0.05	1.50	OSF1.50	1330.00	1330.00	OSF<=1.50	Enter Minor
20.00	24.11	3.60	-4.11	1.23	OSF1.50	1600.00	1600.00		MinPt-CtCt
20.15	24.56	3.45	-4.41	1.22	OSF1.50	1630.00	1630.00		MinPt-EOU
20.27	24.71	3.47	-4.44	1.22	OSF1.50	1640.00	1640.00		MinPts
26.79	27.08	8.41	-0.29	1.48	OSF1.50	1800.00	1799.84	OSF>1.50	Exit Minor
120.35	36.98	95.37	83.37	4.97	OSF1.50	2470.00	2462.98	OSF>5.00	Exit Alert
906.59	186.33	782.05	720.27	7.33	OSF1.50	12467.91	12402.62		MinPts
906.59	186.33	782.05	720.27	7.33	OSF1.50	12470.00	12404.71		MinPt-SF
1050.14	315.85	839.25	734.30	5.00	OSF1.50	20710.00	12898.15	OSF<=5.00	Enter Alert
1049.85	382.19	794.73	667.66	4.13	OSF1.50	23166.12	12865.00		MinPts

30-025-21802 - RED HILLS UNIT 2 - Gyro to 12650ft INC only to 15005ft (DefinitiveSurvey) - Fail Minor

5973.12	32.81	5971.14	5940.31	N/A	MAS = 10.00 (m)	0.00	0.00		Surface
5973.03	32.81	5971.04	5940.22	555610.42	MAS = 10.00 (m)	20.00	20.00		MinPt-SF
5973.02	32.81	5971.03	5940.21	592445.60	MAS = 10.00 (m)	23.00	23.00		WRP
5973.01	32.81	5970.97	5940.20	99126.62	MAS = 10.00 (m)	40.00	40.00		MinPts
5973.06	32.81	5965.41	5940.25	1053.88	MAS = 10.00 (m)	650.00	650.00		MinPts
5974.86	32.81	5961.95	5942.05	546.70	MAS = 10.00 (m)	1190.00	1190.00		MinPt-EOU
5976.10	32.81	5961.11	5943.29	451.60	MAS = 10.00 (m)	1440.00	1440.00		MinPt-EOU
6313.78	140.22	6219.76	6173.56	68.31	OSF1.50	9200.00	9134.71		MinPt-ADP
6327.59	146.70	6229.25	6180.88	65.40	OSF1.50	9620.00	9554.71		MinPt-ADP
6346.54	156.82	6241.45	6189.71	61.32	OSF1.50	10340.00	10274.71		MinPts
6348.47	159.14	6241.84	6189.33	60.44	OSF1.50	10450.00	10384.71		MinPt-EOU
6348.84	159.57	6241.92	6189.27	60.28	OSF1.50	10490.00	10424.71		MinPt-ADP
6352.49	163.71	6242.81	6188.78	58.77	OSF1.50	10770.00	10704.71		MinPt-EOU
6352.96	164.26	6242.92	6188.70	58.57	OSF1.50	10820.00	10754.71		MinPt-ADP
6354.76	166.99	6242.90	6187.77	57.62	OSF1.50	11000.00	10934.71		MinPt-EOU
6355.35	167.68	6243.02	6187.66	57.39	OSF1.50	11060.00	10994.71		MinPt-ADP
648.49	198.46	515.68	450.03	4.93	OSF1.50	18540.00	12927.43	OSF<=5.00	Enter Alert
225.71	227.06	73.84	-1.35	1.49	OSF1.50	19050.00	12920.55	OSF<=1.50	Enter Minor
198.52	236.97	40.04	-38.44	1.26	OSF1.50	19157.41	12919.10		MinPt-CtCt
198.54	237.00	40.04	-38.46	1.26	OSF1.50	19160.00	12919.07		MinPts
228.22	228.99	75.06	-0.77	1.49	OSF1.50	19270.00	12917.58	OSF>1.50	Exit Minor
662.95	201.81	527.91	461.14	4.95	OSF1.50	19790.00	12910.56	OSF>5.00	Exit Alert
4013.26	203.58	3877.04	3809.68	29.78	OSF1.50	23166.12	12865.00		TD

Red Hills 32-5 Fed Com 172H Rev0 kFc 07Mar25 (DefinitivePlan) - Warning Alert

20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	0.00	0.00	CtCt<=15.00m	Enter Alert
20.00	16.26	18.71	3.74	13204.33	MAS = 4.96 (m)	23.00	23.00		WRP
20.00	16.26	13.42	3.74	3.53	MAS = 4.96 (m)	590.00	590.00		MinPts
20.16	16.26	13.18	3.90	3.31	MAS = 4.96 (m)	630.00	630.00		MinPt-EOU
21.41	16.26	13.84	5.15	3.20	MAS = 4.96 (m)	690.00	690.00		MinPt-SF
49.10	16.26	38.21	32.84	4.98	MAS = 4.96 (m)	1030.00	1030.00	OSF>5.00	Exit Alert
809.70	190.46	682.40	619.25	6.40	OSF1.50	12460.00	12394.71		MinPt-EOU
809.76	190.55	682.40	619.22	6.40	OSF1.50	12467.91	12402.62		MinPt-ADP
720.19	187.05	595.16	533.14	5.80	OSF1.50	13410.00	12990.02		MinPt-CtCt
720.25	187.20	595.12	533.05	5.79	OSF1.50	13420.00	12990.92		MinPt-EOU
720.38	187.36	595.15	533.02	5.79	OSF1.50	13430.00	12991.73		MinPt-ADP
723.35	188.56	597.32	534.79	5.78	OSF1.50	13500.00	12994.96		MinPt-SF
1047.46	315.15	837.03	732.31	5.00	OSF1.50	20850.00	12896.26	OSF<=5.00	Enter Alert
1047.69	377.36	795.79	670.33	4.17	OSF1.50	23166.12	12865.00		MinPts

30-025-49125 - Red Hills 32-5 Fed Com 171H - MWD Corrected to 22303ft (DefinitiveSurvey) - Warning Alert

84.84	32.81	83.67	52.03	550671.06	MAS = 10.00 (m)	0.00	0.00		Surface
84.80	32.81	83.61	52.00	4694.47	MAS = 10.00 (m)	23.00	23.00		WRP
73.71	32.81	67.28	40.90	13.81	MAS = 10.00 (m)	610.00	610.00		MinPts
74.02	32.81	63.64	41.21	7.91	MAS = 10.00 (m)	1010.00	1010.00		MinPt-EOU
62.43	32.81	49.10	29.62	4.98	MAS = 10.00 (m)	1470.00	1470.00	OSF<=5.00	Enter Alert
57.49	32.81	42.57	24.68	4.05	MAS = 10.00 (m)	1677.31	1677.30		MinPts
57.59	32.81	42.49	24.78	4.01	MAS = 10.00 (m)	1700.00	1699.98		MinPt-EOU
58.34	32.81	42.92	25.54	3.97	MAS = 10.00 (m)	1740.00	1739.94		MinPt-SF
82.02	32.81	64.73	49.21	4.97	MAS = 10.00 (m)	1970.00	1968.97	OSF>5.00	Exit Alert

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
1298.03	122.62		1215.95	1175.41	16.00	OSF1.50	8690.00	8624.71				MinPt-EOU
1305.43	132.72		1216.62	1172.71	14.85	OSF1.50	9390.00	9324.71				MinPt-EOU
1307.71	135.57		1217.00	1172.14	14.56	OSF1.50	9590.00	9524.71				MinPt-ADP
1301.86	154.16		1198.76	1147.70	12.74	OSF1.50	10870.00	10804.71				MinPt-CtCt
1302.33	155.80		1198.13	1146.52	12.61	OSF1.50	10990.00	10924.71				MinPt-EOU
1302.77	156.33		1198.22	1146.44	12.57	OSF1.50	11030.00	10964.71				MinPt-ADP
1309.97	161.38		1202.05	1148.58	12.24	OSF1.50	11370.00	11304.71				MinPt-EOU
1310.28	161.77		1202.11	1148.51	12.21	OSF1.50	11400.00	11334.71				MinPt-ADP
1326.80	172.05		1211.77	1154.75	11.63	OSF1.50	12180.00	12114.71				MinPt-CtCt
1326.81	172.12		1211.74	1154.70	11.62	OSF1.50	12190.00	12124.71				MinPt-EOU
1326.88	172.18		1211.76	1154.69	11.62	OSF1.50	12200.00	12134.71				MinPt-ADP
1328.58	172.59		1213.19	1155.99	11.60	OSF1.50	12270.00	12204.71				MinPt-SF
1462.80	170.13		1349.05	1292.67	12.96	OSF1.50	13610.00	12993.97				MinPt-SF
1467.91	170.73		1353.77	1297.18	12.96	OSF1.50	13690.00	12992.89				MinPt-SF
1473.12	175.40		1355.86	1297.72	12.66	OSF1.50	14410.00	12983.17				MinPt-CtCt
1473.21	175.64		1355.79	1297.57	12.64	OSF1.50	14440.00	12982.77				MinPt-EOU
1472.35	176.93		1354.07	1295.42	12.54	OSF1.50	14590.00	12980.74				MinPt-CtCt
1472.45	177.20		1353.99	1295.25	12.53	OSF1.50	14620.00	12980.34				MinPt-EOU
1473.23	178.35		1354.00	1294.88	12.45	OSF1.50	14740.00	12978.72				MinPt-EOU
1473.40	178.55		1354.04	1294.85	12.44	OSF1.50	14760.00	12978.45				MinPt-ADP
1462.66	193.81		1333.13	1268.85	11.37	OSF1.50	15960.00	12962.25				MinPt-CtCt
1463.01	194.85		1332.78	1268.16	11.31	OSF1.50	16030.00	12961.31				MinPt-EOU
1460.45	202.92		1324.84	1257.53	10.84	OSF1.50	16520.00	12954.70				MinPt-CtCt
1460.70	203.57		1324.66	1257.14	10.81	OSF1.50	16560.00	12954.16				MinPt-EOU
1460.84	203.73		1324.69	1257.11	10.80	OSF1.50	16570.00	12954.02				MinPt-ADP
1458.40	210.37		1317.83	1248.04	10.44	OSF1.50	16930.00	12949.16				MinPt-CtCt
1458.62	211.05		1317.59	1247.57	10.41	OSF1.50	16970.00	12948.62				MinPt-EOU
1458.91	211.40		1317.66	1247.52	10.39	OSF1.50	16990.00	12948.35				MinPt-ADP
1450.79	217.18		1305.68	1233.62	10.06	OSF1.50	17280.00	12944.44				MinPt-CtCt
1450.98	217.71		1305.52	1233.28	10.04	OSF1.50	17310.00	12944.04				MinPt-EOU
1451.12	217.88		1305.54	1233.24	10.03	OSF1.50	17320.00	12943.90				MinPt-ADP
1469.55	237.93		1310.60	1231.62	9.30	OSF1.50	18250.00	12931.35				MinPt-CtCt
1468.89	248.74		1302.73	1220.14	8.89	OSF1.50	18720.00	12925.01				MinPt-CtCt
1457.26	270.32		1276.72	1186.94	8.11	OSF1.50	19610.00	12912.99				MinPt-CtCt
1458.11	272.44		1276.16	1185.67	8.05	OSF1.50	19700.00	12911.78				MinPt-EOU
1458.60	281.53		1270.58	1177.06	7.79	OSF1.50	20050.00	12907.06				MinPt-CtCt
1460.06	287.57		1268.02	1172.49	7.64	OSF1.50	20290.00	12903.82				MinPt-EOU
1462.53	301.40		1261.27	1161.13	7.30	OSF1.50	20810.00	12896.80				MinPt-CtCt
1450.29	317.55		1238.27	1132.75	6.87	OSF1.50	21410.00	12888.70				MinPt-CtCt
1436.51	342.66		1207.73	1093.84	6.30	OSF1.50	22320.00	12876.42				MinPt-CtCt
1437.11	344.41		1207.18	1092.70	6.27	OSF1.50	22390.00	12875.47				MinPt-EOU
1438.28	347.44		1206.33	1090.84	6.22	OSF1.50	22490.00	12874.12				MinPt-CtCt
1437.97	359.04		1198.29	1078.94	6.02	OSF1.50	22900.00	12868.59				MinPt-CtCt
1439.71	366.61		1194.97	1073.10	5.90	OSF1.50	23166.12	12865.00				MinPts

