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

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

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

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

[300545]

2. Name of Operator

[162683]

9. API Well No.

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory **[97741]** **WC G-09 S253335K;LOWER BONE SPRING**

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 12/22/2023

SL

APPROVED WITH CONDITIONS

KZ
12/22/2023

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 12/21/2023

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	[2] Pool Code	[3] Pool Name
30-025-52353	97741	WC G-09 S253335K;LOWER BONE SPRING

[4] Property Code	[5] Property Name	[6] Well Number
300545	RED HILLS UNIT	50H

[7] OGRID No.	[8] Operator Name	[9] Elevation
162683	CIMAREX ENERGY CO. OF COLORADO	3363.2'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	33	25S	33E		347	NORTH	1922	WEST	LEA

[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	4	26S	33E		100	SOUTH	330	WEST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
320			

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.

[16]

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°05'36.03" (32.093341°)
LONGITUDE = 103°34'46.46" (103.579572°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°05'35.58" (32.093216°)
LONGITUDE = 103°34'44.77" (103.579102°)
STATE PLANE NAD 83 (N.M. EAST)
N: 398509.96' E: 774760.39'
STATE PLANE NAD 27 (N.M. EAST)
N: 398452.34' E: 733573.89'

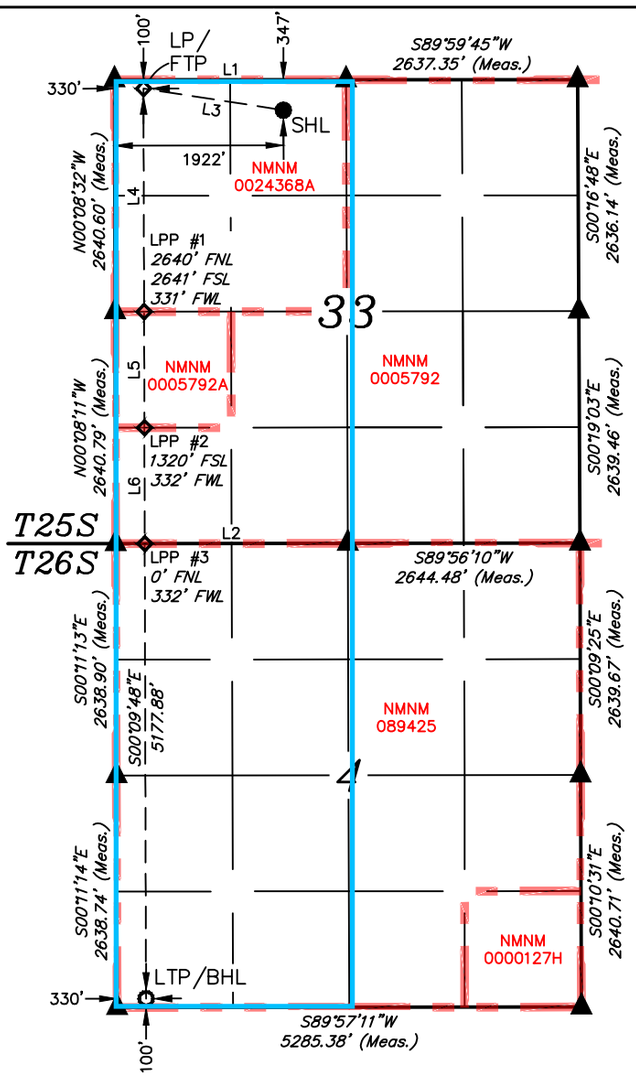
NAD 83 (LP/FTP)
LATITUDE = 32°05'38.51" (32.094030°)
LONGITUDE = 103°35'04.97" (103.584713°)
NAD 27 (LP/FTP)
LATITUDE = 32°05'38.06" (32.093906°)
LONGITUDE = 103°35'03.27" (103.584242°)
STATE PLANE NAD 83 (N.M. EAST)
N: 398749.73' E: 773166.68'
STATE PLANE NAD 27 (N.M. EAST)
N: 398692.10' E: 731980.22'

NAD 83 (LPP #1)
LATITUDE = 32°05'13.37" (32.087049°)
LONGITUDE = 103°35'04.96" (103.584712°)
NAD 27 (LPP #1)
LATITUDE = 32°05'12.93" (32.086924°)
LONGITUDE = 103°35'03.27" (103.584242°)
STATE PLANE NAD 83 (N.M. EAST)
N: 396209.86' E: 773184.52'
STATE PLANE NAD 27 (N.M. EAST)
N: 396152.29' E: 731997.93'

NAD 83 (LPP #2)
LATITUDE = 32°05'00.31" (32.083420°)
LONGITUDE = 103°35'04.96" (103.584712°)
NAD 27 (LPP #2)
LATITUDE = 32°04'59.86" (32.083295°)
LONGITUDE = 103°35'03.27" (103.584242°)
STATE PLANE NAD 83 (N.M. EAST)
N: 394889.80' E: 773193.79'
STATE PLANE NAD 27 (N.M. EAST)
N: 394832.27' E: 732007.14'

NAD 83 (LPP #3)
LATITUDE = 32°04'47.25" (32.079791°)
LONGITUDE = 103°35'04.96" (103.584711°)
NAD 27 (LPP #3)
LATITUDE = 32°04'46.80" (32.079666°)
LONGITUDE = 103°35'03.27" (103.584242°)
STATE PLANE NAD 83 (N.M. EAST)
N: 393569.74' E: 773203.05'
STATE PLANE NAD 27 (N.M. EAST)
N: 393512.24' E: 732016.34'

NAD 83 (LTP/BHL)
LATITUDE = 32°03'56.02" (32.065561°)
LONGITUDE = 103°35'04.96" (103.584710°)
NAD 27 (LTP/BHL)
LATITUDE = 32°03'55.57" (32.065436°)
LONGITUDE = 103°35'03.27" (103.584241°)
STATE PLANE NAD 83 (N.M. EAST)
N: 388392.88' E: 773239.39'
STATE PLANE NAD 27 (N.M. EAST)
N: 388335.51' E: 732052.44'



LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S89°58'38"W	2635.30'
L2	S89°54'37"W	2642.84'
L3	N81°12'18"W	1611.91'
L4	S00°09'48"E	2540.37'
L5	S00°09'48"E	1320.32'
L6	S00°09'48"E	1320.32'

● = SURFACE HOLE LOCATION
◇ = LPP/LANDING POINT/ FIRST TAKE POINT
○ = BOTTOM HOLE LOCATION/ LAST TAKE POINT
▲ = SECTION CORNER LOCATED

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"

2000' 1000' 0' 2000'

SCALE
DRAWN BY: D.J.S. 02-12-20
REV: 2 N.D.T. 04-25-23
(SHL MOVE)

[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.

Shelly Bowen 9/13/23
Signature Date

Shelly Bowen
Printed Name

shelly.bowen@coterra.com
E-mail Address

[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 05, 2017
Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
04-25-23
PROFESSIONAL SURVEYOR

Certificate Number:

Intent ☐ As Drilled ☐

API #

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:** 3/2/23

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 Unit 50H		C, Sec 33 T25S, R33E	527 FNL/2002 FWL	1834	3117	3668

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 Unit 50H		12/3/2024	12/23/2024	4/10/2025	6/15/2025	6/15/2054

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:	Sarah Jordan
Printed Name:	Sarah Jordan
Title:	Regulatory Analyst
E-mail Address:	sarah.jordan@coterra.com
Date:	3/2/23
Phone:	432/620-1909

OIL CONSERVATION DIVISION

(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

ELECTRIC LINE(S):
Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

TEMPORARY USE FRESH WATER FRAC LINE(S):

Once the temporary use exceeds the timeline of 180 days and/or with a 90 day extension status; further analysis will be required if the applicant pursues to turn the temporary ROW into a permanent ROW.

Range:

Cattleguards
Where a permanent cattlegaurd is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

Fence Requirement
Where entry granted across a fence line, the fence must be braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fence(s).

Livestock Watering Requirement
Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

Lesser Prairie Chicken:
Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

Timing Limitation Exceptions:
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC

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.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex
LEASE NO.:	**NMNM024368A**
LOCATION:	Section 33, T.25 S, R.33 E., NMPM
COUNTY:	Lea County, New Mexico
WELL NAME & NO.:	Red Hills Unit 50H
SURFACE HOLE FOOTAGE:	347'/N & 1922'/W
BOTTOM HOLE FOOTAGE:	100'/S & 330'/W

COA

H_2S	◉ Yes	○ No		
Potash / WIPP	◉ None	○ Secretary	○ R-111-P	☐ WIPP
Cave / Karst	◉ Low	○ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☐ Break Testing	☐ Water Disposal	☐ COM	☑ Unit
Variance	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☐ Capitan Reef
Variance	☐ Four-String	☑ Offline Cementing	☐ Fluid-Filled	☐ Open Annulus
☐ **Batch APD / Sundry**				

A. HYDROGEN SULFIDE

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

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1200** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to

include the lead cement)

c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
d. If cement falls back, remedial cementing will be done prior to drilling out that string.

Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
   - Cement to surface. If cement does not circulate see B.1.a, c-d above.

Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.

3. The minimum required fill of cement behind the **7 inch** production casing is:
   - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.

4. The minimum required fill of cement behind the **4-1/2** inch production liner is:
   - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification. **Excess calculates to 11%. Additional cement maybe required.**

C. PRESSURE CONTROL

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

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the casing shoe shall be **5000 (5M)** psi.
a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
c. Manufacturer representative shall install the test plug for the initial BOP test.
d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172 must be followed.

SPECIAL REQUIREMENT (S)

Offline Cementing
Contact the BLM prior to the commencement of any offline cementing procedure. **Offline cement is prohibited for the production section.**

Unit Wells

The well sign for a unit well shall include the unit number in addition to the surface and bottom hole lease numbers. This also applies to participating area numbers. If a participating area has not been established, the operator can use the general unit designation, but will replace the unit number with the participating area number when the sign is replaced.

Commercial Well Determination

A commercial well determination shall be submitted after production has been established for at least six months. (This is not necessary for secondary recovery unit wells)

GENERAL REQUIREMENTS

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

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

☒ Eddy County
Email **or** call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, **BLM_NM_CFO_DrillingNotifications@BLM.GOV**
(575) 361-2822

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.

a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after

installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).

b. When the operator proposes to set surface casing with Spudder Rig
   - Notify the BLM when moving in and removing the Spudder Rig.
   - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
   - BOP/BOPE test to be conducted per **43 CFR part 3170 Subpart 3172** as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

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

2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for

details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. Whenever any seal subject to test pressure is broken, all the tests in **43 CFR part 3170 Subpart 3172** must be followed.
    e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)

    c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR part 3170 Subpart 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR part 3170 Subpart 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

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

ZS 12/19/2023

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

Operator Certification Data Report

12/21/2023

Operator

I hereby certify that I, or someone under my direct supervision, have inspected the drill site and access route proposed herein; that I am familiar with the conditions which currently exist; that I have full knowledge of state and Federal laws applicable to this operation; that the statements made in this APD package are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed in conformity with this APD package and the terms and conditions under which it is approved. I also certify that I, or the company I represent, am responsible for the operations conducted under this application. These statements are subject to the provisions of 18 U.S.C. 1001 for the filing of false statements.

NAME: **Signed on:** 02/24/2023

Title:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

Field

Representative Name:

Street Address:

City: **State:** **Zip:**

Phone:

Email address:

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

Application Data
12/21/2023

APD ID: 10400090765 **Submission Date:** 02/24/2023

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Well Type: OIL WELL **Well Work Type:** Drill

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Section 1 - General

APD ID: 10400090765 **Tie to previous NOS?** N **Submission Date:** 02/24/2023

BLM Office: Carlsbad **User:** KANICIA02 SCHLICHTING **Title:** Regulatory Specialist

Federal/Indian APD: FED **Is the first lease penetrated for production Federal or Indian?** FED

Lease number: NMNM024368A **Lease Acres:**

Surface access agreement in place? **Allotted?** **Reservation:**

Agreement in place? NO **Federal or Indian agreement:**

Agreement number:

Agreement name:

Keep application confidential? N

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: 6001 DEAUVILLE BLVD STE 300N **Zip:** 79706

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 UNIT **Well Number:** 50H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WC-025 G-06 S253329D **Pool Name:** Upper Bone Spring

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Red Hills Unit **Number:** E2W2 Pad

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: 23 Miles **Distance to nearest well:** 20 FT **Distance to lease line:** 347 FT

Reservoir well spacing assigned acres Measurement: 320 Acres

Well plat: Red_Hills_Unit_50H_C102_09262023_20230926094748.pdf

Well work start Date: 12/02/2023 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 23782 **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	347	FNL	1922	FWL	25S	33E	33	Aliquot NENE	32.093341	-103.579572	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 024368A	3363	0	0	Y
KOP Leg #1	100	FNL	330	FWL	25S	33E	33	Aliquot NWNW	32.09403	-103.584713	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 024368A	-6679	10182	10042	Y
PPP Leg #1-1	100	FNL	330	FWL	25S	33E	33	Aliquot NWNW	32.09403	-103.584713	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 024368A	-7282	11261	10645	Y

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

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	2640	FNL	331	FWL	25S	33E	33	Aliquot SWNW	32.09403	-103.584713	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 05792A	-7273	12741	10636	Y
PPP Leg #1-3	1320	FSL	332	FWL	25S	33E	33	Aliquot SWSW	32.08342	-103.584712	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 05792	-7265	14061	10628	Y
PPP Leg #1-4	0	FNL	332	FWL	25S	33E	33	Aliquot NWNW	32.079791	-103.584711	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 89425	-7265	14061	10628	Y
EXIT Leg #1	100	FSL	330	FWL	26S	33E	4	Aliquot SWSW	32.065561	-103.58471	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 89425	-7272	20910	10635	Y
BHL Leg #1	100	FSL	330	FWL	26S	33E	4	Aliquot SWSW	32.065561	-103.58471	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 89425	-7272	20910	10635	Y

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

Drilling Plan Data Report
12/21/2023

APD ID: 10400090765 **Submission Date:** 02/24/2023

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
12646835	RUSTLER	3363	926	926	ANHYDRITE, DOLOMITE	USEABLE WATER	N
12646836	TOP SALT	2068	1295	1295	SALT	NONE	N
12646837	BASE OF SALT	-1537	4900	4900	SALT	NONE	N
12646838	BELL CANYON	-1567	4930	4930	SANDSTONE	NONE	N
12646839	CHERRY CANYON	-2597	5960	5960	SANDSTONE	NONE	N
12646840	BRUSHY CANYON	-4117	7480	7480	SANDSTONE	NATURAL GAS, OIL	N
12646845	BASAL ANHYDRITE	-5492	8855	8855	SANDSTONE	NATURAL GAS, OIL	Y
12646841	BONE SPRING LIME	-5677	9040	9040	LIMESTONE	NATURAL GAS, OIL	N
12646842	AVALON SAND	-5702	9065	9065	SANDSTONE	NATURAL GAS, OIL	N
12646843	BONE SPRING 1ST	-6657	10020	10020	SANDSTONE	NATURAL GAS, OIL	N
12646844	BONE SPRING 2ND	-7272	10635	10635	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M **Rating Depth:** 4880

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 UNIT **Well Number:** 50H

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 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. 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 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 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_Unit_50H_Choke__2M3M_20230216095010.pdf

BOP Diagram Attachment:

Red_Hills_Unit_50H_BOP_2M_20230216095019.pdf

Pressure Rating (PSI): 3M **Rating Depth:** 10954

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 3000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3000 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 3000 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 3000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3000 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_Unit_50H_BOP_3M_20230216095857.pdf

BOP Diagram Attachment:

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Red_Hills_Unit_50H_BOP_3M_20230216095857.pdf

Red_Hills_Unit_50H_Choke__2M3M_20230216095907.pdf

Pressure Rating (PSI): 5M **Rating Depth:** 20559

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_Unit_50H_Choke_5M_20230216123308.pdf

BOP Diagram Attachment:

Red_Hills_Unit_50H_BOP_5M_20230216123315.pdf

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

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	API	N	0	976	0	976	3363	2387	976	H-40	48	ST&C	1.75	1.09	BUOY	6.87	BUOY	6.87
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4880	0	4880	3363	-1517	4880	HCK-55	40	LT&C	1.75	1.51	BUOY	2.87	BUOY	2.87
3	PRODUCTION	8.75	7.0	NEW	API	N	0	10204	0	10204	3363	-6841	10204	L-80	29	LT&C	1.39	1.62	BUOY	1.91	BUOY	1.91
4	PRODUCTION	8.75	7.0	NEW	API	N	10204	10954	10204	10606	-6841	-7243	750	P-110	29	BUTT	1.63	2.14	BUOY	79.69	BUOY	79.69
5	COMPLETION SYSTEM	6	4.5	NEW	API	N	9204	20559	9204	10590	-5841	-7227	11355	P-110	11.6	BUTT	1.45	2.05	BUOY	22.83	BUOY	22.83

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_Unit_50H_Casing_Assumptions_20230216124148.pdf

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Casing Attachments

Casing ID: 2 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_Unit_50H_Casing_Assumptions_20230216124444.pdf

Casing ID: 3 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_Unit_50H_Casing_Assumptions_20230216125042.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_Unit_50H_Casing_Assumptions_20230216125441.pdf

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Casing Attachments

Casing ID: 5 **String** COMPLETION SYSTEM

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red_Hills_Unit_50H_Casing_Assumptions_20230216125758.pdf

Section 4 - Cement

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	976	410	1.72	13.5	705	42	Class C	Bentonite
SURFACE	Tail		0	976	195	1.34	14.8	261	42	Class C	LCM
INTERMEDIATE	Lead		0	4880	727	2.4	11.9	1745	49	35:65 POZ/H	Salt + Sodium Metasilcate + Bentonite + Fluid loss + Dispersant + LCM + Retarder
INTERMEDIATE	Tail		0	4880	286	1.34	14.8	383	49	Class C	LCM
PRODUCTION	Lead		4680	10954	339	3.64	10.3	1234	25	Tuned Light	LCM
PRODUCTION	Tail		4680	10954	127	1.34	14.8	170	25	Class C	LCM
COMPLETION SYSTEM	Lead		10754	20559	714	1.3	14.2	928	10	50:50 POZ:H	Salt + Bentonite + Fluid loss + Dispersant + SMS

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

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

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	976	OTHER : FW Spud Mud	7.83	8.33							
976	4880	OTHER : Brine	9.83	10.33							
4880	10954	OTHER : Cut Brine or OBM	9	9.5							
10954	20559	OIL-BASED MUD	9	9.5							

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

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:

DIRECTIONAL SURVEY,GAMMA RAY LOG,

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 5253 **Anticipated Surface Pressure:** 2911

Anticipated Bottom Hole Temperature(F): 128

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Example_Well_H2S_Plan_20230814124525.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Red_Hills_Unit_50H_DIRECTIONAL_PLAN_20230814124652.pdf
Red_Hills_Unit_50H_AC_REPORT_20230814124658.pdf

Other proposed operations facets description:

