

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. [326032]
2. Name of Operator [162683]		9. API Well No. 30-025-50877
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [97903] XXXXXXXXXXXXXXXX
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
 Conditions of approval, if any, are attached.

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

NGMP Rec 12/06/2022

SL

(Continued on page 2)

12/20/2022

*(Instructions on page 2)



District I
1625 N. French Dr., Hobbs, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised August 1, 2011
Submit one copy to appropriate
District Office
☐ AMENDED REPORT

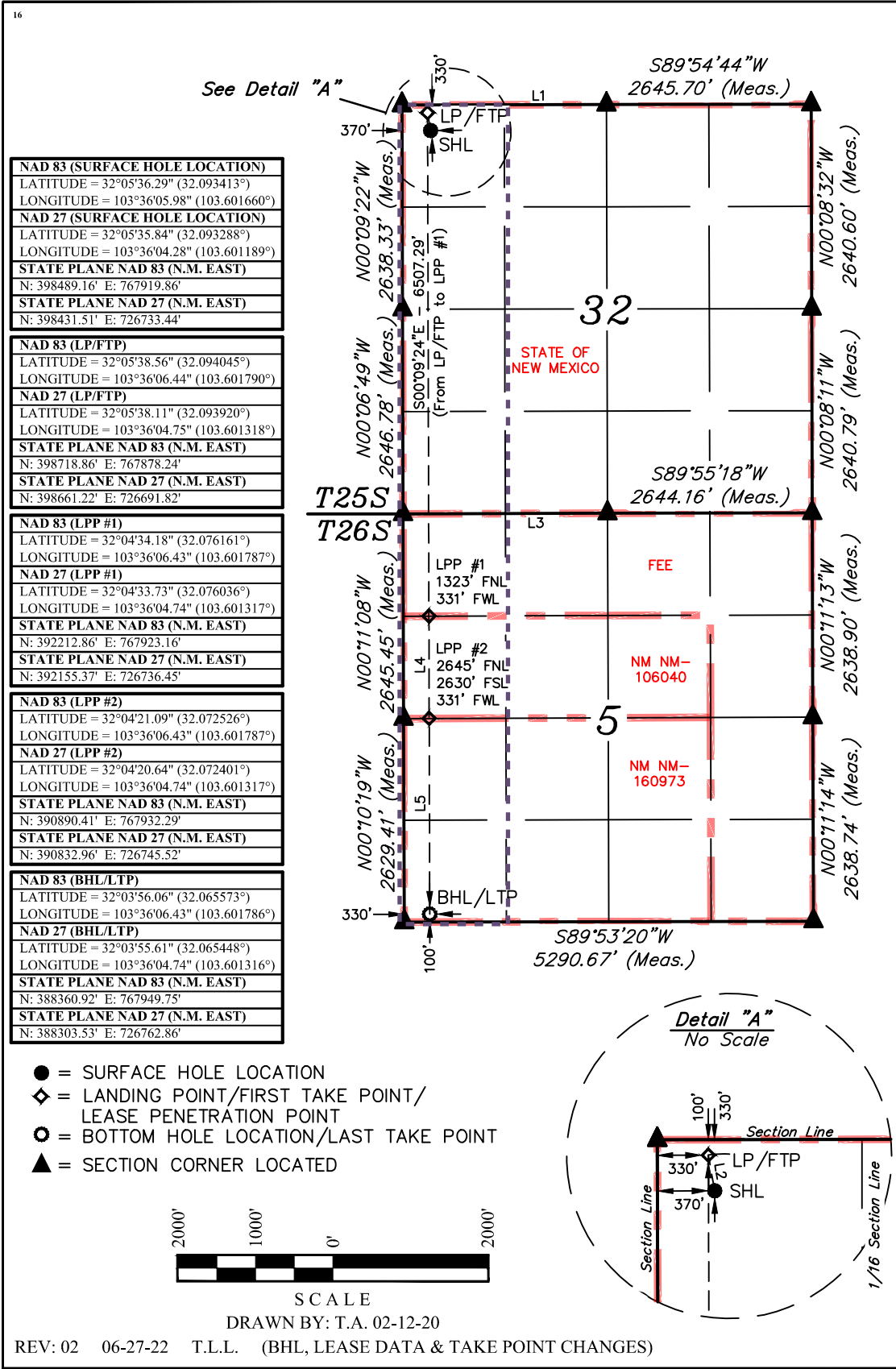
WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-50877		² Pool Code 97903	³ Pool Name WC-025 G-08 S253235G;LOWER BONE SPRING
⁴ Property Code 326032	⁵ Property Name RED HILLS 32-5 FED COM		⁶ Well Number 133H
⁷ OGRID No. 162683	⁸ Operator Name CIMAREX ENERGY CO. of Colorado		⁹ Elevation 3395.9'

¹⁰ Surface Location									
UL or lot no. D	Section 32	Township 25S	Range 33E	Lot Idn	Feet from the 330	North/South line NORTH	Feet from the 370	East/West line WEST	County LEA

¹¹ Bottom Hole Location If Different From Surface									
UL or lot no. M	Section 5	Township 26S	Range 33E	Lot Idn	Feet from the 100	North/South line SOUTH	Feet from the 330	East/West line WEST	County LEA
¹² Dedicated Acres 320		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

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



¹⁷ OPERATOR
CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Signature: Kanicia Schlichting Date: 10/24/22

Printed Name: Kanicia Schlichting

E-mail Address: kanicia.schlichting@coterra.com

¹⁸ SURVEYOR
CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

May 01, 2018

Date of Survey
Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
06-27-22
PROFESSIONAL SURVEYOR

Certificate Number:

NOTE:

- Distances referenced on plat to section lines are perpendicular.
- Basis of Bearing is a Transverse Mercator Projection with a Central Meridian of W103°53'00" (NAD 83)

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S89°53'08"W	2643.77'
L2	N10°01'52"W	233.49'
L3	S89°47'46"W	2645.73'
L4	S00°09'24"E	1322.70'
L5	S00°09'24"E	2529.99'

Intent ☐ As Drilled ☐

API # 30-025-50877			
Operator Name:		Property Name:	Well Number

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
Latitude					Longitude				NAD

Is this well the defining well for the Horizontal Spacing Unit? ☐Is this well an infill well? ☐

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #			
Operator Name:		Property Name:	Well Number

Estimated Formation Tops

Formation:	Top:	Formation:	Top:

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: Cimarex Energy Company of Colorado **OGRID:** 162683 **Date:** 12 / 5 / 2022

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Red Hills 32-5 Federal Com 133H		Sec 32 T25S, R33E	330 FNL/370 FWL	1834	3117	3668
	30-025-50877					

IV. Central Delivery Point Name: Red Hills 32-5 CTB Sales [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Red Hills 32-5 Federal Com 133H		3/1/2023	3/21/2023	7/1/2023	11/1/2023	11/1/2023
	30-025-50877					

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

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

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

Section 2 – Enhanced Plan**EFFECTIVE APRIL 1, 2022**

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature: 
Printed Name: Sarah Jordan
Title: Regulatory Analyst
E-mail Address: sarah.jordan@coterra.com
Date: 12/5/2022
Phone: 432/620-1909
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

From State of New Mexico, Natural Gas Management Plan

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

XEC Standard Response

Standard facility gas process flow begins at the inlet separator. These vessels are designed based off of forecasted rates and residence times in accordance with, and often greater than, API 12J. The separated gas is then routed to an additional separation vessel (ie sales scrubber) in order to extract liquids that may have carried over or developed due to the decrease in pressure. The sales scrubber is sized based on API 521. From the sales scrubber, the gas leaves the facility and enters the gas midstream gathering network.

Cimarex

VII. Operational Practices

Cimarex values the sustainable development of New Mexico's natural resources. Venting and flaring of natural gas is a source of waste in the industry, and Cimarex will ensure that its values are aligned with those of NMOCD. As such, Cimarex plans to take pointed steps to ensure compliance with Subsection A through F of 19.15.27.8 NMAC.

Specifically, below are the steps Cimarex will plan to follow under routine well commissioning and operations.

1. Capture or combust natural gas during drilling operations where technically feasible, using the best industry practices and control technologies.
 - a. All flares during these operations will be a minimum of 100ft away from the nearest surface-hole location.
2. All gas present during post-completion drill-out and flow back will be routed through separation equipment, and, if technically feasible, flare unsellable vapors rather than vent. Lastly, formal sales separator commissioning to process well-stream fluids and send gas to a gas flow line/collection system or use the gas for on-site fuel or beneficial usage, gas as soon as is safe and technically feasible.
3. Cimarex will ensure the flare or combustion equipment is properly sized to handle expected flow rates, ensure this equipment is equipped with an automatic or continuous ignition source, and ensure this equipment is designed for proper combustion efficiency.
4. If Cimarex must flare because gas is not meeting pipeline specifications, Cimarex will limit flaring to <60 days, analyze gas composition at least twice per week, and route gas into a gathering pipeline as soon as pipeline specifications are met.
5. Under routine production operations, Cimarex will not flare/vent unless:
 - a. Venting or flaring occurs due to an emergency or equipment malfunction.
 - b. Venting or flaring occurs as a result of unloading practices, and an operator is onsite (or within 30 minutes of drive time and posts contact information at the wellsite) until the end of unloading practice.
 - c. The venting or flaring occurs during automated plungerlift operations, in which case the Cimarex operator will work to optimize the plungerlift system to minimize venting/flaring.
 - d. The venting or flaring occurs during downhole well maintenance, in which case Cimarex will work to minimize venting or flaring operations to the extent that it does not pose a risk to safe operations.
 - e. The well is an exploratory well, the division has approved the well as an exploratory well, venting or flaring is limited to 12 months, as approved by the division, and venting/flaring does not cause Cimarex to breach its State-wide 98% gas capture requirement.
 - f. Venting or flaring occurs because the stock tanks or other low-pressure vessels are being gauged, sampled, or liquids are being loaded out.
 - g. The venting or flaring occurs because pressurized vessels are being maintained and are being blown-down or depressurized.
 - h. Venting or flaring occurs as a result of normal dehydration unit operations.

- i. Venting or flaring occurs as a result of bradenhead testing.
 - j. Venting or flaring occurs as a result of normal compressor operations, including general compressor operations, compressor engines and turbines.
 - k. Venting or flaring occurs as a result of a packer leakage test.
 - l. Venting or flaring occurs as a result of a production test lasting less than 24 hours unless otherwise approved by the division.
 - m. Venting or flaring occurs as a result of new equipment commissioning and is necessary to purge impurities from the pipeline or production equipment.
6. Cimarex will maintain its equipment in accordance with its Operations and Maintenance Program, to ensure venting or flaring events are minimized and that equipment is properly functioning.
7. Cimarex will install automatic tank gauging equipment on all production facilities constructed after May 25, 2021, to ensure minimal emissions from tank gauging practices.
8. By November 25, 2022, all Cimarex facilities equipped with flares or combustors will be equipped with continuous pilots or automatic igniters, and technology to ensure proper function, i.e. thermocouple, fire-eye, etc...
9. Cimarex will perform AVO (audio, visual, olfactory) facility inspections in accordance with NMOCD requirements. Specifically, Cimarex will:
 - a. Perform weekly inspections during the first year of production, and so long as production is greater than 60 MCFD.
 - b. If production is less than 60 MCFD, Cimarex will perform weekly AVO inspections when an operator is present on location, and inspections at least once per calendar month with at least 20 calendar days between inspections.
10. Cimarex will measure or estimate the volume of vented, flared or beneficially used natural gas, regardless of the reason or authorization for such venting or flaring.
11. On all facilities constructed after May 25, 2021, Cimarex will install metering where feasible and in accordance with available technology and best engineering practices, in an effort to measure how much gas could have been vented or flared.
 - a. In areas where metering is not technically feasible, such as low-pressure/low volume venting or flaring applications, engineering estimates will be used such that the methodology could be independently verified.
12. Cimarex will fulfill the division's requirements for reporting and filing of venting or flaring that exceeds 50 MCF in volume or last eight hours or more cumulatively within any 24-hour period.

VIII. Best Management Practices to minimize venting during active and planned maintenance

Cimarex strives to ensure minimal venting occurs during active and planned maintenance activities. Below is a description of common maintenance practices, and the steps Cimarex takes to limit venting exposure.

- **Workovers:**
 - Always strive to kill well when performing downhole maintenance.
 - If vapors or trapped pressure is present and must be relieved then:
 - Initial blowdown to production facility:
 - Route vapors to LP flare if possible/applicable
 - Blowdown to portable gas buster tank:
 - Vent to existing or portable flare if applicable.
- **Stock tank servicing:**
 - Minimize time spent with thief hatches open.
 - When cleaning or servicing via manway, suck tank bottoms to ensure minimal volatiles exposed to atmosphere.
 - Connect vacuum truck to low pressure flare while cleaning bottoms to limit venting.
 - Isolate the vent lines and overflows on the tank being serviced from other tanks.
- **Pressure vessel/compressor servicing and associated blowdowns:**
 - Route to flare where possible.
 - Blow vessel down to minimum available pressure via pipeline, prior to venting vessel.
 - Preemptively changing anodes to reduce failures and extended corrosion related servicing.
 - When cleaning or servicing via manway, suck vessel bottoms to ensure minimal volatiles exposed to atmosphere.
- **Flare/combustor maintenance:**
 - Minimize downtime by coordinating with vendor and Cimarex staff travel logistics.
 - Utilizing preventative and predictive maintenance programs to replace high wear components before failure.
 - Because the flare/combustor is the primary equipment used to limit venting practices, ensure flare/combustor is properly maintained and fully operational at all times via routine maintenance, temperature telemetry, onsite visual inspections.

The Cimarex expectation is to limit all venting exposure. Equipment that may not be listed on this document is still expected to be maintained and associated venting during such maintenance minimized.



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

Application Data

11/28/2022

APD ID: 10400073764

Submission Date: 04/28/2021

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Well Type: OIL WELL

Well Work Type: Drill

Highlighted data
reflects the most
recent changes
[Show Final Text](#)

Section 1 - General

APD ID: 10400073764

Tie to previous NOS? Y

Submission Date: 04/28/2021

BLM Office: Carlsbad

User: AMITHY CRAWFORD

Title: Regulatory Analyst

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMNM0106040A

Lease Acres:

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? YES

Federal or Indian agreement: FEDERAL

Agreement number: NMNM071019X

Agreement name:

Keep application confidential? Y

Permitting Agent? NO

APD Operator: CIMAREX ENERGY COMPANY OF COLORADO

Operator letter of

Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY OF COLORADO

Operator Address: 600 N MARIENFELD STREET SUITE 600

Zip: 79701

Operator PO Box:

Operator City: MIDLAND

State: TX

Operator Phone: (432)620-1936

Operator Internet Address:

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: WC-025 G-06
S253329D UPR Bone Spring

Pool Name: WC-025 G-06
S253329D; UPR Bone Spring

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H**Is the proposed well in an area containing other mineral resources?** USEABLE WATER,NATURAL GAS,OIL**Is the proposed well in a Helium production area?** N**Use Existing Well Pad?** Y**New surface disturbance?** N**Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:** Red Hills 32-5 Fed Com**Number:** W2W2 Pad 1**Well Class:** HORIZONTAL**Number of Legs:** 1**Well Work Type:** Drill**Well Type:** OIL WELL**Describe Well Type:****Well sub-Type:** INFILL**Describe sub-type:****Distance to town:** 24 Miles**Distance to nearest well:** 20 FT**Distance to lease line:** 330 FT**Reservoir well spacing assigned acres Measurement:** 320 Acres**Well plat:** C_102_RED_HILLS_32_5_FED_COM_133H_W2W2_PAD__1_20221025081858.pdf**Well work start Date:** 11/30/2022**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:****Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	330	FNL	370	FW L	25S	33E	32	Aliquot NWN W	32.093413	- 103.60166	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	3396	0	0	Y
KOP Leg #1	330	FNL	370	FW L	25S	33E	32	Aliquot NWN W	32.093413	- 103.60166	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 6401	9812	9797	Y
PPP Leg #1-1	330	FNL	370	FW L	25S	33E	32	Aliquot NWN W	32.094045	- 103.60179	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 6994	10867	10390	Y

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
PPP Leg #1-2	1323	FNL	331	FWL	26S	33E	5	Aliquot SWNW	32.076161	- 103.601787	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0106040A	- 6977	15347	10373	Y
PPP Leg #1-3	2645	FNL	331	FWL	26S	33E	5	Aliquot NWSW	32.072526	- 103.601787	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 160973	- 6972	16670	10368	Y
EXIT Leg #1	100	FSL	330	FWL	26S	33E	5	Aliquot SWSW	32.065572	- 103.601431	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 160973	- 6959	20522	10355	Y
BHL Leg #1	100	FSL	330	FEL	26S	33E	5	Aliquot SWSW	32.065572	- 103.601431	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 160973	- 6959	20522	10355	Y



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

Drilling Plan Data Report

11/28/2022

APD ID: 10400073764

Submission Date: 04/28/2021

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
3803628	RUSTLER	0	959	959	ANHYDRITE, SANDSTONE	USEABLE WATER	N
3803629	TOP SALT	-1374	1374	1374	ANHYDRITE	NONE	N
3803630	BASE OF SALT	-4892	4892	4892	ANHYDRITE	NONE	N
3803632	BELL CANYON	-4954	4954	4954	SANDSTONE	NONE	N
3803633	CHERRY CANYON	-6026	6026	6026	SANDSTONE	NONE	N
3803634	BRUSHY CANYON	-7562	7562	7562	SANDSTONE	NONE	N
3803635	BONE SPRING	-9064	9064	9064	LIMESTONE	NATURAL GAS, OIL	N
3803636	UPPER AVALON SHALE	-9381	9381	9381	SHALE	NATURAL GAS, OIL	N
3803637	BONE SPRING 1ST	-10061	10061	10061	SANDSTONE	NATURAL GAS, OIL	N
3803638	BONE SPRING 2ND	-10248	10248	10248	LIMESTONE	NATURAL GAS, OIL	Y
3803627		0					

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M

Rating Depth: 4970

Equipment: A BOP consisting of three rams, including one blind ram and two pipe rams and one annular preventer. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A rotating head may be installed as needed. A Kelly clock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

Requesting Variance? YES

Variance request: Co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only.

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H

Testing Procedure: A multi-bowl wellhead system will be utilized. After running the 13-3/8" surface casing, a 13 5/8 BOP/BOPE system with a minimum working pressure of 2000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 2000 psi test. Annular will be tested to 100% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by vendors representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder, monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 2000 psi. The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater. The casing strings utilizing steel body pack-off will be tested to 70% of casing burst. If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Choke Diagram Attachment:

Red_Hills_32_5_133H_Choke_2M_20210428143808.pdf

BOP Diagram Attachment:

Red_Hills_32_5_Fed_Com_133H_BOP_2M_20210428143819.pdf

Pressure Rating (PSI): 3M**Rating Depth:** 10562

Equipment: A BOP consisting of three rams, including one blind ram and two pipe rams and one annular preventer. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A rotating head may be installed as needed. A Kelly clock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

Requesting Variance? YES

Variance request: Co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only.

Testing Procedure: A multi-bowl wellhead system will be utilized. After running the 13-3/8" surface casing, a 13 5/8 BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. Annular will be tested to working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by vendors representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder, monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi. Slips will be utilized after running and cementing the production casing. After installation of the slips and wellhead on the production casing, a 13 5/8 BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. Annular will be tested to 100% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater. The casing string utilizing steel body pack-off will be tested to 70% of casing burst. If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Choke Diagram Attachment:

Red_Hills_32_5_Fed_Com_133H_Choke_2M_3M_20221025161912.pdf

BOP Diagram Attachment:

Red_Hills_32_5_Fed_Com_133H_BOP_3M_20221025161919.pdf

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H**Pressure Rating (PSI):** 5M**Rating Depth:** 20522

Equipment: A BOP consisting of three rams, including one blind ram and two pipe rams and one annular preventer. An accumulator that meets the requirements in Onshore Order #2 for the pressure rating of the BOP stack. A rotating head may be installed as needed. A Kelly clock will be installed and maintained in operable condition and a drill string safety valve in the open position will be available on the rig floor.

Requesting Variance? YES

Variance request: Co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only.

Testing Procedure: A multi-bowl wellhead system will be utilized. After running the 13-3/8" surface casing, a 13 5/8 BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. Annular will be tested to 100% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by vendors representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder, monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi. Slips will be utilized after running and cementing the production casing. After installation of the slips and wellhead on the production casing, a 13 5/8 BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. Annular will be tested to 100% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater. The casing string utilizing steel body pack-off will be tested to 70% of casing burst. If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Choke Diagram Attachment:

Red_Hills_32_5_Fed_Com_133H_Choke_5M_20210428143850.pdf

BOP Diagram Attachment:

Red_Hills_32_5_Fed_Com_133H_BOP_5M_20210428143859.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	NON API	N	0	900	0	900	3396	2496	900	H-40	48	ST&C	1.91	4.45	BUOY	7.45	BUOY	7.45
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4970	0	4970	3396	-1574	4970	HCK-55	40	LT&C	1.43	1.48	BUOY	2.82	BUOY	2.82
3	PRODUCTION	8.75	7.0	NEW	API	N	0	9812	0	9812	3396	-6416	9812	L-80	29	LT&C	1.53	1.78	BUOY	1.96	BUOY	1.96

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
4	PRODUCTI ON	8.75	7.0	NEW	API	N	9812	10562	9812	10350	-6416	-6954	750	P- 110	29	BUTT	1.76	2.32	BUOY	59.5 4	BUOY	59.5 4
5	COMPLETI ON SYSTEM	6	4.5	NEW	API	N	8812	20522	8812	10355	-5416	-6959	11710	P- 110	11.6	BUTT	1.56	2.21	BUOY	20.5	BUOY	20.5

Casing Attachments**Casing ID:** 1 **String** SURFACE**Inspection Document:****Spec Document:**

Red_Hills_32_5_Fed_Com_133H_surf_casing_Specs_20210428143942.pdf

Tapered String Spec:**Casing Design Assumptions and Worksheet(s):**

Red_Hills_32_5_Fed_Com_133H_Casing_Assumption_20221025162317.pdf

Casing ID: 2 **String** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Red_Hills_32_5_Fed_Com_133H_Casing_Assumption_20221025162132.pdf

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H**Casing Attachments****Casing ID:** 3 **String** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Red_Hills_32_5_Fed_Com_133H_Casing_Assumption_20221025162520.pdf

Casing ID: 4 **String** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Red_Hills_32_5_Fed_Com_133H_Casing_Assumption_20221025162808.pdf

Casing ID: 5 **String** COMPLETION SYSTEM**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Red_Hills_32_5_Fed_Com_133H_Casing_Assumption_20221025163009.pdf

Section 4 - Cement

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0	0	0	0

SURFACE	Lead		0	900	364	1.72	13.5	626	42	Class C	Bentonite
SURFACE	Tail		0	900	195	1.34	14.8	261	42	Class C	LCM
INTERMEDIATE	Lead		0	4970	949	1.88	14.8	1784	49	35:65 (POZ:C)	Bentonite + Salt
INTERMEDIATE	Tail		0	4970	291	1.34	14.8	390	49	Class C	LCM
PRODUCTION	Lead		4770	1056 2	309	3.64	14.8	1125	25	Tuned Light	LCM
PRODUCTION	Tail		0	1056 2	125	1.36	14.8	170	25	Class C	Retarder
COMPLETION SYSTEM	Lead		1036 2	2052 2	739	1.3	14.5	961	10	5050: (POZ:H)	Salt + Bentonite + Fluid Loss + Dispersant + Expanding Agent + Retarder + Antifoam

Section 5 - Circulating Medium

Mud System Type: Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:**

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials will be kept on location at all times in order to combat lost circulation or unexpected kicks. In order to run DSTs, open hole logs, and casing, the viscosity and water loss may have to be adjusted in order to meet these needs.