30-025-49124 - Red Hills 32-5 Fed Com 170H - MWD Corrected to 22082ft (DefinitiveSurvey) - Warning Alert

99.99	32.81	98.71	67.18	988041.86	MAS = 10.00 (m)	0.00	0.00				Surface
99.97	32.81	98.68	67.17	10541.46	MAS = 10.00 (m)	23.00	23.00				WRP
95.54	32.81	89.90	62.73	21.16	MAS = 10.00 (m)	550.00	550.00				MinPts
96.15	32.81	88.87	63.34	15.56	MAS = 10.00 (m)	720.00	720.00				MinPt-EOU
83.99	32.81	66.24	51.18	4.95	MAS = 10.00 (m)	2040.00	2038.27	OSF<=5.00			Enter Alert
80.66	32.81	61.76	47.85	4.45	MAS = 10.00 (m)	2165.53	2162.26				MinPts
80.76	32.81	61.63	47.95	4.40	MAS = 10.00 (m)	2190.00	2186.43				MinPt-EOU
83.21	32.81	63.15	50.40	4.31	MAS = 10.00 (m)	2290.00	2285.20				MinPt-SF
116.32	35.68	92.20	80.63	4.99	OSF1.50	2730.00	2719.78	OSF>5.00			Exit Alert
784.21	144.38	687.63	639.83	8.19	OSF1.50	10210.00	10144.71				MinPt-CtCt
784.71	145.73	687.23	638.98	8.12	OSF1.50	10310.00	10244.71				MinPt-EOU
789.49	153.46	686.86	636.03	7.76	OSF1.50	10840.00	10774.71				MinPt-EOU
789.81	153.84	686.92	635.97	7.74	OSF1.50	10870.00	10804.71				MinPt-ADP
806.23	161.40	698.31	644.83	7.53	OSF1.50	11390.00	11324.71				MinPt-ADP
811.57	167.19	699.78	644.38	7.32	OSF1.50	11780.00	11714.71				MinPt-EOU
812.13	167.89	699.87	644.24	7.29	OSF1.50	11830.00	11764.71				MinPt-ADP
813.71	168.43	701.10	645.29	7.28	OSF1.50	11890.00	11824.71				MinPt-SF
1070.99	154.25	967.83	916.74	10.47	OSF1.50	13610.00	12993.97				MinPt-CtCt
1071.10	154.51	967.77	916.59	10.46	OSF1.50	13630.00	12993.70				MinPt-EOU
1071.22	154.65	967.80	916.58	10.45	OSF1.50	13640.00	12993.56				MinPt-ADP
1073.19	162.63	964.44	910.56	9.95	OSF1.50	14540.00	12981.42				MinPt-CtCt
1073.20	162.70	964.41	910.50	9.95	OSF1.50	14550.00	12981.28				MinPt-EOU
1073.26	162.77	964.41	910.49	9.94	OSF1.50	14560.00	12981.15				MinPt-ADP
1073.77	164.93	963.49	908.84	9.82	OSF1.50	14790.00	12978.05				MinPt-CtCt
1073.94	165.42	963.33	908.52	9.79	OSF1.50	14840.00	12977.37				MinPt-EOU
1074.19	165.73	963.37	908.46	9.77	OSF1.50	14870.00	12976.97				MinPt-ADP
1077.38	172.09	962.33	905.29	9.44	OSF1.50	15390.00	12969.95				MinPt-CtCt
1077.94	173.53	961.92	904.40	9.36	OSF1.50	15500.00	12968.46				MinPt-EOU
1079.13	175.90	961.53	903.22	9.25	OSF1.50	15670.00	12966.17				MinPt-EOU
1079.60	176.45	961.63	903.14	9.22	OSF1.50	15710.00	12965.63				MinPt-ADP
1080.13	181.42	958.85	898.71	8.97	OSF1.50	16030.00	12961.31				MinPt-CtCt
1079.55	186.31	955.02	893.24	8.73	OSF1.50	16320.00	12957.40				MinPt-CtCt
1067.02	207.06	928.65	859.96	7.76	OSF1.50	17390.00	12942.96				MinPt-CtCt
1066.19	210.89	925.27	855.30	7.61	OSF1.50	17570.00	12940.53				MinPt-CtCt
1064.89	214.92	921.29	849.97	7.46	OSF1.50	17750.00	12938.10				MinPt-CtCt
1058.91	232.05	903.88	826.86	6.87	OSF1.50	18490.00	12928.11				MinPt-CtCt
1059.73	234.64	902.97	825.09	6.80	OSF1.50	18600.00	12926.63				MinPt-EOU
1064.79	245.40	900.86	819.39	6.53	OSF1.50	19030.00	12920.82				MinPt-CtCt
1066.28	255.10	895.88	811.18	6.29	OSF1.50	19410.00	12915.69				MinPt-CtCt
1065.60	269.94	885.32	795.66	5.94	OSF1.50	19980.00	12908.00				MinPt-CtCt
1066.19	271.70	884.73	794.49	5.90	OSF1.50	20050.00	12907.06				MinPt-EOU
1066.83	272.45	884.87	794.38	5.89	OSF1.50	20080.00	12906.65				MinPt-ADP
1051.90	303.87	849.00	748.04	5.20	OSF1.50	21230.00	12891.13				MinPt-CtCt
1050.29	316.02	839.28	734.27	5.00	OSF1.50	21660.00	12885.33	OSF<=5.00			Enter Alert
1050.24	317.71	838.10	732.53	4.97	OSF1.50	21720.00	12884.52				MinPt-CtCt
1046.69	335.21	822.89	711.48	4.69	OSF1.50	22340.00	12876.15				MinPt-CtCt