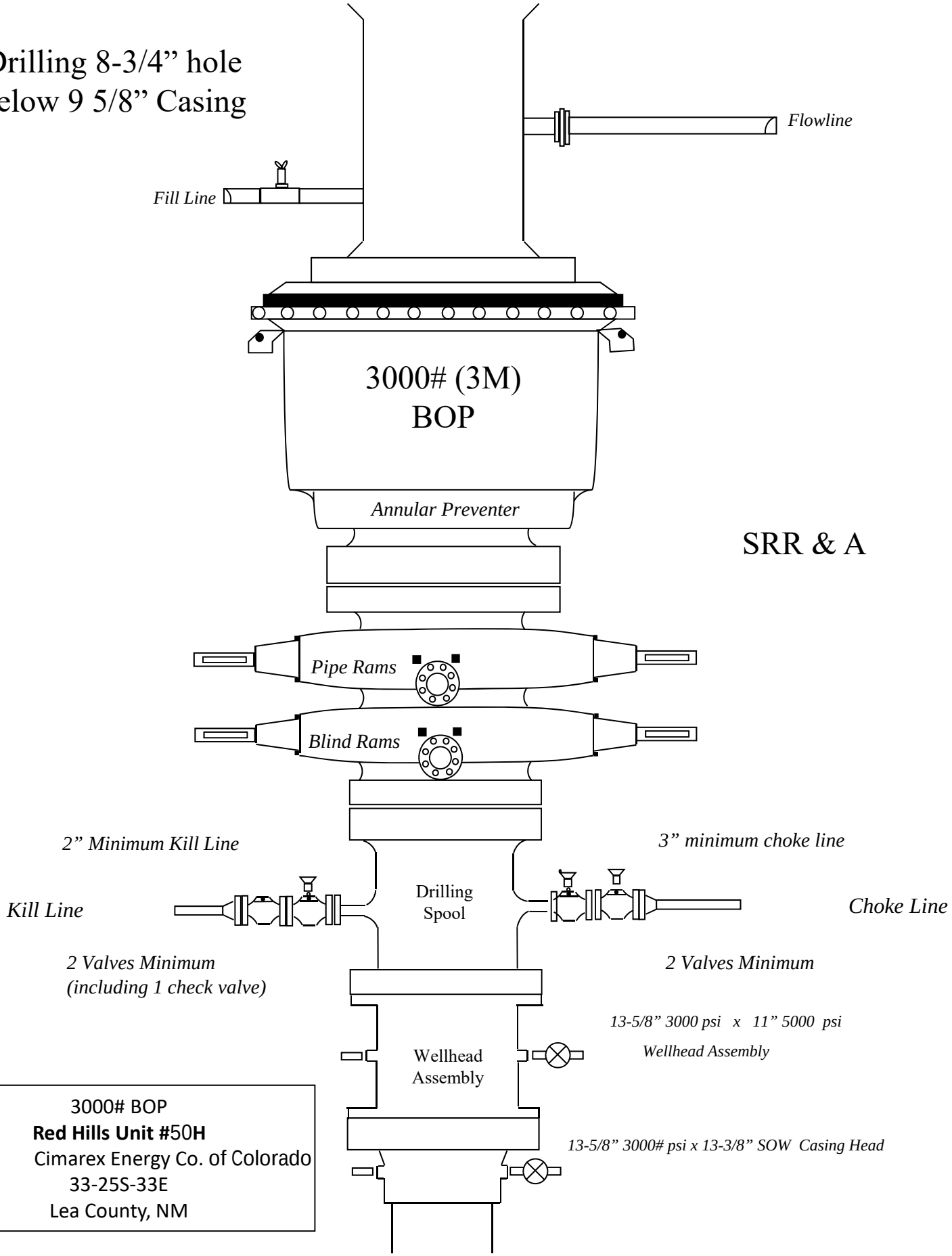
Other proposed operations facets attachment:

Red_Hills_Unit_50H_DRILLING_PLAN_20230814124709.pdf

Other Variance attachment:

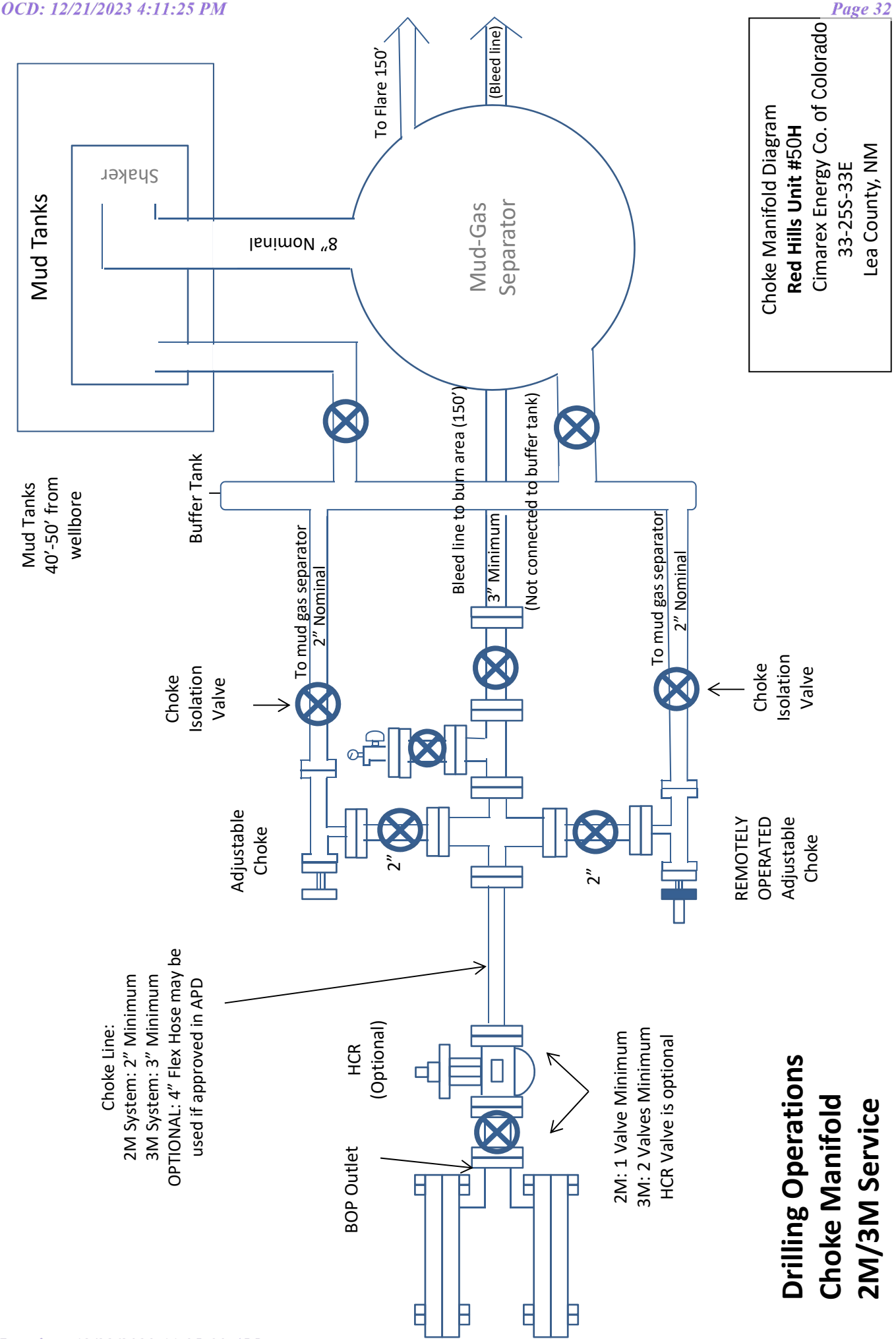
Red_Hills_Uint_50H_Multibowl_13.375_20230216151023.pdf
Offline_Cement_Procedure_20230216151023.pdf
Red_Hills_Unit_50H_Flex_Hose_20230216151025.pdf

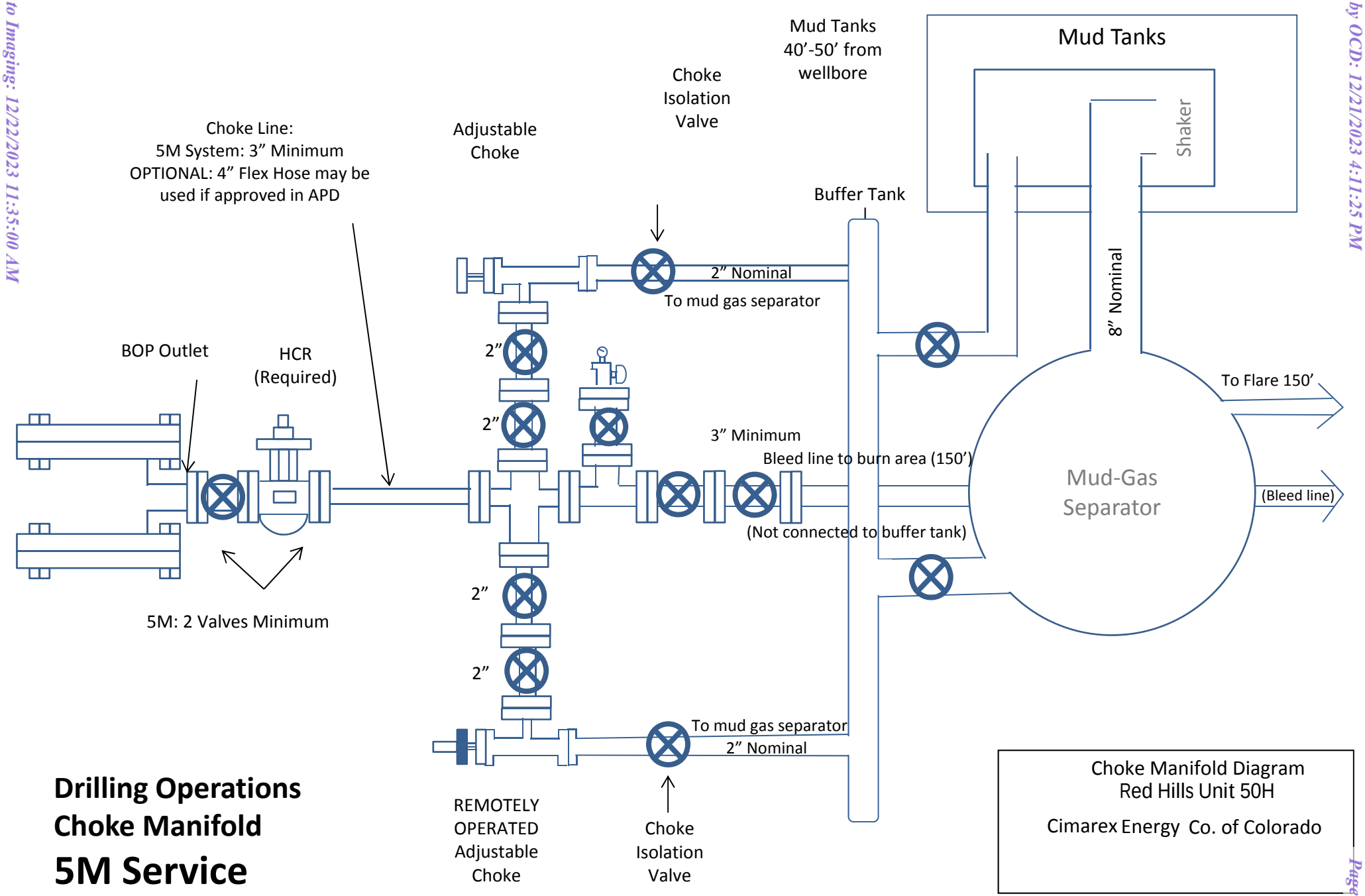
Drilling 8-3/4" hole
below 9 5/8" Casing



SRR & A

3000# BOP
Red Hills Unit #50H
Cimarex Energy Co. of Colorado
33-25S-33E
Lea County, NM

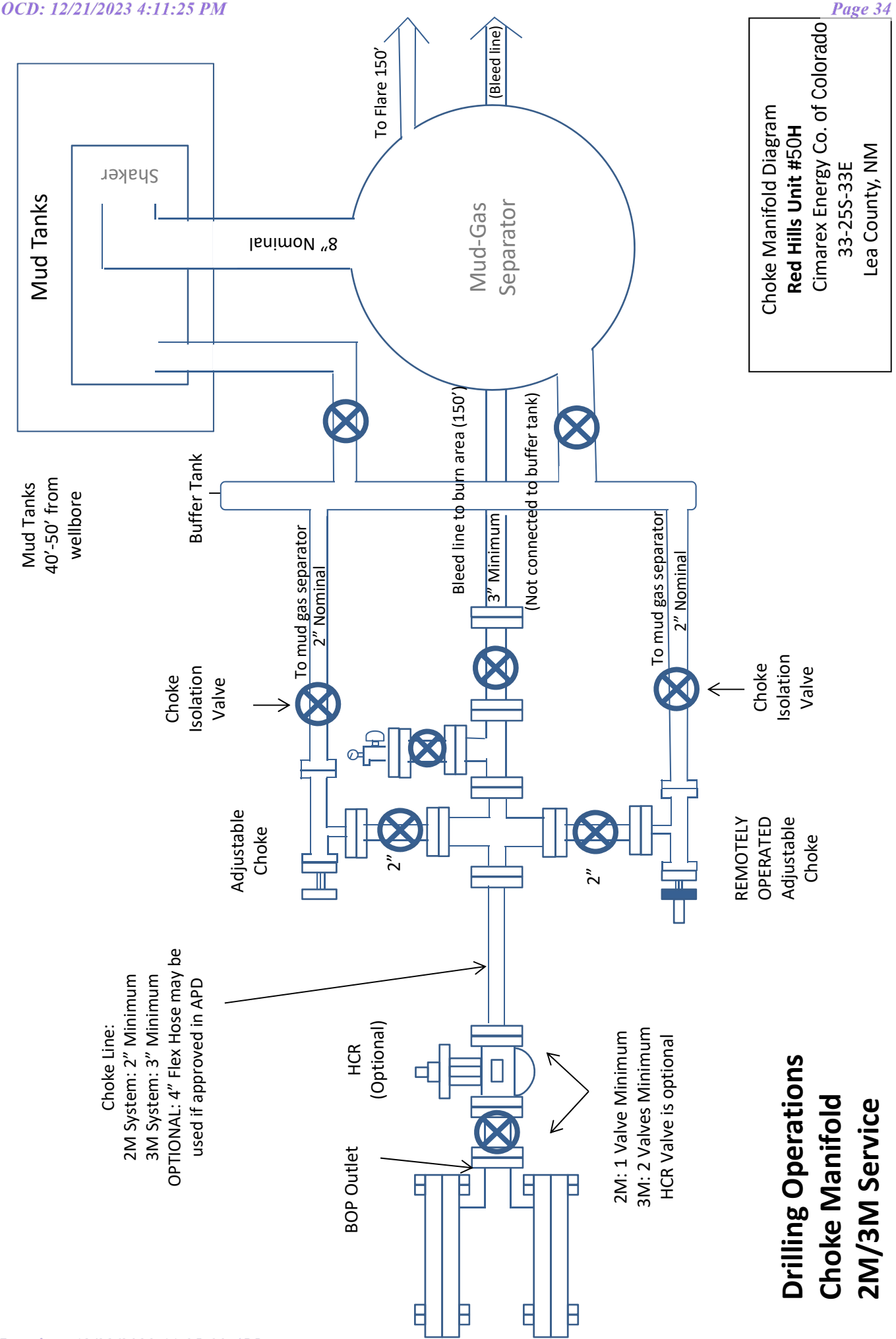

Choke Manifold Diagram
Red Hills Unit #50H
Cimarex Energy Co. of Colorado
33-25S-33E
Lea County, NM
Mud Tanks
Shaker
8" Nominal
Mud-Gas Separator
To Flare 150'
(Bleed line)
Mud Tanks 40'-50' from wellbore
Buffer Tank
Bleed line to burn area (150')
3" Minimum
(Not connected to buffer tank)
To mud gas separator 2" Nominal
To mud gas separator 2" Nominal
Choke Isolation Valve
Choke Isolation Valve
Adjustable Choke
REMOTELY OPERATED Adjustable Choke
2"
2"
Choke Line:
2M System: 2" Minimum
3M System: 3" Minimum
OPTIONAL: 4" Flex Hose may be used if approved in APD
HCR (Optional)
BOP Outlet
2M: 1 Valve Minimum
3M: 2 Valves Minimum
HCR Valve is optional
Drilling Operations
Choke Manifold
2M/3M Service



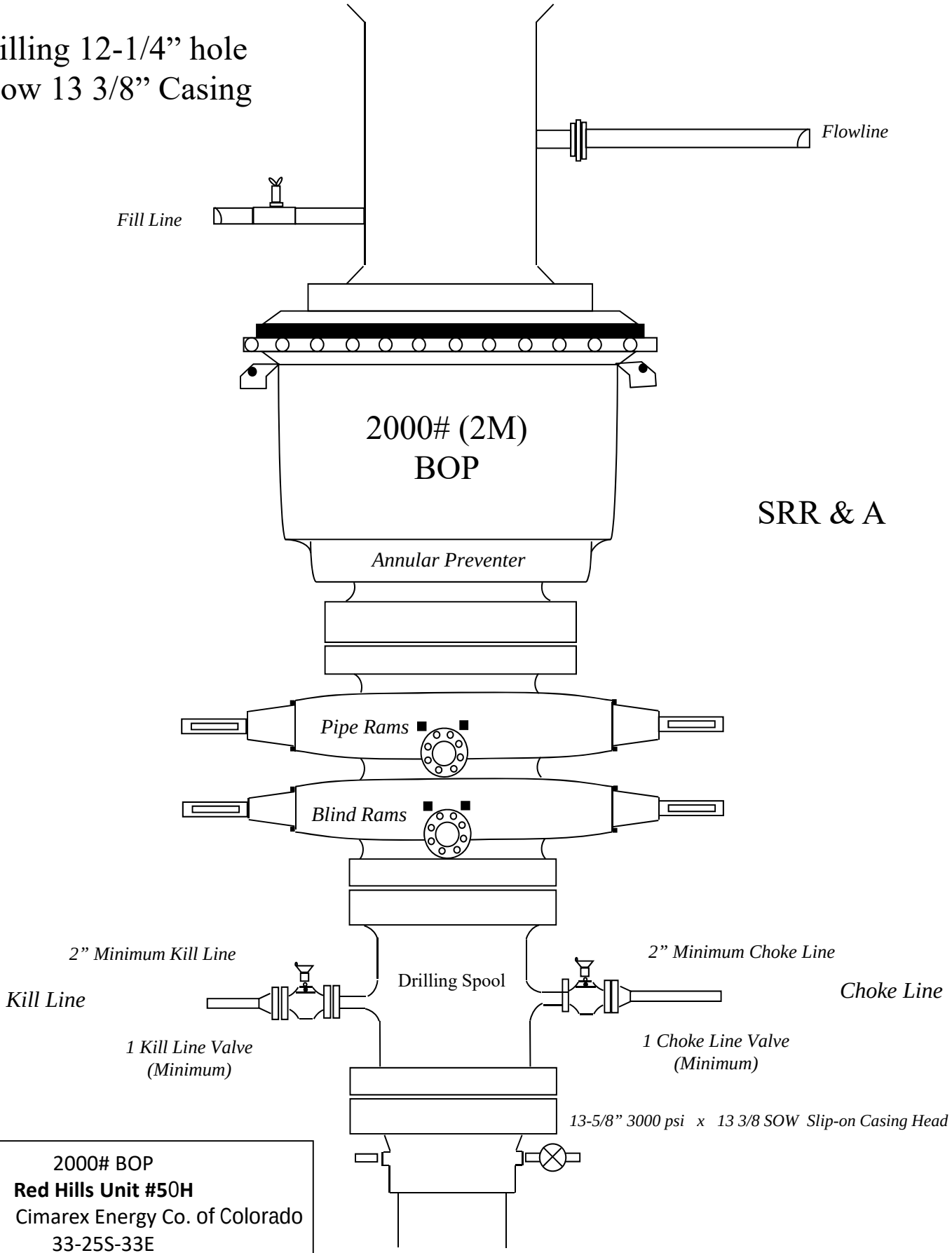
Drilling Operations
Choke Manifold
5M Service