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	900	OTHER : Fresh Water	7.8	8.3							
900	4970	SALT SATURATED	9.8	10.3							
4970	1056 2	OTHER : Cut Brine or OBM	8.5	9							
1056 2	2052 2	OIL-BASED MUD	8.5	9							

Section 6 - Test, Logging, Coring

List of production tests including testing procedures, equipment and safety measures:

No DST Planned

List of open and cased hole logs run in the well:

GAMMA RAY LOG,DIRECTIONAL SURVEY,COMPENSATED NEUTRON LOG,

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4846

Anticipated Surface Pressure: 2560

Anticipated Bottom Hole Temperature(F): 172

Anticipated abnormal pressures, temperatures, or potential geologic hazards? YES

Describe:

Lost circulation may be encountered in the Delaware mountain group. Abnormal pressure as well as hole stability issues may be encountered in the Wolfcamp.

Contingency Plans geohazards description:

Lost circulation material will be available, as well as additional drilling fluid along with the fluid volume in the drilling rig pit system. Drilling fluid can be mixed on location or mixed in vendor mud plant and trucked to location if needed. Sufficient barite will be available to maintain appropriate mud weight for the Wolfcamp interval

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Red_Hills_32_5_Fed_Com_133H_H2S_Plan_20210428145039.pdf

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Red_Hills_32_5_Fed_Com_133H_Directional_survey_20221025165056.pdf

Red_Hills_32_5_Fed_Com_133H_AC_survey_20221025165247.pdf

Other proposed operations facets description:

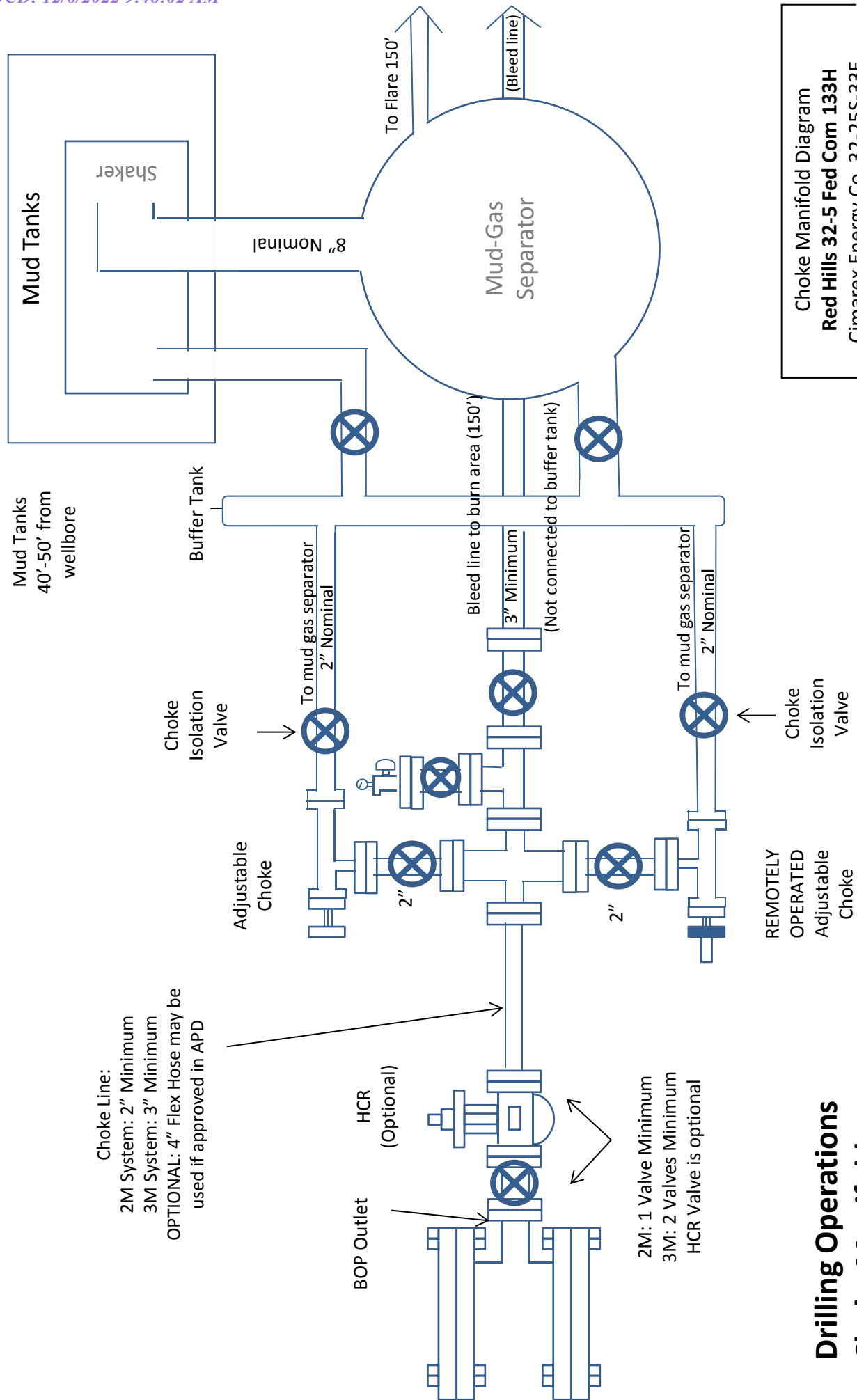
Other proposed operations facets attachment:

Red_Hills_32_5_Fed_Com_133H_Drilling_Plan_20221025165754.pdf

Other Variance attachment:

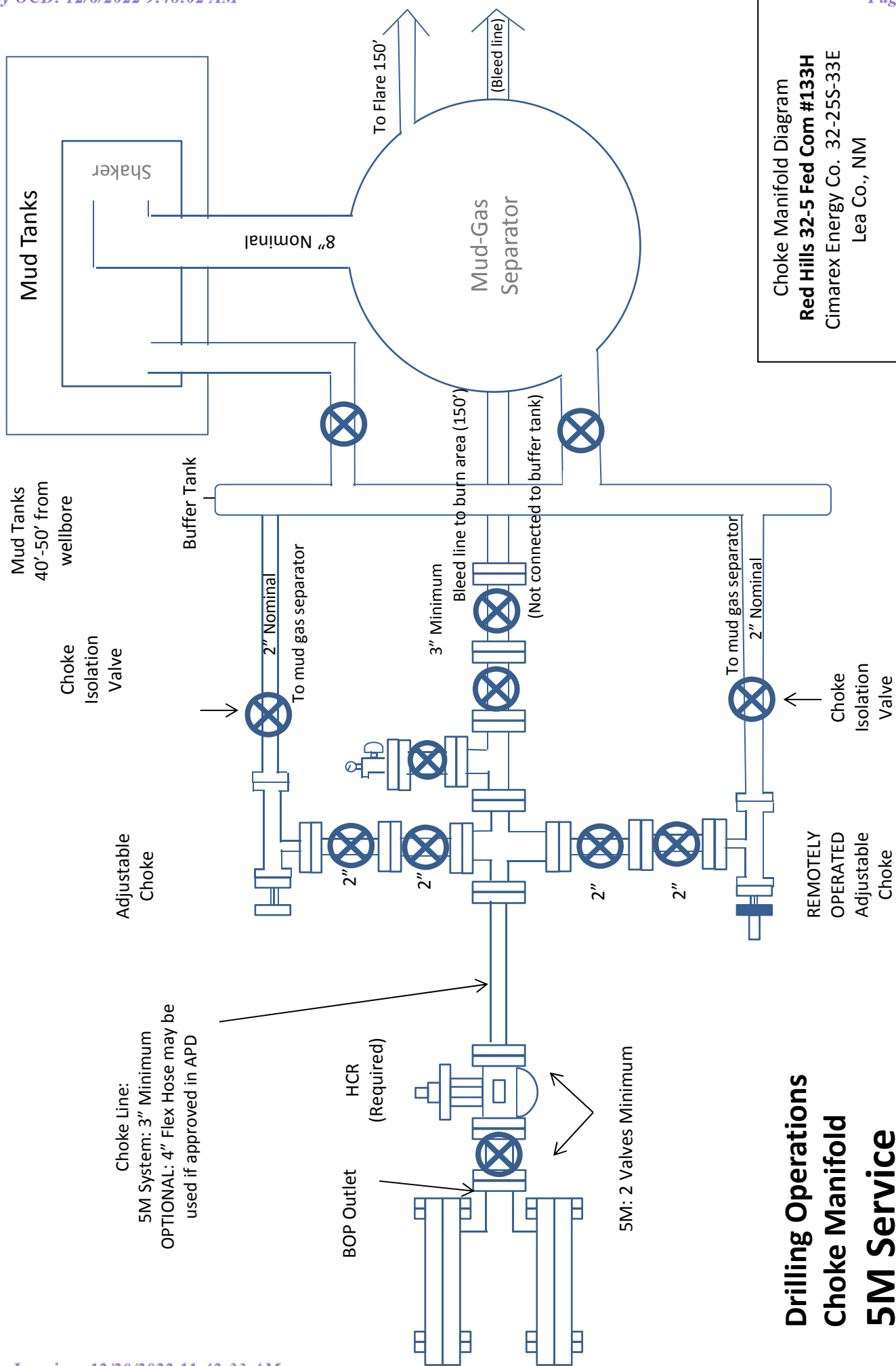
Red_Hills_32_5_133H_Multibowl_Wellhead_20210428145155.pdf

Red_Hills_32_5_Fed_Com_133H_Flex_Hose_20210428145222.pdf

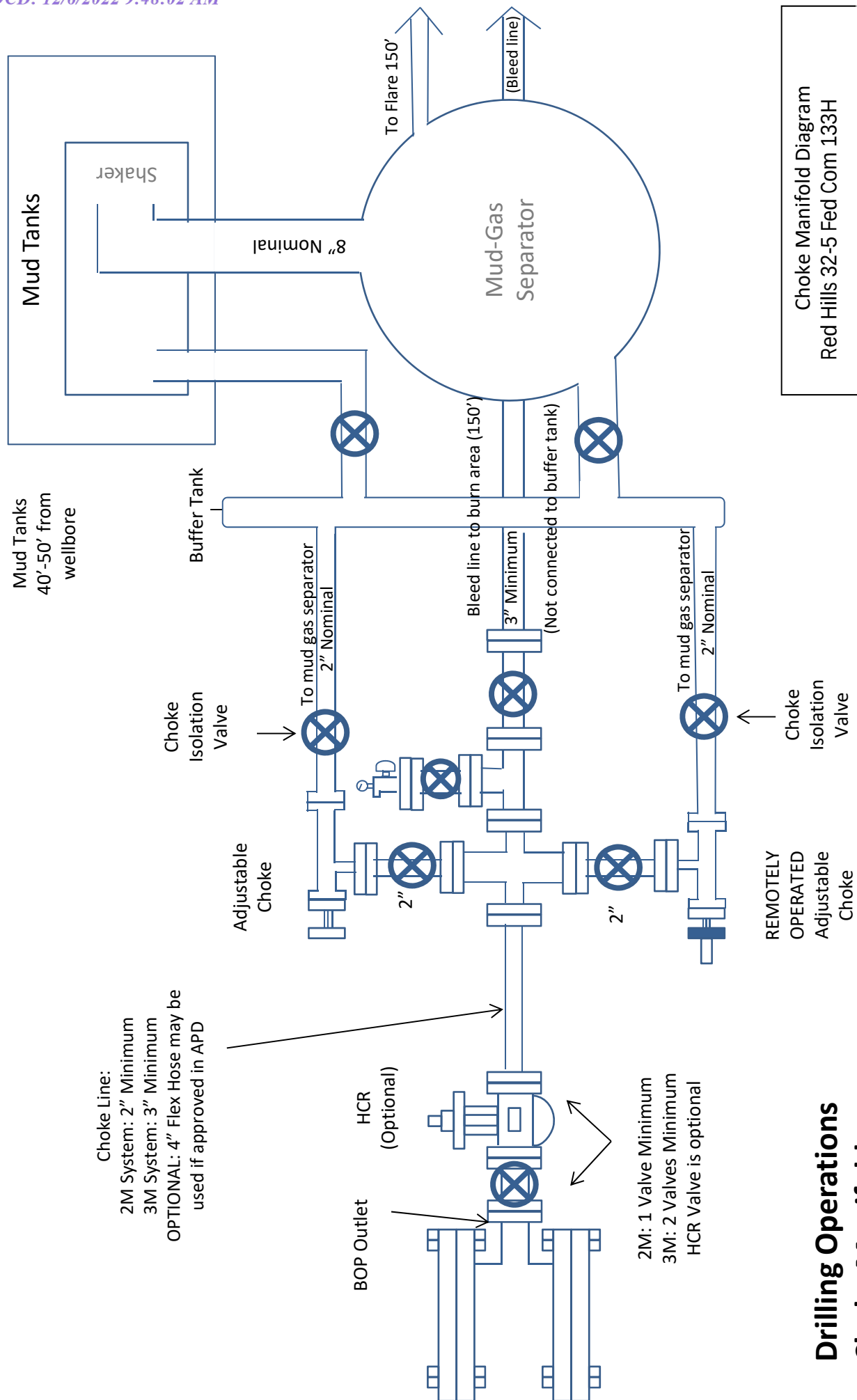


Choke Manifold Diagram
Red Hills 32-5 Fed Com 133H
 Cimarex Energy Co. 32-25S-33E
 Lea Co., NM

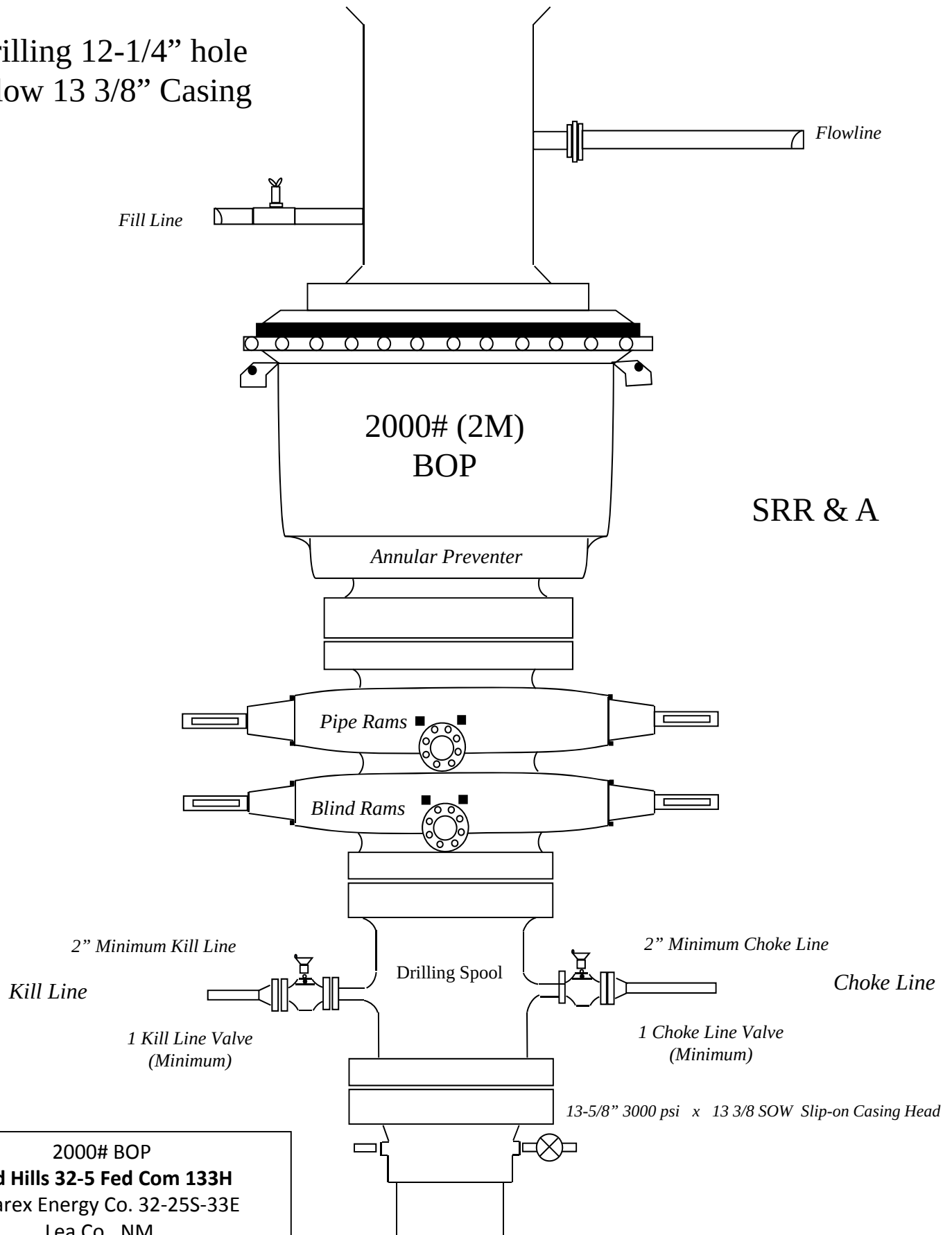
Drilling Operations
Choke Manifold
2M/3M Service



Drilling Operations Choke Manifold 5M Service



Drilling 12-1/4" hole
below 13 3/8" Casing



Drilling 8 3/4" hole
below 9 5/8" Casing

Fill Line

Flowline

5000# (5M)
BOP

Annular Preventer

SRR & A

Pipe Rams

Blind Rams

2" Minimum Kill Line

Kill Line

Drilling
Spool

3" minimum choke line

Choke Line

2 Valves Minimum
(HCR Required)

2 Valves and a check valve

Wellhead
Assembly

11" 5000 psi x 7-1/16" 10,000 psi
Wellhead Assembly

Wellhead
Assembly

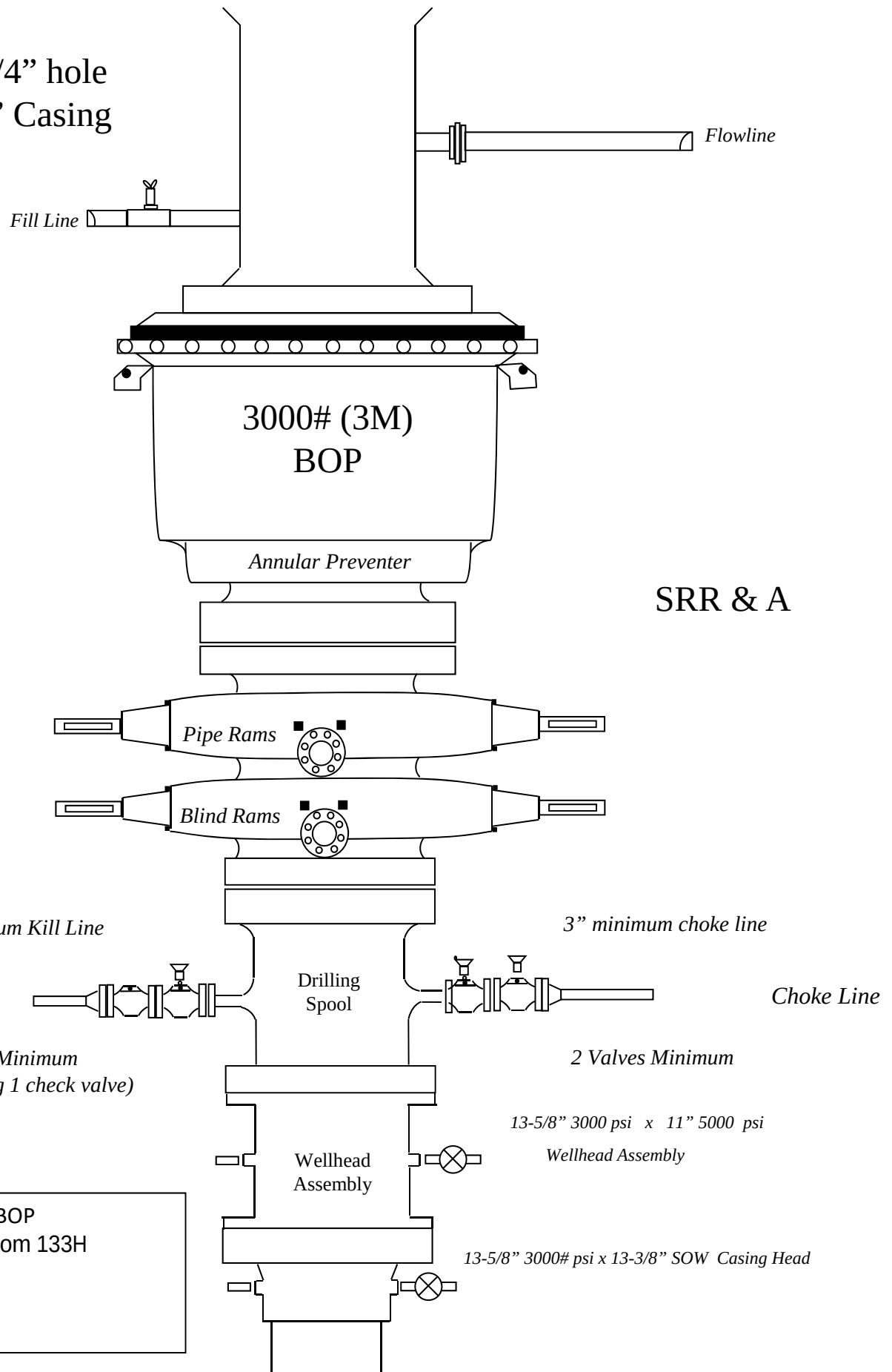
13-5/8" 3000 psi x 11" 5000 psi
Wellhead Assembly

13-5/8" 3000# psi x 13-3/8" SOW Casing Head

5000# BOP

Red Hills 32-5 Fed Com #133H
Cimarex Energy Co. 32-25S-33E
Lea Co., NM

Drilling 8-3/4" hole
below 9 5/8" Casing



[Print](#)



Red Hills 32-5 Fed Com 133H Surface Casing Spec Sheet

OCTG Performance Data

Casing Performance

Availability: ERW

Pipe Body Geometry

Outside Diameter:	13.375 in	Inside Diameter:	12.715 in
Wall Thickness:	0.330 in	Cross Section Area:	13.524 sq in
Nominal Weight:	48.00 lb/ft	Drift Diameter:	12.559 in
Plain End Weight:	46.02 lb/ft	Alternate Drift Diameter:	-

Pipe Body Performance

Grade:	H40	Collapse Strength (ERW):	740 psi
Pipe Body Yield Strength:	541000 lbf	Collapse Strength (SMLS):	-

SC Connection

Connection Geometry

	Optimum	Minimum	Maximum
Make Up Torque:	3220 lb·ft	2420 lb·ft	4030 lb·ft
Coupling Outside Diameter:	14.375 in		

Connection Performance

Grade:	H40	Minimum Internal Yield Pressure:	1730 psi
Joint Strength:	322000 lbf		

LC Connection

Connection Geometry

	Optimum	Minimum	Maximum
Make Up Torque:	-	-	-
Coupling Outside Diameter:	14.375 in		

Connection Performance

Grade:	H40	Minimum Internal Yield Pressure:	-
Joint Strength:	-		

BC Connection

Connection Geometry

	Optimum	Minimum	Maximum
Make Up Torque:	-	-	-
Coupling Outside Diameter:	14.375 in		

Connection Performance

Grade:	H40	Minimum Internal Yield Pressure:	-
Joint Strength:	-		

PE Connection

Connection Geometry

	Optimum	Minimum	Maximum
Make Up Torque:	-	-	-
Coupling Outside Diameter:	14.375 in		

Connection Performance

Grade:	H40	Minimum Internal Yield Pressure:	1730 psi
Joint Strength:	-		

Red Hills 32-5 Fed Com 133H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	900	900	13-3/8"	48.00	H-40	ST&C	1.91	4.45	7.45
12 1/4	0	4970	4970	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	9812	9812	7"	29.00	L-80	LT&C	1.53	1.78	1.96
8 3/4	9812	10562	10350	7"	29.00	P-110	BT&C	1.76	2.32	59.54
6	8812	20522	10355	4-1/2"	11.60	P-110	BT&C	1.56	2.21	20.50
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations

Red Hills 32-5 Fed Com 133H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	900	900	13-3/8"	48.00	H-40	ST&C	1.91	4.45	7.45
12 1/4	0	4970	4970	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	9812	9812	7"	29.00	L-80	LT&C	1.53	1.78	1.96
8 3/4	9812	10562	10350	7"	29.00	P-110	BT&C	1.76	2.32	59.54
6	8812	20522	10355	4-1/2"	11.60	P-110	BT&C	1.56	2.21	20.50
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations

Red Hills 32-5 Fed Com 133H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	900	900	13-3/8"	48.00	H-40	ST&C	1.91	4.45	7.45
12 1/4	0	4970	4970	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	9812	9812	7"	29.00	L-80	LT&C	1.53	1.78	1.96
8 3/4	9812	10562	10350	7"	29.00	P-110	BT&C	1.76	2.32	59.54
6	8812	20522	10355	4-1/2"	11.60	P-110	BT&C	1.56	2.21	20.50
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations

Red Hills 32-5 Fed Com 133H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	900	900	13-3/8"	48.00	H-40	ST&C	1.91	4.45	7.45
12 1/4	0	4970	4970	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	9812	9812	7"	29.00	L-80	LT&C	1.53	1.78	1.96
8 3/4	9812	10562	10350	7"	29.00	P-110	BT&C	1.76	2.32	59.54
6	8812	20522	10355	4-1/2"	11.60	P-110	BT&C	1.56	2.21	20.50
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations

Red Hills 32-5 Fed Com 133H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	900	900	13-3/8"	48.00	H-40	ST&C	1.91	4.45	7.45
12 1/4	0	4970	4970	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	9812	9812	7"	29.00	L-80	LT&C	1.53	1.78	1.96
8 3/4	9812	10562	10350	7"	29.00	P-110	BT&C	1.76	2.32	59.54
6	8812	20522	10355	4-1/2"	11.60	P-110	BT&C	1.56	2.21	20.50
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations

Red Hills 32-5 Fed Com 133H

Cimarex Energy Co.