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
	1048.66	340.33	821.45	708.33	4.63	OSF1.50	22520.00	12873.72				MinPt-EOU
	1042.43	359.29	802.58	683.14	4.36	OSF1.50	23166.12	12865.00				MinPts
30-025-49123 - Red Hills 32-5 Fed Com 169H - Corrected MWD to 22331ft (DefinitiveSurvey) - Warning Alert												
	116.60	32.81	115.42	83.79	850753.57	MAS = 10.00 (m)	0.00	0.00				MinPts
	116.62	32.81	115.44	83.82	10926.78	MAS = 10.00 (m)	23.00	23.00				WRP
	116.75	32.81	115.38	83.94	608.75	MAS = 10.00 (m)	60.00	60.00				MinPt-EOU
	125.71	32.81	115.41	92.90	13.65	MAS = 10.00 (m)	1000.00	1000.00				MinPt-EOU
	125.99	32.81	115.50	93.19	13.23	MAS = 10.00 (m)	1040.00	1040.00				MinPt-EOU
	138.87	32.81	126.17	106.06	11.77	MAS = 10.00 (m)	1390.00	1390.00				MinPt-SF
	185.27	32.81	163.85	152.46	9.02	MAS = 10.00 (m)	2430.00	2423.47				MinPts
	185.70	33.06	163.33	152.64	8.64	OSF1.50	2530.00	2522.24				MinPt-EOU
	181.40	41.19	153.62	140.21	6.73	OSF1.50	3070.00	3055.59				MinPt-CtCt
	181.79	42.25	153.30	139.54	6.57	OSF1.50	3140.00	3124.73				MinPt-EOU
	182.29	42.86	153.39	139.43	6.49	OSF1.50	3180.00	3164.24				MinPt-ADP
	189.51	49.54	156.16	139.98	5.82	OSF1.50	3600.00	3579.07				MinPt-EOU
	190.18	50.33	156.30	139.85	5.75	OSF1.50	3650.00	3628.45				MinPt-ADP
	196.63	59.81	156.43	136.82	4.99	OSF1.50	4230.00	4201.31	OSF<=5.00			Enter Alert
	197.13	60.79	156.28	136.34	4.92	OSF1.50	4290.00	4260.58				MinPt-EOU
	197.95	61.77	156.44	136.17	4.86	OSF1.50	4350.00	4319.84				MinPt-ADP
	209.01	67.47	163.70	141.54	4.69	OSF1.50	4700.00	4665.53				MinPt-SF
	241.68	84.80	184.82	156.88	4.31	OSF1.50	5720.00	5672.97				MinPt-EOU
	244.07	87.75	185.24	156.31	4.20	OSF1.50	5900.00	5850.76				MinPt-ADP
	253.27	92.54	191.25	160.73	4.13	OSF1.50	6210.00	6156.94				MinPt-SF
	347.34	112.61	271.94	234.73	4.65	OSF1.50	7720.00	7654.71				MinPt-ADP
	359.04	122.38	277.12	236.66	4.42	OSF1.50	8440.00	8374.71				MinPt-ADP
	375.85	139.10	282.79	236.75	4.07	OSF1.50	9630.00	9564.71				MinPt-EOU
	377.65	143.76	281.48	233.89	3.96	OSF1.50	9960.00	9894.71				MinPt-EOU
	377.98	144.16	281.55	233.83	3.95	OSF1.50	9990.00	9924.71				MinPt-ADP
	384.51	150.13	284.10	234.38	3.86	OSF1.50	10400.00	10334.71				MinPt-ADP
	362.91	173.28	247.06	189.63	3.15	OSF1.50	12000.00	11934.71				MinPts
	523.98	158.87	417.73	365.11	4.97	OSF1.50	12590.00	12523.79	OSF>5.00			Exit Alert
	553.57	135.29	463.05	418.29	6.17	OSF1.50	13800.00	12991.41				MinPt-CtCt
	553.70	135.58	462.99	418.12	6.16	OSF1.50	13820.00	12991.14				MinPt-EOU
	553.85	135.73	463.03	418.11	6.15	OSF1.50	13830.00	12991.00				MinPt-ADP
	557.31	137.36	465.41	419.95	6.12	OSF1.50	13950.00	12989.38				MinPt-SF
	554.95	145.76	457.44	409.19	5.74	OSF1.50	14930.00	12976.16				MinPt-CtCt
	555.22	146.66	457.12	408.56	5.71	OSF1.50	14980.00	12975.48				MinPt-EOU
	555.86	147.44	457.24	408.43	5.68	OSF1.50	15020.00	12974.94				MinPt-ADP
	551.51	162.53	442.83	388.98	5.11	OSF1.50	16020.00	12961.45				MinPt-CtCt
	552.21	164.52	442.20	387.69	5.06	OSF1.50	16110.00	12960.23				MinPt-EOU
	553.15	165.63	442.41	387.53	5.03	OSF1.50	16160.00	12959.56				MinPt-ADP
	555.43	167.39	443.51	388.04	5.00	OSF1.50	16250.00	12958.34	OSF<=5.00			Enter Alert
	552.55	173.62	436.47	378.93	4.79	OSF1.50	16570.00	12954.02				MinPt-CtCt
	551.33	188.45	425.36	362.88	4.40	OSF1.50	17240.00	12944.98				MinPt-CtCt
	552.34	192.34	423.78	360.00	4.32	OSF1.50	17400.00	12942.82				MinPt-EOU
	553.45	193.67	424.00	359.77	4.30	OSF1.50	17450.00	12942.15				MinPt-ADP
	553.71	200.54	419.69	353.17	4.15	OSF1.50	17720.00	12938.50				MinPt-CtCt
	554.22	202.28	419.04	351.94	4.12	OSF1.50	17780.00	12937.69				MinPt-EOU
	554.91	203.16	419.14	351.75	4.11	OSF1.50	17810.00	12937.29				MinPt-ADP
	543.92	227.19	392.13	316.73	3.60	OSF1.50	18750.00	12924.60				MinPt-CtCt
	541.00	239.23	381.18	301.77	3.40	OSF1.50	19220.00	12918.26				MinPt-CtCt
	529.62	262.17	354.51	267.45	3.04	OSF1.50	20060.00	12906.92				MinPt-CtCt
	525.35	272.96	343.05	252.39	2.89	OSF1.50	20440.00	12901.79				MinPt-CtCt
	524.97	278.12	339.23	246.85	2.84	OSF1.50	20620.00	12899.36				MinPt-CtCt
	524.25	285.76	333.41	238.49	2.76	OSF1.50	20880.00	12895.85				MinPt-CtCt
	526.03	289.51	332.69	236.51	2.73	OSF1.50	21000.00	12894.23				MinPt-EOU
	526.94	293.57	330.89	233.36	2.70	OSF1.50	21140.00	12892.34				MinPt-CtCt
	527.40	295.18	330.28	232.21	2.68	OSF1.50	21190.00	12891.67				MinPt-EOU
	528.14	296.12	330.40	232.02	2.68	OSF1.50	21220.00	12891.27				MinPt-ADP
	530.21	302.05	328.52	228.16	2.64	OSF1.50	21430.00	12888.43				MinPt-CtCt
	504.91	329.68	284.79	175.22	2.30	OSF1.50	22380.00	12875.61				MinPt-CtCt
	505.61	331.70	284.15	173.91	2.29	OSF1.50	22440.00	12874.80				MinPt-EOU
	493.40	353.38	257.49	140.02	2.10	OSF1.50	23166.12	12865.00				MinPts
Coterra Red Hills 32-5 State Com 202H - Corrected MWD to 21560ft (DefinitiveSurvey) - Warning Alert												
	1856.44	32.81	1855.15	1823.63	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1856.37	32.81	1855.07	1823.56	210196.20	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	1856.35	32.81	1855.06	1823.54	#####	MAS = 10.00 (m)	20.00	20.00				MinPts
	1856.35	32.81	1855.06	1823.54	3796307.09	MAS = 10.00 (m)	23.00	23.00				WRP
	1857.10	32.81	1847.05	1824.29	211.91	MAS = 10.00 (m)	970.00	970.00				MinPt-EOU
	333.00	100.94	265.38	232.06	4.98	OSF1.50	6680.00	6621.15	OSF<=5.00			Enter Alert
	164.40	123.83	81.52	40.57	2.00	OSF1.50	8190.32	8125.03				MinPt-CtCt
	165.08	125.62	81.00	39.46	1.97	OSF1.50	8320.00	8254.71				MinPt-EOU
	173.62	136.06	82.59	37.56	1.92	OSF1.50	9060.00	8994.71				MinPt-EOU
	176.84	147.68	78.06	29.16	1.80	OSF1.50	9870.00	9804.71				MinPt-CtCt
	176.95	148.07	77.91	28.88	1.79	OSF1.50	9900.00	9834.71				MinPt-EOU
	177.16	148.33	77.94	28.82	1.79	OSF1.50	9920.00	9854.71				MinPt-ADP
	177.29	148.46	77.99	28.83	1.79	OSF1.50	9930.00	9864.71				MinPt-SF
	180.87	161.09	73.14	19.78	1.69	OSF1.50	10830.00	10764.71				MinPt-CtCt
	181.03	161.64	72.95	19.39	1.68	OSF1.50	10870.00	10804.71				MinPt-EOU
	181.13	161.77	72.95	19.36	1.68	OSF1.50	10880.00	10814.71				MinPt-ADP
	181.27	161.90	73.01	19.37	1.68	OSF1.50	10890.00	10824.71				MinPt-SF
	453.09	137.88	360.84	315.21	4.95	OSF1.50	11660.00	11594.71	OSF>5.00			Exit Alert
	1565.83	118.10	1486.77	1447.73	20.04	OSF1.50	13860.00	12990.60				MinPt-CtCt
	1566.05	118.79	1486.53	1447.26	19.93	OSF1.50	13930.00	12989.65				MinPt-EOU
	1566.39	119.21	1486.59	1447.19	19.86	OSF1.50	13970.00	12989.11				MinPt-ADP
	1567.86	122.57	1485.82	1445.29	19.33	OSF1.50	14270.00	12985.06				MinPt-EOU
	1568.20	122.98	1485.89	1445.23	19.27	OSF1.50	14300.00	12984.66				MinPt-ADP
	1561.12	136.02	1470.11	1425.10	17.33	OSF1.50	15140.00	12973.32				MinPt-CtCt
	1556.19	149.03	1456.51	1407.16	15.76	OSF1.50	15800.00	12964.41				MinPt-CtCt
	1547.57	168.96	1434.60	1378.61	13.81	OSF1.50	16670.00	12952.67				MinPt-CtCt