Choke Manifold Diagram
Red Hills Unit 50H

Cimarex Energy Co. of Colorado

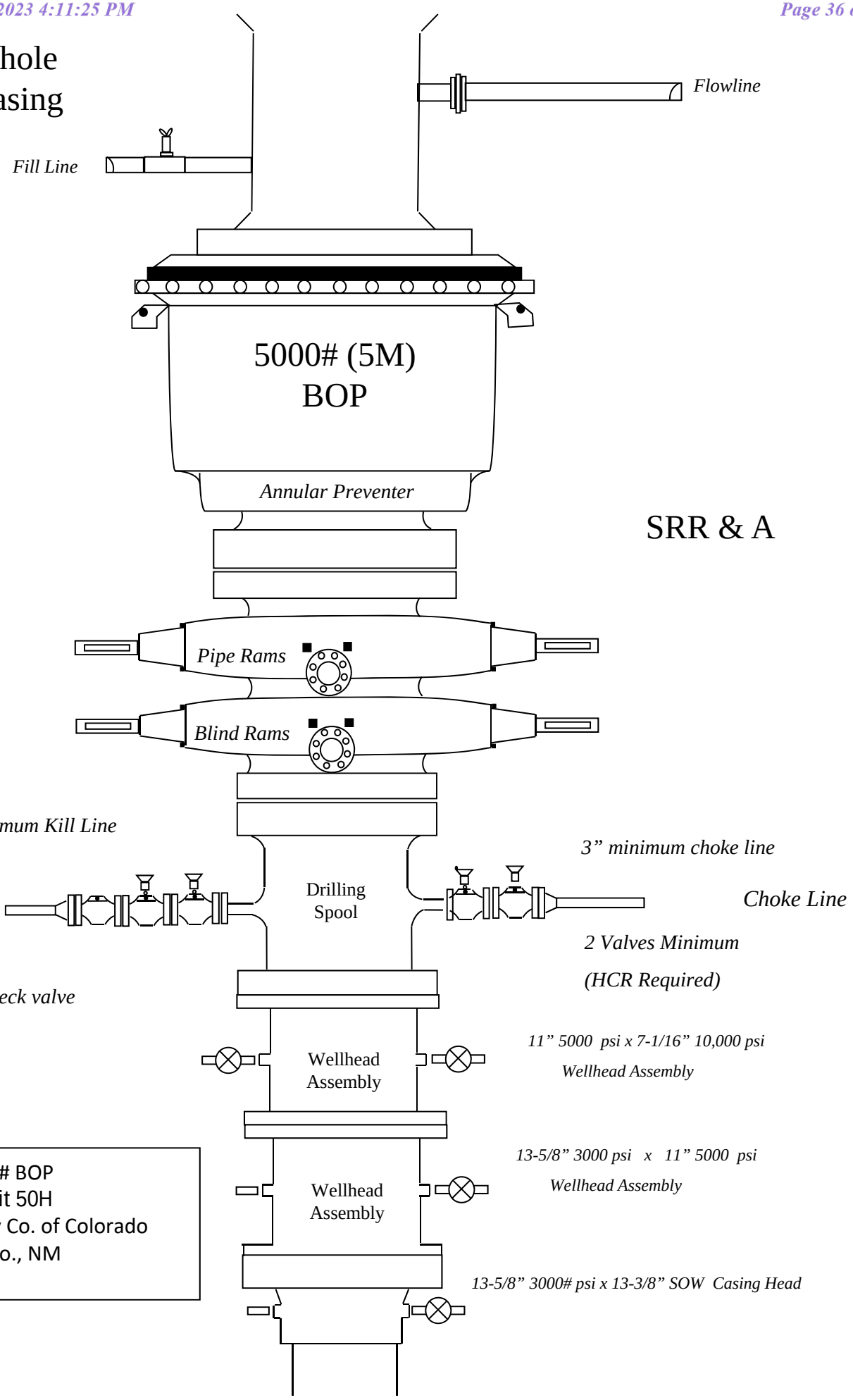

Mud Tanks
Shaker
8" Nominal
Mud-Gas Separator
To Flare 150'
(Bleed line)
Choke Manifold Diagram
Red Hills Unit #50H
Cimarex Energy Co. of Colorado
33-25S-33E
Lea County, NM
Mud Tanks 40'-50' from wellbore
Buffer Tank
To mud gas separator 2" Nominal
Bleed line to burn area (150')
3" Minimum
(Not connected to buffer tank)
To mud gas separator 2" Nominal
Choke Isolation Valve
Choke Isolation Valve
Adjustable Choke
2"
2"
REMOTELY OPERATED Adjustable Choke
Choke Line:
2M System: 2" Minimum
3M System: 3" Minimum
OPTIONAL: 4" Flex Hose may be used if approved in APD
HCR (Optional)
BOP Outlet
2M: 1 Valve Minimum
3M: 2 Valves Minimum
HCR Valve is optional
Drilling Operations
Choke Manifold
2M/3M Service

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



2000# BOP
Red Hills Unit #50H
Cimarex Energy Co. of Colorado
33-25S-33E
Lea County, NM

Drilling 6” hole below 7” Casing



SRR & A

5000# BOP
Red Hills Unit 50H
Cimarex Energy Co. of Colorado
Lea Co., NM

Red Hills Unit 50**H**

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	976	976	13-3/8"	48.00	H-40	ST&C	1.75	4.09	6.87
12 1/4	0	4880	4880	9-5/8"	40.00	HCK-55	LT&C	1.45	1.51	2.87
8 3/4	0	10204	10204	7"	29.00	L-80	LT&C	1.39	1.62	1.91
8 3/4	10204	10954	10606	7"	29.00	P-110	BT&C	1.63	2.14	79.69
6	9204	20559	10590	4-1/2"	11.60	P-110	BT&C	1.45	2.05	22.83
					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

Red Hills Unit 50**H**

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	976	976	13-3/8"	48.00	H-40	ST&C	1.75	4.09	6.87
12 1/4	0	4880	4880	9-5/8"	40.00	HCK-55	LT&C	1.45	1.51	2.87
8 3/4	0	10204	10204	7"	29.00	L-80	LT&C	1.39	1.62	1.91
8 3/4	10204	10954	10606	7"	29.00	P-110	BT&C	1.63	2.14	79.69
6	9204	20559	10590	4-1/2"	11.60	P-110	BT&C	1.45	2.05	22.83
					BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.
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Red Hills Unit 50**H**

Casing Assumptions

2. Casing Program

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					BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.
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Red Hills Unit 50**H**

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
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Red Hills Unit 50**H**

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	976	976	13-3/8"	48.00	H-40	ST&C	1.75	4.09	6.87
12 1/4	0	4880	4880	9-5/8"	40.00	HCK-55	LT&C	1.45	1.51	2.87
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					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

Hydrogen Sulfide Drilling Operations Plan
Cimarex Energy Company
or Cimarex Energy Company of Colorado
New Mexico

All Company and Contract personnel admitted on location must be trained by a qualified
1 H2S safety instructor to the following:

A. Characteristics of H_2S
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.

2 H_2S 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 play 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 (H_2S 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 r cores are planned at this time.

8 Drilling contractor supervisor will be required to be familiar with the effects H_2S 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.

H_2S Contingency Plan

New Mexcio

Emergency Procedures

In the event of a release of gas containing H_2S, 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 H_2S 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 H_2S, 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 (SO_2). 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 & SO2

Please see attached International Chemical Safety Cards.

Contacting Authorities

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

H_2S Contingency Plan Emergency Contacts

New Mexcio

Company Office	
Office and After-Hours Menu	800-969-4789

Key Personnel

Name	Title	Office	Mobile
Grant Muncrief	Drilling & Completions Manager	432-570-3607	918-805-7951
Charlie Pritchard	Drilling & Completions Ops Manager	432-620-1975	432-238-7084
Monte Thiems	Drlg & Completions Superintendent	918-570-7235	918-607-6030

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

Medical	
Trans-Aero Medevac (Carlsbad & Artesia)	1-844-435-4911
Air Methods (Carlsbad & Hobbs)	1-800-242-6199
Aero Care (Odessa & Fort Stockton)	1-800-627-2376

Other			
Cudd Well Control	432-699-0139	or	432-563-3356
Wild Well Control	281-784-4700		
Halliburton Boots & Coots	281-931-8884		