Sec. 32, 25S, 33E

Lea Co., NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Principal and operation of H₂S detectors, warning system and briefing areas.
 - D. Evacuation procedure, routes and first aid.
 - E. Proper use of safety equipment & life support systems
 - F. 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:

 - A. 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.
 - B. An audio alarm system will be installed on the derrick floor and in the top doghouse.
- 3 Windsock and/or wind streamers:
 - A. Windsock at mudpit area should be high enough to be visible.
 - B. Windsock on the rig floor and / or top doghouse should be high enough to be visible.
- 4 Condition Flags and Signs
 - A. Warning sign on access road to location.
 - B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H₂S present in dangerous concentration). Only H₂S trained and certified personnel admitted to location.
- 5 Well control equipment:
 - A. See exhibit "E-1"
- 6 Communication:
 - A. While working under masks chalkboards will be used for communication.
 - B. Hand signals will be used where chalk board is inappropriate.
 - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 Drillstem Testing:

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

H₂S Contingency Plan
Red Hills 32-5 Fed Com 133H
Cimarex Energy Co.
Sec. 32, 25S, 33E Lea Co., NM

Emergency Procedures

In the event of a release of gas containing H₂S, the first responder(s) must:

- « Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- « Evacuate any public places encompassed by the 100 ppm ROE.
- « Be equipped with H₂S monitors and air packs in order to control the release.
- « Use the "buddy system" to ensure no injuries occur during the 432-620-1975
- « Take precautions to avoid personal injury during this operation.
- « Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- « Have received training in the:
 - Detection of H₂S, and
 - Measures for protection against the gas,
 - Equipment used for protection and emergency response.

Ignition of Gas Source

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.

Characteristics of H₂S and SO₂

Please see attached International Chemical Safety Cards.

Contacting Authorities

Cimarex Energy Co. of Colorado's 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. 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. Cimarex Energy Co. of Colorado's response must be in coordination with the State of New Mexico's "Hazardous Materials Emergency Response Plan" (HMER).

H₂S Contingency Plan Emergency Contacts**Red Hills 32-5 Fed Com 133H**

Cimarex Energy Co.

Sec. 32, 25S, 33E

Lea Co., NM

Company Office

Cimarex Energy Co. of Colorado	800-969-4789
Co. Office and After-Hours Menu	

Key Personnel

Name	Title	Office	Mobile
Larry Seigrist	Drilling Manager	432-620-1934	580-243-8485
Charlie Pritchard	Drilling Superintendent	432-620-1975	432-238-7084
Roy Shirley	Construction Superintendent		432-634-2136

Artesia

Ambulance	911
State Police	575-746-2703
City Police	575-746-2703
Sheriff's Office	575-746-9888
Fire Department	575-746-2701
Local Emergency Planning Committee	575-746-2122
New Mexico Oil Conservation Division	575-748-1283

Carlsbad

Ambulance	911
State Police	575-885-3137
City Police	575-885-2111
Sheriff's Office	575-887-7551
Fire Department	575-887-3798
Local Emergency Planning Committee	575-887-6544
US Bureau of Land Management	575-887-6544

Santa Fe

New Mexico Emergency Response Commission (Santa Fe)	505-476-9600
New Mexico Emergency Response Commission (Santa Fe) 24 Hrs	505-827-9126
New Mexico State Emergency Operations Center	505-476-9635

National

National Emergency Response Center (Washington, D.C.)	800-424-8802
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Medical

Flight for Life - 4000 24th St.; Lubbock, TX	806-743-9911
Aerocare - R3, Box 49F; Lubbock, TX	806-747-8923
Med Flight Air Amb - 2301 Yale Blvd S.E., #D3; Albuquerque, NM	505-842-4433
SB Air Med Service - 2505 Clark Carr Loop S.E.; Albuquerque, NM	505-842-4949

Other

Boots & Coots IWC	800-256-9688	or	281-931-8884
Cudd Pressure Control	432-699-0139	or	432-563-3356
Halliburton	575-746-2757		
B.J. Services	575-746-3569		



Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22 Proposal

Geodetic Report

(Def Plan)



Report Date: September 02, 2022 - 03:41 PM Client: Cimarex Energy Field: NM Lea County (NAD 83) Structure / Slot: Cimarex Red Hills 32-5 Fed Com 133H / 133H Well: Red Hills 32-5 Fed Com 133H Borehole: Red Hills 32-5 Fed Com 133H UWI / API#: Unknown / Unknown Survey Name: Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22 Survey Date: September 01, 2022 Tort / AHD / DDI / ERD Ratio: 114.208 ° / 10681.500 ft / 6.382 / 1.028 Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet Location Lat / Long: N 32° 5' 36.28711", W 103° 36' 5.97706" Location Grid N/E Y/X: N 398489.160 ftUS, E 767919.860 ftUS CRS Grid Convergence Angle: 0.3888 ° Grid Scale Factor: 0.99996789 Version / Patch: 2.10.832.2	Survey / DLS Computation: Minimum Curvature / Lubinski Vertical Section Azimuth: 179.604 ° (Grid North) Vertical Section Origin: 0.000 ft, 0.000 ft TVD Reference Datum: RKB = 22ft TVD Reference Elevation: 3417.900 ft above MSL Seabed / Ground Elevation: 3395.900 ft above MSL Magnetic Declination: 6.309 ° Total Gravity Field Strength: 998.4291mgn (9.80665 Based) Gravity Model: GARM Total Magnetic Field Strength: 47436.768 nT Magnetic Dip Angle: 59.650 ° Declination Date: September 01, 2022 Magnetic Declination Model: HDGM 2022 North Reference: Grid North Grid Convergence Used: 0.3888 ° Total Corr Mag North->Grid North: 5.9207 ° Local Coord Referenced To: Well Head
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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S °)	Longitude (E/W °)
SHL [330' FNL, 370' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	398489.16	767919.86	N 32.093413	W 103.601660
	100.00	0.00	39.79	100.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	200.00	0.00	39.79	200.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	300.00	0.00	39.79	300.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	400.00	0.00	39.79	400.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	500.00	0.00	39.79	500.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	600.00	0.00	39.79	600.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	700.00	0.00	39.79	700.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	800.00	0.00	39.79	800.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
Rustler	850.00	0.00	39.79	850.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	900.00	0.00	39.79	900.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	1000.00	0.00	39.79	1000.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	1100.00	0.00	39.79	1100.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
Top of Salt	1200.00	0.00	39.79	1200.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	1300.00	0.00	39.79	1300.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	1400.00	0.00	39.79	1400.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	1500.00	0.00	39.79	1500.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	1600.00	0.00	39.79	1600.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	1700.00	0.00	39.79	1700.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	1800.00	0.00	39.79	1800.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	1900.00	0.00	39.79	1900.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	2000.00	0.00	39.79	2000.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	2100.00	0.00	39.79	2100.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	2200.00	0.00	39.79	2200.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	2300.00	0.00	39.79	2300.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	2400.00	0.00	39.79	2400.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	2500.00	0.00	39.79	2500.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	2600.00	0.00	39.79	2600.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	2700.00	0.00	39.79	2700.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
Nudge, Build 2"/100ft	2800.00	0.00	39.79	2800.00	0.00	0.00	0.00	0.00	398489.16	767919.86	N 32.093413	W 103.601660
	2900.00	2.00	39.79	2899.98	-1.33	1.34	1.12	2.00	398490.50	767920.98	N 32.093417	W 103.601657
	3000.00	4.00	39.79	2999.94	-5.33	5.36	4.47	2.00	398494.52	767924.33	N 32.093428	W 103.601646
Hold	3100.01	6.00	39.79	3099.46	-11.99	12.06	10.04	2.00	398501.22	767929.90	N 32.093446	W 103.601628
	3200.00	6.00	39.79	3198.90	-19.97	20.09	16.73	0.00	398509.25	767936.59	N 32.093468	W 103.601606
	3300.00	6.00	39.79	3298.36	-27.96	28.12	23.42	0.00	398517.28	767943.28	N 32.093490	W 103.601584
	3400.00	6.00	39.79	3397.81	-35.94	36.15	30.12	0.00	398525.31	767949.97	N 32.093512	W 103.601562
	3500.00	6.00	39.79	3497.26	-43.93	44.19	36.81	0.00	398533.34	767956.66	N 32.093534	W 103.601540
	3600.00	6.00	39.79	3596.71	-51.92	52.22	43.50	0.00	398541.38	767963.35	N 32.093556	W 103.601519
	3700.00	6.00	39.79	3696.16	-59.90	60.25	50.19	0.00	398549.41	767970.04	N 32.093578	W 103.601497
	3800.00	6.00	39.79	3795.62	-67.89	68.28	56.88	0.00	398557.44	767976.73	N 32.093600	W 103.601475
	3900.00	6.00	39.79	3895.07	-75.87	76.31	63.57	0.00	398565.47	767983.42	N 32.093622	W 103.601453
	4000.00	6.00	39.79	3994.52	-83.86	84.34	70.26	0.00	398573.50	767990.11	N 32.093644	W 103.601432
	4100.00	6.00	39.79	4093.97	-91.84	92.38	76.95	0.00	398581.53	767996.80	N 32.093666	W 103.601410
	4200.00	6.00	39.79	4193.43	-99.83	100.41	83.64	0.00	398589.56	768003.49	N 32.093688	W 103.601388
	4300.00	6.00	39.79	4292.88	-107.81	108.44	90.33	0.00	398597.60	768010.18	N 32.093709	W 103.601366
	4400.00	6.00	39.79	4392.33	-115.80	116.47	97.02	0.00	398605.63	768016.87	N 32.093731	W 103.601344
	4500.00	6.00	39.79	4491.78	-123.78	124.50	103.71	0.00	398613.66	768023.56	N 32.093753	W 103.601323
	4600.00	6.00	39.79	4591.23	-131.77	132.54	110.40	0.00	398621.69	768030.25	N 32.093775	W 103.601301
	4700.00	6.00	39.79	4690.69	-139.75	140.57	117.09	0.00	398629.72	768036.94	N 32.093797	W 103.601279
	4800.00	6.00	39.79	4790.14	-147.74	148.60	123.78	0.00	398637.75	768043.63	N 32.093819	W 103.601257
	4900.00	6.00	39.79	4889.59	-155.73	156.63	130.47	0.00	398645.79	768050.32	N 32.093841	W 103.601236
Base of Salt	4900.41	6.00	39.79	4890.00	-155.76	156.66	130.50	0.00	398645.82	768050.35	N 32.093841	W 103.601236
Bell Canyon	4930.58	6.00	39.79	4920.00	-158.17	159.09	132.51	0.00	398648.24	768052.37	N 32.093848	W 103.601229
	5000.00	6.00	39.79	4989.04	-163.71	164.66	137.16	0.00	398653.82	768057.01	N 32.093863	W 103.601214
	5100.00	6.00	39.79	5088.49	-171.70	172.69	143.85	0.00	398661.85	768063.70	N 32.093885	W 103.601192
	5200.00	6.00	39.79	5187.95	-179.68	180.73	150.54	0.00	398669.88	768070.40	N 32.093907	W 103.601170
	5300.00	6.00	39.79	5287.40	-187.67	188.76	157.23	0.00	398677.91	768077.09	N 32.093929	W 103.601148
	5400.00	6.00	39.79	5386.85	-195.65	196.79	163.92	0.00	398685.94	768083.78	N 32.093951	W 103.601127
	5500.00	6.00	39.79	5486.30	-203.64	204.82	170.61	0.00	398693.97	768090.47	N 32.093973	W 103.601105
	5600.00	6.00	39.79	5585.75	-211.62	212.85	177.30	0.00	398702.01	768097.16	N 32.093995	W 103.601083
Drop 2"/100ft	5677.03	6.00	39.79	5662.37	-217.77	219.04	182.46	0.00	398708.19	768102.31	N 32.094012	W 103.601066
	5700.00	5.54	39.79	5685.22	-219.54	220.82	183.93	2.00	398709.97	768103.79	N 32.094017	W 103.601062
	5800.00	3.54	39.79	5784.90	-225.59	226.90	189.00	2.00	398716.05	768108.85	N 32.094033	W 103.601045
Cherry Canyon	5900.00	1.54	39.79	5884.79	-228.97	230.30	191.84	2.00	398719.46	768111.69	N 32.094043	W 103.601036
Hold	5955.21	0.44	39.79	5940.00	-229.70	231.04	192.45	2.00	398720.19	768112.30	N 32.094045	W 103.601034
	5977.04	0.00	39.79	5961.83	-229.76	231.10	192.50	2.00	398720.25	768112.35	N 32.094045	W 103.601034
	6000.00	0.00	39.79	5984.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	6100.00	0.00	39.79	6084.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	6200.00	0.00	39.79	6184.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	6300.00	0.00	39.79	6284.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	6400.00	0.00	39.79	6384.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	6500.00	0.00	39.79	6484.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	6600.00	0.00	39.79	6584.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S °)	Longitude (E/W °)
Brushy Canyon	7000.00	0.00	39.79	6984.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7100.00	0.00	39.79	7084.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7200.00	0.00	39.79	7184.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7300.00	0.00	39.79	7284.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7400.00	0.00	39.79	7384.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7500.00	0.00	39.79	7484.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7510.21	0.00	39.79	7495.00	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7600.00	0.00	39.79	7584.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7700.00	0.00	39.79	7684.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7800.00	0.00	39.79	7784.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	7900.00	0.00	39.79	7884.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8000.00	0.00	39.79	7984.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8100.00	0.00	39.79	8084.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8200.00	0.00	39.79	8184.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8300.00	0.00	39.79	8284.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8400.00	0.00	39.79	8384.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8500.00	0.00	39.79	8484.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8600.00	0.00	39.79	8584.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8700.00	0.00	39.79	8684.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8800.00	0.00	39.79	8784.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	8900.00	0.00	39.79	8884.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
9000.00	0.00	39.79	8984.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034	
BS/BS Lime Leonard	9065.21	0.00	39.79	9050.00	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	9095.21	0.00	39.79	9080.00	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
Avalon	9100.00	0.00	39.79	9084.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	9200.00	0.00	39.79	9184.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	9300.00	0.00	39.79	9284.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	9335.21	0.00	39.79	9320.00	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	9400.00	0.00	39.79	9384.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	9500.00	0.00	39.79	9484.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	9600.00	0.00	39.79	9584.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	9700.00	0.00	39.79	9684.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	9800.00	0.00	39.79	9784.79	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045	W 103.601034
	KOP, Build 10"/100ft	9812.74	0.00	39.79	9797.53	-229.76	231.10	192.50	0.00	398720.25	768112.35	N 32.094045
1st BS Sand	9900.00	8.73	191.60	9884.45	-223.28	224.60	191.17	10.00	398713.76	768111.02	N 32.094027	W 103.601038
	10000.00	18.73	191.60	9981.47	-200.10	201.39	186.40	10.00	398690.54	768106.25	N 32.093963	W 103.601054
	10068.64	25.59	191.60	10045.00	-174.79	176.05	181.20	10.00	398665.20	768101.05	N 32.093894	W 103.601071
	10100.00	28.73	191.60	10072.90	-160.79	162.03	178.32	10.00	398651.18	768098.17	N 32.093855	W 103.601081
	10200.00	38.73	191.60	10155.97	-106.55	107.71	167.16	10.00	398596.87	768087.02	N 32.093706	W 103.601118
Build 5"/100ft	10300.00	48.73	191.60	10228.14	-39.03	40.09	153.28	10.00	398529.25	768073.13	N 32.093520	W 103.601165
	10400.00	58.73	191.60	10287.23	39.73	-38.78	137.08	10.00	398450.38	768056.94	N 32.093304	W 103.601219
	10500.00	68.73	191.60	10331.44	127.33	-126.51	119.07	10.00	398362.66	768038.92	N 32.093063	W 103.601279
	10562.74	75.00	191.60	10350.96	185.62	-184.89	107.08	10.00	398304.28	768026.94	N 32.092903	W 103.601319
	10600.00	76.86	191.60	10360.02	220.97	-220.28	99.81	5.00	398268.88	768019.67	N 32.092806	W 103.601343
2nd BS Shale target	10700.00	81.86	191.60	10378.47	317.07	-316.53	80.05	5.00	398172.64	767999.91	N 32.092542	W 103.601409
	10800.00	86.86	191.60	10388.29	414.38	-413.98	60.04	5.00	398075.20	767979.90	N 32.092274	W 103.601476
2nd BS Shale target	10857.76	89.75	191.60	10390.00	470.85	-470.52	48.43	5.00	398018.65	767968.28	N 32.092119	W 103.601514
Landing Point	10866.90	90.21	191.60	10390.00	479.79	-479.48	46.59	5.00	398009.69	767966.44	N 32.092094	W 103.601520
2nd BS Shale target	10867.82	90.21	191.60	10390.00	480.69	-480.38	46.40	0.00	398008.80	767966.26	N 32.092092	W 103.601521
Turn 2"/100ft	10900.00	90.21	191.60	10389.88	512.17	-511.90	39.93	0.00	397977.27	767959.79	N 32.092005	W 103.601543
	10966.90	90.21	191.60	10389.64	577.61	-577.44	26.47	0.00	397911.74	767946.33	N 32.091825	W 103.601587
	11000.00	90.21	190.94	10389.52	610.02	-609.90	20.00	2.00	397879.28	767939.86	N 32.091736	W 103.601609
	11100.00	90.21	188.94	10389.16	708.39	-708.39	2.74	2.00	397780.80	767922.60	N 32.091466	W 103.601667
	11200.00	90.21	186.94	10388.79	807.33	-807.42	-11.08	2.00	397681.76	767908.78	N 32.091194	W 103.601714
Hold	11300.00	90.21	184.94	10388.43	906.71	-906.88	-21.43	2.00	397582.31	767898.43	N 32.090921	W 103.601749
	11400.00	90.21	182.94	10388.06	1006.42	-1006.64	-28.30	2.00	397482.56	767891.56	N 32.090647	W 103.601774
	11500.00	90.21	180.94	10387.70	1106.33	-1106.58	-31.69	2.00	397382.62	767888.17	N 32.090372	W 103.601787
	11566.90	90.21	179.60	10387.46	1173.23	-1173.48	-32.01	2.00	397315.72	767887.85	N 32.090188	W 103.601789
	11600.00	90.21	179.60	10387.34	1206.32	-1206.57	-31.78	0.00	397282.63	767888.08	N 32.090097	W 103.601789
	11700.00	90.21	179.60	10386.97	1306.32	-1306.57	-31.09	0.00	397182.64	767888.77	N 32.089822	W 103.601789
	11800.00	90.21	179.60	10386.61	1406.32	-1406.57	-30.40	0.00	397082.64	767889.46	N 32.089548	W 103.601789
	11900.00	90.21	179.60	10386.25	1506.32	-1506.56	-29.71	0.00	396982.65	767890.15	N 32.089273	W 103.601789
	12000.00	90.21	179.60	10385.89	1606.32	-1606.56	-29.02	0.00	396882.66	767890.84	N 32.088998	W 103.601789
	12100.00	90.21	179.60	10385.52	1706.32	-1706.56	-28.33	0.00	396782.66	767891.53	N 32.088723	W 103.601789
	12200.00	90.21	179.60	10385.16	1806.32	-1806.55	-27.64	0.00	396682.67	767892.23	N 32.088448	W 103.601789
	12300.00	90.21	179.60	10384.80	1906.32	-1906.55	-26.94	0.00	396582.67	76789289		