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	
	1541.01	179.18	1421.23	1361.83	12.96	OSF1.50	17080.00	12947.14				MinPt-CtCt
	1541.19	184.05	1418.16	1357.14	12.62	OSF1.50	17270.00	12944.57				MinPt-CtCt
	1540.84	191.38	1412.93	1349.47	12.13	OSF1.50	17550.00	12940.80				MinPt-CtCt
	1522.35	222.44	1373.73	1299.91	10.30	OSF1.50	18680.00	12925.55				MinPt-CtCt
	1512.74	240.49	1352.08	1272.25	9.47	OSF1.50	19310.00	12917.04				MinPt-CtCt
	1510.28	246.61	1345.55	1263.67	9.22	OSF1.50	19520.00	12914.21				MinPt-CtCt
	1471.95	324.16	1255.51	1147.78	6.83	OSF1.50	22090.00	12879.52				MinPt-CtCt
	1472.63	326.28	1254.78	1146.35	6.79	OSF1.50	22160.00	12878.58				MinPt-EOU
	1455.33	357.38	1216.75	1097.95	6.12	OSF1.50	23166.12	12865.00				MinPts
Coterra Cascade 29 Federal 73H Corrected MWD to 17403ft (DefinitiveSurvey) - Warning Alert												
	1356.24	32.81	1355.06	1323.43	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1356.20	32.81	1355.01	1323.39	314371.32	MAS = 10.00 (m)	23.00	23.00				WRP
	1350.92	32.81	1341.20	1318.11	157.95	MAS = 10.00 (m)	950.00	950.00				MinPts
	309.57	93.70	246.78	215.87	4.99	OSF1.50	6160.00	6107.55	OSF<=5.00			Enter Alert
	185.03	126.90	100.10	58.13	2.19	OSF1.50	8211.48	8146.19				MinPt-CtCt
	187.62	142.82	92.08	44.80	1.97	OSF1.50	9380.00	9314.71				MinPt-CtCt
	189.09	145.93	91.47	43.16	1.95	OSF1.50	9600.00	9534.71				MinPt-EOU
	189.74	146.76	91.57	42.98	1.94	OSF1.50	9660.00	9594.71				MinPt-ADP
	189.89	146.90	91.63	43.00	1.94	OSF1.50	9670.00	9604.71				MinPt-SF
	203.46	155.54	99.44	47.93	1.97	OSF1.50	10290.00	10224.71				MinPt-EOU
	204.80	157.09	99.74	47.70	1.96	OSF1.50	10400.00	10334.71				MinPt-ADP
	213.10	164.04	103.42	49.06	1.95	OSF1.50	10890.00	10824.71				MinPt-SF
	223.91	171.14	109.49	52.77	1.97	OSF1.50	11370.00	11304.71				MinPt-CtCt
	223.84	179.54	103.82	44.31	1.87	OSF1.50	11940.00	11874.71				MinPt-CtCt
	223.89	179.68	103.78	44.21	1.87	OSF1.50	11950.00	11884.71				MinPt-EOU
	224.00	179.81	103.80	44.19	1.87	OSF1.50	11960.00	11894.71				MinPts
	548.14	167.82	435.93	380.32	4.92	OSF1.50	12740.00	12664.60	OSF>5.00			Exit Alert
	10619.00	200.27	10485.15	10418.72	79.92	OSF1.50	23166.12	12865.00				TD
Coterra Red Hills 32-5 State Com 203H - Corrected MWD to 20656ft (DefinitiveSurvey) - Warning Alert												
	1836.46	32.81	1835.18	1803.65	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1836.39	32.81	1835.10	1803.58	218880.92	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	1836.38	32.81	1835.09	1803.57	1883633.36	MAS = 10.00 (m)	23.00	23.00				WRP
	1827.36	32.81	1817.26	1794.55	207.13	MAS = 10.00 (m)	970.00	970.00				MinPt-EOU
	1826.82	32.81	1814.71	1794.01	166.34	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	1826.65	32.81	1813.71	1793.85	152.66	MAS = 10.00 (m)	1290.00	1290.00				MinPts
	347.78	105.27	277.27	242.51	4.99	OSF1.50	6760.00	6700.17	OSF<=5.00			Enter Alert
	267.85	124.11	184.78	143.74	3.25	OSF1.50	7900.00	7834.71				MinPt-CtCt
	268.42	126.29	183.90	142.13	3.20	OSF1.50	8060.00	7994.71				MinPt-EOU
	269.30	127.36	184.07	141.95	3.18	OSF1.50	8140.00	8074.71				MinPt-ADP
	287.69	143.47	191.72	144.22	3.02	OSF1.50	9330.00	9264.71				MinPt-ADP
	291.63	146.18	193.84	145.44	3.00	OSF1.50	9530.00	9464.71				MinPt-SF
	309.35	155.94	205.07	153.42	2.99	OSF1.50	10230.00	10164.71				MinPt-SF
	477.76	145.85	380.20	331.91	4.94	OSF1.50	10800.00	10734.71	OSF>5.00			Exit Alert
	2215.25	129.61	2128.51	2085.64	25.82	OSF1.50	15100.00	12973.86				MinPt-CtCt
	2214.31	136.69	2122.86	2077.62	24.46	OSF1.50	15480.00	12968.73				MinPt-CtCt
	2211.18	153.42	2108.57	2057.76	21.75	OSF1.50	16260.00	12958.21				MinPt-CtCt
	2174.02	215.48	2030.04	1958.54	15.20	OSF1.50	18630.00	12926.22				MinPt-CtCt
	2106.16	352.54	1870.80	1753.62	8.98	OSF1.50	23166.12	12865.00				MinPts
Coterra Cascade 29 Federal 72H Corrected MWD to 17208ft (DefinitiveSurvey) - Warning Alert												
	1337.91	32.81	1336.74	1305.10	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1337.88	32.81	1336.70	1305.07	1332949.18	MAS = 10.00 (m)	23.00	23.00				WRP
	289.41	87.71	230.60	201.69	4.99	OSF1.50	5540.00	5495.19	OSF<=5.00			Enter Alert
	285.08	90.56	224.38	194.53	4.76	OSF1.50	5699.02	5652.25				MinPt-CtCt
	285.25	91.08	224.21	194.18	4.73	OSF1.50	5730.00	5682.85				MinPt-EOU
	285.54	91.40	224.27	194.14	4.72	OSF1.50	5750.00	5702.60				MinPt-ADP
	288.01	92.66	225.90	195.34	4.70	OSF1.50	5830.00	5781.62				MinPt-SF
	320.47	96.93	255.52	223.54	4.99	OSF1.50	6150.00	6097.68	OSF>5.00			Exit Alert
	576.45	118.56	497.08	457.89	7.34	OSF1.50	7700.00	7634.71				MinPt-ADP
	582.86	125.95	498.57	456.92	6.98	OSF1.50	8220.00	8154.71				MinPt-EOU
	586.19	146.15	488.43	440.04	6.05	OSF1.50	9650.00	9584.71				MinPt-CtCt
	586.85	148.24	487.70	438.61	5.97	OSF1.50	9800.00	9734.71				MinPt-EOU
	587.31	148.80	487.78	438.51	5.95	OSF1.50	9840.00	9774.71				MinPt-ADP
	594.99	176.20	477.19	418.79	5.09	OSF1.50	11750.00	11684.71				MinPt-CtCt
	595.12	176.74	476.97	418.38	5.07	OSF1.50	11790.00	11724.71				MinPts
	596.60	177.46	477.97	419.14	5.06	OSF1.50	11850.00	11784.71				MinPt-SF
	10638.75	201.87	10503.84	10436.88	79.43	OSF1.50	23166.12	12865.00				TD
30-025-48095 - Red Hills 32-5 State Com 198H - Corrected MWD to 22132ft (DefinitiveSurvey) - Warning Alert												
	1939.84	32.81	1938.66	1907.03	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1939.76	32.81	1938.57	1906.95	198443.34	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	1939.74	32.81	1938.56	1906.93	4044688.31	MAS = 10.00 (m)	23.00	23.00				WRP
	440.82	132.94	351.87	307.88	5.00	OSF1.50	9160.00	9094.71	OSF<=5.00			Enter Alert
	430.12	148.90	330.53	281.22	4.35	OSF1.50	10278.71	10213.43				MinPt-CtCt
	431.57	154.39	328.32	277.18	4.21	OSF1.50	10670.00	10604.71				MinPt-EOU
	432.88	155.92	328.61	276.96	4.18	OSF1.50	10780.00	10714.71				MinPt-ADP
	434.40	157.81	328.87	276.59	4.15	OSF1.50	10910.00	10844.71				MinPt-EOU
	435.43	159.09	329.04	276.34	4.12	OSF1.50	11000.00	10934.71				MinPt-ADP
	441.04	166.83	329.49	274.21	3.98	OSF1.50	11530.00	11464.71				MinPt-CtCt
	441.42	167.53	329.41	273.89	3.97	OSF1.50	11580.00	11514.71				MinPt-EOU
	442.42	168.83	329.54	273.60	3.95	OSF1.50	11670.00	11604.71				MinPt-ADP
	443.32	169.39	330.07	273.93	3.94	OSF1.50	11720.00	11654.71				MinPt-SF
	544.78	165.27	434.27	379.51	4.97	OSF1.50	12200.00	12134.71	OSF>5.00			Exit Alert
	693.99	127.48	608.67	566.51	8.22	OSF1.50	13950.00	12989.38				MinPts
	694.02	127.52	608.68	566.50	8.22	OSF1.50	13960.00	12989.25				MinPt-ADP
	693.99	128.02	608.32	565.98	8.18	OSF1.50	14070.00	12987.76				MinPt-CtCt
	694.14	128.47	608.17	565.67	8.16	OSF1.50	14130.00	12986.95				MinPt-EOU
	694.20	134.57	604.16	559.64	7.78	OSF1.50	14760.00	12978.45				MinPt-CtCt
	695.05	136.28	603.87	558.77	7.69	OSF1.50	14890.00	12976.70				MinPt-EOU
	696.88	140.44	602.92	556.44	7.49	OSF1.50	15190.00	12972.65				MinPt-CtCt

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
	697.25	141.56	602.55	555.69	7.43	OSF1.50	15260.00	12971.70				MinPt-EOU
	698.98	144.23	602.50	554.75	7.31	OSF1.50	15430.00	12969.41				MinPt-EOU
	698.78	149.14	599.03	549.64	7.06	OSF1.50	15730.00	12965.36				MinPt-CtCt
	691.97	168.28	579.45	523.69	6.20	OSF1.50	16680.00	12952.54				MinPt-CtCt
	688.43	174.99	571.44	513.44	5.93	OSF1.50	16970.00	12948.62				MinPt-CtCt
	686.64	181.43	565.36	505.21	5.70	OSF1.50	17240.00	12944.98				MinPt-CtCt
	685.36	186.48	560.71	498.88	5.53	OSF1.50	17440.00	12942.28				MinPt-CtCt
	685.45	189.29	558.93	496.16	5.45	OSF1.50	17550.00	12940.80				MinPt-CtCt
	680.81	205.14	543.72	475.67	4.99	OSF1.50	18180.00	12932.29	OSF<=5.00			Enter Alert
	679.67	212.83	537.46	466.84	4.81	OSF1.50	18470.00	12928.38				MinPt-CtCt
	676.95	223.14	527.86	453.81	4.56	OSF1.50	18850.00	12923.25				MinPt-CtCt
	672.93	241.88	511.35	431.06	4.18	OSF1.50	19520.00	12914.21				MinPt-CtCt
	657.48	269.01	477.81	388.47	3.67	OSF1.50	20460.00	12901.52				MinPt-CtCt
	616.49	304.30	413.30	312.19	3.04	OSF1.50	21740.00	12884.25				MinPt-CtCt
	617.20	306.33	412.65	310.87	3.03	OSF1.50	21800.00	12883.44				MinPt-EOU
	618.68	318.17	406.24	300.51	2.92	OSF1.50	22180.00	12878.31				MinPt-CtCt
	623.25	330.38	402.66	292.86	2.83	OSF1.50	22550.00	12873.32				MinPt-EOU
	620.04	347.86	387.81	272.18	2.68	OSF1.50	23100.00	12865.89				MinPt-CtCt
	620.45	350.03	386.77	270.42	2.66	OSF1.50	23166.12	12865.00				MinPts
30-025-42031 - CASCADE 29 FEDERAL 7H - MWD to 14306ft - A (DefinitiveSurvey) - Warning Alert												
	5473.64	32.81	5471.66	5440.83	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	5473.62	32.81	5471.64	5440.81	1873192.56	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	5473.61	32.81	5471.63	5440.80	4729056.19	MAS = 10.00 (m)	23.00	23.00				WRP
	5468.28	32.81	5454.98	5435.47	483.20	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	521.08	157.75	415.38	363.34	4.99	OSF1.50	9720.00	9654.71	OSF<=5.00			Enter Alert
	476.74	166.73	365.04	310.01	4.32	OSF1.50	9930.36	9865.07				MinPt-CtCt
	476.83	166.93	365.01	309.91	4.31	OSF1.50	9940.00	9874.71				MinPts
	477.14	167.10	365.20	310.04	4.31	OSF1.50	9950.00	9884.71				MinPt-SF
	542.86	164.38	432.73	378.48	4.99	OSF1.50	10190.00	10124.71	OSF>5.00			Exit Alert
	11201.37	202.11	11066.12	10999.25	83.74	OSF1.50	23166.12	12865.00				TD
30-025-48094 - Red Hills 32-5 State Com 197H - Corrected MWD to 22222ft (DefinitiveSurvey) - Warning Alert												
	1979.67	32.81	1978.38	1946.86	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1979.60	32.81	1978.31	1946.79	248004.20	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	1979.59	32.81	1978.30	1946.78	#####	MAS = 10.00 (m)	20.00	20.00				MinPts
	1979.59	32.81	1978.30	1946.78	5749050.97	MAS = 10.00 (m)	23.00	23.00				WRP
	986.21	105.33	915.67	880.88	14.16	OSF1.50	7480.00	7414.71				MinPt-CtCt
	989.69	132.20	901.23	857.49	11.30	OSF1.50	9390.00	9324.71				MinPt-CtCt
	964.87	167.24	853.05	797.63	8.70	OSF1.50	11820.00	11754.71				MinPt-CtCt
	965.06	169.07	852.02	795.99	8.60	OSF1.50	11950.00	11884.71				MinPt-EOU
	965.15	169.18	852.04	795.97	8.60	OSF1.50	11960.00	11894.71				MinPt-ADP
	968.00	170.18	854.22	797.82	8.57	OSF1.50	12060.00	11994.71				MinPt-SF
	880.45	166.48	769.14	713.98	7.97	OSF1.50	14330.00	12984.25				MinPt-CtCt
	880.48	166.55	769.12	713.93	7.97	OSF1.50	14340.00	12984.12				MinPt-EOU
	880.55	166.63	769.13	713.91	7.96	OSF1.50	14350.00	12983.98				MinPt-ADP
	886.11	181.90	764.51	704.21	7.34	OSF1.50	15640.00	12966.57				MinPt-CtCt
	880.34	191.97	752.03	688.37	6.91	OSF1.50	16260.00	12958.21				MinPt-CtCt
	880.23	199.99	746.57	680.24	6.63	OSF1.50	16690.00	12952.40				MinPt-CtCt
	878.24	207.58	739.53	670.66	6.37	OSF1.50	17070.00	12947.27				MinPt-CtCt
	878.89	212.21	737.08	666.67	6.23	OSF1.50	17290.00	12944.30				MinPt-CtCt
	879.10	218.05	733.41	661.05	6.07	OSF1.50	17560.00	12940.66				MinPt-CtCt
	880.39	221.53	732.37	658.86	5.98	OSF1.50	17720.00	12938.50				MinPt-EOU
	885.29	231.94	730.33	653.34	5.74	OSF1.50	18180.00	12932.29				MinPt-CtCt
	876.18	263.57	700.14	612.62	5.00	OSF1.50	19480.00	12914.75	OSF<=5.00			Enter Alert
	866.82	289.13	673.74	577.70	4.51	OSF1.50	20460.00	12901.52				MinPt-CtCt
	853.52	319.24	640.37	534.28	4.02	OSF1.50	21561.77	12886.65				MinPt-CtCt
	854.41	336.45	629.78	517.96	3.82	OSF1.50	22170.00	12878.44				MinPt-CtCt
	855.58	355.03	618.57	500.55	3.62	OSF1.50	22820.00	12869.67				MinPt-CtCt
	855.03	363.09	612.64	491.94	3.54	OSF1.50	23100.00	12865.89				MinPt-CtCt
	855.29	364.97	611.65	490.32	3.52	OSF1.50	23166.12	12865.00				MinPts
30-025-21036 - RED HILLS UNIT 1 - INC Only+ Blind to 21321ft - A (DefinitiveSurvey) - Warning Alert												
	4607.11	32.81	4605.13	4574.31	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	4607.09	32.81	4605.11	4574.28	1513851.99	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	4607.08	32.81	4605.10	4574.27	N/A	MAS = 10.00 (m)	23.00	23.00				WRP
	4607.08	96.14	4542.40	4510.94	73.19	OSF1.50	1600.00	1600.00				MinPt-CtCt
	4613.26	116.20	4535.20	4497.06	60.44	OSF1.50	1970.00	1968.97				MinPt-EOU
	4698.28	231.19	4543.57	4467.09	30.71	OSF1.50	3850.00	3825.99				MinPt-EOU
	4719.12	262.49	4543.54	4456.63	27.14	OSF1.50	4260.00	4230.95				MinPt-EOU
	4752.64	306.71	4547.58	4445.93	23.37	OSF1.50	4890.00	4853.19				MinPt-ADP
	4768.68	323.15	4552.71	4445.53	22.24	OSF1.50	5180.00	5139.62				MinPt-ADP
	2576.43	776.45	2058.29	1799.98	4.98	OSF1.50	15230.00	12972.11	OSF<=5.00			Enter Alert
	903.77	780.56	382.90	123.22	1.74	OSF1.50	17642.93	12939.54				MinPts
	2570.94	774.41	2054.17	1796.54	4.99	OSF1.50	20050.00	12907.06	OSF>5.00			Exit Alert
	5596.15	771.53	5081.30	4824.62	10.90	OSF1.50	23166.12	12865.00				TD
Coterra Cascade 29 Federal 71H Corrected MWD to 17573ft (DefinitiveSurvey) - Pass												
	1319.64	32.81	1318.46	1286.83	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	1319.61	32.81	1318.43	1286.80	736826.42	MAS = 10.00 (m)	23.00	23.00				WRP
	1313.78	32.81	1304.56	1280.97	163.09	MAS = 10.00 (m)	900.00	900.00				MinPts
	1314.05	32.81	1304.28	1281.24	152.91	MAS = 10.00 (m)	960.00	960.00				MinPt-EOU
	358.86	75.44	308.24	283.42	7.21	OSF1.50	4715.57	4680.91				MinPt-CtCt
	358.92	75.68	308.14	283.24	7.19	OSF1.50	4730.00	4695.16				MinPt-EOU
	359.21	76.02	308.20	283.19	7.16	OSF1.50	4750.00	4714.91				MinPt-ADP
	366.19	78.31	313.65	287.87	7.08	OSF1.50	4890.00	4853.19				MinPt-SF
	1144.44	123.39	1061.85	1021.05	14.01	OSF1.50	7930.00	7864.71				MinPt-CtCt
	1143.81	128.98	1057.49	1014.83	13.39	OSF1.50	8340.00	8274.71				MinPt-CtCt
	1143.15	133.37	1053.91	1009.78	12.94	OSF1.50	8660.00	8594.71				MinPt-CtCt
	1143.73	141.13	1049.31	1002.60	12.23	OSF1.50	9220.00	9154.71				MinPt-CtCt
	1143.67	143.90	1047.40	999.76	11.99	OSF1.50	9420.00	9354.71				MinPt-CtCt
	1144.71	147.27	1046.21	997.45	11.73	OSF1.50	9660.00	9594.71				MinPt-EOU