Schlumberger

Coterra Red Hills Unit 50H Rev1 kFc 24May23 Proposal Geodetic Report

Def Plan

Report Date:	May 24, 2023 - 04:40 PM (UTC 0)	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	COTERRA	**Vertical Section Azimuth:**	179.600 °(GRID North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Coterra Red Hills Unit Pad 47-50 / Red Hills Unit 50H	**TVD Reference Datum:**	RKB
Well:	Red Hills Unit 50H	**TVD Reference Elevation:**	3386.200 ft above MSL
Borehole:	Red Hills Unit 50H	**Seabed / Ground Elevation:**	3363.200 ft above MSL
UBHI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.243°
Survey Name:	Coterra Red Hills Unit 50H Rev1 kFc 24May23	**Total Gravity Field Strength:**	998.4351mgn (9.80665 Based)
Survey Date:	May 24, 2023	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	130.989 ° / 11638.073 ft / 6.477 / 1.094	**Total Magnetic Field Strength:**	47341.208 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.617°
Location Lat / Long:	32°5'36.02671"N , 103°34'46.45993"W	**Declination Date:**	May 24, 2023
Location Grid N/E Y/X:	N 398509.960 ftUS , E 774760.390 ftUS	**Magnetic Declination Model:**	HDGM 2023
CRS Grid Convergence Angle:	0.4005°	**North Reference:**	Grid North
Grid Scale Factor:	0.9999715	**Grid Convergence Used:**	0.4005°
Version / Patch:	2022.5.0.11	**Total Corr Mag North->Grid North:**	5.8423°
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
SHL [347' FNL, 1922' FWL]	0.00	0.00	281.24	0.00	-3,386.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220			
	100.00	0.00	281.24	100.00	-3,286.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	200.00	0.00	281.24	200.00	-3,186.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	300.00	0.00	281.24	300.00	-3,086.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	400.00	0.00	281.24	400.00	-2,986.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	500.00	0.00	281.24	500.00	-2,886.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	600.00	0.00	281.24	600.00	-2,786.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	700.00	0.00	281.24	700.00	-2,686.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	800.00	0.00	281.24	800.00	-2,586.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	900.00	0.00	281.24	900.00	-2,486.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
Rustler	926.00	0.00	281.24	926.00	-2,460.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	1,000.00	0.00	281.24	1,000.00	-2,386.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	1,100.00	0.00	281.24	1,100.00	-2,286.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	1,200.00	0.00	281.24	1,200.00	-2,186.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
Salado	1,295.00	0.00	281.24	1,295.00	-2,091.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	1,300.00	0.00	281.24	1,300.00	-2,086.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
Nudge, Build 2°/100ft	1,400.00	0.00	281.24	1,400.00	-1,986.20	0.00	0.00	0.00	398,509.96	774,760.39	32.09334075	-103.57957220	0.00	0.00	0.00
	1,500.00	2.00	281.24	1,499.98	-1,886.22	-0.35	0.34	-1.71	398,510.30	774,758.68	32.09334172	-103.57957772	2.00	2.00	0.00
	1,600.00	4.00	281.24	1,599.84	-1,786.36	-1.41	1.36	-6.84	398,511.32	774,753.55	32.09334462	-103.57959427	2.00	2.00	0.00
	1,700.00	6.00	281.24	1,699.45	-1,686.75	-3.17	3.06	-15.39	398,513.02	774,745.00	32.09334946	-103.57962183	2.00	2.00	0.00
	1,800.00	8.00	281.24	1,798.70	-1,587.50	-5.62	5.43	-27.35	398,515.39	774,733.05	32.09335621	-103.57966037	2.00	2.00	0.00
	1,900.00	10.00	281.24	1,897.47	-1,488.73	-8.78	8.48	-42.69	398,518.44	774,717.70	32.09336489	-103.57970984	2.00	2.00	0.00
	2,000.00	12.00	281.24	1,995.62	-1,390.58	-12.63	12.20	-61.40	398,522.16	774,698.99	32.09337547	-103.57977019	2.00	2.00	0.00
Hold	2,074.77	13.50	281.24	2,068.54	-1,317.66	-15.96	15.41	-77.58	398,525.37	774,682.81	32.09338461	-103.57982236	2.00	2.00	0.00
	2,100.00	13.50	281.24	2,093.08	-1,293.12	-17.14	16.56	-83.36	398,526.52	774,677.03	32.09338788	-103.57984098	0.00	0.00	0.00
	2,200.00	13.50	281.24	2,190.32	-1,195.88	-21.85	21.11	-106.25	398,531.07	774,654.14	32.09340082	-103.57991478	0.00	0.00	0.00
	2,300.00	13.50	281.24	2,287.56	-1,098.64	-26.56	25.66	-129.14	398,535.62	774,631.26	32.09341376	-103.57998859	0.00	0.00	0.00
	2,400.00	13.50	281.24	2,384.80	-1,001.40	-31.27	30.21	-152.03	398,540.16	774,608.37	32.09342670	-103.58006239	0.00	0.00	0.00
	2,500.00	13.50	281.24	2,482.04	-904.16	-35.97	34.75	-174.92	398,544.71	774,585.48	32.09343964	-103.58013619	0.00	0.00	0.00
	2,600.00	13.50	281.24	2,579.28	-806.92	-40.68	39.30	-197.81	398,549.26	774,562.59	32.09345258	-103.58021000	0.00	0.00	0.00
	2,700.00	13.50	281.24	2,676.51	-709.69	-45.39	43.85	-220.69	398,553.81	774,539.70	32.09346551	-103.58028380	0.00	0.00	0.00
	2,800.00	13.50	281.24	2,773.75	-612.45	-50.10	48.40	-243.58	398,558.35	774,516.81	32.09347845	-103.58035760	0.00	0.00	0.00
	2,900.00	13.50	281.24	2,870.99	-515.21	-54.80	52.94	-266.47	398,562.90	774,493.93	32.09349139	-103.58043140	0.00	0.00	0.00
	3,000.00	13.50	281.24	2,968.23	-417.97	-59.51	57.49	-289.36	398,567.45	774,471.04	32.09350433	-103.58050521	0.00	0.00	0.00
	3,100.00	13.50	281.24	3,065.47	-320.73	-64.22	62.04	-312.25	398,572.00	774,448.15	32.09351727	-103.58057901	0.00	0.00	0.00
	3,200.00	13.50	281.24	3,162.71	-223.49	-68.92	66.59	-335.14	398,576.54	774,425.26	32.09353021	-103.58065281	0.00	0.00	0.00
	3,300.00	13.50	281.24	3,259.95	-126.25	-73.63	71.13	-358.03	398,581.09	774,402.37	32.09354315	-103.58072662	0.00	0.00	0.00
	3,400.00	13.50	281.24	3,357.19	-29.01	-78.34	75.68	-380.92	398,585.64	774,379.48	32.09355609	-103.58080042	0.00	0.00	0.00
	3,500.00	13.50	281.24	3,454.43	68.23	-83.05	80.23	-403.81	398,590.19	774,356.59	32.09356903	-103.58087422	0.00	0.00	0.00
	3,600.00	13.50	281.24	3,551.66	165.46	-87.75	84.78	-426.70	398,594.73	774,333.71	32.09358197	-103.58094802	0.00	0.00	0.00
	3,700.00	13.50	281.24	3,648.90	262.70	-92.46	89.33	-449.59	398,599.28	774,310.82	32.09359491	-103.58102183	0.00	0.00	0.00
	3,800.00	13.50	281.24	3,746.14	359.94	-97.17	93.87	-472.48	398,603.83	774,287.93	32.09360784	-103.58109563	0.00	0.00	0.00
	3,900.00	13.50	281.24	3,843.38	457.18	-101.88	98.42	-495.36	398,608.38	774,265.04	32.09362078	-103.58116943	0.00	0.00	0.00
	4,000.00	13.50	281.24	3,940.62	554.42	-106.58	102.97	-518.25	398,612.93	774,242.15	32.09363372	-103.58124324	0.00	0.00	0.00
	4,100.00	13.50	281.24	4,037.86	651.66	-111.29	107.52	-541.14	398,617.47	774,219.26	32.09364666	-103.58131704	0.00	0.00	0.00
	4,200.00	13.50	281.24	4,135.10	748.90	-116.00	112.06	-564.03	398,622.02	774,196.37	32.09365960	-103.58139084	0.00	0.00	0.00
	4,300.00	13.50	281.24	4,232.34	846.14	-120.71	116.61	-586.92	398,626.57	774,173.49	32.09367254	-103.58146465	0.00	0.00	0.00
	4,400.00	13.50	281.24	4,329.58	943.38	-125.41	121.16	-609.81	398,631.12	774,150.60	32.09368548	-103.58153845	0.00	0.00	0.00
	4,500.00	13.50	281.24	4,426.81	1,040.61	-130.12	125.71	-632.70	398,635.66	774,127.71	32.09369842	-103.58161225	0.00	0.00	0.00
	4,600.00	13.50	281.24	4,524.05	1,137.85	-134.83	130.25	-655.59	398,640.21	774,104.82	32.09371135	-103.58168606	0.00	0.00	0.00
	4,700.00	13.50	281.24	4,621.29	1,235.09	-139.54	134.80	-678.48	398,644.76	774,081.93	32.09372429	-103.58175986	0.00	0.00	0.00
	4,800.00	13.50	281.24	4,718.53	1,332.33	-144.24	139.35	-701.37	398,649.31	774,059.04	32.09373723	-103.58183366	0.00	0.00	0.00
	4,900.00	13.50	281.24	4,815.77	1,429.57	-148.95	143.90	-724.26	398,653.85	774,036.16	32.09375017	-103.58190747	0.00	0.00	0.00
Lamar	4,986.62	13.50	281.24	4,900.00	1,513.80	-153.03	147.84	-744.08	398,657.79	774,016.33	32.09376138	-103.58197140	0.00	0.00	0.00
	5,000.00	13.50	281.24	4,913.01	1,526.81	-153.66	148.45	-747.15	398,658.40	774,013.27	32.09376311	-103.58198127	0.00	0.00	0.00
Bell Canyon	5,017.47	13.50	281.24	4,930.00	1,543.80	-154.48	149.24	-751.15	398,659.20	774,009.27	32.09376537	-103.58199416	0.00	0.00	0.00
	5,100.00	13.50	281.24	5,010.25	1,624.05	-158.37	152.99	-770.03	398,662.95	773,990.38	32.09377605	-103.58205507	0.00	0.00	0.00
	5,200.00	13.50	281.24	5,107.49	1,721.29	-163.07	157.54	-792.92	398,667.50	773,967.49	32.09378899	-103.58212888	0.00	0.00	0.00
	5,300.00	13.50	281.24	5,204.73	1,818.53	-167.78	162.09	-815.81	398,672.04	773,944.60	32.09380192	-103.58220268	0.00	0.00	0.00
	5,400.00	13.50	281.24	5,301.97	1,915.77	-172.49	166.64	-838.70	398,676.59	773,921.71	32.09381486	-103.58227648	0.00	0.00	0.00
	5,500.00	13.50	281.24	5,399.20	2,013.00	-177.19	171.18	-861.59	398,681.14	773,898.82	32.09382780	-103.58235029	0.00	0.00	0.00
	5,600.00	13.50	281.24	5,496.44	2,110.24	-181.90	175.73	-884.48	398,685.69	773,875.94	32.09384074	-103.58242409	0.00	0.00	0.00
	5,700.00	13.50	281.24	5,593.68	2,207.48	-186.61	180.28	-907.37	398,690.23	773,853.05	32.09385368	-103.58249789	0.00	0.00	0.00
	5,800.00	13.50	281.24	5,690.92	2,304.72	-191.32	184.83	-930.26	398,694.78	773,830.16	32.09386661	-103.58257170	0.00	0.00	0.00
	5,900.00	13.50	281.24	5,788.16	2,401.96	-196.02	189.37	-953.15	398,699.33	773,807.27	32.09387955	-103.58264550	0.00	0.00	0.00
	6,000.00	13.50	281.24	5,885.40	2,499.20	-200.73	193.92	-976.04	398,703.88	773,784.38	32.09389249	-103.58271930	0.00	0.00	0.00
Cherry Canyon	6,076.72	13.50	281.24	5,960.00	2,573.80	-204.34	197.41	-993.60	398,707.37	773,766.82	32.09390242	-103.58277593	0.00	0.00	0.00
	6,100.00	13.50	281.24	5,982.64	2,596.44	-205.44	198.47	-998.93	398,708.42	773,761.49	32.09390543	-103.58279311	0.00	0.00	0.00
	6,200.00	13.50	281.24	6,079.88	2,693.68	-210.15	203.02	-1,021.82	398,712.97	773,738.61	32.09391837	-103.58286691	0.00	0.00	0.00
	6,300.00	13.50	281.24	6,177.12	2,790.92	-214.85	207.57	-1,044.71	398,717.52	773,715.72	32.09393130	-103.58294071	0.00	0.00	0.00
	6,400.00	13.50	281.24	6,274.35	2,888.15	-219.56	212.11	-1,067.59	398,722.07	773,692.83	32.09394424	-103.58301452	0.00	0.00	0.00
	6,500.00	13.50	281.24	6,371.59	2,985.39	-224.27	216.66	-1,090.48	398,726.61	773,669.94	32.09395718	-103.58308832	0.00	0.00	0.00
	6,600.00	13.50	281.24	6,468.83	3,082.63	-228.98	221.21	-1,113.37	398,731.16	773,647.05	32.09397012	-103.58316213	0.00	0.00	0.00
	6,700.00	13.50	281.24	6,566.07	3,179.87	-233.68	225.76	-1,136.26	398,735.71	773,624.16	32.09398305	-103.58323593	0.00	0.00	0.00
Drop 2°/100ft	6,705.04	13.50	281.24	6,570.98	3,184.78	-233.92	225.99	-1,137.42	398,735.94	773,623.01	32.09398371	-103.58323965	0.00	0.00	0.00
	6,800.00	11.60	281.24	6,663.66	3,277.46	-238.08	230.00	-1,157.65	398,739.96	773,602.78	32.09399514	-103.58330488	2.00	-2.00	0.00
	6,900.00	9.60	281.24	6,761.95	3,375.75	-241.79	233.59	-1,175.68	398,743.54	773,584.74	32.09400534	-103.58336303	2.00	-2.00	0.00
	7,000.00	7.60	281.24	6,860.82	3,474.62	-244.81	236.50	-1,190.34	398,746.45	773,570.08	32.09401362	-103.58341030	2.00	-2.00	0.00
	7,100.00	5.60	281.24	6,960.15	3,573.95	-247.12	238.74	-1,201.61	398,748.69	773,558.82	32.09401999	-103.58344663	2.00	-2.00	0.00
	7,200.00	3.60	281.24	7,059.83	3,673.63	-248.74	240.30	-1,209.47	398,750.25	773,550.96	32.09402443	-103.58347197	2.00	-2.00	0.00
	7,300.00	1.60	281.24	7,159.72	3,773.52	-249.65	241.18	-1,213.91	398,751.14	773,546.52	32.09402694	-103.58348630	2.00	-2.00	0.00
Hold	7,379.81	0.00	281.24	7,239.52	3,853.32	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	2.00	-2.00	0.00
	7,400.00	0.00	281.24	7,259.71	3,873.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	7,500.00	0.00	281.24	7,359.71	3,973.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	7,600.00	0.00	281.24	7,459.71	4,073.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
Brushy Canyon	7,620.29	0.00	281.24	7,480.00	4,093.80	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	7,700.00	0.00	281.24	7,559.71	4,173.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	7,800.00	0.00	281.24	7,659.71	4,273.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	7,900.00	0.00	281.24	7,759.71	4,373.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,000.00	0.00	281.24	7,859.71	4,473.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,100.00	0.00	281.24	7,959.71	4,573.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,200.00	0.00	281.24	8,059.71	4,673.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,300.00	0.00	281.24	8,159.71	4,773.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,400.00	0.00	281.24	8,259.71	4,873.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,500.00	0.00	281.24	8,359.71	4,973.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,600.00	0.00	281.24	8,459.71	5,073.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,700.00	0.00	281.24	8,559.71	5,173.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,800.00	0.00	281.24	8,659.71	5,273.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	8,900.00	0.00	281.24	8,759.71	5,373.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
Basal Brushy Canyon	8,995.29	0.00	281.24	8,855.00	5,468.80	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	9,000.00	0.00	281.24	8,859.71	5,473.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	9,100.00	0.00	281.24	8,959.71	5,573.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
Bone Springs Lime	9,180.29	0.00	281.24	9,040.00	5,653.80	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
	9,200.00	0.00	281.24	9,059.71	5,673.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
Leonard	9,205.29	0.00	281.24	9,065.00	5,678.80	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	9,300.00	0.00	281.24	9,159.71	5,773.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	9,400.00	0.00	281.24	9,259.71	5,873.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
Avalon	9,470.29	0.00	281.24	9,330.00	5,943.80	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	9,500.00	0.00	281.24	9,359.71	5,973.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	9,600.00	0.00	281.24	9,459.71	6,073.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	9,700.00	0.00	281.24	9,559.71	6,173.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	9,800.00	0.00	281.24	9,659.71	6,273.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	9,900.00	0.00	281.24	9,759.71	6,373.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	10,000.00	0.00	281.24	9,859.71	6,473.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	10,100.00	0.00	281.24	9,959.71	6,573.51	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
1st BS SS	10,160.29	0.00	281.24	10,020.00	6,633.80	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
KOP, Build 10°/100ft	10,182.81	0.00	281.24	10,042.52	6,656.32	-249.88	241.40	-1,215.00	398,751.35	773,545.43	32.09402756	-103.58348981	0.00	0.00	0.00
	10,200.00	1.72	193.60	10,059.71	6,673.51	-249.63	241.15	-1,215.06	398,751.10	773,545.37	32.09402687	-103.58349001	10.00	10.00	0.00
	10,300.00	11.72	193.60	10,158.89	6,772.69	-238.29	229.79	-1,217.81	398,739.74	773,542.62	32.09399571	-103.58349914	10.00	10.00	0.00
2nd BS Carb	10,363.26	18.04	193.60	10,220.00	6,833.80	-222.53	214.01	-1,221.63	398,723.96	773,538.80	32.09395240	-103.58351182	10.00	10.00	0.00
	10,400.00	21.72	193.60	10,254.55	6,868.35	-210.41	201.87	-1,224.56	398,711.82	773,535.86	32.09391908	-103.58352158	10.00	10.00	0.00
	10,500.00	31.72	193.60	10,343.75	6,957.55	-166.84	158.22	-1,235.12	398,668.18	773,525.30	32.09379931	-103.58355665	10.00	10.00	0.00
	10,600.00	41.72	193.60	10,423.81	7,037.61	-108.90	100.18	-1,249.16	398,610.14	773,511.26	32.09364005	-103.58360329	10.00	10.00	0.00
	10,700.00	51.72	193.60	10,492.28	7,106.08	-38.35	29.51	-1,266.26	398,539.47	773,494.17	32.09344614	-103.58366008	10.00	10.00	0.00
	10,800.00	61.72	193.60	10,547.09	7,160.89	42.66	-51.64	-1,285.89	398,458.32	773,474.54	32.09322345	-103.58372529	10.00	10.00	0.00
2nd BS SS	10,866.15	68.33	193.60	10,575.00	7,188.80	100.81	-109.89	-1,299.99	398,400.07	773,460.44	32.09306361	-103.58377210	10.00	10.00	0.00
	10,900.00	71.72	193.60	10,586.56	7,200.36	131.68	-140.81	-1,307.47	398,369.16	773,452.96	32.09297877	-103.58379695	10.00	10.00	0.00
Build 5°/100ft	10,932.81	75.00	193.60	10,595.95	7,209.75	162.17	-171.36	-1,314.86	398,338.61	773,445.57	32.09289494	-103.58382150	10.00	10.00	0.00
	11,000.00	78.36	193.60	10,611.43	7,225.23	225.61	-234.90	-1,330.23	398,275.07	773,430.20	32.09272059	-103.58387256	5.00	5.00	0.00
	11,100.00	83.36	193.60	10,627.31	7,241.11	321.37	-330.83	-1,353.44	398,179.14	773,406.99	32.09245735	-103.58394964	5.00	5.00	0.00
	11,200.00	88.36	193.60	10,634.53	7,248.33	418.12	-427.74	-1,376.88	398,082.23	773,383.55	32.09219142	-103.58402752	5.00	5.00	0.00
Landing Point	11,232.81	90.00	193.60	10,635.00	7,248.80	449.95	-459.63	-1,384.60	398,050.35	773,375.84	32.09210393	-103.58405314	5.00	5.00	0.00
	11,300.00	90.00	193.60	10,635.00	7,248.80	515.14	-524.93	-1,400.40	397,985.04	773,360.04	32.09192473	-103.58410562	0.00	0.00	0.00
	11,400.00	90.00	193.60	10,635.00	7,248.80	612.17	-622.13	-1,423.91	397,887.85	773,336.52	32.09165802	-103.58418372	0.00	0.00	0.00
	11,500.00	90.00	193.60	10,635.00	7,248.80	709.20	-719.32	-1,447.42	397,790.66	773,313.01	32.09139131	-103.58426182	0.00	0.00	0.00
	11,600.00	90.00	193.60	10,635.00	7,248.80	806.23	-816.52	-1,470.94	397,693.46	773,289.50	32.09112460	-103.58433992	0.00	0.00	0.00
	11,700.00	90.00	193.60	10,635.00	7,248.80	903.26	-913.72	-1,494.45	397,596.27	773,265.98	32.09085789	-103.58441802	0.00	0.00	0.00
Turn 2°/100ft	11,722.81	90.00	193.60	10,635.00	7,248.80	925.39	-935.89	-1,499.82	397,574.10	773,260.62	32.09079705	-103.58443584	0.00	0.00	0.00
	11,800.00	90.00	192.06	10,635.00	7,248.80	1,000.53	-1,011.15	-1,516.95	397,498.84	773,243.48	32.09059052	-103.58449286	2.00	0.00	-2.00
	11,900.00	90.00	190.06	10,635.00	7,248.80	1,098.54	-1,109.29	-1,536.13	397,400.71	773,224.31	32.09032113	-103.58455697	2.00	0.00	-2.00
	12,000.00	90.00	188.06	10,635.00	7,248.80	1,197.17	-1,208.04	-1,551.87	397,301.96	773,208.57	32.09005001	-103.58461001	2.00	0.00	-2.00
	12,100.00	90.00	186.06	10,635.00	7,248.80	1,296.32	-1,307.27	-1,564.15	397,202.73	773,196.28	32.08977747	-103.58465189	2.00	0.00	-2.00
	12,200.00	90.00	184.06	10,635.00	7,248.80	1,395.86	-1,406.88	-1,572.97	397,103.12	773,187.47	32.08950386	-103.58468258	2.00	0.00	-2.00
	12,300.00	90.00	182.06	10,635.00	7,248.80	1,495.68	-1,506.73	-1,578.30	397,003.27	773,182.14	32.08922950	-103.58470203	2.00	0.00	-2.00
	12,400.00	90.00	180.06	10,635.00	7,248.80	1,595.64	-1,606.71	-1,580.14	396,903.30	773,180.30	32.08895473	-103.58471022	2.00	0.00	-2.00
Hold	12,422.73	90.00	179.60	10,635.00	7,248.80	1,618.37	-1,629.44	-1,580.07	396,880.57	773,180.37	32.08889225	-103.58471051	2.00	0.00	-2.00
	12,500.00	90.00	179.60	10,635.00	7,248.80	1,695.64	-1,706.71	-1,579.54	396,803.30	773,180.90	32.08867986	-103.58471051	0.00	0.00	0.00
	12,600.00	90.00	179.60	10,635.00	7,248.80	1,795.64	-1,806.71	-1,578.84	396,703.31	773,181.60	32.08840499	-103.58471050	0.00	0.00	0.00
	12,700.00	90.00	179.60	10,635.00	7,248.80	1,895.64	-1,906.70	-1,578.14	396,603.31	773,182.29	32.08813012	-103.58471050	0.00	0.00	0.00
	12,800.00	90.00	179.60	10,635.00	7,248.80	1,995.64	-2,006.70	-1,577.45	396,503.32	773,182.99	32.08785525	-103.58471050	0.00	0.00	0.00
	12,900.00	90.00	179.60	10,635.00	7,248.80	2,095.64	-2,106.70	-1,576.75	396,403.33	773,183.68	32.08758038	-103.58471049	0.00	0.00	0.00
	13,000.00	90.00	179.60	10,635.00	7,248.80	2,195.64	-2,206.70	-1,576.06	396,303.33	773,184.38	32.08730551	-103.58471049	0.00	0.00	0.00
Pool NMNM0024368A exit to NM	13,094.00	90.00	179.60	10,635.00	7,248.80	2,289.64	-2,300.69	-1,575.40	396,209.34	773,185.03	32.08704713	-103.58471048	0.00	0.00	0.00
	13,100.00	90.00	179.60	10,635.00	7,248.80	2,295.64	-2,306.69	-1,575.36	396,203.34	773,185.08	32.08703064	-103.58471048	0.00	0.00	0.00
	13,200.00	90.00	179.60	10,635.00	7,248.80	2,395.64	-2,406.69	-1,574.67	396,103.34	773,185.77	32.08675576	-103.58471048	0.00	0.00	0.00
	13,300.00	90.00	179.60	10,635.00	7,248.80	2,495.64	-2,506.69	-1,573.97	396,003.35	773,186.47	32.08648089	-103.58471047	0.00	0.00	0.00
	13,400.00	90.00	179.60	10,635.00	7,248.80	2,595.64	-2,606.69	-1,573.28	395,903.35	773,187.16	32.08620602	-103.58471047	0.00	0.00	0.00
	13,500.00	90.00	179.60	10,635.00	7,248.80	2,695.64	-2,706.68	-1,572.58	395,803.36	773,187.86	32.08593115	-103.58471047	0.00	0.00	0.00
	13,600.00	90.00	179.60	10,635.00	7,248.80	2,795.64	-2,806.68	-1,571.89	395,703.36	773,188.55	32.08565628	-103.58471046	0.00	0.00	0.00
	13,700.00	90.00	179.60	10,635.00	7,248.80	2,895.64	-2,906.68	-1,571.19	395,603.37	773,189.25	32.08538141	-103.58471046	0.00	0.00	0.00
	13,800.00	90.00	179.60	10,635.00	7,248.80	2,995.64	-3,006.68	-1,570.50	395,503.38	773,189.94	32.08510654	-103.58471045	0.00	0.00	0.00
	13,900.00	90.00	179.60	10,635.00	7,248.80	3,095.64	-3,106.67	-1,569.80	395,403.38	773,190.64	32.08483166	-103.58471045	0.00	0.00	0.00
	14,000.00	90.00	179.60	10,635.00	7,248.80	3,195.64	-3,206.67	-1,569.10	395,303.39	773,191.33	32.08455679	-103.58471044	0.00	0.00	0.00
	14,100.00	90.00	179.60	10,635.00	7,248.80	3,295.64	-3,306.67	-1,568.41	395,203.39	773,192.03	32.08428192	-103.58471044	0.00	0.00	0.00
	14,200.00	90.00	179.60	10,635.00	7,248.80	3,395.64	-3,406.67	-1,567.71	395,103.40	773,192.72	32.08400705	-103.58471044	0.00	0.00	0.00
	14,300.00	90.00	179.60	10,635.00	7,248.80	3,495.64	-3,506.66	-1,567.02	395,003.40	773,193.42	32.08373218	-103.58471043	0.00	0.00	0.00
	14,400.00	90.00	179.60	10,635.00	7,248.80	3,595.64	-3,606.66	-1,566.32	394,903.41	773,194.12	32.08345731	-103.58471043	0.00	0.00	0.00
Pool NMNM0005792A exit to NM	14,414.00	90.00	179.60	10,635.00	7,248.80	3,609.64	-3,620.66	-1,566.23	394,889.41	773,194.21	32.08341882	-103.58471043	0.00	0.00	0.00
	14,500.00	90.00	179.60	10,635.00	7,248.80	3,695.64	-3,706.66	-1,565.63	394,803.41	773,194.81	32.08318244	-103.58471042	0.00	0.00	0.00
	14,600.00	90.00	179.60	10,635.00	7,248.80	3,795.64	-3,806.66	-1,564.93	394,703.42	773,195.51	32.08290756	-103.58471042	0.00	0.00	0.00
	14,700.00	90.00	179.60	10,635.00	7,248.80	3,895.64	-3,906.65	-1,564.24	394,603.42	773,196.20	32.08263269	-103.58471041	0.00	0.00	0.00
	14,800.00	90.00	179.60	10,635.00	7,248.80	3,995.64	-4,006.65	-1,563.54	394,503.43	773,196.90	32.08235782	-103.58471041	0.00	0.00	0.00
	14,900.00	90.00	179.60	10,635.00	7,248.80	4,095.64	-4,106.65	-1,562.85	394,403.44	773,197.59	32.08208295	-103.58471040	0.00	0.00	0.00
	15,000.00	90.00	179.60	10,635.00	7,248.80	4,195.64	-4,206.65	-1,562.15	394,303.44	773,198.29	32.08180808	-103.58471040	0.00	0.00	0.00
	15,100.00	90.00	179.60	10,635.00	7,248.80	4,295.64	-4,306.65	-1,561.45	394,203.45	773,198.98	32.08153321	-103.58471040	0.00	0.00	0.00
	15,200.00	90.00	179.60	10,635.00	7,248.80	4,395.64	-4,406.64	-1,560.76	394,103.45	773,199.68	32.08125833	-103.58471039	0.00	0.00	0.00
	15,300.00	90.00	179.60	10,635.00	7,248.80	4,495.64	-4,506.64	-1,560.06	394,003.46	773,200.37	32.08098346	-103.58471039	0.00	0.00	0.00
	15,400.00	90.00	179.60	10,635.00	7,248.80	4,595.64	-4,606.64	-1,559.37	393,903.46	773,201.07	32.08070859	-103.58471038	0.00	0.00	0.00
	15,500.00	90.00	179.60	10,635.00	7,248.80	4,695.64	-4,706.64	-1,558.67	393,803.47	773,201.76	32.08043372	-103.58471038	0.00	0.00	0.00
	15,600.00	90.00	179.60	10,635.00	7,248.80	4,795.64	-4,806.63	-1,557.98	393,703.47	773,202.46	32.08015885	-103.58471037	0.00	0.00	0.00
	15,700.00	90.00	179.60	10,635.00	7,248.80	4,895.64	-4,906.63	-1,557.28	393,603.48	773,203.15	32.07988398	-103.58471037	0.00	0.00	0.00
Section 33-4 Line, Pool NMNM0(	15,734.00	90.00	179.60	10,635.00	7,248.80	4,929.64	-4,940.63	-1,557.05	393,569.48	773,203.39	32.07979052	-103.58471037	0.00	0.00	0.00
	15,800.00	90.00	179.60	10,635.00	7,248.80	4,995.64	-5,006.63	-1,556.59	393,503.48	773,203.85	32.07960910	-103.58471036	0.00	0.00	0.00
	15,900.00	90.00	179.60	10,635.00	7,248.80	5,095.64	-5,106.63	-1,555.89	393,403.49	773,204.55	32.07933423	-103.58471036	0.00	0.00	0.00
	16,000.00	90.00	179.60	10,635.00	7,248.80	5,195.64	-5,206.62	-1,555.20	393,303.50	773,205.24	32.07905936	-103.58471035	0.00	0.00	0.00
	16,100.00	90.00	179.60	10,635.00	7,248.80	5,295.64	-5,306.62	-1,554.50	393,203.50	773,205.94	32.07878449	-103.58471035	0.00	0.00	0.00
	16,200.00	90.00	179.60	10,635.00	7,248.80	5,395.64	-5,406.62	-1,553.81	393,103.51	773,206.63	32.07850962	-103.58471034	0.00	0.00	0.00
	16,300.00	90.00	179.60	10,635.00	7,248.80	5,495.64	-5,506.62	-1,553.11	393,003.51	773,207.33	32.07823475	-103.58471034	0.00	0.00	0.00
	16,400.00	90.00	179.60	10,635.00	7,248.80	5,595.64	-5,606.61	-1,552.41	392,903.52	773,208.02	32.07795987	-103.58471034	0.00	0.00	0.00
	16,500.00	90.00	179.60	10,635.00	7,248.80	5,695.64	-5,706.61	-1,551.72	392,803.52	773,208.72	32.07768500	-103.58471033	0.00	0.00	0.00
	16,600.00	90.00	179.60	10,635.00	7,248.80	5,795.64	-5,806.61	-1,551.02	392,703.53	773,209.41	32.07741013	-103.58471033	0.00	0.00	0.00
	16,700.00	90.00	179.60	10,635.00	7,248.80	5,895.64	-5,906.61	-1,550.33	392,603.53	773,210.11	32.07713526	-103.58471032	0.00	0.00	0.00
	16,800.00	90.00	179.60	10,635.00	7,248.80	5,995.64	-6,006.60	-1,549.63	392,503.54	773,210.80	32.07686039	-103.58471032	0.00	0.00	0.00
	16,900.00	90.00	179.60	10,635.00	7,248.80	6,095.64	-6,106.60	-1,548.94	392,403.54	773,211.50	32.07658552	-103.58471031	0.00	0.00	0.00
	17,000.00	90.00	179.60	10,635.00	7,248.80	6,195.64	-6,206.60	-1,548.24	392,303.55	773,212.19	32.07631064	-103.58471031	0.00	0.00	0.00
	17,100.00	90.00	179.60	10,635.00	7,248.80	6,295.64	-6,306.60	-1,547.55	392,203.56	773,212.89	32.07603577	-103.58471030	0.00	0.00	0.00
	17,200.00	90.00	179.60	10,635.00	7,248.80	6,395.64	-6,406.59	-1,546.85	392,103.56	773,213.59	32.07576090	-103.58471030	0.00	0.00	0.00
	17,300.00	90.00	179.60	10,635.00	7,248.80	6,495.64	-6,506.59	-1,546.16	392,003.57	773,214.28	32.07548603	-103.58471029	0.00	0.00	0.00
	17,400.00	90.00	179.60	10,635.00	7,248.80	6,595.64	-6,606.59	-1,545.46	391,903.57	773,214.98	32.07521116	-103.58471029	0.00	0.00	0.00
	17,500.00	90.00	179.60	10,635.00	7,248.80	6,695.64	-6,706.59	-1,544.77	391,803.58	773,215.67	32.07493628	-103.58471028	0.00	0.00	0.00
	17,600.00	90.00	179.60	10,635.00	7,248.80	6,795.64	-6,806.58	-1,544.07	391,703.58	773,216.37	32.07466141	-103.58471028	0.00	0.00	0.00
	17,700.00	90.00	179.60	10,635.00	7,248.80	6,895.64	-6,906.58	-1,543.37	391,603.59	773,217.06	32.07438654	-103.58471027	0.00	0.00	0.00
	17,800.00	90.00	179.60	10,635.00	7,248.80	6,995.64	-7,006.58	-1,542.68	391,503.59	773,217.76	32.07411167	-103.58471027	0.00	0.00	0.00
	17,900.00	90.00	179.60	10,635.00	7,248.80	7,095.64	-7,106.58	-1,541.98	391,403.60	773,218.45	32.07383680	-103.58471026	0.00	0.00	0.00
	18,000.00	90.00	179.60	10,635.00	7,248.80	7,195.64	-7,206.58	-1,541.29	391,303.60	773,219.15	32.07356192	-103.58471026	0.00	0.00	0.00
	18,100.00	90.00	179.60	10,635.00	7,248.80	7,295.64	-7,306.57	-1,540.59	391,203.61	773,219.84	32.07328705	-103.58471025	0.00	0.00	0.00
	18,200.00	90.00	179.60	10,635.00	7,248.80	7,395.64	-7,406.57	-1,539.90	391,103.62	773,220.54	32.07301218	-103.58471025	0.00	0.00	0.00
	18,300.00	90.00	179.60	10,635.00	7,248.80	7,495.64	-7,506.57	-1,539.20	391,003.62	773,221.23	32.07273731	-103.58471024	0.00	0.00	0.00
	18,400.00	90.00	179.60	10,635.00	7,248.80	7,595.64	-7,606.57	-1,538.51	390,903.63	773,221.93	32.07246244	-103.58471024	0.00	0.00	0.00
	18,500.00	90.00	179.60	10,635.00	7,248.80	7,695.64	-7,706.56	-1,537.81	390,803.63	773,222.63	32.07218757	-103.58471023	0.00	0.00	0.00
	18,600.00	90.00	179.60	10,635.00	7,248.80	7,795.64	-7,806.56	-1,537.12	390,703.64	773,223.32	32.07191269	-103.58471023	0.00	0.00	0.00
	18,700.00	90.00	179.60	10,635.00	7,248.80	7,895.64	-7,906.56	-1,536.42	390,603.64	773,224.02	32.07163782	-103.58471022	0.00	0.00	0.00
	18,800.00	90.00	179.60	10,635.00	7,248.80	7,995.64	-8,006.56	-1,535.73	390,503.65	773,224.71	32.07136295	-103.58471022	0.00	0.00	0.00
	18,900.00	90.00	179.60	10,635.00	7,248.80	8,095.64	-8,106.55	-1,535.03	390,403.65	773,225.41	32.07108808	-103.58471021	0.00	0.00	0.00
	19,000.00	90.00	179.60	10,635.00	7,248.80	8,195.64	-8,206.55	-1,534.33	390,303.66	773,226.10	32.07081321	-103.58471021	0.00	0.00	0.00
	19,100.00	90.00	179.60	10,635.00	7,248.80	8,295.64	-8,306.55	-1,533.64	390,203.66	773,226.80	32.07053833	-103.58471020	0.00	0.00	0.00
	19,200.00	90.00	179.60	10,635.00	7,248.80	8,395.64	-8,406.55	-1,532.94	390,103.67	773,227.49	32.07026346	-103.58471020	0.00	0.00	0.00
	19,300.00	90.00	179.60	10,635.00	7,248.80	8,495.64	-8,506.54	-1,532.25	390,003.68	773,228.19	32.06998859	-103.58471019	0.00	0.00	0.00
	19,400.00	90.00	179.60	10,635.00	7,248.80	8,595.64	-8,606.54	-1,531.55	389,903.68	773,228.88	32.06971372	-103.58471018	0.00	0.00	0.00
	19,500.00	90.00	179.60	10,635.00	7,248.80	8,695.64	-8,706.54	-1,530.86	389,803.69	773,229.58	32.06943884	-103.58471018	0.00	0.00	0.00
	19,600.00	90.00	179.60	10,635.00	7,248.80	8,795.64	-8,806.54	-1,530.16	389,703.69	773,230.27	32.06916397	-103.58471017	0.00	0.00	0.00
	19,700.00	90.00	179.60	10,635.00	7,248.80	8,895.64	-8,906.53	-1,529.47	389,603.70	773,230.97	32.06888910	-103.58471017	0.00	0.00	0.00
	19,800.00	90.00	179.60	10,635.00	7,248.80	8,995.64	-9,006.53	-1,528.77	389,503.70	773,231.67	32.06861423	-103.58471016	0.00	0.00	0.00
	19,900.00	90.00	179.60	10,635.00	7,248.80	9,095.64	-9,106.53	-1,528.08	389,403.71	773,232.36	32.06833936	-103.58471016	0.00	0.00	0.00
	20,000.00	90.00	179.60	10,635.00	7,248.80	9,195.64	-9,206.53	-1,527.38	389,303.71	773,233.06	32.06806448	-103.58471015	0.00	0.00	0.00
	20,100.00	90.00	179.60	10,635.00	7,248.80	9,295.64	-9,306.52	-1,526.69	389,203.72	773,233.75	32.06778961	-103.58471015	0.00	0.00	0.00
	20,200.00	90.00	179.60	10,635.00	7,248.80	9,395.64	-9,406.52	-1,525.99	389,103.73	773,234.45	32.06751474	-103.58471014	0.00	0.00	0.00
	20,300.00	90.00	179.60	10,635.00	7,248.80	9,495.64	-9,506.52	-1,525.29	389,003.73	773,235.14	32.06723987	-103.58471014	0.00	0.00	0.00
	20,400.00	90.00	179.60	10,635.00	7,248.80	9,595.64	-9,606.52	-1,524.60	388,903.74	773,235.84	32.06696500	-103.58471013	0.00	0.00	0.00
	20,500.00	90.00	179.60	10,635.00	7,248.80	9,695.64	-9,706.51	-1,523.90	388,803.74	773,236.53	32.06669012	-103.58471013	0.00	0.00	0.00
	20,600.00	90.00	179.60	10,635.00	7,248.80	9,795.64	-9,806.51	-1,523.21	388,703.75	773,237.23	32.06641525	-103.58471012	0.00	0.00	0.00
	20,700.00	90.00	179.60	10,635.00	7,248.80	9,895.64	-9,906.51	-1,522.51	388,603.75	773,237.92	32.06614038	-103.58471011	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
	20,800.00	90.00	179.60	10,635.00	7,248.80	9,995.64	-10,006.51	-1,521.82	388,503.76	773,238.62	32.06586551	-103.58471011	0.00	0.00	0.00
	20,900.00	90.00	179.60	10,635.00	7,248.80	10,095.64	-10,106.50	-1,521.12	388,403.76	773,239.31	32.06559063	-103.58471010	0.00	0.00	0.00
Red Hills Unit 50H - BHL [100' F	20,910.88	90.00	179.60	10,635.00	7,248.80	10,106.52	-10,117.39	-1,521.05	388,392.88	773,239.39	32.06556072	-103.58471010	0.00	0.00	0.00