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S °)	Longitude (E/W °)
	16000.00	90.21	179.60	10371.39	5606.29	-5606.44	-1.37	0.00	392882.91	767918.49	N 32.078003	W 103.601787
	16100.00	90.21	179.60	10371.03	5706.29	-5706.43	-0.68	0.00	392782.92	767919.18	N 32.077728	W 103.601787
	16200.00	90.21	179.60	10370.66	5806.29	-5806.43	0.01	0.00	392682.93	767919.87	N 32.077453	W 103.601787
	16300.00	90.21	179.60	10370.30	5906.29	-5906.43	0.71	0.00	392582.93	767920.57	N 32.077178	W 103.601787
	16400.00	90.21	179.60	10369.94	6006.29	-6006.43	1.40	0.00	392482.94	767921.26	N 32.076904	W 103.601787
	16500.00	90.21	179.60	10369.58	6106.29	-6106.42	2.09	0.00	392382.95	767921.95	N 32.076629	W 103.601787
	16600.00	90.21	179.60	10369.22	6206.29	-6206.42	2.78	0.00	392282.95	767922.64	N 32.076354	W 103.601787
Fee exit to NMNM0106040 4 enter lease Cross	16670.10	90.21	179.60	10368.96	6276.39	-6276.52	3.26	0.00	392212.85	767923.12	N 32.076161	W 103.601787
	16700.00	90.21	179.60	10368.85	6306.29	-6306.42	3.47	0.00	392182.96	767923.33	N 32.076079	W 103.601787
	16800.00	90.21	179.60	10368.49	6406.29	-6406.41	4.16	0.00	392082.97	767924.02	N 32.075904	W 103.601787
	16900.00	90.21	179.60	10368.13	6506.29	-6506.41	4.85	0.00	391982.97	767924.71	N 32.075529	W 103.601787
	17000.00	90.21	179.60	10367.77	6606.29	-6606.41	5.54	0.00	391882.98	767925.40	N 32.075254	W 103.601787
	17100.00	90.21	179.60	10367.40	6706.29	-6706.40	6.23	0.00	391782.98	767926.09	N 32.074979	W 103.601787
	17200.00	90.21	179.60	10367.04	6806.29	-6806.40	6.93	0.00	391682.99	767926.79	N 32.074705	W 103.601787
	17300.00	90.21	179.60	10366.68	6906.29	-6906.40	7.62	0.00	391583.00	767927.48	N 32.074430	W 103.601787
	17400.00	90.21	179.60	10366.32	7006.28	-7006.39	8.31	0.00	391483.00	767928.17	N 32.074155	W 103.601787
	17500.00	90.21	179.60	10365.95	7106.28	-7106.39	9.00	0.00	391383.01	767928.86	N 32.073880	W 103.601787
	17600.00	90.21	179.60	10365.59	7206.28	-7206.39	9.69	0.00	391283.02	767929.55	N 32.073605	W 103.601787
	17700.00	90.21	179.60	10365.23	7306.28	-7306.39	10.38	0.00	391183.02	767930.24	N 32.073330	W 103.601787
	17800.00	90.21	179.60	10364.87	7406.28	-7406.38	11.07	0.00	391083.03	767930.93	N 32.073055	W 103.601787
	17900.00	90.21	179.60	10364.50	7506.28	-7506.38	11.76	0.00	390983.04	767931.62	N 32.072780	W 103.601787
NMNM0106040 4 exit to NMNM0106073 enter lease Cross	17992.63	90.21	179.60	10364.17	7598.91	-7599.01	12.41	0.00	390890.41	767932.26	N 32.072526	W 103.601787
	18000.00	90.21	179.60	10364.14	7606.28	-7606.38	12.46	0.00	390883.04	767932.32	N 32.072506	W 103.601787
	18100.00	90.21	179.60	10363.78	7706.28	-7706.37	13.15	0.00	390783.05	767933.01	N 32.072231	W 103.601787
	18200.00	90.21	179.60	10363.42	7806.28	-7806.37	13.84	0.00	390683.06	767933.70	N 32.071956	W 103.601787
	18300.00	90.21	179.60	10363.05	7906.28	-7906.37	14.53	0.00	390583.06	767934.39	N 32.071681	W 103.601787
	18400.00	90.21	179.60	10362.69	8006.28	-8006.36	15.22	0.00	390483.07	767935.08	N 32.071406	W 103.601786
	18500.00	90.21	179.60	10362.33	8106.28	-8106.36	15.91	0.00	390383.08	767935.77	N 32.071131	W 103.601786
	18600.00	90.21	179.60	10361.97	8206.28	-8206.36	16.60	0.00	390283.08	767936.46	N 32.070856	W 103.601786
	18700.00	90.21	179.60	10361.60	8306.28	-8306.36	17.29	0.00	390183.09	767937.15	N 32.070581	W 103.601786
	18800.00	90.21	179.60	10361.24	8406.28	-8406.35	17.99	0.00	390083.09	767937.85	N 32.070307	W 103.601786
	18900.00	90.21	179.60	10360.88	8506.27	-8506.35	18.68	0.00	389983.10	767938.54	N 32.070032	W 103.601786
	19000.00	90.21	179.60	10360.52	8606.27	-8606.35	19.37	0.00	389883.11	767939.23	N 32.069757	W 103.601786
	19100.00	90.21	179.60	10360.15	8706.27	-8706.34	20.06	0.00	389783.11	767939.92	N 32.069482	W 103.601786
	19200.00	90.21	179.60	10359.79	8806.27	-8806.34	20.75	0.00	389683.12	767940.61	N 32.069207	W 103.601786
	19300.00	90.21	179.60	10359.43	8906.27	-8906.34	21.44	0.00	389583.13	767941.30	N 32.068932	W 103.601786
	19400.00	90.21	179.60	10359.07	9006.27	-9006.33	22.13	0.00	389483.13	767941.99	N 32.068657	W 103.601786
	19500.00	90.21	179.60	10358.70	9106.27	-9106.33	22.82	0.00	389383.14	767942.68	N 32.068383	W 103.601786
	19600.00	90.21	179.60	10358.34	9206.27	-9206.33	23.52	0.00	389283.15	767943.38	N 32.068108	W 103.601786
	19700.00	90.21	179.60	10357.98	9306.27	-9306.32	24.21	0.00	389183.15	767944.07	N 32.067833	W 103.601786
	19800.00	90.21	179.60	10357.62	9406.27	-9406.32	24.90	0.00	389083.16	767944.76	N 32.067558	W 103.601786
	19900.00	90.21	179.60	10357.26	9506.27	-9506.32	25.59	0.00	388983.17	767945.45	N 32.067283	W 103.601786
	20000.00	90.21	179.60	10356.89	9606.27	-9606.32	26.28	0.00	388883.17	767946.14	N 32.067008	W 103.601786
	20100.00	90.21	179.60	10356.53	9706.27	-9706.31	26.97	0.00	388783.18	767946.83	N 32.066733	W 103.601786
	20200.00	90.21	179.60	10356.17	9806.27	-9806.31	27.66	0.00	388683.18	767947.52	N 32.066458	W 103.601786
	20300.00	90.21	179.60	10355.81	9906.27	-9906.31	28.35	0.00	388583.19	767948.21	N 32.066184	W 103.601786
	20400.00	90.21	179.60	10355.44	10006.27	-10006.30	29.05	0.00	388483.20	767948.90	N 32.065909	W 103.601786
	20500.00	90.21	179.60	10355.08	10106.26	-10106.30	29.74	0.00	388383.20	767949.60	N 32.065634	W 103.601786
Cimarex Red Hills 32-5 Fed Com 133H - PBHL [100' FSL,330' FWL]	20522.29	90.21	179.60	10355.00	10128.55	-10128.59	29.89	0.00	388360.92	767949.75	N 32.065573	W 103.601786

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 3 *** 3-D 95.000% 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 Type	Borehole / Survey
	1	0.000	22.000	1/100.000	30.000	30.000		A001Mb_MWD-Depth Only	Red Hills 32-5 Fed Com 133H / Cimarex Red Hills 32-5 Fed Com
	1	22.000	20522.286	1/100.000	30.000	30.000		A001Mb_MWD	Red Hills 32-5 Fed Com 133H / Cimarex Red Hills 32-5 Fed Com

...Red Hills 32-5 Fed Com 133H/Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22



Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22 Anti-Collision Summary Report

Analysis Date-24hr Time: September 02, 2022 - 15:43
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure: Cimarex Red Hills 32-5 Fed Com 133H
Slot: 133H
Well: Red Hills 32-5 Fed Com 133H
Borehole: Red Hills 32-5 Fed Com 133H
Scan MD Range: 0.00ft ~ 20522.29ft

Analysis Method: 3D Least Distance
Reference Trajectory: Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22 (Def Plan)
Depth Interval: Every 10.00 Measured Depth (ft)
Rule Set: NAL Procedure: D&M AntiCollision Standard S002
Min Pts: All local minima indicated.
Version / Patch: 2.10.832.2
Database / Project: Us1455vsm3172/drilling-NM Lea County 2.10

Trajectory Error Model: ISCWSA0 3-D 95.000% Confidence 2.7955 sigma

Offset Trajectories Summary

Offset Selection Criteria

Wellhead distance scan:
 Selection filters:
 Not performed!
 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

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

Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22 (Def Plan)													Fail Major
19.99	16.35	18.18	3.64	N/A		MAS = 4.98 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
19.99	16.35	18.18	3.64	51320.38		MAS = 4.98 (m)	22.00	22.00				WRP	
19.99	20.13	5.97	-0.14	1.49		OSF1.50	1280.00	1280.00	OSF<1.50			Enter Minor	
19.99	29.15	-0.05	-9.16	1.00		OSF1.50	1880.00	1880.00			OSF<1.00	Enter Major	
19.99	41.33	-8.16	-21.34	0.69		OSF1.50	2690.00	2690.00				MinPt-CtCt	
20.05	41.78	-8.40	-21.79	0.68		OSF1.50	2720.00	2720.00				MinPt-O-SF	
20.12	41.92	-8.43	-21.81	0.68		OSF1.50	2730.00	2730.00				MINPT-O-EQU	
20.35	42.22	-8.40	-21.57	0.69		OSF1.50	2750.00	2750.00				MinPt-O-ADP	
31.73	46.88	-0.12	-15.15	1.00		OSF1.50	3080.00	3079.55			OSF>1.00	Exit Major	
60.26	60.34	19.44	-0.07	1.50		OSF1.50	3970.00	3964.69				Exit Minor	
150.63	148.70	50.89	1.93	1.52		OSF1.50	9840.00	9824.78				MINPT-O-EQU	
150.75	148.84	50.92	1.91	1.52		OSF1.50	9850.00	9834.76				MinPts	
513.53	155.71	409.13	357.83	4.99		OSF1.50	10600.00	10360.02	OSF>5.00			Exit Alert	
591.11	178.69	471.39	412.43	5.00		OSF1.50	14870.00	10375.48	OSF<5.00			Enter Alert	
564.90	352.20	329.49	212.70	2.41		OSF1.50	20520.00	10355.01				MinPts	
564.90	352.15	329.53	212.75	2.41		OSF1.50	20522.29	10355.00				TD	

30-025-08394 - Continental-
 State 1- Blind to 5030ft - P (Def Survey)

Cimarex Red Hills 32-5 Fed Com 129H Rev3 kFc 01Sep22 (Def Plan)													Fail Major
5210.27	32.81	5207.77	5177.46	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
5210.22	32.81	5207.71	5177.41	695687.90		MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
5210.19	32.81	5207.68	5177.38	866162.80		MAS = 10.00 (m)	22.00	22.00				WRP	
5210.19	1583.85	4153.45	3626.34	4.94		OSF1.50	840.00	840.00	OSF<5.00			Enter Alert	
5210.19	5216.09	1731.96	-5.91	1.50		OSF1.50	2590.00	2590.00			OSF<1.50	Enter Minor	
5201.96	7821.64	-13.31	-2619.69	1.00		OSF1.50	3850.00	3845.34			OSF<1.00	Enter Major	
5193.46	10340.45	-1701.01	-5146.39	0.75		OSF1.50	5080.00	5068.60				MinPts	
5193.43	10340.39	-1701.00	-5146.96	0.75		OSF1.50	5090.00	5078.55				MinPt-O-SF	
5193.42	10340.30	-1700.95	-5146.88	0.75		OSF1.50	5100.00	5088.49				MinPt-CtCt	
5977.52	8978.38	-8.90	-3000.86	1.00		OSF1.50	8040.00	8024.79			OSF>1.50	Exit Major	
7266.86	7268.91	2420.09	-2.04	1.50		OSF1.50	10300.00	10228.14				Exit Minor	
6856.37	6524.59	2507.81	333.78	1.58		OSF1.50	13380.00	10380.88				MinPt-CtCt	
6883.21	6564.25	2506.21	318.95	1.57		OSF1.50	13960.00	10378.78				MINPT-O-EQU	
7487.49	7292.67	2624.88	194.82	1.54		OSF1.50	16380.00	10370.01				MinPt-O-ADP	
7536.44	7340.93	2641.65	195.51	1.54		OSF1.50	16500.00	10369.58				MinPt-O-SF	
9905.02	8742.83	4075.64	1162.19	1.70		OSF1.50	20522.29	10355.00				TD	

Cimarex Red Hills 32-5 Fed
 Com 129H Rev3 kFc 01Sep22
 (Def Plan)

Cimarex Red Hills 32-5 Fed Com 129H Rev3 kFc 01Sep22 (Def Plan)													Fail Minor
39.99	32.36	38.18	7.64	N/A		MAS = 9.86 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
39.99	32.36	38.18	7.64	53884.87		MAS = 9.86 (m)	22.00	22.00				WRP	
39.99	39.83	12.84	0.17	1.51		OSF1.50	2590.00	2590.00				MinPt-CtCt	
40.01	40.12	12.66	-0.12	1.50		OSF1.50	2610.00	2610.00	OSF<1.50			Enter Minor	
40.14	40.42	12.59	-0.28	1.49		OSF1.50	2630.00	2630.00				MINPT-O-EQU	
40.25	40.57	12.61	-0.31	1.49		OSF1.50	2640.00	2640.00				MinPt-O-SF	
40.40	40.71	12.65	-0.31	1.49		OSF1.50	2650.00	2650.00				MinPt-O-ADP	
41.03	41.15	12.99	-0.12	1.50		OSF1.50	2680.00	2680.00	OSF>1.50			Exit Minor	
306.19	93.24	243.43	212.95	4.99		OSF1.50	6100.00	6084.79	OSF>5.00			Exit Alert	
453.20	137.30	361.06	315.90	5.00		OSF1.50	9060.00	9044.79	OSF<5.00			Enter Alert	
453.34	148.81	353.52	304.52	4.61		OSF1.50	9840.00	9824.78				MINPT-O-EQU	
453.45	148.95	353.55	304.50	4.60		OSF1.50	9850.00	9834.76				MinPt-O-ADP	
454.98	149.76	354.54	305.22	4.59		OSF1.50	9910.00	9894.32				MinPt-O-SF	
503.76	153.16	401.05	350.60	4.97		OSF1.50	10230.00	10178.87	OSF>5.00			Exit Alert	
851.10	256.88	679.24	594.22	4.99		OSF1.50	13680.00	10379.80	OSF<5.00			Enter Alert	
843.58	670.21	396.14	173.32	1.89		OSF1.50	20522.29	10355.00				MinPts	

30-025-08400 - Maechtel
 Permit 1 - Blind to 5006ft - P
 (Def Survey)

Cimarex Red Hills 32-5 Fed Com 128H Rev4 kFc 01Sep22 (Def Plan)													Fail Minor
9882.93	32.81	9881.13	9850.13	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
9882.68	32.81	9880.83	9849.88	211079.54		MAS = 10.00 (m)	22.00	22.00				WRP	
9882.16	2984.17	7892.11	6897.99	4.97		OSF1.50	1610.00	1610.00	OSF<5.00			Enter Alert	
9882.16	5454.10	6245.49	4428.06	2.72		OSF1.50	2800.00	2800.00				MinPt-CtCt	
10049.40	10059.53	3342.44	-10.13	1.50		OSF1.50	5030.00	5018.88	OSF<1.50			Enter Minor	
10059.11	10289.98	3198.53	-230.85	1.47		OSF1.50	5150.00	5138.22				MinPts	
10200.41	10202.90	3397.87	-2.49	1.50		OSF1.50	6470.00	6454.79	OSF>1.50			Exit Minor	
7404.03	7264.22	2560.62	139.81	1.53		OSF1.50	15050.00	10374.83				MinPt-O-SF	
7368.70	7229.25	2548.60	139.45	1.53		OSF1.50	15100.00	10374.65				MinPt-O-ADP	
6695.09	6404.77	2424.64	290.32	1.57		OSF1.50	16110.00	10370.99				MINPT-O-EQU	
5292.30	1604.00	4222.36	3688.30	4.95		OSF1.50	19460.00	10358.85	OSF>5.00			Exit Alert	
5226.04	252.29	5057.25	4973.75	31.29		OSF1.50	20290.00	10355.84				MinPt-CtCt	
5230.99	549.11	4864.31	4681.87	14.39		OSF1.50	20522.29	10355.00				MinPts	

Cimarex Red Hills 32-5 Fed
 Com 128H Rev4 kFc 01Sep22
 (Def Plan)

Cimarex Red Hills 32-5 Fed Com 128H Rev4 kFc 01Sep22 (Def Plan)													Warning Alert
59.99	32.81	58.19	27.18	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
59.99	32.81	58.18	27.18	54739.76		MAS = 10.00 (m)	22.00	22.00				WRP	

...Red Hills 32-5 Fed Com 133H/Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
59.99	32.81	46.47	27.18	4.97		MAS = 10.00 (m)	1230.00	1230.00	OSF<5.00			Enter Alert	
59.99	38.32	33.84	21.67	2.39		OSF1.50	2490.00	2490.00				MinPt-CtCt	
60.14	38.91	33.60	21.23	2.36		OSF1.50	2530.00	2530.00				MINPT-O-EOU	
60.26	39.06	33.62	21.20	2.35		OSF1.50	2540.00	2540.00	OSF>5.00			MinPt-O-ADP	
60.80	39.50	33.87	21.30	2.35		OSF1.50	2570.00	2570.00				MinPt-O-SF	
195.38	59.99	154.78	135.39	4.99		OSF1.50	3980.00	3974.63				Exit Alert	
618.14	149.00	518.20	469.14	6.28		OSF1.50	9840.00	9824.78	OSF<5.00			MINPT-O-EOU	
618.26	149.14	518.23	469.12	6.28		OSF1.50	9850.00	9834.76				MinPt-O-ADP	
621.07	150.31	520.26	470.76	6.28		OSF1.50	9940.00	9923.74				MinPt-O-SF	
1267.48	381.77	1012.36	885.71	5.00		OSF1.50	17720.00	10365.16	OSF<5.00			Enter Alert	
1269.74	514.68	926.07	755.14	3.74		OSF1.50	20522.29	10355.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com 131H Corrected MWD to
22334ft (Def Survey)

Warning Alert

116.61	32.81	114.91	83.80	N/A		MAS = 10.00 (m)	0.00	0.00	OSF<5.00			MinPts	
116.62	32.81	114.91	83.81	22973.73		MAS = 10.00 (m)	22.00	22.00				WRP	
91.25	32.81	71.70	58.44	4.99		MAS = 10.00 (m)	2140.00	2140.00				Enter Alert	
67.88	40.22	40.55	27.66	2.57		OSF1.50	2990.00	2989.86	OSF>5.00			MinPt-CtCt	
68.04	40.64	40.42	27.39	2.55		OSF1.50	3020.00	3019.78				MINPT-O-EOU	
68.16	40.78	40.45	27.38	2.55		OSF1.50	3030.00	3029.75				MinPt-O-SF	
68.54	41.07	40.63	27.47	2.54		OSF1.50	3050.00	3049.68	OSF<5.00			MinPt-O-SF	
70.30	41.78	41.93	28.53	2.54		OSF1.50	3100.01	3099.46				MinPts	
178.43	54.77	141.40	123.66	4.99		OSF1.50	4010.00	4004.47				Exit Alert	
371.99	94.27	308.62	277.71	5.99		OSF1.50	6730.00	6714.79	OSF<5.00			MinPt-CtCt	
372.38	95.39	308.26	276.98	5.93		OSF1.50	6810.00	6794.79				MINPT-O-EOU	
376.85	101.05	308.96	275.80	5.66		OSF1.50	7200.00	7184.79				MinPt-O-ADP	
380.93	115.49	303.41	265.44	4.99		OSF1.50	8180.00	8164.79	OSF<5.00			Enter Alert	
357.38	133.43	277.91	233.95	4.16		OSF1.50	9410.00	9394.79				MinPt-CtCt	
368.90	136.77	277.20	232.13	4.08		OSF1.50	9640.00	9624.79				MINPT-O-EOU	
369.74	137.76	277.35	231.85	4.05		OSF1.50	9710.00	9694.79	OSF>5.00			MinPt-CtCt	
147.76	146.80	49.30	0.96	1.51		OSF1.50	10480.00	10323.86				MinPts	
478.80	147.10	380.21	331.70	4.92		OSF1.50	10940.00	10389.74				Exit Alert	
2115.07	122.64	2032.83	1992.43	26.16		OSF1.50	12700.00	10383.35	OSF<5.00			MinPt-CtCt	
2115.33	123.36	2032.58	1991.94	26.01		OSF1.50	12750.00	10383.17				MINPT-O-EOU	
2115.70	123.84	2032.65	1991.86	25.91		OSF1.50	12780.00	10383.06				MinPt-O-ADP	
2110.36	137.88	2017.96	1972.48	23.19		OSF1.50	13420.00	10380.74	OSF<5.00			MinPt-CtCt	
2105.96	149.01	2006.14	1956.95	21.39		OSF1.50	13890.00	10379.04				MinPt-CtCt	
2099.54	160.89	1991.80	1938.65	19.74		OSF1.50	14360.00	10377.33				MinPt-CtCt	
2100.43	163.72	1990.79	1936.70	19.40		OSF1.50	14490.00	10376.86	OSF<5.00			MINPT-O-EOU	
2103.03	168.14	1990.45	1934.89	18.91		OSF1.50	14660.00	10376.25				MINPT-O-EOU	
2106.08	173.26	1990.09	1932.83	18.38		OSF1.50	14850.00	10375.56				MINPT-O-EOU	
2108.05	193.88	1978.31	1914.17	16.42		OSF1.50	15570.00	10372.95	OSF<5.00			MinPt-CtCt	
2108.81	196.30	1977.43	1912.47	16.22		OSF1.50	15680.00	10372.55				MINPT-O-EOU	
2109.72	197.45	1977.61	1912.29	16.14		OSF1.50	15730.00	10372.37				MinPt-O-ADP	
2113.10	202.57	1977.55	1910.53	15.75		OSF1.50	15900.00	10371.75	OSF<5.00			MINPT-O-EOU	
2104.06	220.14	1956.81	1883.92	14.42		OSF1.50	16480.00	10369.65				MinPt-CtCt	
2104.95	228.39	1952.20	1876.55	13.90		OSF1.50	16760.00	10368.64				MinPt-CtCt	
2104.17	235.25	1946.85	1868.92	13.49		OSF1.50	16990.00	10367.80	OSF<5.00			MinPt-CtCt	
2104.80	240.02	1944.30	1864.77	13.22		OSF1.50	17150.00	10367.22				MinPt-CtCt	
2106.37	243.98	1943.24	1862.40	13.02		OSF1.50	17310.00	10366.64				MINPT-O-EOU	
2106.85	251.20	1938.90	1855.65	12.65		OSF1.50	17520.00	10365.88	OSF<5.00			MinPt-CtCt	
2107.83	254.11	1937.93	1853.71	12.51		OSF1.50	17640.00	10365.45				MINPT-O-EOU	
2108.60	257.95	1936.15	1850.65	12.32		OSF1.50	17740.00	10365.08				MinPt-CtCt	
2109.90	264.24	1933.25	1845.66	12.03		OSF1.50	17970.00	10364.25	OSF<5.00			MINPT-O-EOU	
2110.87	265.39	1933.46	1845.40	11.99		OSF1.50	18020.00	10364.07				MinPt-O-ADP	
2108.50	276.21	1923.87	1832.29	11.50		OSF1.50	18340.00	10362.91				MinPt-CtCt	
2108.84	277.17	1923.57	1831.67	11.47		OSF1.50	18390.00	10362.73	OSF<5.00			MINPT-O-EOU	
2109.32	277.74	1923.67	1831.58	11.44		OSF1.50	18420.00	10362.62				MinPt-O-ADP	
2107.64	285.21	1917.02	1822.44	11.13		OSF1.50	18630.00	10361.86				MinPt-CtCt	
2108.85	288.02	1916.35	1820.83	11.03		OSF1.50	18750.00	10361.42	OSF<5.00			MINPT-O-EOU	
2112.87	298.44	1913.43	1814.43	10.66		OSF1.50	19080.00	10360.23				MINPT-O-EOU	
2113.19	298.82	1913.49	1814.37	10.65		OSF1.50	19100.00	10360.15				MinPt-O-ADP	
2115.50	310.36	1908.11	1805.14	10.27		OSF1.50	19440.00	10358.92	OSF<5.00			MinPt-CtCt	
2115.80	311.25	1907.79	1804.52	10.24		OSF1.50	19490.00	10358.74				MINPT-O-EOU	
2116.10	311.65	1907.84	1804.44	10.23		OSF1.50	19510.00	10358.67				MinPt-O-ADP	
2118.41	316.92	1906.65	1801.49	10.07		OSF1.50	19650.00	10358.16	OSF<5.00			MinPt-CtCt	
2118.98	318.67	1906.05	1800.31	10.01		OSF1.50	19730.00	10357.87				MINPT-O-EOU	
2121.98	323.75	1905.68	1798.26	9.87		OSF1.50	19900.00	10357.26				MINPT-O-EOU	
2123.10	329.75	1902.78	1793.35	9.69		OSF1.50	20060.00	10356.68	OSF<5.00			MinPt-CtCt	
2124.12	336.18	1899.51	1787.93	9.51		OSF1.50	20290.00	10355.84				MINPT-O-EOU	
2126.33	340.50	1898.81	1785.79	9.40		OSF1.50	20430.00	10355.33				MINPT-O-EOU	
2127.32	341.73	1899.02	1785.60	9.37		OSF1.50	20480.00	10355.15	OSF<5.00			MinPt-O-ADP	
2128.44	342.72	1899.48	1785.72	9.35		OSF1.50	20522.29	10355.00				MinPt-O-SF	