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
	1142.80	156.95	1037.85	985.86	10.98	OSF1.50	10350.00	10284.71				MinPt-CtCt
	1140.00	166.21	1028.87	973.79	10.34	OSF1.50	11010.00	10944.71				MinPt-CtCt
	1140.32	167.17	1028.55	973.15	10.28	OSF1.50	11080.00	11014.71				MinPt-EOU
	1140.94	167.87	1028.70	973.07	10.25	OSF1.50	11130.00	11064.71				MinPt-ADP
	1186.32	185.64	1062.23	1000.68	9.63	OSF1.50	12370.00	12304.71				MinPt-SF
	10645.05	205.69	10507.59	10439.36	78.00	OSF1.50	23166.12	12865.00				TD

30-025-50208 - Red Hills 32-5 Fed Com 158H - Corrected MWD to 20822ft (DefinitiveSurvey) - Pass

	639.31	32.81	638.03	606.50	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts
	639.34	32.81	638.04	606.53	48764.89	MAS = 10.00 (m)	23.00	23.00				WRP
	639.40	32.81	638.03	606.60	7470.57	MAS = 10.00 (m)	40.00	40.00				MinPt-EOU
	637.27	32.81	627.34	604.46	73.56	MAS = 10.00 (m)	950.00	950.00				MinPt-EOU
	636.87	32.81	625.61	604.07	62.72	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	493.62	68.72	447.48	424.90	10.91	OSF1.50	4830.00	4793.93				MinPt-CtCt
	493.86	69.53	447.18	424.33	10.79	OSF1.50	4890.00	4853.19				MinPt-EOU
	494.05	69.76	447.22	424.29	10.75	OSF1.50	4910.00	4872.94				MinPt-ADP
	431.31	89.03	371.62	342.27	7.33	OSF1.50	6762.54	6702.68				MinPt-CtCt
	431.41	89.37	371.50	342.04	7.30	OSF1.50	6790.00	6729.80				MinPt-EOU
	431.62	89.61	371.55	342.01	7.29	OSF1.50	6810.00	6749.55				MinPt-ADP
	436.35	91.22	375.21	345.13	7.24	OSF1.50	6950.00	6887.83				MinPt-SF
	457.86	99.58	391.15	358.28	6.95	OSF1.50	7720.00	7654.71				MinPt-CtCt
	454.85	110.38	380.94	344.47	6.22	OSF1.50	8630.00	8564.71				MinPt-CtCt
	454.22	115.13	377.15	339.10	5.96	OSF1.50	9020.00	8954.71				MinPt-CtCt
	454.93	117.74	376.11	337.20	5.83	OSF1.50	9240.00	9174.71				MinPt-EOU
	455.42	118.32	376.21	337.10	5.81	OSF1.50	9290.00	9224.71				MinPt-ADP
	458.30	122.19	376.51	336.10	5.66	OSF1.50	9600.00	9534.71				MinPt-EOU
	458.48	122.40	376.55	336.08	5.65	OSF1.50	9620.00	9554.71				MinPt-ADP
	460.76	124.53	377.41	336.23	5.58	OSF1.50	9780.00	9714.71				MinPt-CtCt
	461.03	125.45	377.07	335.58	5.54	OSF1.50	9860.00	9794.71				MinPt-EOU
	461.31	125.79	377.12	335.52	5.53	OSF1.50	9890.00	9824.71				MinPt-ADP
	474.05	131.46	386.08	342.58	5.44	OSF1.50	10350.00	10284.71				MinPt-SF
	2046.47	112.93	1970.86	1933.54	27.41	OSF1.50	13620.00	12993.83				MinPt-CtCt
	2046.53	113.10	1970.80	1933.43	27.37	OSF1.50	13640.00	12993.56				MinPt-EOU
	2046.61	113.19	1970.82	1933.42	27.35	OSF1.50	13650.00	12993.43				MinPt-ADP
	2057.00	115.74	1979.51	1941.26	26.88	OSF1.50	13880.00	12990.33				MinPt-SF
	2070.77	119.39	1990.84	1951.37	26.22	OSF1.50	14280.00	12984.93				MinPt-EOU
	2071.74	120.61	1991.00	1951.12	25.97	OSF1.50	14380.00	12983.58				MinPt-ADP
	2073.05	122.94	1990.76	1950.11	25.49	OSF1.50	14560.00	12981.15				MinPt-CtCt
	2073.65	124.91	1990.05	1948.74	25.09	OSF1.50	14700.00	12979.26				MinPt-EOU
	2076.73	130.92	1989.12	1945.81	23.96	OSF1.50	15080.00	12974.13				MinPt-EOU
	2077.64	134.44	1987.69	1943.20	23.34	OSF1.50	15280.00	12971.43				MinPt-CtCt
	2077.82	140.49	1983.83	1937.33	22.33	OSF1.50	15600.00	12967.11				MinPt-CtCt
	2055.43	181.89	1933.84	1873.54	17.03	OSF1.50	17380.00	12943.09				MinPt-CtCt
	2055.78	185.30	1931.92	1870.48	16.72	OSF1.50	17510.00	12941.34				MinPt-CtCt
	2017.85	252.41	1849.25	1765.44	12.03	OSF1.50	19900.00	12909.08				MinPt-CtCt
	2017.82	257.43	1845.87	1760.39	11.80	OSF1.50	20070.00	12906.79				MinPt-CtCt
	1972.32	346.88	1740.74	1625.44	8.55	OSF1.50	23010.00	12867.11				MinPt-CtCt
	1972.58	347.55	1740.55	1625.03	8.53	OSF1.50	23040.00	12866.70				MinPt-EOU
	1972.77	347.76	1740.60	1625.01	8.53	OSF1.50	23050.00	12866.57				MinPt-ADP
	1978.19	349.64	1744.77	1628.55	8.51	OSF1.50	23160.00	12865.08				MinPt-SF
	1978.68	349.72	1745.20	1628.95	8.51	OSF1.50	23166.12	12865.00				TD

30-025-50209 - Red Hills 32-5 Fed Com 159H Corrected MWD to 20321ft (DefinitiveSurvey) - Pass