Survey Type: Def Plan

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

Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Code	Borehole / Survey
	1	0.000	10,200.000	1/100.000	–	–		A001Mb_MWD	Red Hills Unit 50H / Coterra Red Hills Unit 50H Rev1 kFc 24May23
	1	10,200.000	20,909.298	1/100.000	–	–		A008Mb_MWD+IFR1+MS	Red Hills Unit 50H / Coterra Red Hills Unit 50H Rev1 kFc 24May23

A default hole/casing size was used for A/C calculation because the wellbore size is not defined correctly.

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name

Schlumberger

Coterra Red Hills Unit 50H Rev1 kFc 24May23 Anti-Collision Summary Report

Analysis Date-24hr Time:	May 24, 2023 - 04:40 PM (UTC 0)	**Analysis Method:**	3D Least Distance
Client:	COTERRA	**Reference Trajectory:**	Coterra Red Hills Unit 50H Rev1 kFc 24May23 (Def Plan)
Field:	NM Lea County (NAD 83)	**Depth Interval:**	Every 10.00 Measured Depth (ft)
Structure:	Coterra Red Hills Unit Pad 47-50	**Rule Set:**	NAL Procedure: D&M AntiCollision Standard S002
Slot:	Red Hills Unit 50H	**Min Pts:**	Absolute minima indicated.
Well:	Red Hills Unit 50H	**Engine Version:**	2022.5.0.11
Borehole:	Red Hills Unit 50H	**Database \ Project:**	Red Hills Unit 50H–COTERRA
Scan MD Range:	0.00ft ~ 20910.88ft		