Cimarex Red Hills 32-5 Fed
Com 130H Corrected MWD to
22068ft (Def Survey)

Warning Alert

134.15	32.81	132.34	101.34	649449.04	MAS = 10.00 (m)	0.00	0.00	OSF<5.00	MinPts
134.17	32.81	132.35	101.36	15800.97	MAS = 10.00 (m)	22.00	22.00		WRP
134.32	32.81	132.27	101.51	545.33	MAS = 10.00 (m)	70.00	70.00		MINPT-O-EOU
134.63	32.81	132.28	101.82	243.93	MAS = 10.00 (m)	120.00	120.00		MINPT-O-EOU
132.21	32.81	126.50	99.40	32.56	MAS = 10.00 (m)	510.00	510.00		MinPts
132.46	32.81	126.18	99.65	28.54	MAS = 10.00 (m)	570.00	570.00		MINPT-O-EOU
137.06	32.81	118.20	104.26	7.83	MAS = 10.00 (m)	2100.00	2100.00		MinPts
137.31	32.81	118.00	104.50	7.65	MAS = 10.00 (m)	2150.00	2150.00		MINPT-O-EOU
135.47	35.32	111.40	100.15	5.95	OSF1.50	2670.00	2670.00		MinPt-CtCt
135.57	35.79	111.23	99.84	5.88	OSF1.50	2700.00	2700.00		MINPT-O-EOU
135.79	36.01	111.26	99.78	5.85	OSF1.50	2720.00	2720.00	MinPt-O-ADP	
140.07	37.76	114.37	102.31	5.74	OSF1.50	2850.00	2850.00	MinPt-O-SF	
169.93	43.19	140.62	126.74	6.07	OSF1.50	3240.00	3238.68	MinPt-O-SF	
175.18	44.49	144.99	130.68	6.07	OSF1.50	3330.00	3328.19	MinPt-O-SF	
237.46	56.02	199.60	181.45	6.50	OSF1.50	4110.00	4103.92	MinPt-O-SF	
353.20	79.78	299.49	273.42	6.74	OSF1.50	5670.00	5655.37	MinPt-O-SF	
388.93	90.10	328.34	298.83	6.58	OSF1.50	6370.00	6354.79	MinPt-O-SF	
432.89	106.58	361.31	326.31	6.16	OSF1.50	7480.00	7464.79	MinPt-O-ADP	
436.28	110.97	361.78	325.31	5.96	OSF1.50	7780.00	7764.79	MINPT-O-EOU	
438.89	114.02	362.35	324.87	5.83	OSF1.50	7990.00	7974.79	MinPt-O-ADP	
445.41	121.07	364.18	324.35	5.57	OSF1.50	8470.00	8454.79	MinPt-O-ADP	
444.74	134.64	354.46	310.10	5.00	OSF1.50	9400.00	9384.79	Enter Alert	
444.62	135.50	353.76	309.12	4.96	OSF1.50	9460.00	9444.79	MinPt-CtCt	
362.18	146.38	264.05	215.78	3.74	OSF1.50	10350.00	10259.44	MinPt-CtCt	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
362.21	146.46	264.05	215.75	3.73		OSF1.50	10360.00	10265.29	OSF>5.00			MinPts	
485.60	148.47	386.09	337.13	4.94		OSF1.50	10700.00	10378.47				Exit Alert	
1972.83	124.24	1889.51	1848.59	24.08		OSF1.50	12550.00	10383.89				MinPt-CtCt	
1971.58	129.39	1884.83	1842.19	23.10		OSF1.50	12800.00	10382.99				MinPt-CtCt	
1967.80	138.10	1875.25	1829.71	21.59		OSF1.50	13190.00	10381.57				MinPt-CtCt	
1968.54	142.06	1873.32	1826.45	20.98		OSF1.50	13370.00	10380.92				MINPT-O-EOU	
1968.83	142.45	1873.38	1826.38	20.93		OSF1.50	13390.00	10380.85				MinPt-O-ADP	
1968.73	154.02	1865.56	1814.71	19.34		OSF1.50	13830.00	10379.25				MinPt-CtCt	
1969.06	155.00	1865.24	1814.06	19.22		OSF1.50	13880.00	10379.07				MINPT-O-EOU	
1969.52	155.58	1865.31	1813.94	19.15		OSF1.50	13910.00	10378.96				MinPt-O-ADP	
1970.24	159.09	1863.69	1811.15	18.73		OSF1.50	14020.00	10378.57				MinPt-CtCt	
1949.94	196.61	1818.37	1753.32	14.98		OSF1.50	15350.00	10373.75				MinPt-CtCt	
1950.48	198.11	1817.92	1752.36	14.87		OSF1.50	15420.00	10373.49				MINPT-O-EOU	
1962.44	239.85	1802.05	1722.59	12.34		OSF1.50	16730.00	10368.74				MinPt-CtCt	
1962.07	248.93	1795.63	1713.14	11.88		OSF1.50	17020.00	10367.69				MinPt-CtCt	
1962.07	251.80	1793.72	1710.28	11.75		OSF1.50	17110.00	10367.37				MinPt-CtCt	
1961.33	274.31	1777.97	1687.02	10.77		OSF1.50	17820.00	10364.79				MinPt-CtCt	
1961.31	282.21	1772.68	1679.10	10.47		OSF1.50	18070.00	10363.89				MinPt-CtCt	
1958.47	301.47	1757.00	1656.99	9.78		OSF1.50	18670.00	10361.71				MinPt-CtCt	
1960.26	313.76	1750.60	1646.50	9.41		OSF1.50	19030.00	10360.41				MinPt-CtCt	
1967.25	347.51	1735.09	1619.74	8.52		OSF1.50	20030.00	10356.78				MinPt-CtCt	
1970.09	354.46	1733.30	1615.63	8.37		OSF1.50	20270.00	10355.91				MINPT-O-EOU	
1971.85	361.17	1730.58	1610.67	8.22		OSF1.50	20450.00	10355.26				MinPt-CtCt	
1972.52	362.98	1730.05	1609.55	8.18		OSF1.50	20522.29	10355.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com 157H Corrected MWD to
20220ft (Def Survey)

Warning Alert

1975.64	32.81	1973.84	1942.84	N/A		MAS = 10.00 (m)	0.00	0.00				MinPts	
1975.68	32.81	1973.84	1942.87	51990.21		MAS = 10.00 (m)	22.00	22.00				WRP	
1975.85	32.81	1973.75	1943.05	7774.77		MAS = 10.00 (m)	70.00	70.00				MINPT-O-EOU	
1976.10	32.81	1973.52	1943.29	4215.53		MAS = 10.00 (m)	110.00	110.00				MINPT-O-EOU	
1355.50	82.19	1300.19	1273.31	25.18		OSF1.50	6270.00	6254.79				MinPt-CtCt	
1355.32	87.37	1296.56	1267.95	23.66		OSF1.50	6750.00	6734.79				MinPt-CtCt	
1356.64	92.78	1294.28	1263.87	22.28		OSF1.50	7230.00	7214.79				MINPT-O-EOU	
1357.40	93.67	1294.44	1263.73	22.07		OSF1.50	7310.00	7294.79				MinPt-O-ADP	
1361.09	97.49	1295.58	1263.60	21.25		OSF1.50	7640.00	7624.79				MinPt-O-ADP	
1365.85	102.53	1296.99	1263.33	20.27		OSF1.50	8060.00	8044.79				MinPt-O-ADP	
1370.59	106.59	1299.02	1264.00	19.55		OSF1.50	8390.00	8374.79				MinPt-O-ADP	
1381.42	118.08	1302.18	1263.33	17.76		OSF1.50	9290.00	9274.79				MINPT-O-EOU	
1379.84	125.54	1295.63	1254.29	16.67		OSF1.50	9860.00	9844.73				MinPt-CtCt	
1379.94	125.86	1295.52	1254.08	16.63		OSF1.50	9900.00	9874.55				MINPT-O-EOU	
1380.01	125.97	1295.52	1254.04	16.62		OSF1.50	9980.00	9884.45				MinPt-O-ADP	
1388.40	127.52	1302.87	1260.88	16.59		OSF1.50	10110.00	10081.63				MinPt-O-SF	
1392.28	127.86	1306.52	1264.41	16.52		OSF1.50	10160.00	10123.91				MinPt-O-SF	
1398.23	128.66	1311.95	1269.57	16.44		OSF1.50	10230.00	10178.87				MinPt-O-SF	
1444.08	131.89	1355.64	1312.19	16.60		OSF1.50	10600.00	10360.02				MinPt-O-SF	
1585.19	148.53	1485.65	1436.66	16.16		OSF1.50	11680.00	10387.05				MinPt-O-ADP	
1588.21	157.90	1482.43	1430.31	15.22		OSF1.50	12020.00	10385.81				MinPt-CtCt	
1589.56	168.89	1476.45	1420.66	14.23		OSF1.50	12370.00	10384.55				MinPt-CtCt	
1590.37	171.34	1475.63	1419.03	14.04		OSF1.50	12450.00	10384.26				MINPT-O-EOU	
1592.64	173.89	1476.20	1418.75	13.85		OSF1.50	12530.00	10383.97				MinPt-O-ADP	
1572.31	211.68	1430.68	1360.63	11.21		OSF1.50	13490.00	10380.49				MinPt-CtCt	
1574.45	217.54	1428.91	1356.91	10.92		OSF1.50	13640.00	10379.94				MINPT-O-EOU	
1578.62	222.89	1429.52	1355.79	10.69		OSF1.50	13770.00	10379.47				MinPt-O-ADP	
1577.38	260.54	1403.18	1316.85	9.13		OSF1.50	14590.00	10376.50				MinPt-CtCt	
1577.78	267.05	1399.23	1310.72	8.90		OSF1.50	14730.00	10375.99				MinPt-CtCt	
1553.54	346.46	1322.06	1207.09	6.75		OSF1.50	16370.00	10370.05				MinPt-CtCt	
1554.84	350.28	1320.80	1204.55	6.68		OSF1.50	16460.00	10369.72				MINPT-O-EOU	
1556.23	351.92	1321.10	1204.31	6.66		OSF1.50	16500.00	10369.58				MinPt-O-ADP	
1584.04	432.64	1295.10	1151.40	5.51		OSF1.50	18070.00	10363.89				MinPt-CtCt	
1586.36	477.35	1267.61	1109.01	5.00		OSF1.50	18930.00	10360.77				Enter Alert	
1565.66	514.83	1221.92	1050.82	4.57		OSF1.50	19660.00	10358.13				MinPt-CtCt	
1581.03	559.47	1207.54	1021.57	4.25		OSF1.50	20522.29	10355.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com 156H Corrected MWD to
20955ft (Def Survey)

Warning Alert

1995.63	32.81	1993.82	1962.82	N/A		MAS = 10.00 (m)	0.00	0.00				MinPts	
1995.64	32.81	1993.78	1962.83	42963.79		MAS = 10.00 (m)	22.00	22.00				WRP	
1991.69	32.81	1979.63	1958.88	191.24		MAS = 10.00 (m)	1160.00	1160.00				MinPts	
1991.81	32.81	1979.53	1959.01	187.22		MAS = 10.00 (m)	1200.00	1200.00				MINPT-O-EOU	
1992.56	32.81	1979.53	1959.75	174.93		MAS = 10.00 (m)	1320.00	1320.00				MINPT-O-EOU	
1356.92	80.20	1302.93	1276.71	25.85		OSF1.50	6120.00	6104.79				MinPt-CtCt	
1357.12	80.86	1302.79	1276.31	25.65		OSF1.50	6180.00	6164.79				MINPT-O-EOU	
1357.37	81.10	1302.79	1276.27	25.56		OSF1.50	6210.00	6194.79				MinPt-O-ADP	
1359.63	118.61	1280.04	1241.02	17.40		OSF1.50	9360.00	9344.79				MinPt-CtCt	
1355.37	126.81	1270.31	1228.55	16.21		OSF1.50	10000.00	9981.47				MinPt-CtCt	
1355.43	127.11	1270.18	1228.32	16.17		OSF1.50	10030.00	10009.62				MINPT-O-EOU	
1355.59	127.31	1270.20	1228.28	16.15		OSF1.50	10050.00	10028.06				MinPt-O-ADP	
1363.32	128.92	1276.86	1234.40	16.04		OSF1.50	10230.00	10178.87				MinPt-O-SF	
1633.49	133.92	1543.70	1499.57	18.49		OSF1.50	11080.00	10389.23				MinPt-O-SF	
1667.74	147.61	1568.81	1520.13	17.11		OSF1.50	11800.00	10386.61				MinPt-CtCt	
1672.31	164.30	1562.26	1508.01	15.40		OSF1.50	12390.00	10384.47				MinPt-CtCt	
1678.04	193.12	1548.78	1484.92	13.13		OSF1.50	13200.00	10381.54				MinPt-CtCt	
1678.78	205.00	1541.58	1473.76	12.37		OSF1.50	13500.00	10380.45				MinPt-CtCt	
1686.58	235.17	1529.28	1451.41	10.82		OSF1.50	14230.00	10377.80				MINPT-O-EOU	
1691.37	242.17	1529.41	1449.20	10.53		OSF1.50	14390.00	10377.22				MINPT-O-EOU	
1677.19	289.65	1483.57	1387.54	8.72		OSF1.50	15430.00	10373.46				MinPt-CtCt	
1661.30	329.89	1440.86	1331.41	7.58		OSF1.50	16290.00	10370.34				MinPt-CtCt	
1660.32	341.81	1431.93	1318.50	7.31		OSF1.50	16540.00	10369.43				MinPt-CtCt	
1659.16	355.77	1421.47	1303.39	7.02		OSF1.50	16830.00	10368.38				MinPt-CtCt	
1662.12	392.89	1399.67	1269.22	6.36		OSF1.50	17590.00	10365.63				MinPt-CtCt	
1666.88	421.57	1385.31	1245.30	5.95		OSF1.50	18170.00	10363.53				MinPt-CtCt	
1669.56	441.21	1374.90	1228.35	5.69		OSF1.50	18570.00	10362.08				MinPt-CtCt	
1671.05	457.45	1365.57	1213.60	5.49		OSF1.50	18900.00	10360.88				MinPt-CtCt	
1673.21	481.71	1351.56	1191.50	5.22		OSF1.50	19390.00	10359.10				MinPt-CtCt	
1673.33	492.61	1344.41	1180.72	5.11		OSF1.50	19610.00	10358.31				MinPt-CtCt	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
1668.24	535.51	1310.71	1132.73	4.68		OSF1.50	20480.00	10355.15				MINPT-O-EOU	
1669.17	536.67	1310.88	1132.50	4.67		OSF1.50	20510.00	10355.04				MinPt-O-ADP	
1669.65	537.13	1311.05	1132.52	4.67		OSF1.50	20522.29	10355.00				MinPt-O-SF	

Cimarex Red Hills 32-5 Fed
Com 160H Rev4 kFc 01Sep22
(Def Plan)

Warning Alert

1894.74	32.81	1892.93	1861.93	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1894.74	32.81	1892.89	1861.93	41095.89		MAS = 10.00 (m)	22.00	22.00				WRP	
1894.74	41.28	1866.62	1853.47	71.94		OSF1.50	2680.00	2680.00				MinPt-CtCt	
1894.93	41.90	1866.39	1853.03	70.83		OSF1.50	2730.00	2730.00				MINPT-O-EOU	
1895.14	42.14	1866.45	1853.00	70.42		OSF1.50	2750.00	2750.00				MinPt-O-ADP	
1901.80	46.21	1870.39	1855.59	64.18		OSF1.50	3100.00	3099.45				MinPt-O-SF	
2307.38	148.91	2207.51	2158.47	23.51		OSF1.50	9840.00	9824.78				MINPT-O-EOU	
2307.50	149.05	2207.53	2158.45	23.49		OSF1.50	9850.00	9834.76				MinPt-O-ADP	
2335.00	153.12	2232.32	2181.89	23.19		OSF1.50	10190.00	10148.11				MinPt-O-SF	
2335.00	164.22	2178.72	2124.58	21.12		OSF1.50	10850.00	10389.94				MinPt-CtCt	
2389.05	164.85	2178.57	2124.24	21.05		OSF1.50	10890.00	10389.92				MINPT-O-EOU	
2389.41	165.30	2178.67	2124.18	20.99		OSF1.50	10920.00	10389.81				MinPt-O-ADP	
2389.41	538.19	1904.55	1725.75	6.33		OSF1.50	17910.00	10364.47				MinPt-CtCt	
2266.56	546.21	1901.82	1720.36	6.24		OSF1.50	18070.00	10363.89				MINPT-O-EOU	
2269.72	550.03	1902.43	1719.69	6.21		OSF1.50	18150.00	10363.60				MinPt-O-ADP	
2262.72	680.68	1808.34	1582.05	5.00		OSF1.50	20060.00	10356.68	OSF<5.00			Enter Alert	
2262.47	711.55	1787.50	1550.91	4.78		OSF1.50	20522.29	10355.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com 127H Corrected MWD to
22412ft (Def Survey)

Pass

152.29	32.81	150.49	119.48	632889.79		MAS = 10.00 (m)	0.00	0.00				Surface	
152.27	32.81	150.46	119.47	14782.12		MAS = 10.00 (m)	22.00	22.00				WRP	
151.22	32.81	147.40	118.42	70.48		MAS = 10.00 (m)	310.00	310.00				MinPts	
151.85	32.81	144.17	119.04	25.12		MAS = 10.00 (m)	710.00	710.00				MinPts	
151.64	32.81	141.09	118.84	16.93		MAS = 10.00 (m)	1000.00	1000.00				MINPT-O-EOU	
151.53	32.81	140.34	118.72	15.60		MAS = 10.00 (m)	1110.00	1110.00				MinPts	
149.39	32.81	131.58	116.58	9.10		MAS = 10.00 (m)	1970.00	1970.00				MinPts	
151.07	32.81	130.86	118.26	8.02		MAS = 10.00 (m)	2240.00	2240.00				MINPT-O-EOU	
155.40	34.78	131.69	120.62	6.95		OSF1.50	2620.00	2620.00				MinPt-O-ADP	
163.73	38.18	137.76	125.55	6.64		OSF1.50	2870.00	2869.99				MinPt-O-SF	
366.30	66.19	321.66	300.12	8.47		OSF1.50	4780.00	4770.25				MinPt-O-SF	
869.12	134.41	778.97	734.68	9.79		OSF1.50	9290.00	9274.79				MINPT-O-EOU	
869.48	134.87	779.04	734.61	9.77		OSF1.50	9320.00	9304.79				MinPt-O-ADP	
872.47	145.45	774.98	727.02	9.08		OSF1.50	10080.00	10055.20				MinPt-CtCt	
872.56	145.77	774.86	726.79	9.06		OSF1.50	10110.00	10081.63				MINPT-O-EOU	
872.65	145.87	774.88	726.78	9.05		OSF1.50	10120.00	10090.27				MinPt-O-ADP	
877.60	147.43	778.79	730.17	9.01		OSF1.50	10270.00	10207.77				MinPt-O-SF	
2380.50	139.17	2287.29	2241.39	25.91		OSF1.50	12680.00	10383.42				MinPt-CtCt	
2378.06	145.84	2280.35	2232.22	24.69		OSF1.50	12970.00	10382.37				MinPt-CtCt	
2378.02	150.10	2277.47	2227.92	23.98		OSF1.50	13140.00	10381.75				MinPt-CtCt	
2378.64	154.05	2275.46	2224.59	23.37		OSF1.50	13290.00	10381.21				MinPt-CtCt	
2379.10	155.55	2274.33	2223.57	23.15		OSF1.50	13360.00	10380.96				MINPT-O-EOU	
2379.78	156.37	2275.05	2223.41	23.03		OSF1.50	13400.00	10380.81				MinPt-O-ADP	
2376.92	172.22	2261.62	2204.70	20.87		OSF1.50	13940.00	10378.86				MinPt-CtCt	
2350.67	204.91	2213.58	2145.76	17.32		OSF1.50	15050.00	10374.83				MinPt-CtCt	
2352.85	212.18	2210.90	2140.65	16.74		OSF1.50	15290.00	10373.96				MINPT-O-EOU	
2353.96	213.63	2211.06	2140.33	16.63		OSF1.50	15340.00	10373.78				MinPt-O-ADP	
2368.76	229.77	2215.09	2138.99	15.55		OSF1.50	15770.00	10372.22				MINPT-O-EOU	
2372.48	242.11	2210.59	2130.37	14.78		OSF1.50	16110.00	10370.99				MinPt-CtCt	
2371.27	247.82	2205.57	2123.45	14.43		OSF1.50	16280.00	10370.37				MinPt-CtCt	
2368.15	260.57	2193.95	2107.58	13.70		OSF1.50	16660.00	10369.00				MinPt-CtCt	
2364.41	276.36	2179.68	2088.05	12.89		OSF1.50	17120.00	10367.33				MinPt-CtCt	
2365.00	278.14	2179.05	2086.86	12.81		OSF1.50	17190.00	10367.08				MINPT-O-EOU	
2364.21	283.65	2174.62	2080.56	12.56		OSF1.50	17320.00	10366.61				MinPt-CtCt	
2365.22	288.78	2172.21	2076.44	12.34		OSF1.50	17460.00	10366.10				MinPt-CtCt	
2367.18	293.95	2170.72	2073.23	12.13		OSF1.50	17630.00	10365.48				MINPT-O-EOU	
2371.23	299.83	2170.85	2071.40	11.91		OSF1.50	17790.00	10364.90				MINPT-O-EOU	
2373.58	302.60	2171.36	2070.88	11.82		OSF1.50	17880.00	10364.58				MinPt-O-ADP	
2370.05	323.34	2154.00	2046.71	11.04		OSF1.50	18440.00	10362.55				MinPt-CtCt	
2364.97	342.73	2135.99	2022.24	10.39		OSF1.50	18990.00	10360.55				MinPt-CtCt	
2365.76	345.26	2135.15	2020.57	10.32		OSF1.50	19080.00	10360.23				MINPT-O-EOU	
2368.09	347.85	2135.70	2020.24	10.25		OSF1.50	19170.00	10359.90				MinPt-O-ADP	
2375.42	376.06	2124.23	1999.36	9.51		OSF1.50	19900.00	10357.26				MinPt-CtCt	
2367.37	388.63	2107.79	1978.74	9.17		OSF1.50	20250.00	10355.99				MinPt-CtCt	
2367.80	390.06	2107.27	1977.74	9.13		OSF1.50	20310.00	10355.77				MINPT-O-EOU	
2368.17	390.52	2107.34	1977.65	9.12		OSF1.50	20330.00	10355.70				MinPt-O-ADP	
2372.00	395.38	2107.92	1976.61	9.03		OSF1.50	20460.00	10355.23				MINPT-O-EOU	
2373.65	397.70	2108.03	1975.93	8.93		OSF1.50	20522.29	10355.00				MinPts	