	659.31	32.81	657.34	626.51	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts
	659.32	32.81	657.34	626.52	139021.07	MAS = 10.00 (m)	23.00	23.00				WRP
	661.52	32.81	656.87	628.71	246.70	MAS = 10.00 (m)	350.00	350.00				MinPt-EOU
	664.23	32.81	655.00	631.42	91.41	MAS = 10.00 (m)	810.00	810.00				MinPts
	664.52	32.81	651.51	631.71	60.09	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	659.19	32.81	641.41	626.38	41.05	MAS = 10.00 (m)	1690.00	1689.99				MinPts
	538.01	101.88	469.56	436.14	8.02	OSF1.50	6587.81	6530.10				MinPt-CtCt
	538.15	102.37	469.36	435.78	7.99	OSF1.50	6620.00	6561.89				MinPt-EOU
	538.38	102.67	469.40	435.71	7.97	OSF1.50	6640.00	6581.65				MinPt-ADP
	547.70	105.83	476.61	441.88	7.86	OSF1.50	6860.00	6798.94				MinPt-SF
	604.34	140.04	510.44	464.30	6.53	OSF1.50	9340.00	9274.71				MinPt-EOU
	606.49	145.63	508.86	460.86	6.30	OSF1.50	9720.00	9654.71				MinPt-CtCt
	606.63	146.11	508.68	460.52	6.28	OSF1.50	9760.00	9694.71				MinPt-EOU
	606.81	146.34	508.71	460.47	6.27	OSF1.50	9780.00	9714.71				MinPt-ADP
	608.95	147.44	510.11	461.50	6.25	OSF1.50	9880.00	9814.71				MinPt-SF
	2691.13	115.87	2613.38	2575.26	35.28	OSF1.50	14250.00	12985.33				MinPt-CtCt
	2683.91	120.37	2603.16	2563.54	33.85	OSF1.50	14610.00	12980.47				MinPt-CtCt
	2684.96	123.06	2602.42	2561.90	33.11	OSF1.50	14800.00	12977.91				MinPt-EOU
	2685.70	123.95	2602.56	2561.75	32.88	OSF1.50	14860.00	12977.10				MinPt-ADP
	2689.53	127.54	2604.00	2561.99	31.99	OSF1.50	15080.00	12974.13				MinPt-EOU
	2690.94	136.06	2599.73	2554.88	29.98	OSF1.50	15540.00	12967.92				MinPt-CtCt
	2689.01	145.18	2591.72	2543.83	28.06	OSF1.50	15980.00	12961.98				MinPt-CtCt
	2689.51	146.75	2591.18	2542.76	27.76	OSF1.50	16060.00	12960.91				MinPt-EOU
	2689.81	164.55	2579.61	2525.26	24.73	OSF1.50	16810.00	12950.78				MinPt-CtCt
	2691.13	177.98	2571.98	2513.15	22.86	OSF1.50	17340.00	12943.63				MinPt-CtCt
	2693.86	184.21	2570.55	2509.65	22.10	OSF1.50	17590.00	12940.26				MinPt-EOU
	2694.45	184.88	2570.70	2509.57	22.03	OSF1.50	17620.00	12939.85				MinPt-ADP
	2677.15	217.65	2531.55	2459.50	18.57	OSF1.50	18790.00	12924.06				MinPt-CtCt
	2677.63	227.12	2525.72	2450.51	17.79	OSF1.50	19120.00	12919.61				MinPt-CtCt
	2650.40	265.76	2472.73	2384.65	15.04	OSF1.50	20430.00	12901.93				MinPt-CtCt
	2647.18	277.19	2461.89	2370.00	14.40	OSF1.50	20810.00	12896.80				MinPt-CtCt
	2634.15	291.47	2439.34	2342.68	13.62	OSF1.50	21280.00	12890.46				MinPt-CtCt
	2636.47	303.41	2433.70	2333.07	13.09	OSF1.50	21670.00	12885.19				MinPt-CtCt
	2637.31	305.98	2432.83	2331.34	12.99	OSF1.50	21770.00	12883.84				MinPt-EOU
	2638.15	306.99	2432.99	2331.16	12.95	OSF1.50	21810.00	12883.30				MinPt-ADP
	2597.01	349.99	2363.18	2247.01	11.17	OSF1.50	23166.12	12865.00				MinPts

Coterra Cascade 29 Federal 74H Corrected MWD to 17260ft (DefinitiveSurvey) - Pass

1374.60	32.81	1373.43	1341.79	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
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Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
1374.56	32.81		1373.38	1341.75	1366261.06	MAS = 10.00 (m)	10.00	10.00				MinPts
1374.56	32.81		1373.38	1341.75	7952935.04	MAS = 10.00 (m)	23.00	23.00				WRP
1374.22	32.81		1370.34	1341.42	507.93	MAS = 10.00 (m)	360.00	360.00				MinPts
1372.82	32.81		1363.34	1340.02	165.03	MAS = 10.00 (m)	930.00	930.00				MinPts
1372.85	32.81		1363.18	1340.04	161.55	MAS = 10.00 (m)	950.00	950.00				MinPt-EOU
639.03	118.93		559.42	520.10	8.11	OSF1.50	8000.00	7934.71				MinPt-CtCt
642.18	126.26		557.68	515.93	7.68	OSF1.50	8510.00	8444.71				MinPt-EOU
648.05	143.07		552.35	504.99	6.83	OSF1.50	9670.00	9604.71				MinPt-CtCt
638.84	156.08		534.45	482.75	6.17	OSF1.50	10570.00	10504.71				MinPt-CtCt
639.47	157.84		533.91	481.63	6.11	OSF1.50	10690.00	10624.71				MinPt-EOU
605.86	176.60		487.80	429.26	5.17	OSF1.50	11979.35	11914.06				MinPt-CtCt
605.97	176.91		487.71	429.06	5.16	OSF1.50	12000.00	11934.71				MinPt-EOU
606.10	177.05		487.74	429.05	5.16	OSF1.50	12010.00	11944.71				MinPt-ADP
607.56	177.72		488.75	429.83	5.15	OSF1.50	12060.00	11994.71				MinPt-SF
10591.67	200.29		10457.82	10391.39	79.71	OSF1.50	23166.12	12865.00				TD

30-025-50210 - Red Hills 32-5 Fed Com 160H - Corrected MWD to 20665ft (DefinitiveSurvey) - Pass

679.31	32.81		678.02	646.50	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
679.30	32.81		678.02	646.50	#####	MAS = 10.00 (m)	1.36	1.36				MinPts
679.31	32.81		678.02	646.50	315885.47	MAS = 10.00 (m)	23.00	23.00				WRP
679.75	32.81		677.28	646.94	572.61	MAS = 10.00 (m)	200.00	200.00				MinPt-EOU
682.35	32.81		672.34	649.55	78.01	MAS = 10.00 (m)	960.00	960.00				MinPt-EOU
682.23	32.81		672.08	649.42	75.51	MAS = 10.00 (m)	1010.00	1010.00				MinPts
682.59	32.81		671.85	649.78	70.94	MAS = 10.00 (m)	1110.00	1110.00				MinPt-EOU
686.13	32.81		671.24	653.32	49.24	MAS = 10.00 (m)	1680.00	1679.99				MinPts
686.24	32.81		671.17	653.43	48.68	MAS = 10.00 (m)	1700.00	1699.98				MinPt-EOU
727.47	44.07		697.76	683.39	25.29	OSF1.50	3260.00	3243.26				MinPt-ADP
768.46	64.47		725.15	703.99	18.13	OSF1.50	4610.00	4576.64				MinPt-EOU
768.94	65.07		725.23	703.86	17.97	OSF1.50	4650.00	4616.14				MinPt-ADP
784.33	72.81		735.46	711.52	16.36	OSF1.50	5360.00	5317.40				MinPt-EOU
784.81	73.40		735.55	711.41	16.24	OSF1.50	5420.00	5376.66				MinPt-ADP
787.51	75.99		736.53	711.52	15.73	OSF1.50	5680.00	5633.46				MinPt-ADP
839.67	87.76		780.84	751.91	14.50	OSF1.50	6770.00	6710.05				MinPt-SF
900.77	109.40		827.51	791.37	12.45	OSF1.50	8640.00	8574.71				MinPt-CtCt
890.95	123.16		808.51	767.79	10.93	OSF1.50	9740.00	9674.71				MinPt-CtCt
891.16	123.84		808.27	767.32	10.87	OSF1.50	9800.00	9734.71				MinPt-EOU
891.45	124.17		808.34	767.28	10.84	OSF1.50	9830.00	9764.71				MinPt-ADP
892.96	126.77		808.12	766.19	10.64	OSF1.50	10030.00	9964.71				MinPt-EOU
893.24	127.10		808.18	766.14	10.61	OSF1.50	10060.00	9994.71				MinPt-ADP
894.48	127.73		808.99	766.74	10.57	OSF1.50	10130.00	10064.71				MinPt-SF
2635.43	153.72		2532.62	2481.70	25.87	OSF1.50	16050.00	12961.04				MinPt-CtCt
2634.26	157.78		2528.74	2476.48	25.19	OSF1.50	16240.00	12958.48				MinPt-CtCt
2634.62	158.93		2528.34	2475.69	25.01	OSF1.50	16300.00	12957.67				MinPt-EOU
2635.28	159.72		2528.47	2475.56	24.89	OSF1.50	16340.00	12957.13				MinPt-ADP
2658.84	183.26		2536.34	2475.58	21.87	OSF1.50	17310.00	12944.04				MinPt-EOU
2659.82	184.40		2536.56	2475.42	21.74	OSF1.50	17360.00	12943.36				MinPt-ADP
2657.14	192.32		2528.60	2464.82	20.82	OSF1.50	17650.00	12939.45				MinPt-CtCt
2639.15	212.05		2497.45	2427.10	18.75	OSF1.50	18380.00	12929.59				MinPt-CtCt
2639.56	213.40		2496.96	2426.16	18.63	OSF1.50	18440.00	12928.78				MinPt-EOU
2640.10	214.07		2497.06	2426.03	18.58	OSF1.50	18470.00	12928.38				MinPt-ADP
2635.78	230.62		2481.70	2405.16	17.21	OSF1.50	19050.00	12920.55				MinPt-CtCt
2637.48	234.79		2480.62	2402.69	16.91	OSF1.50	19210.00	12918.39				MinPt-EOU
2638.50	236.06		2480.79	2402.43	16.83	OSF1.50	19260.00	12917.72				MinPt-ADP
2644.61	244.84		2481.05	2399.77	16.26	OSF1.50	19560.00	12913.67				MinPt-EOU
2645.82	248.42		2479.88	2397.40	16.03	OSF1.50	19670.00	12912.18				MinPt-CtCt
2647.00	252.08		2478.62	2394.92	15.81	OSF1.50	19810.00	12910.29				MinPt-EOU
2648.07	253.34		2478.85	2394.73	15.73	OSF1.50	19860.00	12909.62				MinPt-ADP
2614.78	272.94		2432.49	2341.84	14.42	OSF1.50	20510.00	12900.85				MinPt-CtCt
2615.25	274.33		2432.04	2340.93	14.35	OSF1.50	20570.00	12900.04				MinPt-EOU
2615.62	274.78		2432.11	2340.85	14.32	OSF1.50	20590.00	12899.77				MinPt-ADP
2598.63	305.33		2394.75	2293.31	12.80	OSF1.50	21590.00	12886.27				MinPt-CtCt
2600.20	312.43		2391.59	2287.77	12.52	OSF1.50	21840.00	12882.90				MinPt-EOU
2601.03	313.43		2391.75	2287.60	12.48	OSF1.50	21880.00	12882.36				MinPt-ADP
2568.29	353.71		2332.15	2214.57	10.92	OSF1.50	23166.12	12865.00				MinPts