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

Offset Trajectories Summary

Offset Selection Criteria

Bounding box scan: minimum Ct-Ct separation <= 5280ft

Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

14 out of 80 are selected

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
Coterra Red Hills Unit 49H Rev1 kFc 24May23 (DefinitivePlan)													Fail Minor
	19.99	16.49	17.49	3.50	N/A	MAS = 5.03 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
	19.99	16.49	17.49	3.50	5484.86	MAS = 5.03 (m)	23.00	23.00				WRP	
	19.99	20.07	5.78	-0.08	1.49	OSF1.50	1230.00	1230.00		OSF<1.50		Enter Minor	
	19.99	22.63	4.07	-2.64	1.30	OSF1.50	1400.00	1400.00				MinPt-CtCt	
	20.14	23.07	3.93	-2.93	1.29	OSF1.50	1430.00	1430.00				MINPT-O-EOU	
	20.26	23.22	3.95	-2.96	1.29	OSF1.50	1440.00	1440.00				MinPts	
	24.95	25.15	7.35	-0.20	1.49	OSF1.50	1570.00	1569.90		OSF>1.50		Exit Minor	
	164.99	154.94	60.86	10.05	1.60	OSF1.50	10182.81	10042.52				MinPt-CtCt	
	165.05	155.20	60.76	9.86	1.60	OSF1.50	10200.00	10059.71				MINPT-O-EOU	
	165.15	155.32	60.77	9.83	1.60	OSF1.50	10210.00	10069.70				MinPts	
	572.11	175.46	454.30	396.64	4.94	OSF1.50	11020.00	10615.30	OSF>5.00			Exit Alert	
	744.10	115.84	666.04	628.26	9.81	OSF1.50	12500.00	10635.00				MinPt-CtCt	
	744.10	225.27	593.08	518.83	4.99	OSF1.50	16740.00	10635.00	OSF<5.00			Enter Alert	
	744.10	354.36	507.03	389.74	3.16	OSF1.50	20910.88	10635.00				MinPts	
Coterra Red Hills Unit 48H Rev1 kFc 24May23 (DefinitivePlan)													Warning Alert
	39.99	32.49	37.49	7.50	N/A	MAS = 9.90 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
	39.99	32.49	37.49	7.50	N/A	MAS = 9.90 (m)	23.00	23.00				WRP	
	39.99	32.49	24.08	7.50	2.80	MAS = 9.90 (m)	1400.00	1400.00				MinPts	
	40.15	32.49	23.94	7.65	2.75	MAS = 9.90 (m)	1430.00	1430.00				MINPT-O-EOU	
	41.09	32.49	24.38	8.59	2.72	MAS = 9.90 (m)	1480.00	1479.99				MinPt-O-SF	
	99.70	32.49	77.61	67.21	4.96	MAS = 9.90 (m)	2030.00	2024.93	OSF>5.00			Exit Alert	
	620.79	106.44	549.00	514.36	8.92	OSF1.50	6770.00	6634.30				MinPt-O-SF	
	643.36	152.17	541.08	491.19	6.42	OSF1.50	10280.00	10139.24				MinPts	
	643.36	152.15	541.09	491.20	6.42	OSF1.50	10290.00	10149.09				MinPt-CtCt	
	723.54	144.32	626.49	579.22	7.63	OSF1.50	11380.00	10635.00				MinPt-O-SF	
	813.97	246.05	649.10	567.91	5.00	OSF1.50	16750.00	10635.00	OSF<5.00			Enter Alert	
	814.12	363.14	571.20	450.99	3.38	OSF1.50	20910.88	10635.00				MinPts	
Coterra Red Hills Unit 47H Rev1 kFc 24May23 (DefinitivePlan)													Warning Alert
	59.99	32.81	57.49	27.18	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	59.98	32.81	57.48	27.17	N/A	MAS = 10.00 (m)	23.00	23.00				WRP	
	59.98	32.81	45.98	27.17	5.00	MAS = 10.00 (m)	1210.00	1210.00	OSF<5.00			Enter Alert	
	59.98	32.81	44.07	27.17	4.29	MAS = 10.00 (m)	1400.00	1400.00				MinPts	
	60.14	32.81	43.93	27.33	4.20	MAS = 10.00 (m)	1430.00	1430.00				MINPT-O-EOU	
	62.45	32.81	45.35	29.64	4.11	MAS = 10.00 (m)	1520.00	1519.96				MinPt-O-SF	
	88.88	32.81	68.92	56.07	4.95	MAS = 10.00 (m)	1810.00	1808.60	OSF>5.00			Exit Alert	
	823.05	154.26	719.38	668.79	8.11	OSF1.50	10200.00	10059.71				MINPT-O-EOU	
	823.15	154.37	719.40	668.78	8.11	OSF1.50	10210.00	10069.70				MinPt-O-ADP	
	825.93	155.38	721.52	670.56	8.08	OSF1.50	10300.00	10158.89				MinPt-O-SF	
	800.91	156.87	695.50	644.04	7.76	OSF1.50	11420.00	10635.00				MinPt-CtCt	
	800.96	156.99	695.46	643.97	7.75	OSF1.50	11440.00	10635.00				MINPT-O-EOU	
	801.01	157.05	695.48	643.96	7.75	OSF1.50	11450.00	10635.00				MinPt-O-ADP	
	804.63	158.11	698.39	646.51	7.73	OSF1.50	11610.00	10635.00				MinPt-O-SF	
	822.31	166.63	710.39	655.68	7.49	OSF1.50	12540.00	10635.00				MinPt-CtCt	
	822.60	248.56	656.06	574.04	5.00	OSF1.50	16600.00	10635.00	OSF<5.00			Enter Alert	
	822.91	367.79	576.88	455.12	3.37	OSF1.50	20910.88	10635.00				MinPts	
Cimarex Red Hills Unit 17H Corrected MWD to 21823ft (DefinitiveSurvey)													Warning Alert
	1366.57	32.81	1364.07	1333.76	#########	MAS = 10.00 (m)	0.00	0.00				MinPts	
	1366.57	32.81	1364.02	1333.76	27273.25	MAS = 10.00 (m)	23.00	23.00				WRP	
	1369.17	32.81	1359.72	1336.36	196.65	MAS = 10.00 (m)	780.00	780.00				MINPT-O-EOU	
	505.10	122.23	422.78	382.87	6.30	OSF1.50	7320.00	7179.71				MinPt-CtCt	
	507.90	127.22	422.26	380.69	6.08	OSF1.50	7700.00	7559.71				MINPT-O-EOU	
	509.18	136.04	417.65	373.13	5.69	OSF1.50	8370.00	8229.71				MinPt-CtCt	
	511.31	141.15	416.38	370.17	5.50	OSF1.50	8750.00	8609.71				MINPT-O-EOU	
	515.03	145.50	417.20	369.53	5.38	OSF1.50	9070.00	8929.71				MinPt-O-ADP	
	516.48	156.85	411.08	359.63	5.00	OSF1.50	9900.00	9759.71	OSF<5.00			Enter Alert	
	176.01	156.90	70.58	19.11	1.69	OSF1.50	10990.00	10609.37				MinPts	
	550.41	167.06	438.21	383.35	4.99	OSF1.50	11510.00	10635.00	OSF>5.00			Exit Alert	
	1732.52	129.09	1645.62	1603.43	20.50	OSF1.50	13080.00	10635.00				MinPt-CtCt	
	1711.63	160.05	1604.10	1551.58	16.27	OSF1.50	14470.00	10635.00				MinPt-CtCt	
	1711.76	163.36	1602.02	1548.40	15.94	OSF1.50	14600.00	10635.00				MinPt-CtCt	
	1712.28	164.97	1601.46	1547.31	15.79	OSF1.50	14680.00	10635.00				MINPT-O-EOU	
	1712.92	165.77	1601.57	1547.14	15.71	OSF1.50	14720.00	10635.00				MinPt-O-ADP	
	1718.28	175.47	1600.46	1542.80	14.88	OSF1.50	15070.00	10635.00				MinPt-CtCt	
	1718.41	175.93	1600.29	1542.48	14.84	OSF1.50	15100.00	10635.00				MINPT-O-EOU	
	1718.66	176.24	1600.33	1542.42	14.82	OSF1.50	15120.00	10635.00				MinPt-O-ADP	
	1722.45	184.62	1598.54	1537.84	14.17	OSF1.50	15410.00	10635.00				MinPt-CtCt	
	1721.34	194.46	1590.87	1526.89	13.43	OSF1.50	15770.00	10635.00				MinPt-CtCt	
	1716.00	212.80	1573.29	1503.19	12.22	OSF1.50	16420.00	10635.00				MinPt-CtCt	
	1715.86	221.22	1567.55	1494.64	11.75	OSF1.50	16710.00	10635.00				MinPt-CtCt	
	1714.10	229.65	1560.17	1484.45	11.30	OSF1.50	17000.00	10635.00				MinPt-CtCt	
	1716.37	237.43	1557.25	1478.94	10.94	OSF1.50	17290.00	10635.00				MINPT-O-EOU	
	1715.36	252.52	1546.18	1462.84	10.28	OSF1.50	17770.00	10635.00				MinPt-CtCt	
	1716.09	254.87	1545.35	1461.22	10.19	OSF1.50	17870.00	10635.00				MINPT-O-EOU	
	1719.02	258.89	1545.59	1460.12	10.04	OSF1.50	18010.00	10635.00				MINPT-O-EOU	
	1721.09	261.33	1546.04	1459.77	9.96	OSF1.50	18100.00	10635.00				MinPt-O-ADP	
	1732.83	284.37	1542.42	1448.46	9.21	OSF1.50	18820.00	10635.00				MinPt-CtCt	
	1732.20	290.19	1537.91	1442.01	9.02	OSF1.50	19010.00	10635.00				MinPt-CtCt	
	1731.21	298.20	1531.58	1433.01	8.77	OSF1.50	19270.00	10635.00				MinPt-CtCt	
	1731.02	303.12	1528.10	1427.90	8.62	OSF1.50	19430.00	10635.00				MinPt-CtCt	
	1731.23	316.17	1519.62	1415.06	8.27	OSF1.50	19850.00	10635.00				MinPt-CtCt	
	1730.50	330.81	1509.13	1399.70	7.90	OSF1.50	20320.00	10635.00				MinPt-CtCt	
	1730.42	341.68	1501.80	1388.74	7.64	OSF1.50	20670.00	10635.00				MinPts	
	1730.47	341.74	1501.81	1388.73	7.64	OSF1.50	20680.00	10635.00				MinPt-O-ADP	
	1730.73	341.83	1502.01	1388.90	7.64	OSF1.50	20700.00	10635.00				MinPt-O-SF	
	1747.53	341.05	1519.32	1406.47	7.73	OSF1.50	20910.88	10635.00				TD	
Cimarex Red Hills Unit 36H Corrected MWD to 22502ft (DefinitiveSurvey)													Warning Alert
	1414.82	32.81	1413.12	1382.01	5799927.49	MAS = 10.00 (m)	0.00	0.00				MinPts	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	1414.84	32.81	1413.09	1382.03	28456.84	MAS = 10.00 (m)	23.00	23.00				WRP	
	229.76	70.32	182.35	159.44	4.98	OSF1.50	4580.00	4504.61	OSF<5.00			Enter Alert	
	196.76	77.35	144.67	119.41	3.86	OSF1.50	4860.00	4776.87				MinPt-CtCt	
	196.82	77.50	144.63	119.31	3.86	OSF1.50	4870.00	4786.60				MINPT-O-EOU	
	196.96	77.65	144.67	119.31	3.85	OSF1.50	4880.00	4796.32				MinPt-O-ADP	
	197.20	77.79	144.82	119.41	3.85	OSF1.50	4890.00	4806.05				MinPt-O-SF	
	257.96	79.09	204.71	178.87	4.96	OSF1.50	5240.00	5146.38	OSF>5.00			Exit Alert	
	1222.63	116.16	1144.67	1106.47	15.98	OSF1.50	8120.00	7979.71				MinPt-O-SF	
	1361.67	124.31	1278.28	1237.36	16.62	OSF1.50	8740.00	8599.71				MinPt-O-SF	
	1534.12	150.31	1433.39	1383.81	15.46	OSF1.50	10200.00	10059.71				MINPT-O-EOU	
	1534.83	151.14	1433.54	1383.68	15.38	OSF1.50	10280.00	10139.24				MinPt-O-ADP	
	1542.89	152.72	1440.55	1390.17	15.30	OSF1.50	10520.00	10360.58				MinPt-O-SF	
	2647.61	150.12	2547.04	2497.48	26.70	OSF1.50	12840.00	10635.00				MINPT-O-EOU	
	2647.91	150.50	2547.09	2497.41	26.64	OSF1.50	12870.00	10635.00				MinPt-O-ADP	
	2651.98	153.97	2548.85	2498.01	26.07	OSF1.50	13100.00	10635.00				MinPt-O-ADP	
	2663.62	164.68	2553.34	2498.93	24.46	OSF1.50	13710.00	10635.00				MinPt-CtCt	
	2663.62	166.91	2551.87	2496.72	24.14	OSF1.50	13830.00	10635.00				MinPt-CtCt	
	2664.54	170.37	2550.47	2494.17	23.65	OSF1.50	14010.00	10635.00				MinPt-CtCt	
	2664.96	171.67	2550.03	2493.29	23.47	OSF1.50	14090.00	10635.00				MINPT-O-EOU	
	2665.52	172.33	2550.15	2493.20	23.39	OSF1.50	14130.00	10635.00				MinPt-O-ADP	
	2666.09	175.40	2548.67	2490.69	22.98	OSF1.50	14260.00	10635.00				MinPt-CtCt	
	2666.31	176.60	2548.09	2489.71	22.82	OSF1.50	14330.00	10635.00				MINPT-O-EOU	
	2666.69	177.05	2548.17	2489.63	22.77	OSF1.50	14360.00	10635.00				MinPt-O-ADP	
	2660.30	191.93	2531.86	2468.37	20.94	OSF1.50	15020.00	10635.00				MinPt-CtCt	
	2660.51	192.55	2531.66	2467.96	20.87	OSF1.50	15060.00	10635.00				MINPT-O-EOU	
	2656.94	200.76	2522.61	2456.17	19.99	OSF1.50	15400.00	10635.00				MinPt-CtCt	
	2652.19	210.98	2511.05	2441.21	18.98	OSF1.50	15820.00	10635.00				MinPt-CtCt	
	2652.39	211.63	2510.82	2440.76	18.92	OSF1.50	15860.00	10635.00				MINPT-O-EOU	
	2652.64	211.95	2510.85	2440.69	18.89	OSF1.50	15880.00	10635.00				MinPt-O-ADP	
	2658.21	216.44	2513.43	2441.77	18.54	OSF1.50	16050.00	10635.00				MINPT-O-EOU	
	2658.65	216.99	2513.51	2441.67	18.49	OSF1.50	16080.00	10635.00				MinPt-O-ADP	
	2660.39	226.58	2508.85	2433.81	17.72	OSF1.50	16420.00	10635.00				MinPt-CtCt	
	2658.38	235.63	2500.80	2422.74	17.02	OSF1.50	16770.00	10635.00				MinPt-CtCt	
	2659.04	237.49	2500.23	2421.55	16.89	OSF1.50	16860.00	10635.00				MINPT-O-EOU	
	2645.47	257.33	2473.43	2388.14	15.50	OSF1.50	17580.00	10635.00				MinPt-CtCt	
	2646.08	260.65	2471.83	2385.43	15.31	OSF1.50	17700.00	10635.00				MinPt-CtCt	
	2646.71	266.57	2468.51	2380.14	14.97	OSF1.50	17910.00	10635.00				MinPt-CtCt	
	2647.19	267.98	2468.05	2379.21	14.89	OSF1.50	17980.00	10635.00				MINPT-O-EOU	
	2647.69	268.57	2468.15	2379.11	14.86	OSF1.50	18010.00	10635.00				MinPt-O-ADP	
	2650.05	273.94	2466.94	2376.11	14.58	OSF1.50	18170.00	10635.00				MinPt-CtCt	
	2650.52	275.36	2466.46	2375.16	14.51	OSF1.50	18240.00	10635.00				MINPT-O-EOU	
	2651.01	275.96	2466.55	2375.05	14.48	OSF1.50	18270.00	10635.00				MinPt-O-ADP	
	2657.90	285.89	2466.82	2372.01	14.01	OSF1.50	18590.00	10635.00				MinPt-CtCt	
	2655.46	295.14	2458.21	2360.32	13.56	OSF1.50	18910.00	10635.00				MinPt-CtCt	
	2655.24	298.29	2455.90	2356.95	13.41	OSF1.50	19020.00	10635.00				MinPt-CtCt	
	2655.56	299.19	2455.62	2356.37	13.37	OSF1.50	19070.00	10635.00				MINPT-O-EOU	
	2655.87	299.54	2455.69	2356.33	13.36	OSF1.50	19090.00	10635.00				MinPt-O-ADP	
	2653.17	312.94	2444.06	2340.23	12.77	OSF1.50	19530.00	10635.00				MinPt-CtCt	
	2653.63	314.39	2443.55	2339.24	12.71	OSF1.50	19600.00	10635.00				MINPT-O-EOU	
	2653.54	317.91	2441.11	2335.62	12.57	OSF1.50	19700.00	10635.00				MinPt-CtCt	
	2653.96	319.08	2440.75	2334.88	12.53	OSF1.50	19760.00	10635.00				MINPT-O-EOU	
	2654.28	319.46	2440.82	2334.82	12.51	OSF1.50	19780.00	10635.00				MinPt-O-ADP	
	2651.11	326.07	2433.25	2325.04	12.24	OSF1.50	19980.00	10635.00				MinPt-CtCt	
	2651.29	326.55	2433.11	2324.74	12.23	OSF1.50	20010.00	10635.00				MINPT-O-EOU	
	2651.57	326.87	2433.17	2324.70	12.22	OSF1.50	20030.00	10635.00				MinPt-O-ADP	
	2660.27	337.80	2434.58	2322.47	11.86	OSF1.50	20370.00	10635.00				MinPt-CtCt	
	2654.76	353.96	2418.30	2300.80	11.29	OSF1.50	20910.88	10635.00				MinPts	
Cimarex Red Hills Unit 38H Corrected MWD to 22352ft (DefinitiveSurvey)													Warning Alert
	1454.36	32.81	1453.03	1421.58	3632921.13	MAS = 10.00 (m)	0.00	0.00				MinPts	
	1454.39	32.81	1453.01	1421.58	29672.46	MAS = 10.00 (m)	23.00	23.00				WRP	
	1454.61	32.81	1452.92	1421.80	4041.43	MAS = 10.00 (m)	90.00	90.00				MINPT-O-EOU	
	1454.98	32.81	1452.87	1422.17	1857.53	MAS = 10.00 (m)	150.00	150.00				MINPT-O-EOU	
	1456.56	32.81	1452.89	1423.75	619.88	MAS = 10.00 (m)	320.00	320.00				MINPT-O-EOU	
	269.32	82.03	214.11	187.29	4.99	OSF1.50	5380.00	5282.52	OSF<5.00			Enter Alert	
	198.91	94.27	135.54	104.64	3.19	OSF1.50	5870.00	5758.99				MinPt-CtCt	
	198.97	94.39	135.52	104.58	3.19	OSF1.50	5880.00	5768.71				MinPts	
	199.31	94.61	135.71	104.70	3.19	OSF1.50	5900.00	5788.16				MinPt-O-SF	
	314.97	96.09	250.39	218.88	4.97	OSF1.50	6520.00	6391.04	OSF>5.00			Exit Alert	
	509.24	112.55	433.68	396.69	6.86	OSF1.50	7760.00	7619.71				MINPT-O-EOU	
	511.01	115.19	433.69	395.82	6.73	OSF1.50	7950.00	7809.71				MINPT-O-EOU	
	517.16	123.33	434.42	393.83	6.35	OSF1.50	8530.00	8389.71				MINPT-O-EOU	
	505.22	145.07	408.01	360.17	5.26	OSF1.50	10080.00	9939.71				MinPt-CtCt	
	489.81	148.05	390.59	341.77	5.00	OSF1.50	10490.00	10335.20	OSF<5.00			Enter Alert	
	486.43	148.26	387.07	338.17	4.96	OSF1.50	10590.00	10416.29				MinPts	
	486.46	148.30	387.08	338.18	4.96	OSF1.50	10600.00	10423.81				MinPt-O-ADP	
	486.58	148.34	387.16	338.24	4.96	OSF1.50	10610.00	10431.22				MinPt-O-SF	
	492.34	148.90	392.55	343.44	5.00	OSF1.50	10700.00	10492.28	OSF>5.00			Exit Alert	
	2018.80	128.58	1932.60	1890.22	23.80	OSF1.50	12680.00	10635.00				MinPt-CtCt	
	2018.95	129.05	1932.44	1889.91	23.72	OSF1.50	12720.00	10635.00				MINPT-O-EOU	
	2019.15	129.29	1932.47	1889.86	23.68	OSF1.50	12740.00	10635.00				MinPt-O-ADP	
	2014.70	136.50	1923.22	1878.20	22.36	OSF1.50	13160.00	10635.00				MinPt-CtCt	
	2014.80	136.86	1923.08	1877.94	22.30	OSF1.50	13190.00	10635.00				MINPT-O-EOU	
	2015.00	137.10	1923.12	1877.90	22.27	OSF1.50	13210.00	10635.00				MinPt-O-ADP	
	2016.05	142.37	1920.65	1873.68	21.44	OSF1.50	13470.00	10635.00				MinPt-CtCt	
	2014.49	146.69	1916.21	1867.80	20.79	OSF1.50	13690.00	10635.00				MinPt-CtCt	
	2014.64	147.08	1916.10	1867.56	20.74	OSF1.50	13720.00	10635.00				MINPT-O-EOU	
	2014.75	147.21	1916.12	1867.54	20.72	OSF1.50	13730.00	10635.00				MinPt-O-ADP	
	1989.49	176.95	1871.03	1812.54	16.99	OSF1.50	15040.00	10635.00				MinPt-CtCt	
	1989.86	178.06	1870.66	1811.79	16.89	OSF1.50	15100.00	10635.00				MINPT-O-EOU	