30-025-34626 Cimarex Red
Hills Unit 4 - Gyro to 12499
Blind to 17675ft - A (Def
Survey)

Pass

4630.53	32.81	4628.03	4597.72	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
4630.44	32.81	4627.93	4597.63	476349.03		MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
4630.43	32.81	4627.92	4597.62	530357.00		MAS = 10.00 (m)	22.00	22.00				WRP	
4629.20	32.81	4610.69	4596.40	288.83		MAS = 10.00 (m)	1690.00	1690.00				MinPts	
4628.31	43.19	4598.68	4585.11	170.52		OSF1.50	2810.00	2810.00				MinPt-CtCt	
4628.59	43.93	4598.47	4584.66	167.49		OSF1.50	2860.00	2860.00				MINPT-O-EOU	
4628.85	44.23	4598.53	4584.62	166.31		OSF1.50	2880.00	2879.99				MinPt-O-ADP	
4636.94	47.50	4604.44	4589.44	154.49		OSF1.50	3100.01	3099.46				MinPt-O-ADP	
4819.92	109.40	4746.15	4710.52	67.59		OSF1.50	7280.00	7264.79				MINPT-O-EOU	
1154.82	271.00	973.32	883.82	6.44		OSF1.50	14910.00	10375.34				MinPt-CtCt	
1155.05	271.71	973.08	883.34	6.42		OSF1.50	14930.00	10375.27				MINPT-O-EOU	
1155.29	272.04	973.10	883.25	6.42		OSF1.50	14940.00	10375.23				MinPt-O-ADP	
1160.33	274.21	976.69	886.13	6.39		OSF1.50	15020.00	10374.94				MinPt-O-SF	
5732.72	191.00	5604.56	5541.73	45.60		OSF1.50	20522.29	10355.00				TD	

Cimarex Red Hills 32-5 Fed
Com 155H Corrected MWD to
22115ft (Def Survey)

Pass

2015.61	32.81	2013.80	1982.80	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
2015.59	32.81	2013.73	1982.78	35574.29		MAS = 10.00 (m)	22.00	22.00				WRP	
2013.79	32.81	2007.77	1980.38	466.16		MAS = 10.00 (m)	530.00	530.00				MinPts	
2014.10	32.81	2007.33	1981.30	400.25		MAS = 10.00 (m)	610.00	610.00				MINPT-O-EOU	

...Red Hills 32-5 Fed Com 133H/Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
2018.80	32.81	2007.78	1985.89	216.25		MAS = 10.00 (m)	1040.00	1040.00				MINPT-O-EQU	
2018.33	32.81	2004.93	1985.52	170.48		MAS = 10.00 (m)	1410.00	1410.00				MinPts	
2018.43	32.81	2004.77	1985.62	166.73		MAS = 10.00 (m)	1450.00	1450.00				MINPT-O-EQU	
2021.16	32.81	2005.44	1988.35	142.72		MAS = 10.00 (m)	1720.00	1720.00				MINPT-O-EQU	
2042.40	34.82	2018.67	2007.59	92.07		OSF1.50	2630.00	2630.00				MinPt-CiCi	
1441.51	142.14	1346.23	1299.37	15.36		OSF1.50	9950.00	9933.48				MinPt-CiCi	
1441.92	143.57	1345.68	1298.35	15.22		OSF1.50	10070.00	10046.23				MINPT-O-EQU	
1442.09	143.78	1345.71	1298.31	15.19		OSF1.50	10090.00	10064.09				MinPt-O-ADP	
1451.77	145.98	1353.93	1305.80	15.08		OSF1.50	10320.00	10241.07				MinPt-O-SF	
2489.67	156.13	2385.10	2333.54	24.13		OSF1.50	12590.00	10383.75				MinPt-CiCi	
2488.51	165.45	2377.72	2323.06	22.75		OSF1.50	12950.00	10382.44				MinPt-CiCi	
2489.37	167.85	2377.00	2321.54	22.43		OSF1.50	13050.00	10382.08				MINPT-O-EQU	
2491.30	170.66	2377.03	2320.62	22.07		OSF1.50	13150.00	10381.72				MINPT-O-EQU	
2493.08	175.27	2375.75	2317.82	21.50		OSF1.50	13300.00	10381.17				MINPT-O-EQU	
2494.37	176.84	2376.00	2317.54	21.32		OSF1.50	13360.00	10380.96				MinPt-O-ADP	
2489.92	194.20	2369.97	2305.72	19.44		OSF1.50	13870.00	10379.11				MinPt-CiCi	
2475.19	253.17	2305.92	2222.02	14.74		OSF1.50	15550.00	10373.02				MinPt-CiCi	
2471.83	273.54	2288.99	2198.29	13.62		OSF1.50	16090.00	10371.06				MinPt-CiCi	
2470.81	300.99	2269.66	2169.82	12.37		OSF1.50	16810.00	10368.45				MinPt-CiCi	
2471.80	304.07	2268.60	2167.73	12.24		OSF1.50	16910.00	10368.09				MINPT-O-EQU	
2473.56	314.03	2263.72	2159.53	11.86		OSF1.50	17140.00	10367.26				MinPt-CiCi	
2469.07	335.41	2244.98	2133.66	11.08		OSF1.50	17670.00	10365.34				MinPt-CiCi	
2467.90	355.93	2230.13	2111.97	10.44		OSF1.50	18180.00	10363.49				MinPt-CiCi	
2467.05	364.65	2223.47	2102.40	10.18		OSF1.50	18400.00	10362.69				MinPt-CiCi	
2467.16	375.80	2216.14	2091.36	9.88		OSF1.50	18680.00	10361.68				MinPt-CiCi	
2466.02	388.26	2206.70	2077.76	9.56		OSF1.50	18990.00	10360.55				MinPt-CiCi	
2467.01	391.41	2205.58	2075.60	9.48		OSF1.50	19090.00	10360.19				MINPT-O-EQU	
2469.59	394.46	2206.13	2075.13	9.42		OSF1.50	19180.00	10359.86				MinPt-O-ADP	
2477.42	407.32	2205.39	2070.10	9.15		OSF1.50	19440.00	10358.92				MinPt-CiCi	
2477.94	409.03	2204.76	2068.91	9.11		OSF1.50	19500.00	10358.70				MINPT-O-EQU	
2478.58	409.86	2204.85	2068.72	9.10		OSF1.50	19530.00	10358.60				MinPt-O-ADP	
2484.74	419.30	2204.72	2065.45	8.91		OSF1.50	19750.00	10357.80				MINPT-O-EQU	
2487.95	423.09	2205.40	2064.86	8.85		OSF1.50	19860.00	10357.40				MinPt-O-ADP	
2490.81	429.78	2203.80	2061.02	8.72		OSF1.50	20000.00	10356.89				MINPT-O-EQU	
2491.82	431.00	2204.00	2060.82	8.70		OSF1.50	20040.00	10356.75				MinPt-O-ADP	
2493.33	435.10	2202.78	2058.23	8.62		OSF1.50	20110.00	10356.49				MinPt-CiCi	
2496.55	443.18	2200.61	2053.36	8.47		OSF1.50	20330.00	10355.70				MINPT-O-EQU	
2497.08	443.86	2200.69	2053.22	8.46		OSF1.50	20350.00	10355.62				MinPt-O-ADP	
2505.84	448.58	2206.30	2057.27	8.40		OSF1.50	20522.29	10355.00				MinPt-O-SF	

Cimarex Red Hills 32-5 Fed
Com 161H Rev1 kFc 01Sep22
(Def Plan)

Pass

1874.74	32.81	1872.24	1841.93	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1874.74	32.81	1872.19	1841.93	40961.72		MAS = 10.00 (m)	22.00	22.00				WRP	
1874.74	43.47	1844.93	1831.27	68.55		OSF1.50	2780.00	2780.00				MinPt-CiCi	
1874.19	47.64	1841.60	1826.55	62.20		OSF1.50	3130.00	3129.29				MinPt-CiCi	
1874.35	48.10	1841.46	1826.26	61.58		OSF1.50	3170.00	3169.07				MINPT-O-EQU	
1874.56	48.33	1841.50	1826.23	61.27		OSF1.50	3190.00	3188.96				MinPt-O-ADP	
2144.28	149.50	2043.78	1994.78	21.85		OSF1.50	9840.00	9824.78				MINPT-O-EQU	
2144.40	149.64	2043.80	1994.75	21.83		OSF1.50	9850.00	9834.76				MinPt-O-ADP	
2169.05	153.54	2065.86	2015.51	21.52		OSF1.50	10170.00	10132.08				MinPt-O-SF	
2449.67	518.90	2102.50	1930.76	7.11		OSF1.50	18100.00	10363.78				MINPT-O-EQU	
2452.74	522.57	2103.53	1930.17	7.07		OSF1.50	18180.00	10363.49				MinPt-O-ADP	
2447.47	598.36	2047.73	1849.11	6.15		OSF1.50	19340.00	10359.28				MinPt-CiCi	
2447.97	672.24	1999.00	1775.77	5.48		OSF1.50	20522.29	10355.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com 159H Rev4 kFc 01Sep22
(Def Plan)

Pass

1914.73	32.81	1912.92	1881.92	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1914.73	32.81	1912.88	1881.92	41212.88		MAS = 10.00 (m)	22.00	22.00				WRP	
1914.73	39.77	1887.61	1874.96	75.58		OSF1.50	2580.00	2580.00				MinPt-CiCi	
1914.92	40.39	1887.39	1874.53	74.37		OSF1.50	2630.00	2630.00				MINPT-O-EQU	
1915.02	40.51	1887.41	1874.51	74.15		OSF1.50	2640.00	2640.00				MinPt-O-ADP	
1931.58	45.79	1900.45	1885.79	65.81		OSF1.50	3100.00	3099.45				MinPt-O-SF	
2625.80	148.98	2525.88	2476.82	26.74		OSF1.50	9820.00	9804.79				MINPT-O-EQU	
2625.89	149.09	2525.89	2476.80	26.72		OSF1.50	9830.00	9814.78				MinPt-O-ADP	
2647.15	151.78	2545.36	2495.37	26.44		OSF1.50	10100.00	10072.90				MinPt-O-SF	
2876.26	161.80	2767.79	2714.46	26.95		OSF1.50	10950.00	10389.70				MinPt-O-ADP	
2942.73	362.03	2700.77	2580.70	12.25		OSF1.50	15080.00	10374.72				MinPt-CiCi	
2943.19	719.95	2462.62	2223.24	6.14		OSF1.50	20522.29	10355.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com 158H Rev3 kFc 01Sep22
(Def Plan)

Pass

1934.73	32.81	1932.93	1901.92	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1934.73	32.81	1932.88	1901.92	41328.31		MAS = 10.00 (m)	22.00	22.00				WRP	
1934.73	38.27	1908.62	1896.46	79.52		OSF1.50	2480.00	2480.00				MinPt-CiCi	
1934.92	38.89	1908.40	1896.04	78.20		OSF1.50	2530.00	2530.00				MINPT-O-EQU	
1935.02	39.01	1908.42	1896.02	77.95		OSF1.50	2540.00	2540.00				MinPt-O-ADP	
1963.12	45.38	1932.26	1917.73	67.53		OSF1.50	3100.00	3099.45				MinPt-O-SF	
2790.88	149.61	2690.54	2641.27	28.30		OSF1.50	9840.00	9824.78				MINPT-O-EQU	
2791.00	149.75	2690.56	2641.24	28.28		OSF1.50	9850.00	9834.76				MinPt-O-ADP	
2824.43	154.13	2721.07	2670.30	27.89		OSF1.50	10230.00	10178.87				MinPt-O-SF	
2874.20	156.24	2769.44	2717.96	27.90		OSF1.50	10460.00	10315.64				MinPt-O-ADP	
3006.49	324.81	2789.35	2681.68	13.95		OSF1.50	14570.00	10376.57				MinPt-CiCi	
3009.43	333.80	2786.30	2675.63	13.59		OSF1.50	14760.00	10375.88				MINPT-O-EQU	
3012.95	337.99	2787.02	2674.96	13.44		OSF1.50	14850.00	10375.56				MinPt-O-ADP	
3006.22	706.84	2534.39	2299.39	6.39		OSF1.50	20522.29	10355.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com 171H Corrected MWD to
22303ft (Def Survey)

Pass

2634.68	32.81	2632.97	2601.87	488896.42	MAS = 10.00 (m)	0.00	0.00
2634.57	32.81	2632.75	2601.77	21654.06	MAS = 10.00 (m)	22.00	22.00
2620.11	32.81	2610.12	2587.30	315.84	MAS = 10.00 (m)	910.00	910.00
2620.22	32.81	2609.39	2587.42	286.21	MAS = 10.00 (m)	1000.00	1000.00
1966.73	83.80	1910.34	1882.93	35.85	OSF1.50	5920.00	5904.79
1967.00	84.50	1910.15	1882.50	35.55	OSF1.50	5970.00	5954.79
1971.06	90.01	1910.53	1881.05	33.40	OSF1.50	6360.00	6344.79
1973.83	93.62	1910.90	1880.21	32.14	OSF1.50	6620.00	6604.79
1977.48	98.24	1911.47	1879.25	30.66	OSF1.50	6940.00	6924.79
1960.01	140.52	1965.81	1819.49	21.14	OSF1.50	9820.00	9804.79

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
1960.19	141.32	1865.46	1818.87	21.02		OSF1.50	9880.00	9864.63				MINPT-O-EQU	
1960.37	141.55	1865.49	1818.83	20.99		OSF1.50	9900.00	9884.45				MinPt-O-ADP	
1987.59	145.94	1889.77	1841.65	20.63		OSF1.50	10330.00	10247.33				MinPt-O-SF	
3038.45	165.79	2927.44	2872.66	27.72		OSF1.50	12650.00	10383.53				MinPt-O-ADP	
3047.51	179.96	2927.06	2867.56	25.60		OSF1.50	13150.00	10381.72				MINPT-O-EQU	
3043.94	196.53	2912.43	2847.41	23.39		OSF1.50	13660.00	10379.87				MinPt-CiCt	
3039.32	208.41	2899.89	2830.91	22.02		OSF1.50	14010.00	10378.60				MinPt-CiCt	
3039.85	210.23	2899.22	2829.63	21.83		OSF1.50	14080.00	10378.35				MINPT-O-EQU	
3040.70	211.26	2899.37	2829.43	21.73		OSF1.50	14120.00	10378.20				MinPt-O-ADP	
3040.15	221.40	2892.06	2818.74	20.72		OSF1.50	14380.00	10377.26				MinPt-CiCt	
3040.80	223.28	2891.46	2817.52	20.55		OSF1.50	14450.00	10377.01				MINPT-O-EQU	
3041.71	224.36	2891.65	2817.36	20.46		OSF1.50	14490.00	10376.86				MinPt-O-ADP	
3028.38	253.57	2858.86	2774.83	18.01		OSF1.50	15260.00	10374.07				MinPt-CiCt	
3028.49	259.30	2855.14	2769.19	17.61		OSF1.50	15410.00	10373.53				MinPt-CiCt	
3027.04	274.44	2843.59	2752.59	16.63		OSF1.50	15800.00	10372.11				MinPt-CiCt	
3027.26	281.94	2838.81	2745.32	16.18		OSF1.50	15990.00	10371.43				MinPt-CiCt	
3025.49	293.82	2829.13	2731.67	15.52		OSF1.50	16290.00	10370.34				MinPt-CiCt	
3026.11	303.06	2823.59	2723.06	15.04		OSF1.50	16520.00	10369.51				MinPt-CiCt	
3029.17	313.56	2819.65	2715.62	14.55		OSF1.50	16800.00	10368.49				MINPT-O-EQU	
3031.79	316.71	2820.16	2715.08	14.42		OSF1.50	16890.00	10368.16				MinPt-O-ADP	
3030.59	329.34	2810.54	2701.25	13.86		OSF1.50	17160.00	10367.19				MinPt-CiCt	
3032.08	344.42	2801.98	2687.66	13.25		OSF1.50	17530.00	10365.84				MinPt-CiCt	
3028.20	359.51	2788.04	2668.69	12.68		OSF1.50	17900.00	10364.50				MinPt-CiCt	
3028.23	367.05	2783.04	2661.17	12.42		OSF1.50	18080.00	10363.85				MinPt-CiCt	
3026.82	376.68	2775.21	2650.14	12.09		OSF1.50	18310.00	10363.02				MinPt-CiCt	
3028.03	380.27	2774.03	2647.76	11.98		OSF1.50	18420.00	10362.62				MINPT-O-EQU	
3029.36	381.86	2774.30	2647.50	11.94		OSF1.50	18470.00	10362.44				MinPt-O-ADP	
3036.97	401.89	2768.55	2635.07	11.37		OSF1.50	18900.00	10360.88				MinPt-CiCt	
3040.18	418.78	2760.54	2621.45	10.92		OSF1.50	19320.00	10359.36				MINPT-O-EQU	
3042.86	421.91	2761.10	2620.95	10.85		OSF1.50	19410.00	10359.03				MinPt-O-ADP	
3046.58	430.04	2759.40	2616.54	10.66		OSF1.50	19580.00	10358.42				MINPT-O-EQU	
3048.81	439.76	2755.15	2609.04	10.43		OSF1.50	19790.00	10357.65				MinPt-CiCt	
3048.36	449.78	2748.01	2598.57	10.19		OSF1.50	20030.00	10356.78				MinPt-CiCt	
3049.74	454.13	2746.50	2595.61	10.10		OSF1.50	20160.00	10356.31				MINPT-O-EQU	
3051.11	464.01	2741.28	2587.09	9.89		OSF1.50	20370.00	10355.55				MinPt-CiCt	
3051.62	470.04	2737.77	2581.58	9.76		OSF1.50	20522.29	10355.00				MinPts	

30-025-28144 Cimarex Red Hills Unit 3H - Gyro to 13456
INC Only to 17597ft - A (Def Survey)

Pass

8439.41	32.81	8437.61	8406.61	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
8439.36	32.81	8437.54	8406.55	N/A	MAS = 10.00 (m)	20.00	20.00					MinPt-O-SF	
8439.35	32.81	8437.54	8406.54	N/A	MAS = 10.00 (m)	22.00	22.00					WRP	
8387.38	44.81	8356.91	8342.58	292.49	OSF1.50	2890.00	2889.99					MinPt-CiCt	
8387.61	45.55	8356.60	8342.08	287.70	OSF1.50	2940.00	2939.94					MINPT-O-EQU	
8387.85	45.81	8356.71	8342.04	285.84	OSF1.50	2960.00	2959.92					MinPt-O-ADP	
8392.18	47.62	8359.83	8344.56	274.74	OSF1.50	3100.01	3099.46					MinPt-O-ADP	
8574.36	104.77	8503.90	8469.58	124.88	OSF1.50	7030.00	7014.79					MINPT-O-EQU	
8581.10	112.40	8505.56	8468.69	116.36	OSF1.50	7570.00	7554.79					MinPt-O-ADP	
2122.03	431.87	1833.51	1690.16	7.39	OSF1.50	18620.00	10361.89					MinPt-CiCt	
2122.82	434.37	1832.63	1688.44	7.35	OSF1.50	18680.00	10361.68					MINPT-O-EQU	
2123.45	435.14	1832.76	1688.31	7.34	OSF1.50	18700.00	10361.60					MinPt-O-ADP	
2136.44	440.29	1842.31	1696.15	7.30	OSF1.50	18870.00	10360.99					MinPt-O-SF	
2848.15	400.28	2580.69	2447.87	10.71	OSF1.50	20522.29	10355.00					TD	

Cimarex Red Hills 32-5 Fed Com 170H Corrected MWD to 22082ft (Def Survey)

Pass

2654.69	32.81	2652.88	2621.88	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2654.68	32.81	2652.81	2621.87	46529.64	MAS = 10.00 (m)	22.00	22.00					WRP	
2654.58	32.81	2652.38	2621.77	6757.54	MAS = 10.00 (m)	90.00	90.00					MINPT-O-EQU	
2651.58	32.81	2643.90	2618.77	443.18	MAS = 10.00 (m)	700.00	700.00					MinPts	
2651.80	32.81	2643.63	2619.00	409.34	MAS = 10.00 (m)	760.00	760.00					MINPT-O-EQU	
2641.62	32.81	2620.03	2608.81	131.89	MAS = 10.00 (m)	2390.00	2390.00					MinPts	
2642.26	32.98	2619.75	2609.28	126.11	OSF1.50	2500.00	2500.00					MINPT-O-EQU	
2643.53	34.57	2619.96	2608.95	120.07	OSF1.50	2620.00	2620.00					MinPt-O-ADP	
2497.36	82.91	2441.56	2414.45	46.02	OSF1.50	5930.00	5914.79					MinPt-CiCt	
2466.03	124.98	2382.19	2341.05	29.95	OSF1.50	8800.00	8784.79					MinPt-CiCt	
2466.45	126.14	2381.83	2340.31	29.68	OSF1.50	8890.00	8874.79					MINPT-O-EQU	
2469.17	129.59	2382.25	2339.58	28.91	OSF1.50	9130.00	9114.79					MinPt-O-ADP	
2471.41	131.78	2383.04	2339.64	28.45	OSF1.50	9280.00	9264.79					MinPt-O-ADP	
2518.26	146.21	2420.27	2372.06	26.10	OSF1.50	10360.00	10265.29					MinPt-O-SF	
3331.82	177.57	3212.95	3154.25	28.37	OSF1.50	12640.00	10383.57					MinPt-CiCt	
3324.23	206.63	3186.00	3117.61	24.29	OSF1.50	13570.00	10380.20					MinPt-CiCt	
3323.09	216.43	3178.32	3106.66	23.18	OSF1.50	13850.00	10379.18					MinPt-CiCt	
3326.03	229.70	3172.41	3096.33	21.85	OSF1.50	14230.00	10377.80					MINPT-O-EQU	
3328.56	240.56	3167.70	3088.00	20.87	OSF1.50	14500.00	10376.83					MinPt-CiCt	
3330.38	252.26	3161.73	3078.13	19.91	OSF1.50	14800.00	10375.74					MinPt-CiCt	
3330.13	259.34	3156.75	3070.79	19.36	OSF1.50	14980.00	10375.09					MinPt-CiCt	
3329.75	268.14	3150.51	3061.61	18.72	OSF1.50	15200.00	10374.29					MinPt-CiCt	
3316.10	343.27	3086.86	2972.92	14.55	OSF1.50	16990.00	10367.80					MinPt-CiCt	
3316.63	351.59	3081.75	2965.04	14.20	OSF1.50	17180.00	10367.11					MinPt-CiCt	
3306.25	372.95	3057.13	2933.30	13.34	OSF1.50	17670.00	10365.34					MinPt-CiCt	
3307.72	377.68	3055.44	2930.03	13.18	OSF1.50	17800.00	10364.87					MINPT-O-EQU	
3309.48	379.81	3055.79	2929.67	13.11	OSF1.50	17860.00	10364.65					MinPt-O-ADP	
3322.67	418.49	3043.19	2904.18	11.95	OSF1.50	18690.00	10361.64					MinPt-CiCt	
3319.01	447.39	3020.26	2871.62	11.16	OSF1.50	19330.00	10359.32					MinPt-CiCt	
3315.68	479.72	2995.38	2835.96	10.39	OSF1.50	20050.00	10356.71					MinPt-CiCt	
3321.00	500.26	2987.00	2820.74	9.88	OSF1.50	20522.29	10355.00					MinPts	