30-025-41241 - CASCADE 29 FEDERAL 3H - MWD to 14241ft - A (DefinitiveSurvey) - Pass

5282.27	32.81		5280.29	5249.47	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
5282.27	32.81		5280.24	5249.46	104330.44	MAS = 10.00 (m)	23.00	23.00				WRP
5281.81	32.81		5275.41	5249.00	1195.70	MAS = 10.00 (m)	410.00	410.00				MinPts
5282.60	32.81		5270.52	5249.79	522.69	MAS = 10.00 (m)	1080.00	1080.00				MinPts
5282.62	32.81		5269.49	5249.81	473.54	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
5282.62	32.81		5269.52	5249.81	466.04	MAS = 10.00 (m)	1210.00	1210.00				MinPts
857.22	243.29		694.49	613.94	5.31	OSF1.50	9936.54	9871.26				MinPt-CtCt
857.23	243.30		694.49	613.93	5.31	OSF1.50	9940.00	9874.71				MinPts
11233.88	201.14		11099.29	11032.74	84.39	OSF1.50	23166.12	12865.00				TD

30-025-45028 - RED HILLS SWD 1 - MWD to 18543ft - SWD (DefinitiveSurvey) - Pass

6730.84	32.81		6728.86	6698.03	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
6730.75	32.81		6728.76	6697.94	528670.04	MAS = 10.00 (m)	20.00	20.00				MinPt-SF
6730.74	32.81		6728.75	6697.93	533462.41	MAS = 10.00 (m)	23.00	23.00				WRP
6730.71	32.81		6728.67	6697.90	111687.28	MAS = 10.00 (m)	40.00	40.00				MinPts
6732.18	32.81		6726.72	6699.37	1933.93	MAS = 10.00 (m)	470.00	470.00				MinPt-EOU
6733.39	32.81		6724.53	6700.58	977.15	MAS = 10.00 (m)	790.00	790.00				MinPts
6734.54	32.81		6721.64	6701.73	616.41	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
6734.46	32.81		6721.40	6701.65	595.48	MAS = 10.00 (m)	1240.00	1240.00				MinPts
6735.42	32.81		6717.92	6702.61	427.78	MAS = 10.00 (m)	1690.00	1689.99				MinPts
6735.35	32.81		6715.93	6702.55	381.31	MAS = 10.00 (m)	1890.00	1889.50				MinPts
6735.33	34.15		6711.98	6701.18	311.84	OSF1.50	2280.00	2275.32				MinPt-CtCt
6735.77	35.62		6711.43	6700.14	298.31	OSF1.50	2400.00	2393.84				MinPt-EOU
6736.28	36.22		6711.55	6700.06	293.18	OSF1.50	2450.00	2443.23				MinPt-ADP
6738.71	39.88		6711.54	6698.83	265.09	OSF1.50	2670.00	2660.52				MinPt-EOU
6739.35	40.65		6711.66	6698.70	259.90	OSF1.50	2730.00	2719.78				MinPt-ADP

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major	
6740.70	44.66		6710.34	6696.04	235.61	OSF1.50	2970.00	2956.83				MinPt-EOU
6743.42	49.61		6709.75	6693.80	211.32	OSF1.50	3280.00	3263.01				MinPt-EOU
6744.76	52.63		6709.09	6692.13	198.85	OSF1.50	3470.00	3450.67				MinPt-EOU
6744.89	55.48		6707.31	6689.40	188.27	OSF1.50	3620.00	3598.82				MinPt-CtCt
6745.36	56.87		6706.86	6688.49	183.55	OSF1.50	3730.00	3707.47				MinPt-EOU
6745.88	57.50		6706.96	6688.38	181.49	OSF1.50	3780.00	3756.85				MinPt-ADP
6746.66	58.79		6706.88	6687.87	177.42	OSF1.50	3850.00	3825.99				MinPt-EOU
6747.21	59.43		6707.00	6687.78	175.45	OSF1.50	3900.00	3875.38				MinPt-ADP
6786.43	71.91		6737.90	6714.52	145.08	OSF1.50	4770.00	4734.67				MinPts
6855.97	91.29		6794.58	6764.68	114.66	OSF1.50	5890.00	5840.88				MinPts
6863.32	96.63		6798.36	6766.69	108.32	OSF1.50	6170.00	6117.43				MinPt-ADP
6866.14	99.51		6799.26	6766.62	105.18	OSF1.50	6340.00	6285.34				MinPt-ADP
6869.92	102.64		6800.95	6767.28	101.98	OSF1.50	6530.00	6473.00				MinPt-EOU
6870.08	102.81		6801.00	6767.27	101.81	OSF1.50	6540.00	6482.88				MinPt-ADP
6875.71	107.38		6803.59	6768.33	97.49	OSF1.50	6810.00	6749.55				MinPt-EOU
6877.19	109.01		6803.98	6768.19	96.04	OSF1.50	6910.00	6848.32				MinPt-ADP
6883.59	113.83		6807.17	6769.77	92.00	OSF1.50	7220.00	7155.17				MinPt-ADP
6889.23	118.52		6809.68	6770.71	88.38	OSF1.50	7570.00	7504.71				MinPt-ADP
6894.97	122.65		6812.66	6772.31	85.43	OSF1.50	7870.00	7804.71				MinPt-ADP
6896.25	124.00		6813.05	6772.25	84.51	OSF1.50	7960.00	7894.71				MinPt-ADP
6906.83	133.12		6817.54	6773.70	78.76	OSF1.50	8600.00	8534.71				MinPt-EOU
6907.05	133.39		6817.59	6773.67	78.61	OSF1.50	8620.00	8554.71				MinPt-ADP
6910.18	136.12		6818.89	6774.06	77.05	OSF1.50	8820.00	8754.71				MinPt-ADP
6913.68	141.38		6818.89	6772.30	74.18	OSF1.50	9170.00	9104.71				MinPt-EOU
6915.32	144.28		6818.60	6771.05	72.69	OSF1.50	9370.00	9304.71				MinPt-EOU
6915.86	144.94		6818.70	6770.93	72.36	OSF1.50	9430.00	9364.71				MinPt-ADP
6923.91	156.09		6819.32	6767.83	67.22	OSF1.50	10210.00	10144.71				MinPt-EOU
6924.49	156.76		6819.44	6767.73	66.93	OSF1.50	10270.00	10204.71				MinPt-ADP
6926.86	160.35		6819.42	6766.51	65.44	OSF1.50	10510.00	10444.71				MinPt-EOU
6929.12	164.46		6818.94	6764.66	63.81	OSF1.50	10800.00	10734.71				MinPt-EOU
6930.12	166.61		6818.51	6763.51	62.99	OSF1.50	10950.00	10884.71				MinPt-EOU
6930.66	167.26		6818.62	6763.40	62.74	OSF1.50	11010.00	10944.71				MinPt-ADP
6932.52	169.18		6819.19	6763.34	62.04	OSF1.50	11150.00	11084.71				MinPt-ADP
6935.43	171.85		6820.33	6763.58	61.10	OSF1.50	11340.00	11274.71				MinPt-ADP
6938.73	174.60		6821.80	6764.14	60.15	OSF1.50	11540.00	11474.71				MinPt-ADP
968.19	245.62		803.94	722.57	5.94	OSF1.50	19685.07	12911.98				MinPt-CtCt
968.20	245.69		803.91	722.51	5.94	OSF1.50	19690.00	12911.91				MinPt-EOU
968.30	245.82		803.92	722.48	5.94	OSF1.50	19700.00	12911.78				MinPt-ADP
969.23	246.17		804.61	723.05	5.93	OSF1.50	19730.00	12911.37				MinPt-SF
3613.16	212.85		3470.76	3400.31	25.63	OSF1.50	23166.12	12865.00				TD

Coterra Red Hills 32-5 State Com 201H - Corrected MWD to 20283ft (DefinitiveSurvey) - Pass

1876.43	32.81	1875.14	1843.62	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1876.35	32.81	1875.06	1843.55	207256.68	MAS = 10.00 (m)	10.00	10.00	MinPt-SF
1876.33	32.81	1875.05	1843.53	2869431.70	MAS = 10.00 (m)	23.00	23.00	WRP
1869.23	32.81	1859.08	1836.42	210.89	MAS = 10.00 (m)	980.00	980.00	MinPt-EOU
1869.16	32.81	1857.57	1836.35	178.69	MAS = 10.00 (m)	1140.00	1140.00	MinPts
1869.22	32.81	1857.17	1836.41	171.11	MAS = 10.00 (m)	1190.00	1190.00	MinPt-EOU
1059.07	118.66	979.64	940.41	13.49	OSF1.50	7948.83	7883.55	MinPt-CtCt
1061.98	138.31	969.45	923.67	11.59	OSF1.50	9320.00	9254.71	MinPt-CtCt
1063.58	141.73	968.77	921.85	11.32	OSF1.50	9560.00	9494.71	MinPt-EOU
1064.28	142.58	968.90	921.71	11.26	OSF1.50	9620.00	9554.71	MinPt-ADP
1081.61	148.63	982.20	932.98	10.98	OSF1.50	10080.00	10014.71	MinPt-SF
2740.67	122.16	2658.90	2618.51	33.91	OSF1.50	14000.00	12988.71	MinPt-CtCt
2741.25	123.96	2658.29	2617.30	33.43	OSF1.50	14210.00	12985.87	MinPt-EOU
2738.41	127.45	2653.12	2610.97	32.47	OSF1.50	14520.00	12981.69	MinPt-CtCt
2738.65	128.20	2652.85	2610.45	32.28	OSF1.50	14580.00	12980.88	MinPt-EOU
2735.71	138.65	2642.95	2597.06	29.80	OSF1.50	15240.00	12971.97	MinPt-CtCt
2736.43	140.74	2642.28	2595.69	29.36	OSF1.50	15360.00	12970.35	MinPt-EOU
2731.30	148.69	2631.84	2582.60	27.73	OSF1.50	15770.00	12964.82	MinPt-CtCt
2731.77	152.72	2629.62	2579.05	26.99	OSF1.50	15970.00	12962.12	MinPt-CtCt
2730.16	157.43	2624.88	2572.73	26.17	OSF1.50	16190.00	12959.15	MinPt-CtCt
2715.10	181.14	2594.01	2533.95	22.60	OSF1.50	17200.00	12945.52	MinPt-CtCt
2717.14	187.00	2592.14	2530.14	21.90	OSF1.50	17440.00	12942.28	MinPt-EOU
2715.09	193.16	2585.99	2521.93	21.18	OSF1.50	17660.00	12939.31	MinPt-CtCt
2715.59	194.71	2585.45	2520.88	21.02	OSF1.50	17730.00	12938.37	MinPt-EOU
2713.26	208.47	2573.95	2504.79	19.61	OSF1.50	18240.00	12931.48	MinPt-CtCt
2685.38	248.35	2519.48	2437.03	16.28	OSF1.50	19670.00	12912.18	MinPt-CtCt
2685.47	254.82	2515.26	2430.65	15.86	OSF1.50	19890.00	12909.21	MinPt-CtCt
2686.67	258.26	2514.17	2428.41	15.66	OSF1.50	20020.00	12907.46	MinPt-EOU
2672.83	298.14	2473.75	2374.69	13.49	OSF1.50	21340.00	12889.65	MinPt-CtCt
2673.72	300.75	2472.89	2372.97	13.37	OSF1.50	21440.00	12888.30	MinPt-EOU
2672.77	309.42	2466.16	2363.35	12.99	OSF1.50	21710.00	12884.65	MinPt-CtCt
2656.44	335.74	2432.28	2320.69	11.90	OSF1.50	22570.00	12873.05	MinPt-CtCt
2657.35	344.15	2427.59	2313.20	11.61	OSF1.50	22840.00	12869.40	MinPt-CtCt
2657.93	353.80	2421.73	2304.13	11.30	OSF1.50	23150.00	12865.22	MinPt-CtCt
2657.96	354.25	2421.46	2303.71	11.28	OSF1.50	23166.12	12865.00	MinPts