	1994.63	188.84	1868.25	1805.79	15.96	OSF1.50	15500.00	10635.00				MinPt-CtCt	
	1994.84	189.50	1868.02	1805.34	15.90	OSF1.50	15540.00	10635.00				MINPT-O-EOU	
	1995.11	189.84	1868.07	1805.27	15.87	OSF1.50	15560.00	10635.00				MinPt-O-ADP	
	1999.64	193.86	1869.92	1805.78	15.58	OSF1.50	15710.00	10635.00				MINPT-O-EOU	
	2000.05	194.29	1870.04	1805.76	15.55	OSF1.50	15730.00	10635.00				MinPt-O-ADP	
	2005.04	202.39	1869.62	1802.65	14.96	OSF1.50	15990.00	10635.00				MinPt-CtCt	
	2005.37	203.28	1869.36	1802.09	14.89	OSF1.50	16040.00	10635.00				MINPT-O-EOU	
	2005.68	203.64	1869.43	1802.03	14.87	OSF1.50	16060.00	10635.00				MinPt-O-ADP	
	1992.64	241.44	1831.19	1751.20	12.45	OSF1.50	17390.00	10635.00				MinPt-CtCt	
	1986.11	267.01	1807.62	1719.10	11.21	OSF1.50	18270.00	10635.00				MinPt-CtCt	
	1986.83	271.77	1805.17	1715.07	11.02	OSF1.50	18430.00	10635.00				MinPt-CtCt	
	1986.15	289.17	1792.88	1696.98	10.35	OSF1.50	19010.00	10635.00				MinPt-CtCt	
	1986.55	294.58	1789.68	1691.97	10.16	OSF1.50	19190.00	10635.00				MinPt-CtCt	
	1987.51	297.16	1788.91	1690.35	10.07	OSF1.50	19300.00	10635.00				MINPT-O-EOU	
	1988.97	298.89	1789.23	1690.09	10.02	OSF1.50	19370.00	10635.00				MinPt-O-ADP	
	1989.28	303.65	1786.36	1685.63	9.87	OSF1.50	19490.00	10635.00				MinPt-CtCt	
	1989.71	304.88	1785.99	1684.84	9.83	OSF1.50	19550.00	10635.00				MINPT-O-EOU	
	1991.43	309.10	1784.88	1682.33	9.70	OSF1.50	19690.00	10635.00				MINPT-O-EOU	
	1992.16	309.97	1785.03	1682.19	9.68	OSF1.50	19730.00	10635.00				MinPt-O-ADP	
	1976.72	327.32	1758.02	1649.40	9.09	OSF1.50	20270.00	10635.00				MinPt-CtCt	
	1977.70	330.29	1757.02	1647.41	9.01	OSF1.50	20390.00	10635.00				MINPT-O-EOU	
	1978.91	331.76	1757.25	1647.14	8.98	OSF1.50	20450.00	10635.00				MinPt-O-ADP	
	1982.80	337.41	1757.38	1645.40	8.85	OSF1.50	20620.00	10635.00				MINPT-O-EOU	
	1985.27	340.31	1757.91	1644.95	8.78	OSF1.50	20730.00	10635.00				MinPt-O-ADP	
	1990.77	346.29	1759.42	1644.48	8.65	OSF1.50	20910.88	10635.00				MinPts	
Cimarex Red Hills Unit 37H Corrected MWD to 22280ft (DefinitiveSurvey)													Warning Alert
	1434.59	32.81	1432.89	1401.78	4595505.48	MAS = 10.00 (m)	0.00	0.00				MinPts	
	1434.61	32.81	1432.86	1401.80	28799.55	MAS = 10.00 (m)	23.00	23.00				WRP	
	1437.59	32.81	1431.95	1404.78	364.46	MAS = 10.00 (m)	480.00	480.00				MINPT-O-EOU	
	1437.71	32.81	1428.54	1404.90	192.17	MAS = 10.00 (m)	830.00	830.00				MinPts	
	253.20	77.38	201.09	175.82	4.98	OSF1.50	5010.00	4922.73	OSF<5.00			Enter Alert	
	218.62	84.80	161.57	133.82	3.91	OSF1.50	5320.00	5224.17				MinPt-CtCt	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	218.72	85.09	161.47	133.63	3.90	OSF1.50	5340.00	5243.62				MinPts	
	219.11	85.35	161.69	133.76	3.89	OSF1.50	5360.00	5263.07				MinPt-O-SF	
	284.92	86.89	226.47	198.03	4.98	OSF1.50	5770.00	5661.75	OSF>5.00			Exit Alert	
	1059.55	139.82	965.82	919.74	11.48	OSF1.50	9630.00	9489.71				MinPt-CtCt	
	1059.96	141.14	965.35	918.83	11.37	OSF1.50	9730.00	9589.71				MINPT-O-EOU	
	1060.40	141.66	965.44	918.74	11.34	OSF1.50	9770.00	9629.71				MinPt-O-ADP	
	1067.92	147.81	968.86	920.11	10.94	OSF1.50	10200.00	10059.71				MinPt-O-ADP	
	1068.95	149.45	968.80	919.50	10.83	OSF1.50	10370.00	10226.40				MINPT-O-EOU	
	1069.00	149.50	968.81	919.50	10.82	OSF1.50	10380.00	10235.84				MinPt-O-ADP	
	1071.48	150.12	970.88	921.36	10.80	OSF1.50	10490.00	10335.20				MinPt-O-SF	
	2169.06	138.94	2075.94	2030.12	23.65	OSF1.50	12550.00	10635.00				MinPt-CtCt	
	2170.72	144.50	2073.90	2026.22	22.75	OSF1.50	12940.00	10635.00				MINPT-O-EOU	
	2171.29	145.21	2074.00	2026.09	22.64	OSF1.50	12990.00	10635.00				MinPt-O-ADP	
	2173.85	149.95	2073.40	2023.90	21.95	OSF1.50	13260.00	10635.00				MinPt-CtCt	
	2165.53	158.12	2059.63	2007.41	20.72	OSF1.50	13710.00	10635.00				MinPt-CtCt	
	2165.69	158.50	2059.64	2007.19	20.67	OSF1.50	13740.00	10635.00				MINPT-O-EOU	
	2165.81	158.63	2059.57	2007.18	20.66	OSF1.50	13750.00	10635.00				MinPt-O-ADP	
	2168.26	161.28	2060.26	2006.98	20.34	OSF1.50	13870.00	10635.00				MinPt-CtCt	
	2168.75	162.63	2059.85	2006.13	20.17	OSF1.50	13950.00	10635.00				MINPT-O-EOU	
	2169.35	163.31	2059.99	2006.04	20.09	OSF1.50	13990.00	10635.00				MinPt-O-ADP	
	2152.72	180.64	2031.81	1972.08	18.01	OSF1.50	14780.00	10635.00				MinPt-CtCt	
	2147.73	191.88	2019.32	1955.85	16.91	OSF1.50	15260.00	10635.00				MinPt-CtCt	
	2150.96	203.42	2014.86	1947.54	15.96	OSF1.50	15740.00	10635.00				MINPT-O-EOU	
	2153.23	207.58	2014.36	1945.66	15.66	OSF1.50	15900.00	10635.00				MINPT-O-EOU	
	2156.61	212.51	2014.45	1944.10	15.32	OSF1.50	16090.00	10635.00				MINPT-O-EOU	
	2159.12	246.55	1994.27	1912.58	13.21	OSF1.50	17330.00	10635.00				MinPt-CtCt	
	2160.11	252.12	1991.55	1907.99	12.92	OSF1.50	17550.00	10635.00				MINPT-O-EOU	
	2154.45	270.59	1973.57	1883.86	12.00	OSF1.50	18180.00	10635.00				MinPt-CtCt	
	2154.39	275.18	1970.45	1879.21	11.80	OSF1.50	18340.00	10635.00				MinPt-CtCt	
	2153.01	282.40	1964.26	1870.61	11.49	OSF1.50	18590.00	10635.00				MinPt-CtCt	
	2153.78	284.69	1963.50	1869.09	11.40	OSF1.50	18690.00	10635.00				MINPT-O-EOU	
	2149.66	293.40	1953.57	1856.26	11.04	OSF1.50	18970.00	10635.00				MinPt-CtCt	
	2152.82	309.92	1945.72	1842.90	10.46	OSF1.50	19530.00	10635.00				MinPt-CtCt	
	2151.29	317.29	1939.27	1833.99	10.21	OSF1.50	19780.00	10635.00				MinPt-CtCt	
	2149.29	322.06	1934.09	1827.23	10.05	OSF1.50	19940.00	10635.00				MinPt-CtCt	
	2149.63	323.01	1933.80	1826.62	10.02	OSF1.50	19990.00	10635.00				MINPT-O-EOU	
	2149.95	323.38	1933.88	1826.57	10.01	OSF1.50	20010.00	10635.00				MinPt-O-ADP	
	2151.52	327.48	1932.71	1824.04	9.89	OSF1.50	20140.00	10635.00				MINPT-O-EOU	
	2152.05	328.11	1932.82	1823.93	9.88	OSF1.50	20170.00	10635.00				MinPt-O-ADP	
	2159.39	334.68	1935.78	1824.71	9.71	OSF1.50	20390.00	10635.00				MINPT-O-EOU	
	2159.04	351.48	1924.23	1807.56	9.25	OSF1.50	20910.88	10635.00				MinPts	
Cimarex Red Hills Unit 5H Gyro to 12608ft (DefinitiveSurvey)													Warning Alert
	1783.47	32.81	1780.97	1750.66	7950889.68	MAS = 10.00 (m)	0.00	0.00				MinPts	
	1783.49	32.81	1780.97	1750.68	95171.77	MAS = 10.00 (m)	23.00	23.00				WRP	
	1555.81	82.22	1500.16	1473.59	29.23	OSF1.50	4920.00	4835.22				MinPt-CtCt	
	1558.00	90.14	1497.07	1467.86	26.62	OSF1.50	5350.00	5253.35				MINPT-O-EOU	
	1561.46	94.16	1497.85	1467.29	25.51	OSF1.50	5570.00	5467.27				MinPt-O-ADP	
	1666.20	153.66	1562.92	1512.54	16.51	OSF1.50	9560.00	9419.71				MINPT-O-EOU	
	1666.39	153.89	1562.96	1512.50	16.49	OSF1.50	9580.00	9439.71				MinPt-O-ADP	
	1667.77	155.21	1563.46	1512.56	16.36	OSF1.50	9680.00	9539.71				MinPt-O-ADP	
	1677.14	161.26	1568.60	1515.88	15.82	OSF1.50	10120.00	9979.71				MINPT-O-EOU	
	531.84	162.09	422.95	369.75	4.98	OSF1.50	11880.00	10635.00	OSF<5.00			Enter Alert	
	441.72	161.46	333.24	280.26	4.14	OSF1.50	12200.00	10635.00				MinPt-CtCt	
	441.77	161.55	333.24	280.22	4.14	OSF1.50	12210.00	10635.00				MinPts	
	442.02	161.64	333.42	280.37	4.14	OSF1.50	12220.00	10635.00				MinPt-O-SF	
	541.88	165.87	430.46	376.01	4.95	OSF1.50	12540.00	10635.00	OSF>5.00			Exit Alert	
	8685.32	179.82	8564.60	8505.50	73.45	OSF1.50	20910.88	10635.00				TD	
Cimarex Red Hills Unit 16H Corrected MWD to 18723ft (DefinitiveSurvey)													Warning Alert
	1346.94	32.81	1344.44	1314.14	5427446.87	MAS = 10.00 (m)	0.00	0.00				Surface	
	1346.93	32.81	1344.37	1314.12	23581.16	MAS = 10.00 (m)	23.00	23.00				WRP	
	1330.32	32.81	1315.91	1297.51	111.43	MAS = 10.00 (m)	1270.00	1270.00				MinPts	
	443.90	122.38	361.48	321.53	5.52	OSF1.50	7200.00	7059.83				MinPt-CtCt	
	444.43	123.91	361.00	320.53	5.46	OSF1.50	7310.00	7169.72				MINPT-O-EOU	
	445.18	124.82	361.14	320.38	5.43	OSF1.50	7379.81	7239.52				MinPt-O-ADP	
	454.95	134.55	364.42	320.40	5.14	OSF1.50	8140.00	7999.71				MINPT-O-EOU	
	457.52	137.66	364.92	319.87	5.05	OSF1.50	8380.00	8239.71				MinPt-O-ADP	
	459.81	139.75	365.81	320.06	5.00	OSF1.50	8540.00	8399.71	OSF<5.00			Enter Alert	
	465.04	143.64	368.45	321.41	4.92	OSF1.50	8840.00	8699.71				MinPt-O-SF	
	472.71	143.92	375.93	328.79	4.99	OSF1.50	8940.00	8799.71	OSF>5.00			Exit Alert	
	1397.81	87.04	1338.94	1310.76	24.76	OSF1.50	11580.00	10635.00				MinPt-CtCt	
	1397.87	87.18	1338.92	1310.69	24.72	OSF1.50	11600.00	10635.00				MINPT-O-EOU	
	1397.93	87.25	1338.93	1310.68	24.70	OSF1.50	11610.00	10635.00				MinPt-O-ADP	
	1400.96	92.55	1338.43	1308.41	23.30	OSF1.50	12100.00	10635.00				MinPt-CtCt	
	1399.14	97.34	1333.41	1301.79	22.09	OSF1.50	12400.00	10635.00				MinPt-CtCt	
	1399.86	99.31	1332.83	1300.56	21.65	OSF1.50	12510.00	10635.00				MINPT-O-EOU	
	1399.19	102.36	1330.12	1296.83	20.98	OSF1.50	12670.00	10635.00				MinPt-CtCt	
	1399.02	105.99	1327.53	1293.03	20.24	OSF1.50	12850.00	10635.00				MinPt-CtCt	
	1398.83	109.61	1324.93	1289.22	19.56	OSF1.50	13020.00	10635.00				MinPt-CtCt	
	1398.68	114.29	1321.65	1284.39	18.73	OSF1.50	13230.00	10635.00				MinPt-CtCt	
	1396.94	120.42	1315.83	1276.52	17.74	OSF1.50	13490.00	10635.00				MinPt-CtCt	
	1397.21	125.08	1312.99	1272.13	17.07	OSF1.50	13680.00	10635.00				MinPt-CtCt	
	1390.71	137.97	1297.89	1252.74	15.37	OSF1.50	14180.00	10635.00				MinPt-CtCt	
	1391.60	140.26	1297.26	1251.34	15.13	OSF1.50	14270.00	10635.00				MINPT-O-EOU	
	1395.00	145.11	1297.42	1249.89	14.65	OSF1.50	14450.00	10635.00				MINPT-O-EOU	
	1396.32	146.69	1297.70	1249.63	14.50	OSF1.50	14510.00	10635.00				MinPt-O-ADP	
	1398.08	159.72	1290.77	1238.36	13.32	OSF1.50	14970.00	10635.00				MinPt-CtCt	
	1398.67	168.85	1285.27	1229.82	12.59	OSF1.50	15290.00	10635.00				MinPt-CtCt	
	1399.63	176.39	1281.20	1223.24	12.05	OSF1.50	15550.00	10635.00				MinPt-CtCt	
	1395.51	194.20	1265.21	1201.31	10.90	OSF1.50	16150.00	10635.00				MinPt-CtCt	
	1397.18	201.39	1262.09	1195.79	10.52	OSF1.50	16390.00	10635.00				MinPt-CtCt	
	1400.83	221.74	1252.17	1179.09	9.57	OSF1.50	17060.00	10635.00				MinPt-CtCt	
	1400.98	228.79	1247.62	1172.19	9.27	OSF1.50	17290.00	10635.00				MinPt-CtCt	
	1399.96	235.88	1241.88	1164.09	8.98	OSF1.50	17520.00	10635.00				MinPt-CtCt	
	1400.47	237.50	1241.30	1162.97	8.92	OSF1.50	17580.00	10635.00				MINPT-O-EOU	
	1401.14	238.30	1241.44	1162.84	8.90	OSF1.50	17610.00	10635.00				MinPt-O-ADP	
	1403.36	247.97	1237.21	1155.39	8.56	OSF1.50	17910.00	10635.00				MinPt-CtCt	
	1403.92	249.62	1236.68	1154.30	8.51	OSF1.50	17970.00	10635.00				MINPT-O-EOU	
	1404.60	250.43	1236.81	1154.17	8.48	OSF1.50	18000.00	10635.00				MinPt-O-ADP	
	1410.12	258.34	1237.06	1151.78	8.25	OSF1.50	18250.00	10635.00				MINPT-O-EOU	
	1412.34	277.46	1226.53	1134.88	7.69	OSF1.50	18850.00	10635.00				MinPt-CtCt	
	1412.90	279.42	1225.79	1133.48	7.64	OSF1.50	18920.00	10635.00				MINPT-O-EOU	
	1392.38	319.83	1178.32	1072.55	6.57	OSF1.50	20190.00	10635.00				MinPt-CtCt	
	1400.45	335.64	1175.85	1064.80	6.29	OSF1.50	20690.00	10635.00				MinPts	
	1402.73	336.63	1177.48	1066.10	6.29	OSF1.50	20750.00	10635.00				MinPt-O-SF	
	1421.40	337.12	1195.82	1084.28	6.36	OSF1.50	20910.88	10635.00				TD	
Cimarex Red Hills Unit #101H Corrected MWD Surveys to 22039ft MD (DefinitiveSurvey)													Pass
	1086.83	32.81	1085.14	1054.02	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1086.77	32.81	1085.07	1053.96	184297.30	MAS = 10.00 (m)	23.00	23.00				WRP	
	1055.43	32.81	1041.35	1022.62	84.24	MAS = 10.00 (m)	1480.00	1479.99				MinPts	
	1055.55	32.81	1041.25	1022.74	82.76	MAS = 10.00 (m)	1510.00	1509.97				MINPT-O-EOU	
	2088.47	109.92	2014.67	1978.55	28.89	OSF1.50	7710.00	7569.71				MinPt-CtCt	
	2088.45	111.72	2013.45	1976.73	28.42	OSF1.50	7840.00	7699.71				MinPt-CtCt	
	2082.04	132.66	1993.08	1949.38	23.81	OSF1.50	9320.00	9179.71				MinPt-CtCt	
	2082.99	135.00	1992.47	1947.99	23.40	OSF1.50	9500.00	9359.71				MINPT-O-EOU	
	2083.95	136.16	1992.65	1947.79	23.21	OSF1.50	9590.00	9449.71				MinPt-O-ADP	
	2086.26	146.20	1988.27	1940.06	21.62	OSF1.50	10280.00	10139.24				MinPt-CtCt	
	2086.35	146.60	1988.09	1939.75	21.56	OSF1.50	10320.00	10178.40				MINPT-O-EOU	
	2086.40	146.66	1988.11	1939.74	21.55	OSF1.50	10330.00	10188.10				MinPt-O-ADP	
	2100.11	148.89	2000.33	1951.22	21.37	OSF1.50	10640.00	10452.71				MinPt-O-SF	
	2957.09	162.18	2848.47	2794.90	27.59	OSF1.50	12990.00	10635.00				MinPt-CtCt	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	2957.20	162.46	2848.40	2794.74	27.54	OSF1.50	13020.00	10635.00				MINPT-O-EOU	
	2957.59	162.92	2848.49	2794.67	27.47	OSF1.50	13060.00	10635.00				MinPt-O-ADP	
	2985.64	176.70	2867.35	2808.95	25.55	OSF1.50	13900.00	10635.00				MINPT-O-EOU	
	2971.36	191.71	2843.06	2779.65	23.42	OSF1.50	14660.00	10635.00				MinPt-CtCt	
	2971.90	193.14	2842.64	2778.75	23.25	OSF1.50	14750.00	10635.00				MINPT-O-EOU	
	2972.62	194.00	2842.79	2778.62	23.15	OSF1.50	14800.00	10635.00				MinPt-O-ADP	
	2973.05	198.51	2840.22	2774.54	22.62	OSF1.50	14980.00	10635.00				MinPt-CtCt	
	2973.89	202.85	2838.16	2771.04	22.14	OSF1.50	15200.00	10635.00				MINPT-O-EOU	
	2975.28	207.43	2836.50	2767.85	21.66	OSF1.50	15380.00	10635.00				MinPt-CtCt	
	2975.53	208.15	2836.27	2767.38	21.59	OSF1.50	15430.00	10635.00				MINPT-O-EOU	
	2975.77	208.44	2836.32	2767.33	21.56	OSF1.50	15450.00	10635.00				MinPt-O-ADP	
	2978.55	212.51	2836.39	2766.04	21.16	OSF1.50	15600.00	10635.00				MinPt-CtCt	
	2978.96	213.71	2835.99	2765.25	21.04	OSF1.50	15670.00	10635.00				MINPT-O-EOU	
	2979.35	214.22	2836.05	2765.14	21.00	OSF1.50	15700.00	10635.00				MinPt-O-ADP	
	2983.94	221.87	2835.53	2762.06	20.30	OSF1.50	15990.00	10635.00				MinPt-CtCt	
	2984.15	222.60	2835.26	2761.55	20.23	OSF1.50	16040.00	10635.00				MINPT-O-EOU	
	2984.39	222.90	2835.30	2761.49	20.21	OSF1.50	16060.00	10635.00				MinPt-O-ADP	
	2952.07	249.71	2785.10	2702.36	17.83	OSF1.50	17100.00	10635.00				MinPt-CtCt	
	2952.25	250.31	2784.88	2701.94	17.79	OSF1.50	17140.00	10635.00				MINPT-O-EOU	
	2952.62	250.76	2784.96	2701.87	17.76	OSF1.50	17170.00	10635.00				MinPt-O-ADP	
	2963.07	261.34	2788.35	2701.73	17.10	OSF1.50	17540.00	10635.00				MinPt-CtCt	
	2963.61	262.58	2788.06	2701.03	17.02	OSF1.50	17610.00	10635.00				MINPT-O-EOU	
	2964.25	263.35	2788.19	2700.90	16.97	OSF1.50	17650.00	10635.00				MinPt-O-ADP	
	2967.62	270.67	2786.68	2696.95	16.53	OSF1.50	17890.00	10635.00				MinPt-CtCt	
	2968.78	273.09	2786.23	2695.69	16.39	OSF1.50	18010.00	10635.00				MINPT-O-EOU	
	2971.81	277.35	2786.42	2694.46	16.15	OSF1.50	18170.00	10635.00				MINPT-O-EOU	
	2972.00	277.55	2786.47	2694.45	16.14	OSF1.50	18180.00	10635.00				MinPt-O-ADP	