30-025-21036 Cimarex Red Hills Unit 1 - Gyro to 11950ft
INC Only to 14700ft Blind to 21321ft - A (Def Survey)

Pass

5309.45	32.81	5307.64	5276.64	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
5309.44	32.81	5307.64	5276.64	N/A	MAS = 10.00 (m)	10.00	10.00					MinPts	
5309.44	32.81	5307.64	5276.64	N/A	MAS = 10.00 (m)	22.00	22.00					WRP	
5281.79	44.99	5251.19	5236.79	183.39	OSF1.50	2950.00	2949.93					MinPt-CiCt	
5282.12	45.97	5250.87	5236.15	179.35	OSF1.50	3020.00	3019.78					MINPT-O-EQU	
5282.48	46.39	5250.96	5236.09	177.65	OSF1.50	3050.00	3049.68					MinPt-O-ADP	
5283.35	47.10	5251.35	5236.25	174.91	OSF1.50	3100.01	3099.46					MinPt-O-ADP	
5295.61	56.49	5257.35	5239.12	145.23	OSF1.50	3710.00	3706.11					MinPt-O-ADP	

...Red Hills 32-5 Fed Com 133H/Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
5366.65		91.53	5305.03	5275.12	89.69	OSF1.50	6090.00	6074.79				MinPt-CiCt	
5366.69		97.25	5301.25	5269.44	84.32	OSF1.50	6480.00	6464.79				MinPt-CiCt	
5366.63		100.32	5299.15	5266.31	81.69	OSF1.50	6690.00	6674.79				MinPt-CiCt	
5366.05		107.53	5293.76	5258.52	76.11	OSF1.50	7180.00	7164.79				MinPt-CiCt	
2667.89		271.28	2486.43	2396.61	14.84	OSF1.50	14940.00	10375.23				MinPt-CiCt	
2668.64		273.56	2485.66	2395.07	14.72	OSF1.50	15000.00	10375.01				MINPT-O-EOU	
2669.52		274.68	2485.80	2394.84	14.66	OSF1.50	15030.00	10374.91				MinPt-O-ADP	
2733.07		289.67	2539.36	2443.40	14.23	OSF1.50	15530.00	10373.09				MinPt-O-SF	
6189.85		266.13	6011.83	5923.72	35.12	OSF1.50	20522.29	10355.00				TD	

Cimarex Red Hills 32-5 Fed
Com 169H Corrected MWD to
22331ft (Def Survey)

Pass

2674.68	32.81	2672.99	2641.88	N/A	MAS = 10.00 (m)	0.00	0.00	MinPts
2674.72	32.81	2672.98	2641.91	77534.13	MAS = 10.00 (m)	22.00	22.00	WRP
2674.89	32.81	2672.94	2642.08	10847.81	MAS = 10.00 (m)	70.00	70.00	MINPT-O-EOU
2675.13	32.81	2672.97	2642.32	5838.62	MAS = 10.00 (m)	110.00	110.00	MINPT-O-EOU
2678.79	32.81	2669.09	2645.98	334.02	MAS = 10.00 (m)	880.00	880.00	MinPts
2679.46	32.81	2668.59	2646.65	291.44	MAS = 10.00 (m)	1010.00	1010.00	MINPT-O-EOU
2679.57	40.34	2659.15	2846.23	111.64	OSF1.50	3100.00	3099.45	MinPt-O-SF
3041.25	79.15	2987.95	2962.09	58.77	OSF1.50	5660.00	5645.43	MINPT-O-EOU
3041.67	79.63	2988.06	2962.04	58.41	OSF1.50	5690.00	5675.27	MinPt-O-ADP
3046.46	82.74	2990.78	2963.72	56.27	OSF1.50	5860.00	5844.82	MinPt-O-ADP
3047.93	84.59	2991.01	2963.34	55.04	OSF1.50	5940.00	5924.79	MinPt-CiCt
3023.58	135.22	2932.91	2888.36	33.92	OSF1.50	9470.00	9454.79	MinPt-CiCt
3021.56	140.33	2927.49	2881.23	32.65	OSF1.50	9820.00	9804.79	MinPt-CiCt
3021.70	140.69	2927.38	2881.01	32.56	OSF1.50	9850.00	9834.76	MINPT-O-EOU
3021.80	140.81	2927.40	2880.99	32.54	OSF1.50	9860.00	9844.73	MinPt-O-ADP
3072.13	146.93	2973.66	2925.20	31.69	OSF1.50	10440.00	10306.79	MinPt-O-SF
3873.83	182.08	3751.96	3691.75	32.16	OSF1.50	12800.00	10382.99	MinPt-CiCt
3874.50	184.12	3751.25	3690.37	31.80	OSF1.50	12880.00	10382.70	MINPT-O-EOU
3875.55	185.42	3751.45	3690.13	31.59	OSF1.50	12930.00	10382.52	MinPt-O-ADP
3887.16	211.56	3745.64	3675.60	27.74	OSF1.50	13670.00	10379.83	MinPt-CiCt
3888.59	215.91	3744.15	3672.68	27.19	OSF1.50	13810.00	10379.33	MINPT-O-EOU
3883.02	236.36	3724.96	3646.66	24.79	OSF1.50	14330.00	10377.44	MinPt-CiCt
3885.11	244.52	3721.60	3640.58	23.97	OSF1.50	14560.00	10376.61	MINPT-O-EOU
3866.63	282.78	3677.62	3583.85	20.61	OSF1.50	15480.00	10373.27	MinPt-CiCt
3875.71	314.13	3665.81	3561.58	18.59	OSF1.50	16210.00	10370.63	MinPt-CiCt
3877.58	322.50	3662.10	3555.08	18.11	OSF1.50	16400.00	10369.94	MinPt-CiCt
3878.16	332.23	3656.19	3545.93	17.58	OSF1.50	16620.00	10369.14	MinPt-CiCt
3880.12	347.63	3647.88	3532.49	16.81	OSF1.50	16970.00	10367.87	MinPt-CiCt
3883.01	373.76	3633.36	3509.26	15.64	OSF1.50	17550.00	10365.77	MinPt-CiCt
3884.99	388.66	3625.40	3496.33	15.04	OSF1.50	17880.00	10364.58	MinPt-CiCt
3870.65	427.18	3585.38	3443.47	13.63	OSF1.50	18730.00	10361.50	MinPt-CiCt
3869.54	434.65	3579.29	3434.89	13.39	OSF1.50	18890.00	10360.92	MinPt-CiCt
3874.87	447.11	3576.25	3427.73	13.04	OSF1.50	19190.00	10359.83	MINPT-O-EOU
3883.00	457.62	3577.44	3425.38	12.76	OSF1.50	19430.00	10358.96	MinPt-O-ADP
3882.63	490.54	3555.12	3392.09	11.90	OSF1.50	20100.00	10356.53	MinPt-CiCt
3884.50	496.28	3553.15	3388.20	11.77	OSF1.50	20250.00	10355.99	MINPT-O-EOU
3886.99	503.32	3550.96	3383.67	11.61	OSF1.50	20400.00	10355.44	MINPT-O-EOU
3888.80	505.49	3551.31	3383.30	11.57	OSF1.50	20460.00	10355.23	MinPt-O-ADP
3891.35	507.70	3552.40	3383.65	11.53	OSF1.50	20522.29	10355.00	MinPt-O-SF

30-025-21802 Cimarex Red
Hills Unit 2H - Gyro to 12650ft
INC Only to 15005ft - A (Def
Survey)

Pass

6785.41	32.81	6783.60	6752.60	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
6785.39	32.81	6783.58	6752.58	N/A	MAS = 10.00 (m)	10.00	10.00	MinPt-O-SF
6785.38	32.81	6783.57	6752.57	N/A	MAS = 10.00 (m)	20.00	20.00	MINPT-O-EOU
6785.38	32.81	6783.57	6752.57	N/A	MAS = 10.00 (m)	22.00	22.00	MinPts
6783.71	32.81	6775.48	6750.90	1055.76	MAS = 10.00 (m)	720.00	720.00	MinPts
6785.61	32.81	6769.66	6752.90	479.74	MAS = 10.00 (m)	1530.00	1530.00	MINPT-O-EOU
6981.00	77.31	6928.85	6903.69	138.65	OSF1.50	5210.00	5197.89	MinPt-O-ADP
7020.71	88.72	6960.90	6931.99	121.14	OSF1.50	5920.00	5904.79	MINPT-O-EOU
7020.90	88.91	6961.03	6931.99	120.87	OSF1.50	5930.00	5914.79	MinPt-O-ADP
7021.82	90.06	6961.18	6931.77	119.32	OSF1.50	6000.00	5984.79	MINPT-O-EOU
7023.71	92.38	6961.52	6931.33	116.29	OSF1.50	6170.00	6154.79	MinPt-O-ADP
7028.17	97.77	6962.39	6930.40	109.83	OSF1.50	6520.00	6504.79	MINPT-O-EOU
7029.71	99.56	6962.73	6930.14	107.84	OSF1.50	6660.00	6644.79	MinPt-O-ADP
7033.69	103.54	6964.07	6930.16	103.69	OSF1.50	6930.00	6914.79	MinPt-O-ADP
7039.32	110.08	6965.33	6929.24	97.49	OSF1.50	7360.00	7344.79	MINPT-O-EOU
7040.14	111.11	6965.46	6929.03	96.59	OSF1.50	7440.00	7424.79	MinPt-O-ADP
7086.39	135.25	6995.62	6951.14	79.64	OSF1.50	9140.00	9124.79	MinPts
7094.41	139.48	7000.87	6955.01	77.32	OSF1.50	9390.00	9374.79	MinPts
7098.17	141.99	7002.91	6956.19	75.94	OSF1.50	9550.00	9534.79	MinPt-O-ADP
7103.63	145.17	7006.24	6958.46	74.31	OSF1.50	9780.00	9764.79	MinPt-O-ADP
3441.47	338.11	3215.46	3103.36	15.34	OSF1.50	16520.00	10369.51	MinPt-CiCt
3442.77	341.82	3214.28	3100.94	15.18	OSF1.50	16810.00	10369.18	MINPT-O-EOU
3444.10	343.42	3214.55	3100.68	15.11	OSF1.50	16650.00	10369.03	MinPt-O-ADP
3531.98	364.21	3288.57	3167.77	14.61	OSF1.50	17310.00	10366.64	MinPt-O-SF
5281.68	358.54	5042.05	4923.13	22.20	OSF1.50	20522.29	10355.00	TD

Cimarex Red Hills 32-5 State
Com 198H Corrected MWD to
22132ft (Def Survey)

Pass

4510.97	32.81	4509.28	4478.17	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
4510.97	32.81	4509.27	4478.16	N/A	MAS = 10.00 (m)	22.00	22.00	WRP
3573.61	141.52	3478.75	3432.09	38.28	OSF1.50	9860.00	9844.73	MinPt-CiCt
3573.77	141.91	3478.65	3431.86	38.17	OSF1.50	9890.00	9874.55	MINPT-O-EOU
3573.89	142.04	3478.68	3431.85	38.14	OSF1.50	9900.00	9884.45	MinPt-O-ADP
3624.49	147.25	3525.81	3477.24	37.30	OSF1.50	10420.00	10297.31	MinPt-O-SF
4152.54	165.89	4041.43	3986.65	37.89	OSF1.50	12080.00	10385.60	MinPt-O-SF
4177.18	166.88	4065.41	4010.30	37.89	OSF1.50	12140.00	10385.38	MinPt-O-SF
4247.25	211.41	4105.83	4035.85	30.33	OSF1.50	13440.00	10380.67	MinPt-CiCt
4250.23	235.47	4092.76	4014.76	27.23	OSF1.50	14080.00	10378.35	MinPt-CiCt
4252.64	249.79	4085.63	4002.85	25.68	OSF1.50	14440.00	10377.04	MinPt-CiCt
4261.57	275.62	4077.33	3985.95	23.31	OSF1.50	15060.00	10374.80	MinPt-CiCt
4258.94	288.45	4066.16	3970.50	22.25	OSF1.50	15360.00	10373.71	MinPt-CiCt
4255.59	315.21	4044.96	3940.38	20.34	OSF1.50	15970.00	10371.50	MinPt-CiCt
4258.35	334.54	4034.84	3923.81	19.17	OSF1.50	16400.00	10369.94	MinPt-CiCt
4262.58	360.56	4021.72	3902.02	17.80	OSF1.50	16970.00	10367.87	MinPt-CiCt

...Red Hills 32-5 Fed Com 133H/Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
4270.11	381.1		4015.53	3888.97	16.86	OSF1.50	17450.00	10366.13				MINPT-O-EQU	
4164.62	461.43		3856.52	3703.19	13.58	OSF1.50	19160.00	10359.94				MinPt-CtCt	
4166.06	465.85		3855.01	3700.21	13.45	OSF1.50	19280.00	10359.50				MINPT-O-EQU	
4167.82	467.98		3855.35	3699.84	13.40	OSF1.50	19340.00	10359.28				MinPt-O-ADP	
4194.75	485.47		3870.61	3709.28	13.00	OSF1.50	19730.00	10357.87				MINPT-O-EQU	
4195.27	486.18		3870.66	3709.09	12.98	OSF1.50	19740.00	10357.84				MinPt-O-ADP	
4218.49	498.88		3885.42	3719.61	12.72	OSF1.50	20040.00	10356.75				MinPts	
4248.76	519.95		3901.64	3728.81	12.29	OSF1.50	20410.00	10355.41				MINPT-O-EQU	
4253.38	525.05		3902.86	3728.32	12.18	OSF1.50	20520.00	10355.01				MinPt-O-ADP	
4253.48	525.15		3902.89	3728.33	12.18	OSF1.50	20522.29	10355.00				MinPt-O-SF	

Cimarex Red Hills 32-5 State
Com 197H Corrected MWD to
22222ft (Def Survey)

Pass

4550.91	32.81	4549.10	4518.10	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
4550.90	32.81	4549.10	4518.10	N/A	MAS = 10.00 (m)	10.00	10.00	MinPts
4550.91	32.81	4549.10	4518.10	N/A	MAS = 10.00 (m)	22.00	22.00	WRP
4128.94	84.66	4071.99	4044.28	74.48	OSF1.50	6160.00	6144.79	MinPt-CtCt
4130.22	103.06	4061.05	4027.21	61.00	OSF1.50	7440.00	7424.79	MinPt-CtCt
4129.99	106.70	4058.34	4023.29	58.89	OSF1.50	7690.00	7674.79	MinPt-CtCt
4129.95	109.76	4056.27	4020.20	57.23	OSF1.50	7900.00	7884.79	MinPt-CtCt
4130.41	118.22	4051.08	4012.18	53.08	OSF1.50	8480.00	8464.79	MinPt-CtCt
4130.40	121.15	4049.12	4009.25	51.78	OSF1.50	8680.00	8664.79	MinPt-CtCt
4130.74	125.64	4046.46	4005.10	49.91	OSF1.50	8990.00	8974.79	MinPt-CtCt
4126.17	138.75	4033.16	3987.42	45.09	OSF1.50	9870.00	9854.69	MinPt-CtCt
4126.33	139.29	4032.96	3987.04	44.92	OSF1.50	9910.00	9894.32	MINPT-O-EQU
4126.54	139.53	4033.01	3987.01	44.84	OSF1.50	9930.00	9913.97	MinPt-O-ADP
4187.44	146.01	4089.59	4041.43	43.40	OSF1.50	10560.00	10350.25	MinPt-O-SF
4191.50	146.16	4093.54	4045.34	43.40	OSF1.50	10580.00	10355.31	MinPt-O-SF
4199.94	146.45	4101.79	4053.49	43.40	OSF1.50	10620.00	10364.40	MinPt-O-SF
4842.55	195.09	4712.00	4647.46	37.50	OSF1.50	12980.00	10382.33	MinPt-CtCt
4841.80	201.46	4707.01	4640.34	36.30	OSF1.50	13170.00	10381.65	MinPt-CtCt
4839.41	213.90	4696.32	4625.50	34.16	OSF1.50	13520.00	10380.38	MinPt-CtCt
4843.35	224.46	4693.20	4618.86	32.56	OSF1.50	13830.00	10379.25	MINPT-O-EQU
4843.57	232.43	4688.13	4611.14	31.45	OSF1.50	14010.00	10378.60	MinPt-CtCt
4845.40	245.55	4681.21	4599.85	29.77	OSF1.50	14340.00	10377.41	MinPt-CtCt
4856.09	297.24	4657.44	4558.85	24.62	OSF1.50	15560.00	10372.98	MinPt-CtCt
4858.03	313.15	4648.77	4544.88	23.37	OSF1.50	15920.00	10371.68	MinPt-CtCt
4857.94	319.82	4644.24	4538.12	22.88	OSF1.50	16070.00	10371.14	MinPt-CtCt
4849.96	362.21	4608.01	4487.76	20.16	OSF1.50	17000.00	10367.77	MinPt-CtCt
4843.27	409.25	4569.95	4434.02	17.81	OSF1.50	18010.00	10364.10	MinPt-CtCt
4840.38	431.37	4552.30	4409.00	16.88	OSF1.50	18480.00	10362.40	MinPt-CtCt
4839.18	439.41	4545.76	4399.77	16.57	OSF1.50	18650.00	10361.79	MinPt-CtCt
4854.92	509.36	4514.86	4345.56	14.33	OSF1.50	20110.00	10356.49	MinPt-CtCt
4855.73	524.34	4505.69	4331.40	13.93	OSF1.50	20420.00	10355.37	MinPt-CtCt
4856.21	528.77	4503.21	4327.44	13.81	OSF1.50	20522.29	10355.00	MinPts

30-025-45028 Red Hills SWD 1
INC Only to 16500ft - SWD
(Def Survey)

Pass

7862.08	32.81	7859.58	7829.27	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
7861.95	32.81	7859.43	7829.14	383392.75	MAS = 10.00 (m)	22.00	22.00	WRP
7858.06	33.39	7834.96	7824.67	381.45	OSF1.50	650.00	650.00	MinPt-CtCt
7860.72	100.98	7792.57	7759.74	119.69	OSF1.50	1960.00	1960.00	MinPt-CtCt
7868.46	159.63	7761.20	7708.83	75.09	OSF1.50	2960.00	2959.92	MinPt-CtCt
7873.71	194.85	7742.97	7678.86	61.38	OSF1.50	3670.00	3666.33	MINPT-O-EQU
7877.84	199.85	7743.77	7677.99	59.86	OSF1.50	3830.00	3825.45	MinPt-O-ADP
7912.58	281.79	7723.89	7630.79	42.48	OSF1.50	5110.00	5098.44	MinPt-CtCt
7914.02	286.35	7722.29	7627.68	41.81	OSF1.50	5310.00	5297.34	MINPT-O-EQU
7915.86	288.59	7722.63	7627.27	41.49	OSF1.50	5410.00	5396.80	MinPt-O-ADP
7933.63	372.41	7684.52	7561.22	32.16	OSF1.50	7100.00	7084.79	MinPt-CtCt
7935.35	459.53	7628.16	7475.82	26.04	OSF1.50	8760.00	8744.79	MinPt-CtCt
4519.23	627.28	4100.21	3891.95	10.84	OSF1.50	16840.00	10368.35	MinPt-CtCt
4519.73	628.93	4099.61	3890.80	10.82	OSF1.50	16910.00	10368.09	MINPT-O-EQU
4520.50	629.86	4099.76	3890.64	10.80	OSF1.50	16950.00	10367.95	MinPt-O-ADP
4563.93	641.23	4135.61	3922.70	10.71	OSF1.50	17480.00	10366.03	MinPt-O-SF
5827.55	662.49	5385.06	5165.06	13.24	OSF1.50	20522.29	10355.00	TD

Cimarex Red Hills SWD #1
(Offset) Inc Only Off-19000ft
(Def Survey)

Pass

7862.08	32.81	7859.58	7829.27	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
7861.95	32.81	7859.43	7829.14	383392.75	MAS = 10.00 (m)	22.00	22.00	WRP
7861.87	32.81	7859.23	7829.06	56423.83	MAS = 10.00 (m)	60.00	60.00	MinPts
7865.31	86.62	7806.73	7778.69	140.20	OSF1.50	1690.00	1690.00	MinPt-CtCt
7868.29	161.32	7759.91	7706.97	74.29	OSF1.50	2980.00	2979.88	MinPt-CtCt
7871.06	167.88	7758.30	7703.18	71.37	OSF1.50	3190.00	3188.96	MINPT-O-EQU
7877.36	175.40	7759.59	7701.96	68.32	OSF1.50	3420.00	3417.70	MinPt-O-ADP
7988.05	262.44	7722.26	7635.61	45.56	OSF1.50	4760.00	4750.36	MinPt-CtCt
7899.28	266.18	7721.00	7633.10	44.92	OSF1.50	4930.00	4919.43	MINPT-O-EQU
7900.91	268.15	7721.31	7632.76	44.60	OSF1.50	5020.00	5008.93	MinPt-O-ADP
7934.69	351.84	7699.29	7582.85	34.06	OSF1.50	6710.00	6694.79	MinPt-CtCt
7938.06	438.34	7644.99	7499.71	27.31	OSF1.50	8360.00	8344.79	MinPt-CtCt
4534.64	628.52	4114.77	3906.13	10.86	OSF1.50	16840.00	10368.35	MinPt-CtCt
4535.19	630.23	4114.17	3904.96	10.83	OSF1.50	16910.00	10368.09	MINPT-O-EQU
4535.99	631.20	4114.32	3904.79	10.82	OSF1.50	16950.00	10367.95	MinPt-O-ADP
4582.48	643.46	4152.65	3939.02	10.72	OSF1.50	17500.00	10365.95	MinPt-O-SF
5841.46	668.05	5395.27	5173.42	13.16	OSF1.50	20522.29	10355.00	TD

...Red Hills 32-5 Fed Com 133H\Cimarex Red Hills 32-5 Fed Com 133H Rev2 kFc 01Sep22

1. Geological Formations

TVD of target 10,355

Pilot Hole TD N/A

MD at TD 20,522

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	959	Useable Water	
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	12150	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	900	900	13-3/8"	48.00	H-40	ST&C	1.91	4.45	7.45
12 1/4	0	4970	4970	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	9812	9812	7"	29.00	L-80	LT&C	1.53	1.78	1.96
8 3/4	9812	10562	10350	7"	29.00	P-110	BT&C	1.76	2.32	59.54
6	8812	20522	10355	4-1/2"	11.60	P-110	BT&C	1.56	2.21	20.50
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 133H

	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	364	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	195	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	949	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	291	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	309	10.30	3.64	22.18		Lead: Tuned Light + LCM
	125	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Completion System	739	14.50	1.30	5.79	20	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + Expanding Agent + Retarder + Antifoam

Casing String	TOC	% Excess
Surface	0	42
Intermediate	0	49
Production	4770	25
Completion System	10362	10

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

4. Pressure Control Equipment

A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	2M	Annular	X	2M
			Blind Ram		
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	3M	Annular	X	3M
			Blind Ram		
			Pipe Ram		
			Double Ram	X	
			Other		
6	13 5/8	5M	Annular	X	5M
			Blind Ram		
			Pipe Ram	X	
			Double Ram	X	
			Other		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

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

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 900'	Fresh Water	7.80 - 8.30	28	N/C
900' to 4970'	Brine Water	9.80 - 10.30	30-32	N/C
4970' to 10562'	Cut Brine or OBM	8.50 - 9.00	27-70	N/C
10562' to 20522'	OBM	8.50 - 9.00	50-70	N/C

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
---	-----------------------------

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
-------------------------	----------

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	4846 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**

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. Annular will be tested to working pressure, or a maximum test pressure of 5000 psi. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2.