Coterra Cascade 29 Federal 75H Corrected MWD to 17408ft (DefinitiveSurvey) - Pass

1393.02	32.81	1391.84	1360.21	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1392.97	32.81	1391.79	1360.16	333868.99	MAS = 10.00 (m)	23.00	23.00	WRP
1390.68	32.81	1387.10	1357.87	578.20	MAS = 10.00 (m)	330.00	330.00	MinPts
1390.93	32.81	1386.81	1358.12	472.94	MAS = 10.00 (m)	390.00	390.00	MinPt-EOU
1386.34	32.81	1372.36	1353.53	106.60	MAS = 10.00 (m)	1400.00	1400.00	MinPts
1361.26	32.81	1339.83	1328.45	66.53	MAS = 10.00 (m)	2280.00	2275.32	MinPts
1361.33	34.63	1337.91	1326.69	60.64	OSF1.50	2480.00	2472.86	MinPt-CtCt
1361.62	37.79	1336.10	1323.83	55.45	OSF1.50	2690.00	2680.27	MinPt-CtCt
1363.49	44.21	1333.68	1319.27	47.28	OSF1.50	3120.00	3104.98	MinPt-EOU
1364.06	44.93	1333.78	1319.13	46.53	OSF1.50	3170.00	3154.36	MinPt-ADP
1173.94	111.79	1099.09	1062.16	15.88	OSF1.50	7420.00	7354.73	MinPt-CtCt
1174.03	112.08	1098.98	1061.95	15.84	OSF1.50	7440.00	7374.72	MinPt-EOU
1174.13	112.23	1098.99	1061.91	15.82	OSF1.50	7450.00	7384.72	MinPt-ADP

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	
	1215.90	145.68	1118.45	1070.22	12.59	OSF1.50	9770.00	9704.71				MinPt-CtCt
	1160.10	177.39	1041.51	982.71	9.86	OSF1.50	11997.30	11932.01				MinPt-CtCt
	1160.15	177.57	1041.44	982.58	9.85	OSF1.50	12010.00	11944.71				MinPt-EOU
	1160.26	177.71	1041.46	982.55	9.84	OSF1.50	12020.00	11954.71				MinPt-ADP
	1163.95	178.77	1044.44	985.17	9.81	OSF1.50	12110.00	12044.71				MinPt-SF
	10649.93	202.06	10514.90	10447.88	79.44	OSF1.50	23166.12	12865.00				TD
30-025-41242 - CASCADE 29 FEDERAL 4H - MWD to 14230ft - A (DefinitiveSurvey) - Pass												
	5520.24	32.81	5518.26	5487.43	N/A	MAS = 10.00 (m)	0.00	0.00				Surface
	5520.21	32.81	5518.23	5487.41	2173568.17	MAS = 10.00 (m)	10.00	10.00				MinPt-SF
	5520.21	32.81	5518.23	5487.40	4811835.84	MAS = 10.00 (m)	23.00	23.00				WRP
	5519.91	32.81	5517.08	5487.10	6518.24	MAS = 10.00 (m)	160.00	160.00				MinPts
	5520.39	32.81	5516.86	5487.59	3551.50	MAS = 10.00 (m)	250.00	250.00				MinPt-EOU
	5522.24	32.81	5516.75	5489.43	1572.31	MAS = 10.00 (m)	450.00	450.00				MinPt-EOU
	5524.13	32.81	5516.43	5491.32	966.13	MAS = 10.00 (m)	670.00	670.00				MinPt-EOU
	5528.67	32.81	5517.33	5495.86	590.87	MAS = 10.00 (m)	1040.00	1040.00				MinPt-EOU
	1210.61	262.27	1035.22	948.34	6.96	OSF1.50	9956.80	9891.51				MinPt-CtCt
	1210.61	262.29	1035.21	948.32	6.96	OSF1.50	9960.00	9894.71				MinPts
	1210.83	262.40	1035.36	948.43	6.96	OSF1.50	9980.00	9914.71				MinPt-SF
	11232.95	203.41	11096.85	11029.54	83.44	OSF1.50	23166.12	12865.00				TD

Coterra: Well Control Plan



Well Control Plan

Warning Signs of a Kick

If a kick is ever suspected, perform flow check.

While Drilling:

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

While Tripping:

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

While Out of the Hole:

1. Flow
2. Pit gain

Well Control Procedures with Diverter

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

If rotating head is installed:

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

Coterra: Well Control Plan

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

If rotating head is not installed:

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

Well Control Procedures

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

General Well Control

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

Hard Shut-In

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

Coterra: Well Control Plan

Flow Check when on Bottom

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

Shutting in while Drilling

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

Flow Check while Tripping

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

Shutting in while Tripping

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

Shutting in while Out of Hole

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

Information to Record while Shut-In

1. Shut in drill pipe pressure every 5 minutes

Coterra: Well Control Plan

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

H2S with Annular Diverter:

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

H2S with BOP's:

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

Procedure for Closing Blind Rams

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

Procedure for Opening Blind Rams

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

Coterra: Well Control Plan

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

BOP Drills

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

Choke Manifold Freeze Prevention

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

32-25-33-B Sundry ID 2830699 Red Hills 32-5 Federal Com 173H Lea NM106040 Cimarex Energy Company 13-22h 11-14-2024 LV.xlsm

Red Hills 32-5 Federal Com 173H

10 3/4		surface csg in a		14 3/4		inch hole.		Design Factors				Surface		
Segment	#/ft	Grade		Coupling		Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	40.50			j 55	btc	13.27	3.12	0.54	1,170	7	1.02	6.35	47,385	
"B"					btc				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 1,500														
				Tail Cmt	does not	circ to sfc.	Totals:		1,170					
Comparison of Proposed to Minimum Required Cement Volumes														
Hole	Annular	1 Stage		1 Stage	Min	1 Stage	Drilling	Calc	Req'd					
Size	Volume	Cmt Sx		CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE					
14 3/4	0.5563	525		861	651	32	8.33	3070	5M					
Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.														
Site plot (pipe racks 3 or 4) as per D.3.3.30.D.4.1, not found.														

7 5/8		casing inside the		10 3/4		Design Factors			Int 1				
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight	
"A"	29.70		hcl 80		btc	1.85	1.23	0.94	12,468	1	1.52	2.33	370,300
"B"									0			0	
w/8.4#/g mud, 30min Sfc Csg Test psig: -589								Totals:	12,468				370,300
The cement volume(s) are intended to achieve a top of								0	ft from surface or a	1170			overlap.
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd					Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE					Hole-Cplg
9 7/8	0.2148	1188	3873	2700	43	9.00	4521	5M					0.69
r D V Tool(s):								sum of sx	Σ CuFt				Σ%excess
t by stage % :								1188	3873				43
Class 'H' tail cmt yld > 1.20								MASP is within 10% of 5000psig, need exrta equip?					
Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.56, b, c, d <0.70 a Problem!!													

Tail cmt		5 1/2		casing inside the		7 5/8		Design Factors					Prod 1			
Segment	#/ft	Grade		Coupling		Body		Collapse	Burst	Length	B@s	a-B	a-C	Weight		
"A"	20.00			p 110		btc		2.51	1.62	1.72	11,968	2	2.80	2.63	239,360	
"B"	18.00			p 110		btc		35.93	1.83	1.85	11,198	2	3.01	2.98	201,564	
"C"										0					0	
"D"										0					0	
w/8.4#/g mud, 30min Sfc Csg Test psig: 2,633											Totals:		23,166		440,924	
The cement volume(s) are intended to achieve a top of											11968	ft from surface or a		500	overlap.	
Hole	Annular	1 Stage		1 Stage		Min		1 Stage	Drilling	Calc	Req'd	Min Dist				
Size	Volume	Cmt Sx		CuFt Cmt		Cu Ft		% Excess	Mud Wt	MASP	BOPE	Hole-Cplg				
6 3/4	0.0835	3399		4486		940		377	11.00			0.35				
Class 'C' tail cmt yld > 1.35																

#N/A												
0	5 1/2											
Design Factors												
Segment	#/ft	Grade	Coupling	#N/A	Collapse	Burst	Length	<Choose Casing>				Weight
"A"			0.00				0	B@s	a-B	a-C	0	
"B"			0.00				0				0	
w/8.4#/g mud, 30min Sfc Csg Test psig:							Totals:	0	0			
Cmt vol calc below includes this csg, TOC intended												
Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd			overlap.	
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE			Min Dist	
0		#N/A	#N/A	0	#N/A						Hole-Cplg	
#N/A												
Capitan Reef est top XXXX.												

Sante Fe Main Office
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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 486806

CONDITIONS

Operator: CIMAREX ENERGY CO. OF COLORADO 6001 Deauville Blvd Midland, TX 79706	OGRID: 162683
	Action Number: 486806
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
matthew.gomez	Administrative order required for non-standard location prior to production.	7/25/2025
matthew.gomez	If cement is not circulated to surface during cementing operations, a Cement Bond Log (CBL) is required.	7/27/2025
matthew.gomez	Notify the OCD 24 hours prior to casing & cement.	7/27/2025
matthew.gomez	Any previous COA's not addressed within the updated COA's still apply.	7/27/2025