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

The wellhead will be installed by a third-party welder while being monitored by the wellhead vendor representative.

All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

A solid steel body pack-off will be utilized after running and cementing the production casing. After installation the pack-off and lower flange will be pressure tested to 5000 psi.

All casing strings will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1,500 whichever is greater and not to exceed 70% of casing burst.

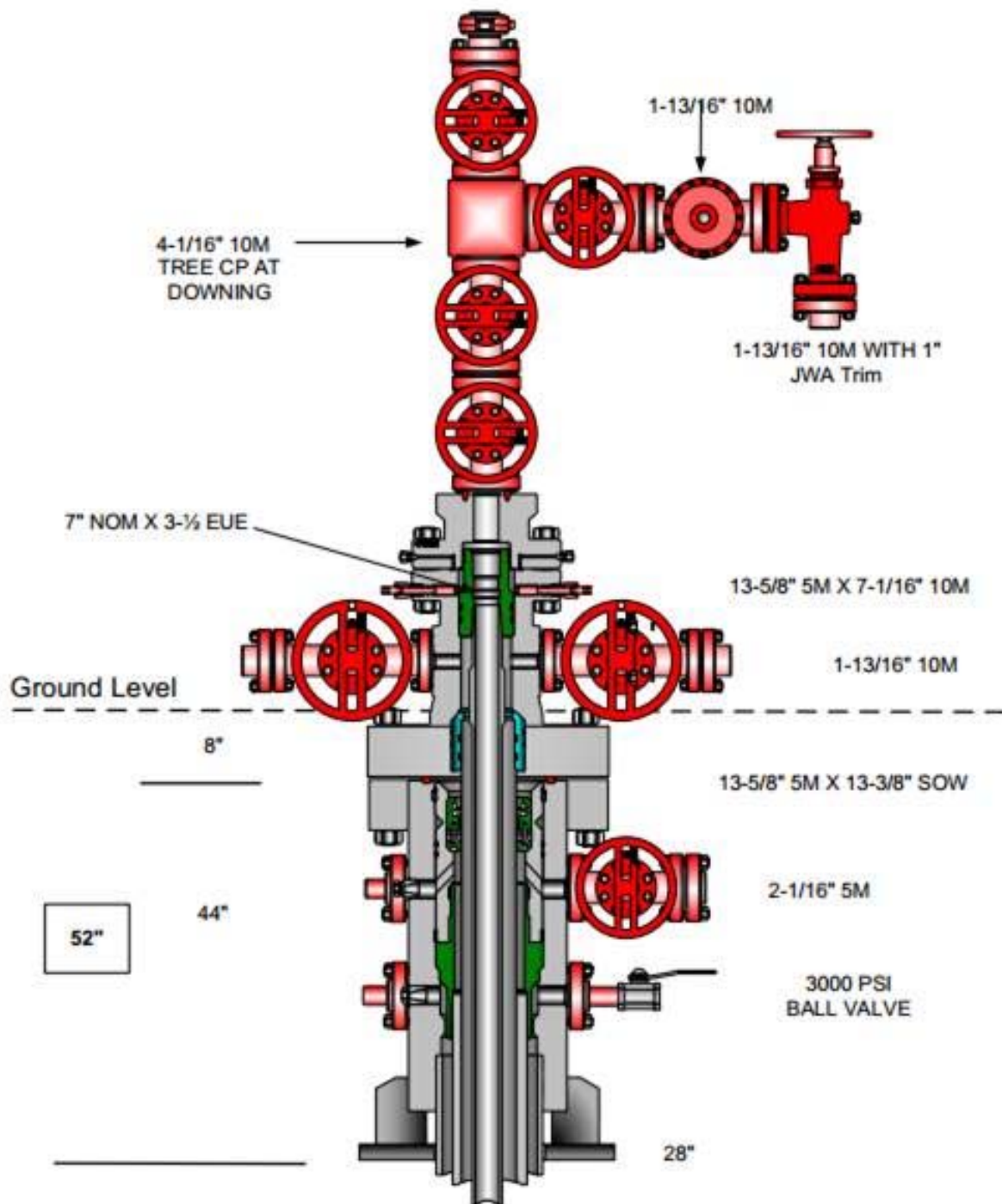
If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

10. Other Variances

Cimarex requests to perform offline cementing. OLC procedure as follows: 1. Land casing on solid body mandrel hanger. Engage packoff and lock ring 2. Install BPV. 3. Skid rig. 4. Check for pressure and remove BPV. 5. Circulate down casing, taking returns through casing valves. 6. Pump lead and tail cement. 7. Displace cement and bump the plug. 8. Ensure floats are holding pressure. 9. RD cement crew. 10. Install BPV and TA cap.

Cimarex requests permission to skid the rig to the next well on the pad to begin operations instead of waiting 8 hours for surface cement to harden on this 133H well. Surface cement will be pumped and we will ensure floats hold, do a green cement test and then skid to the next well on pad. We will not perform any operations on this 133H well until at least 8 hours and when both tail and lead slurry reach 500 psi. The mandrel hanger is made up on the last joint of 13 3/8" casing and then lowered down with and landing joint. It is then lowered down until the mandrel contacts the landing ring which is pre-welded to the conductor pipe. At this point the 13 3/8" casing is entirely supported by the conductor pipe via the landing ring/mandrel and is independent from the rig. This allows us to walk the rig away from the 133H well and begin work on the next well while the cement is hardening. There is no way for the casing to be moved or knocked off center since it is hanging from the landing ring.

Multi-bowl Wellhead Diagram



Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1000	1000	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.71	3.99	6.71
12 1/4	0	4900	4900	9-5/8"	40.00	J-55	LT&C	1.40	1.51	2.65
8 3/4	0	9824	9824	5-1/2"	20.00	L-80	LT&C	1.92	2.00	2.02
8 3/4	9824	20225	10300	5-1/2"	20.00	L-80	BT&C	1.83	1.87	48.95
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Multi-
bowl Wellhead Diagram
Red Hills 32-5 Fed Com 133H
Cimarex Energy Co.
32-25S-33E
Lea Co., NM



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

SUPO Data Report

11/28/2022

APD ID: 10400073764

Submission Date: 04/28/2021

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Red_Hills_32_5_Fed_Com_133H_Existing_Access_20210428145256.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Red_Hills_32_5_W2W2_1_One_Mile_Radius_Map_20210428145348.pdf

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: If upon completion the well is a producer, an existing production facility battery will be utilized or previously approved battery will be constructed and production equipment installed at the wellsite. Road: Existing roads will be used. 6009' of 8- 12" Bulklines. Bulkline will be constructed along the proposed road buried in the same 60' trench. Please see Attachment B for route.

Production Facilities map:

Red_Hills_Unit_32_East_BS__20210111102150

Red_Hills_Unit_32_East_WC__20210111102159

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H

Red_Hills_Unit_32_West_BS__20210111102208

Red_Hills_Unit_32_West_WC__20210111102217

Red_Hills_Unit_32_5_Bulkline_Route_20210111144034.pdf

Red_Hills_32_5_Fed_Com_133H_SUPO_20210428145431.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: MUNICIPAL**Water source use type:** SURFACE CASING
INTERMEDIATE/PRODUCTION
CASING**Source latitude:** **Source longitude:****Source datum:****Water source permit type:** WATER RIGHT**Permit Number:****Water source transport method:** TRUCKING**Source land ownership:** STATE**Source transportation land ownership:** STATE**Water source volume (barrels):** 5000**Source volume (acre-feet):** 0.64446548**Source volume (gal):** 210000

Water source and transportation

Red_Hills_Unit_32_5_Drilling_Water_Routes_20210111102817.pdf

Water source comments:**New water well?** N

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):** **Est thickness of aquifer:****Aquifer comments:****Aquifer documentation:****Well depth (ft):** **Well casing type:**

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H**Well casing outside diameter (in.):****Well casing inside diameter (in.):****New water well casing?****Used casing source:****Drilling method:****Drill material:****Grout material:****Grout depth:****Casing length (ft.):****Casing top depth (ft.):****Well Production type:****Completion Method:****Water well additional information:****State appropriation permit:****Additional information attachment:**

Section 6 - Construction Materials

Using any construction materials: NO**Construction Materials description:****Construction Materials source location**

Section 7 - Methods for Handling

Waste type: DRILLING**Waste content description:** Drilling Fluids, drill cuttings, water and other waste produced from the well during drilling operations.**Amount of waste:** 15000 barrels**Waste disposal frequency :** Weekly**Safe containment description:** n/a**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Haul to R360 Environmental Solutions, 4507 Carlsbad Hwy, Hobbs, NM 88240**Waste type:** SEWAGE**Waste content description:** Human Waste**Amount of waste:** 300 gallons**Waste disposal frequency :** Weekly**Safe containment description:** Waste will be properly contained and disposed of properly at a state approved disposal facility.**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** PRIVATE**Disposal type description:**

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H**Disposal location description:** A licensed 3rd party contractor will be used to haul and dispose human waste to City of Toyah TX waste water facility.**Waste type:** GARBAGE**Waste content description:** Garbage and trash produced during drilling and completion operations**Amount of waste:** 32500 pounds**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** A licensed 3rd party hauls trash to Lea County Landfill

Reserve Pit

Reserve Pit being used? NO**Temporary disposal of produced water into reserve pit?** NO**Reserve pit length (ft.)** **Reserve pit width (ft.)****Reserve pit depth (ft.)** **Reserve pit volume (cu. yd.)****Is at least 50% of the reserve pit in cut?****Reserve pit liner****Reserve pit liner specifications and installation description**

Cuttings Area

Cuttings Area being used? NO**Are you storing cuttings on location?** N**Description of cuttings location****Cuttings area length (ft.)** **Cuttings area width (ft.)****Cuttings area depth (ft.)** **Cuttings area volume (cu. yd.)****Is at least 50% of the cuttings area in cut?****WCuttings area liner****Cuttings area liner specifications and installation description**

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N**Ancillary Facilities****Comments:**

Section 9 - Well Site

Well Site Layout Diagram:

Red_Hills_32_5_W2W2_Pad_1_Well_list_20210111110813.docx

Red_Hills_32_5_Fed_Com_133H_Wellsite_Layout_20210428145614.pdf

Comments: This well pad has wells 127H, 130H, 131H, 128H, 129H, 132H, 133H, 134H, 135H, 136H, 137H, 138H, 139H, 140H

Section 10 - Plans for Surface

Type of disturbance: No New Surface Disturbance **Multiple Well Pad Name:** Red Hills 32-5 Fed Com**Multiple Well Pad Number:** W2W2 Pad 1**Recontouring**

Red_Hills_32_5_Fed_Com_W2W2_Pad_1_Interim_Reclaim_20210111112653.pdf

Drainage/Erosion control construction: To control and prevent potentially contaminated precipitation from leaving the pad site, a perimeter berm and settlement pond will be installed. Contaminated water will be removed from pond, stored in waste tanks, and disposed of at a state approved facility. Standing water or puddles will not be allowed. Drainage ditches would be established and maintained on the pad and along access roads to divert water away from operations. Natural drainage areas disturbed during construction would be re-contoured to near original condition prior to construction. Erosion Control Best Management Practices would be used where necessary and consist of seeding, fiber rolls, water bars, silt fences, and temporary diversion dikes. Areas disturbed during construction that are no longer needed for operations would be obliterated, re-contoured to near original condition prior to construction. Erosion Control Best Management Practices would be used where necessary and consist of seeding, fiber rolls, water bars, silt fences, and temporary diversion dikes. Areas disturbed during construction that are no longer needed for operations would be obliterated, re-contoured, and reclaimed to near original condition to re-establish natural drainage.

Drainage/Erosion control reclamation: All disturbed and re-contoured areas would be reseeded according to specifications. Approved seed mixtures would be certified weed free and consist of grasses, forbs, or shrubs similar to the surrounding area. Compacted soil areas may need to be obliterated and reclaimed to near natural conditions by re-contouring all slopes to facilitate and re-establish natural drainage.

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Well pad proposed disturbance (acres):	Well pad interim reclamation (acres): 0	Well pad long term disturbance (acres): 0
Road proposed disturbance (acres):	Road interim reclamation (acres): 0	Road long term disturbance (acres): 0
Powerline proposed disturbance (acres):	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres):	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres):	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
Total proposed disturbance: 0	Total interim reclamation: 0	Total long term disturbance: 0

Disturbance Comments:

Reconstruction method: After well plugging, all disturbed areas would be returned to the original contour or a contour that blends with the surrounding landform including roads unless the surface owner requests that they be left intact. In consultation with the surface owners it will be determined if any gravel or similar materials used to reinforce an area are to be removed, buried, or left in place during final reclamation. Salvaged topsoil, if any, would be re-spread evenly over the surfaces to be re-vegetated. As necessary, the soil surface would be prepared to provide a seedbed for re-establishment of desirable vegetation. Site preparation may include gouging, scarifying, dozer track-walking, mulching, or fertilizing. Reclamation, Re-vegetation, and Drainage: All disturbed and re-contoured areas would be reseeded using techniques outlined under Phase I and II of this plan or as specified by the land owner. Approved seed mixtures would be certified weed free and consist of grasses, forbs, or shrubs similar to the surrounding area. Compacted soil areas may need to be obliterated and reclaimed to near natural conditions by re-contouring all slopes to facilitate and re-establish natural drainage.

Topsoil redistribution: The original stock piled topsoil, if any, will be spread evenly over the areas being reclaimed and the original landform will be restored for all disturbed areas including well pad, production facilities, roads, pipelines, and power line corridors as close as possible to the original topography. The location will then be seeded.

Soil treatment: The soil surface would be prepared to provide a seedbed for reestablishment of desirable vegetation. Establish control of erosion and invasion of non-native plants to reestablish plant community.

Existing Vegetation at the well pad: N/A

Existing Vegetation at the well pad

Existing Vegetation Community at the road: N/A

Existing Vegetation Community at the road

Existing Vegetation Community at the pipeline: N/A

Existing Vegetation Community at the pipeline

Existing Vegetation Community at other disturbances: N/A

Existing Vegetation Community at other disturbances

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H**Seedling transplant description****Will seed be harvested for use in site reclamation?** N**Seed harvest description:****Seed harvest description attachment:****Seed****Seed Table****Seed Summary****Total pounds/Acre:****Seed Type****Pounds/Acre****Seed reclamation****Operator Contact/Responsible Official****First Name:****Last Name:****Phone:****Email:****Seedbed prep:** N/A**Seed BMP:****Seed method:****Existing invasive species?** N**Existing invasive species treatment description:****Existing invasive species treatment****Weed treatment plan description:** N/A**Weed treatment plan****Monitoring plan description:** n/A**Monitoring plan****Success standards:** N/A**Pit closure description:** N/A**Pit closure attachment:****Section 11 - Surface**

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 133H**Disturbance type:** WELL PAD**Describe:****Surface Owner:** STATE GOVERNMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:** NMSLO**Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:****Section 12 - Other****Right of Way needed?** N**Use APD as ROW?****ROW Type(s):****ROW****SUPO Additional Information:****Use a previously conducted onsite?** Y**Previous Onsite information:** Onsite with BLM(Jeff Robertson) and Cimarex Barry Hunt on April 17, 2018**Other SUPO**

Red_Hills_32_5_Fed_Com_132H_Road_Description_20210111113401.pdf

Cimarex Red Hills 32-5 Federal Com 133H Surface Use Plan

Upon approval of the Application for Permit to Drill (APD) the following surface use plan of operations will be followed and carried out. The surface use plan outlines the proposed surface disturbance. If any other disturbance is needed after the APD is approved, a BLM sundry notice or right of way application will be submitted for approval prior to any additional surface disturbance.

Existing Roads

- Directions to location - Exhibit A.
- Public access route - Exhibit B.
- Existing access road for the proposed project. Please see Exhibit B and C.
- Cimarex Energy will:
 - Improve and/or maintain existing road(s) condition the same as or better than before the operations began.
 - Provide plans for improvement and /or maintenance of existing roads if requested.
 - Repair or replace damaged or deteriorated structures as needed. Including cattle guards and culverts.
 - Prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.
 - Obtain written BLM approval prior to the application of surfactants, binding agents, or other dust suppression chemicals on the roadways.
- The maximum width of the driving surface will be 18'. The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface. The ditches will be 1' deep with 3:1 slopes. The driving surface will be made of 6" rolled and compacted caliche.

New or Reconstructed Access Roads

No new roads are proposed for this project.

Well Radius Map

Please see Exhibit E for wells within one mile or proposed well SHL and BHL.

Proposed or Existing Production Facility

An existing and previously approved batteries will be utilized for the project if the well is productive.

- Red Hills Unit 32 West CTB 2 (existing), Red Hills Unit 32 West 1 CTB , East 3 CTB, & east 4 CTB(previously approved)
 - Battery Pad diagram - Exhibit F
 - Battery will not require an expansion in order to accomodate additional production equipment for the project.
 - Battery Pad location previously approved
 - APD: Red Hills 32-5 Fed Com 127H.

Gas Pipeline Specifications

- No new gas pipelines are required for this project.

Salt Water Disposal Specifications

- No new SWD pipelines are required for this project.

Power Lines

- No new power line is required for this project.

Well Site Location

- An existing well pad will be used to drill the proposed well.
 - Wells drilled or to be drilled: Red Hills 32-5 Federal Com 127H- 140H.
- Well pad will not require expansion in order to accommodate additional drilling wells. .
- Well pad previously approved. APD: Red Hills 32-5 Fed Com 127H.

Cimarex Red Hills 32-5 Federal Com 133H**Bulklines****Surface Use Plan**

All proposed pipelines will be constructed in a 60' ROW corridor.

- Bulklines
 - Cimarex Energy plans to construct on-lease Bulklines to service the well.
 - 8- 12" HP steel for oil, gas, and water production.
 - Length: 6,009'.
 - MAOP: 1,500 psi; Anticipated working pressure: 200-300 psi.
 - Please see Exhibit M for proposed on-lease route.

Water Resources

No temporary fresh water pipelines are proposed for this project.

Methods of Handling Waste

- Drilling fluids, produced oil, and water from the well during drilling and completion operations will be stored safely and disposed of properly in a state approved disposal facility.
- Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility. All trash on and around well site will be collected for disposal.
- Human waste and grey water will be contained and disposed of properly at a state approved disposal site.
- After drilling and completion operations, trash, chemicals, salts, frac sand and other waste will be removed and disposed of properly at a state approved disposal site.
- The well will be drilled utilizing a closed loop system. Drill cuttings will be properly disposed of into steel tanks and taken to an state approved disposal facility.

Waste Minimization Plan

See Gas Capture Plan.

Ancillary Facilities

No camps or airstrips to be constructed.

Interim and Final Reclamation

- Rehabilitation of the location will start in a timely manner after all proposed drilling wells have been drilled from the pad or if drilling operations have ceased as outlined below:
 - No approved or pending drill permits for wells located on the drill pad
 - No drilling activity for 5 years from the drill pad
- Surfacing materials will be removed and returned to a mineral pit or recycled to repair or build roads and well pads.
- Drainage systems, if any, will be reshaped to the original configuration with provisions made to alleviate erosion. These may need to be modified in certain circumstances to prevent inundation of the location's pad and surface facilities. After the area has been shaped and contoured, topsoil from the spoil pile will be placed over the disturbed area to the extent possible. Revegetation procedures will comply with BLM standards.
- Exhibit P illustrates the proposed Surface Reclamation plans after cessation of drilling operations as outlined above.
 - The areas of the location not essential to production facilities and operations will be reclaimed and seeded per BLM requirements.
- Operator will amend the surface reclamation plan if well is a dry hole and/or a single well pad.

Surface Ownership

- The wellsite is on surface owned by State of NM.
- A copy of Surface Use Agreement has been given to the surface owner.
- The land is used mainly for farming, cattle ranching, recreational use, and oil and gas production.

Cultural Resource Survey - Archeology

- Cultural Resources Survey will be conducted for the entire project as proposed in the APD and submitted to the BLM for review and approval.

On Site Notes and Information

**Cimarex Red Hills 32-5 Federal Com 133H
Surface Use Plan**

Onsite Date: 4/17/2008

BLM Personnel on site: Jeff Robertson

Cimarex Energy personnel on site: Barry Hunt

Pertinent information from onsite:



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

PWD Data Report

11/28/2022

APD ID: 10400073764

Submission Date: 04/28/2021

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Lined pit Monitor description:

Lined pit Monitor

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres):

PWD surface owner:

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

Do you propose to put the produced water to beneficial use?

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?

TDS lab results:

Geologic and hydrologic

State

Unlined Produced Water Pit Estimated

Unlined pit: do you have a reclamation bond for the pit?

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information

Section 4 -

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number:

Injection well name:

Assigned injection well API number?

Injection well API number:

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection

Underground Injection Control (UIC) Permit?

UIC Permit

Section 5 - Surface

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 -

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Other PWD discharge volume (bbl/day):

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements



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

Bond Info Data

11/28/2022

APD ID: 10400073764

Submission Date: 04/28/2021

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 133H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Bond

Federal/Indian APD: FED

BLM Bond number: NMB001188

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information

District I

1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 164364

CONDITIONS

Operator: CIMAREX ENERGY CO. OF COLORADO 600 N. Marienfeld Street Midland, TX 79701	OGRID: 162683
	Action Number: 164364
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	12/20/2022
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	12/20/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	12/20/2022
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	12/20/2022