	2971.70	292.70	2776.07	2679.00	15.30	OSF1.50	18690.00	10635.00				MinPt-CtCt	
	2972.33	294.51	2775.50	2677.82	15.21	OSF1.50	18780.00	10635.00				MINPT-O-EOU	
	2972.99	295.31	2775.63	2677.68	15.17	OSF1.50	18820.00	10635.00				MinPt-O-ADP	
	2974.38	298.56	2774.85	2675.82	15.01	OSF1.50	18920.00	10635.00				MINPT-O-EOU	
	2974.81	299.09	2774.92	2675.72	14.99	OSF1.50	18950.00	10635.00				MinPt-O-ADP	
	2986.64	307.02	2781.46	2679.61	14.66	OSF1.50	19240.00	10635.00				MINPT-O-EOU	
	2988.14	309.19	2781.52	2678.95	14.56	OSF1.50	19310.00	10635.00				MINPT-O-EOU	
	2990.18	311.97	2781.71	2678.22	14.44	OSF1.50	19410.00	10635.00				MinPt-O-ADP	
	2995.21	322.64	2779.62	2672.57	13.98	OSF1.50	19740.00	10635.00				MinPt-CtCt	
	2996.68	326.31	2778.64	2670.37	13.83	OSF1.50	19900.00	10635.00				MINPT-O-EOU	
	2995.03	342.59	2766.14	2652.44	13.16	OSF1.50	20430.00	10635.00				MinPt-CtCt	
	2997.25	350.54	2763.06	2646.71	12.87	OSF1.50	20700.00	10635.00				MinPt-CtCt	
	2998.05	356.12	2760.15	2641.93	12.67	OSF1.50	20910.88	10635.00				MinPts	
Cimarex Red Hills Unit #100H Corrected MWD to 22283ft MD (DefinitiveSurvey)													Pass
	1106.74	32.81	1105.04	1073.93	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1106.69	32.81	1104.99	1073.88	1032536.86	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1106.69	32.81	1104.99	1073.88	453841.47	MAS = 10.00 (m)	23.00	23.00				WRP	
	1103.09	32.81	1097.65	1070.28	294.35	MAS = 10.00 (m)	450.00	450.00				MinPts	
	1103.23	32.81	1097.53	1070.42	275.26	MAS = 10.00 (m)	480.00	480.00				MINPT-O-EOU	
	1108.72	32.81	1097.41	1075.91	115.23	MAS = 10.00 (m)	1040.00	1040.00				MINPT-O-EOU	
	1104.37	32.81	1090.64	1071.57	90.57	MAS = 10.00 (m)	1440.00	1440.00				MinPts	
	1104.46	32.81	1090.58	1071.65	89.53	MAS = 10.00 (m)	1460.00	1460.00				MINPT-O-EOU	
	1521.97	43.25	1492.62	1478.72	54.71	OSF1.50	3370.00	3328.02				MinPt-O-SF	
	2618.33	141.31	2523.60	2477.02	28.09	OSF1.50	9980.00	9839.71				MinPt-CtCt	
	2618.45	141.71	2523.46	2476.74	28.01	OSF1.50	10020.00	9879.71				MINPT-O-EOU	
	2618.62	141.91	2523.49	2476.71	27.97	OSF1.50	10040.00	9899.71				MinPt-O-ADP	
	2621.00	144.47	2524.17	2476.53	27.49	OSF1.50	10210.00	10069.70				MINPT-O-EOU	
	2621.30	144.84	2524.22	2476.46	27.43	OSF1.50	10240.00	10099.61				MinPt-O-ADP	
	2640.61	147.55	2541.72	2493.06	27.12	OSF1.50	10610.00	10431.22				MinPt-O-SF	
	3502.57	159.88	3395.49	3342.69	33.15	OSF1.50	12780.00	10635.00				MinPt-O-ADP	
	3509.20	163.04	3400.02	3346.16	32.57	OSF1.50	13020.00	10635.00				MinPts	
	3514.48	166.84	3402.76	3347.64	31.87	OSF1.50	13280.00	10635.00				MINPT-O-EOU	
	3514.60	166.97	3402.80	3347.63	31.84	OSF1.50	13290.00	10635.00				MinPt-O-ADP	
	3517.86	170.10	3403.97	3347.76	31.28	OSF1.50	13480.00	10635.00				MINPT-O-EOU	
	3518.28	170.61	3404.05	3347.67	31.19	OSF1.50	13520.00	10635.00				MinPt-O-ADP	
	3528.37	176.36	3410.31	3352.01	30.25	OSF1.50	13860.00	10635.00				MinPts	
	3543.69	183.72	3420.72	3359.98	29.16	OSF1.50	14280.00	10635.00				MinPt-O-ADP	
	3521.91	204.13	3385.33	3317.78	26.06	OSF1.50	15210.00	10635.00				MinPt-CtCt	
	3518.95	213.01	3376.45	3305.94	24.94	OSF1.50	15600.00	10635.00				MinPt-CtCt	
	3519.90	216.18	3375.28	3303.72	24.58	OSF1.50	15760.00	10635.00				MINPT-O-EOU	
	3521.02	217.51	3375.52	3303.51	24.44	OSF1.50	15830.00	10635.00				MinPt-O-ADP	
	3523.65	220.82	3375.95	3302.84	24.09	OSF1.50	15960.00	10635.00				MINPT-O-EOU	
	3526.25	225.08	3375.70	3301.17	23.65	OSF1.50	16130.00	10635.00				MINPT-O-EOU	
	3527.39	226.46	3375.92	3300.93	23.51	OSF1.50	16200.00	10635.00				MinPt-O-ADP	
	3528.93	237.22	3370.29	3291.70	22.44	OSF1.50	16590.00	10635.00				MinPt-CtCt	
	3529.30	238.41	3369.86	3290.88	22.33	OSF1.50	16660.00	10635.00				MINPT-O-EOU	
	3529.87	239.09	3369.98	3290.78	22.27	OSF1.50	16700.00	10635.00				MinPt-O-ADP	
	3518.23	252.63	3349.33	3265.62	21.00	OSF1.50	17190.00	10635.00				MinPt-CtCt	
	3523.45	266.73	3345.13	3256.72	19.92	OSF1.50	17720.00	10635.00				MinPt-CtCt	
	3524.51	270.55	3343.65	3253.96	19.64	OSF1.50	17890.00	10635.00				MINPT-O-EOU	
	3525.53	271.84	3343.81	3253.69	19.55	OSF1.50	17950.00	10635.00				MinPt-O-ADP	
	3538.39	294.12	3341.82	3244.27	18.13	OSF1.50	18750.00	10635.00				MINPT-O-EOU	
	3538.60	298.14	3339.34	3240.46	17.88	OSF1.50	18860.00	10635.00				MinPt-CtCt	
	3539.04	299.40	3338.95	3239.64	17.81	OSF1.50	18930.00	10635.00				MINPT-O-EOU	
	3539.50	299.93	3339.05	3239.56	17.78	OSF1.50	18960.00	10635.00				MinPt-O-ADP	
	3540.23	306.65	3335.31	3233.58	17.39	OSF1.50	19160.00	10635.00				MinPt-CtCt	
	3532.80	320.88	3318.38	3211.92	16.58	OSF1.50	19660.00	10635.00				MinPt-CtCt	
	3529.72	333.18	3307.11	3196.54	15.96	OSF1.50	20090.00	10635.00				MinPt-CtCt	
	3530.08	334.28	3306.73	3195.80	15.90	OSF1.50	20150.00	10635.00				MINPT-O-EOU	
	3530.67	334.99	3306.84	3195.67	15.87	OSF1.50	20190.00	10635.00				MinPt-O-ADP	
	3526.88	348.33	3294.17	3178.55	15.25	OSF1.50	20610.00	10635.00				MinPt-CtCt	
	3526.76	357.22	3288.12	3169.53	14.86	OSF1.50	20910.88	10635.00				MinPts	
Cimarex Red Hills Unit #99H MWD Corrected to 22088ft MD (DefinitiveSurvey)													Pass
	1126.64	32.81	1124.94	1093.83	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1126.58	32.81	1124.88	1093.78	458584.52	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	1126.58	32.81	1124.88	1093.77	919187.91	MAS = 10.00 (m)	23.00	23.00				WRP	
	1125.54	32.81	1121.37	1092.73	454.04	MAS = 10.00 (m)	340.00	340.00				MinPts	
	1125.72	32.81	1121.20	1092.91	397.80	MAS = 10.00 (m)	380.00	380.00				MINPT-O-EOU	
	1126.83	32.81	1120.27	1094.02	231.41	MAS = 10.00 (m)	580.00	580.00				MinPts	
	1127.29	32.81	1118.47	1094.48	158.14	MAS = 10.00 (m)	810.00	810.00				MINPT-O-EOU	
	2137.70	63.75	2094.66	2073.95	51.53	OSF1.50	4800.00	4718.53				MinPt-O-SF	
	2497.52	76.99	2445.67	2420.53	49.64	OSF1.50	5750.00	5642.30				MinPt-O-SF	
	3183.78	147.44	3084.96	3036.33	32.72	OSF1.50	10310.00	10168.67				MinPt-CtCt	
	3183.79	147.49	3084.94	3036.30	32.71	OSF1.50	10320.00	10178.40				MINPT-O-EOU	
	3183.83	147.54	3084.95	3036.29	32.70	OSF1.50	10330.00	10188.10				MinPt-O-ADP	
	3198.89	149.00	3099.03	3049.89	32.53	OSF1.50	10610.00	10431.22				MinPt-O-SF	
	3911.11	162.18	3802.50	3748.93	36.49	OSF1.50	12740.00	10635.00				MinPt-CtCt	
	3908.99	169.21	3795.69	3739.78	34.94	OSF1.50	13260.00	10635.00				MinPt-CtCt	
	3896.48	179.89	3776.06	3716.59	32.75	OSF1.50	13920.00	10635.00				MinPt-CtCt	
	3896.73	180.70	3775.77	3716.03	32.60	OSF1.50	13980.00	10635.00				MINPT-O-EOU	
	3897.17	181.24	3775.85	3715.93	32.51	OSF1.50	14020.00	10635.00				MinPt-O-ADP	
	3896.00	186.53	3771.15	3709.46	31.57	OSF1.50	14280.00	10635.00				MinPt-CtCt	
	3896.21	187.17	3770.94	3709.05	31.46	OSF1.50	14330.00	10635.00				MINPT-O-EOU	
	3896.44	187.42	3771.00	3709.02	31.42	OSF1.50	14350.00	10635.00				MinPt-O-ADP	
	3908.43	193.11	3779.20	3715.32	30.58	OSF1.50	14650.00	10635.00				MINPT-O-EOU	
	3912.06	202.67	3776.48	3709.42	29.16	OSF1.50	15070.00	10635.00				MinPt-CtCt	
	3912.52	203.99	3776.03	3708.53	28.97	OSF1.50	15150.00	10635.00				MINPT-O-EOU	
	3909.83	213.34	3767.11	3696.49	27.67	OSF1.50	15550.00	10635.00				MinPt-CtCt	
	3910.11	214.28	3766.76	3695.83	27.55	OSF1.50	15610.00	10635.00				MINPT-O-EOU	
	3910.63	214.90	3766.87	3695.73	27.47	OSF1.50	15650.00	10635.00				MinPt-O-ADP	
	3933.16	227.08	3781.28	3706.08	26.14	OSF1.50	16180.00	10635.00				MINPT-O-EOU	
	3908.70	245.63	3744.45	3663.07	24.01	OSF1.50	16880.00	10635.00				MinPt-CtCt	
	3909.06	246.83	3744.01	3662.22	23.89	OSF1.50	16950.00	10635.00				MINPT-O-EOU	
	3909.62	247.51	3744.12	3662.11	23.83	OSF1.50	16990.00	10635.00				MinPt-O-ADP	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	3900.69	257.16	3728.75	3643.53	22.88	OSF1.50	17330.00	10635.00				MinPt-CtCt	
	3901.10	258.37	3728.36	3642.73	22.77	OSF1.50	17400.00	10635.00				MINPT-O-EOU	
	3901.53	258.89	3728.45	3642.64	22.73	OSF1.50	17430.00	10635.00				MinPt-O-ADP	
	3909.77	279.05	3723.25	3630.72	21.12	OSF1.50	18150.00	10635.00				MinPt-CtCt	
	3910.15	280.33	3722.77	3629.82	21.03	OSF1.50	18220.00	10635.00				MINPT-O-EOU	
	3910.74	281.03	3722.89	3629.71	20.98	OSF1.50	18260.00	10635.00				MinPt-O-ADP	
	3918.63	286.19	3727.35	3632.44	20.64	OSF1.50	18480.00	10635.00				MinPts	
	3923.90	291.17	3729.29	3632.73	20.31	OSF1.50	18650.00	10635.00				MinPt-O-ADP	
	3929.51	299.51	3729.36	3630.01	19.77	OSF1.50	18920.00	10635.00				MINPT-O-EOU	
	3930.78	301.04	3729.60	3629.74	19.68	OSF1.50	18990.00	10635.00				MinPt-O-ADP	
	3931.48	301.72	3729.84	3629.76	19.63	OSF1.50	19020.00	10635.00				MinPt-O-ADP	
	3939.07	309.23	3732.43	3629.84	19.19	OSF1.50	19280.00	10635.00				MINPT-O-EOU	
	3939.51	309.70	3732.55	3629.81	19.16	OSF1.50	19300.00	10635.00				MinPt-O-ADP	
	3945.06	317.26	3733.07	3627.81	18.73	OSF1.50	19520.00	10635.00				MinPt-CtCt	
	3938.92	344.55	3708.73	3594.38	17.22	OSF1.50	20470.00	10635.00				MinPt-CtCt	
	3942.45	356.68	3704.17	3585.77	16.64	OSF1.50	20910.88	10635.00				MinPts	
Cimarex Red Hills Unit #75H Corrected MWD to 22184ft MD (DefinitiveSurvey)													Pass
	2463.65	32.81	2461.95	2430.84	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2463.59	32.81	2461.88	2430.78	271914.76	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	2463.56	32.81	2461.86	2430.75	1181758.85	MAS = 10.00 (m)	20.00	20.00				MINPT-O-EOU	
	2463.56	32.81	2461.86	2430.75	#########	MAS = 10.00 (m)	23.00	23.00				MinPts	
	2448.55	32.81	2434.65	2415.74	198.37	MAS = 10.00 (m)	1480.00	1479.99				MinPts	
	2448.63	32.81	2434.56	2415.82	195.83	MAS = 10.00 (m)	1500.00	1499.98				MINPT-O-EOU	
	3666.39	111.48	3591.55	3554.91	50.02	OSF1.50	7860.00	7719.71				MinPt-CtCt	
	3666.67	112.21	3591.34	3554.45	49.69	OSF1.50	7930.00	7789.71				MINPT-O-EOU	
	3667.14	112.78	3591.44	3554.36	49.44	OSF1.50	7980.00	7839.71				MinPt-O-ADP	
	3672.52	117.47	3593.69	3555.05	47.51	OSF1.50	8320.00	8179.71				MinPt-O-ADP	
	3673.79	118.77	3594.08	3555.01	47.00	OSF1.50	8410.00	8269.71				MinPt-O-ADP	
	3678.55	123.31	3595.82	3555.24	45.30	OSF1.50	8730.00	8589.71				MinPt-O-ADP	
	3686.88	136.93	3595.07	3549.95	40.84	OSF1.50	9670.00	9529.71				MINPT-O-EOU	
	3685.58	146.43	3587.43	3539.14	38.15	OSF1.50	10280.00	10139.24				MinPt-CtCt	
	3685.61	146.65	3587.32	3538.96	38.09	OSF1.50	10300.00	10158.89				MINPT-O-EOU	
	3685.67	146.72	3587.33	3538.95	38.07	OSF1.50	10310.00	10168.67				MinPt-O-ADP	
	3707.13	148.62	3607.52	3558.50	37.80	OSF1.50	10650.00	10459.63				MinPt-O-SF	
	4468.78	170.83	4354.40	4297.95	39.57	OSF1.50	13340.00	10635.00				MinPt-CtCt	
	4468.88	171.12	4354.30	4297.75	39.50	OSF1.50	13370.00	10635.00				MINPT-O-EOU	
	4469.02	171.32	4354.32	4297.71	39.46	OSF1.50	13390.00	10635.00				MinPt-O-ADP	
	4482.24	181.10	4361.02	4301.15	37.42	OSF1.50	13960.00	10635.00				MinPt-CtCt	
	4482.65	182.34	4360.60	4300.31	37.17	OSF1.50	14050.00	10635.00				MINPT-O-EOU	
	4483.23	183.04	4360.72	4300.20	37.03	OSF1.50	14100.00	10635.00				MinPt-O-ADP	
	4483.47	185.47	4359.32	4297.99	36.54	OSF1.50	14200.00	10635.00				MinPt-CtCt	
	4482.89	190.65	4355.30	4292.24	35.53	OSF1.50	14470.00	10635.00				MinPt-CtCt	
	4478.90	204.28	4342.22	4274.62	33.12	OSF1.50	15130.00	10635.00				MinPt-CtCt	
	4477.53	214.75	4333.87	4262.78	31.48	OSF1.50	15600.00	10635.00				MinPt-CtCt	
	4477.89	215.81	4333.52	4262.08	31.33	OSF1.50	15670.00	10635.00				MINPT-O-EOU	
	4478.40	216.41	4333.64	4261.99	31.24	OSF1.50	15710.00	10635.00				MinPt-O-ADP	
	4478.29	222.21	4329.66	4256.08	30.42	OSF1.50	15920.00	10635.00				MinPt-CtCt	
	4478.73	223.72	4329.09	4255.01	30.22	OSF1.50	16010.00	10635.00				MINPT-O-EOU	
	4479.26	224.37	4329.19	4254.90	30.13	OSF1.50	16050.00	10635.00				MinPt-O-ADP	
	4480.93	227.50	4328.77	4253.43	29.73	OSF1.50	16140.00	10635.00				MinPt-CtCt	
	4481.33	228.77	4328.32	4252.56	29.56	OSF1.50	16220.00	10635.00				MINPT-O-EOU	
	4481.87	229.41	4328.44	4252.46	29.49	OSF1.50	16260.00	10635.00				MinPt-O-ADP	
	4489.93	239.76	4329.60	4250.17	28.26	OSF1.50	16640.00	10635.00				MinPt-CtCt	
	4489.23	245.05	4325.37	4244.18	27.64	OSF1.50	16850.00	10635.00				MinPt-CtCt	
	4475.28	267.63	4296.37	4207.66	25.21	OSF1.50	17720.00	10635.00				MinPt-CtCt	
	4474.09	273.26	4291.42	4200.83	24.69	OSF1.50	17930.00	10635.00				MinPt-CtCt	
	4477.89	286.03	4286.71	4191.86	23.60	OSF1.50	18440.00	10635.00				MINPT-O-EOU	
	4482.65	306.75	4277.65	4175.89	22.02	OSF1.50	19150.00	10635.00				MinPt-CtCt	
	4483.14	308.20	4277.18	4174.94	21.92	OSF1.50	19230.00	10635.00				MINPT-O-EOU	
	4483.73	308.91	4277.29	4174.81	21.87	OSF1.50	19270.00	10635.00				MinPt-O-ADP	
	4495.85	319.53	4282.33	4176.31	21.20	OSF1.50	19630.00	10635.00				MINPT-O-EOU	
	4496.43	320.25	4282.44	4176.18	21.15	OSF1.50	19670.00	10635.00				MinPt-O-ADP	
	4478.13	340.09	4250.91	4138.04	19.83	OSF1.50	20320.00	10635.00				MinPt-CtCt	
	4479.71	344.42	4249.61	4135.29	19.59	OSF1.50	20510.00	10635.00				MINPT-O-EOU	
	4482.26	347.60	4250.04	4134.67	19.42	OSF1.50	20640.00	10635.00				MinPt-O-ADP	
	4492.46	353.05	4256.61	4139.42	19.16	OSF1.50	20910.88	10635.00				MinPt-O-SF	
Cimarex Red Hills Unit #21H Corrected MWD to 22108ft MD (DefinitiveSurvey)													Pass
	2503.67	32.81	2501.97	2470.86	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2503.60	32.81	2501.89	2470.79	268923.18	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	2503.57	32.81	2501.87	2470.76	881451.30	MAS = 10.00 (m)	20.00	20.00				MINPT-O-EOU	
	2503.57	32.81	2501.87	2470.76	#########	MAS = 10.00 (m)	23.00	23.00				MinPts	
	2504.42	32.81	2501.31	2471.61	1774.32	MAS = 10.00 (m)	240.00	240.00				MINPT-O-EOU	
	2505.03	32.81	2501.28	2472.22	1219.62	MAS = 10.00 (m)	310.00	310.00				MINPT-O-EOU	
	2506.58	32.81	2496.99	2473.77	317.31	MAS = 10.00 (m)	890.00	890.00				MinPts	
	2506.76	32.81	2496.86	2473.96	305.43	MAS = 10.00 (m)	930.00	930.00				MINPT-O-EOU	
	4159.66	95.41	4095.54	4064.26	66.47	OSF1.50	6650.00	6517.45				MinPt-O-ADP	
	4213.63	138.42	4120.83	4075.21	46.17	OSF1.50	9740.00	9599.71				MinPt-CtCt	
	4211.16	145.66	4113.53	4065.49	43.82	OSF1.50	10230.00	10089.66				MinPt-CtCt	
	4211.24	145.84	4113.43	4065.40	43.77	OSF1.50	10250.00	10109.56				MINPT-O-EOU	
	4211.33	145.93	4113.52	4065.40	43.74	OSF1.50	10260.00	10119.48				MinPt-O-ADP	
	4231.34	147.59	4132.43	4083.75	43.45	OSF1.50	10570.00	10400.91				MinPt-O-SF	
	4914.42	171.54	4799.57	4742.88	43.33	OSF1.50	13210.00	10635.00				MinPt-CtCt	
	4914.76	172.59	4799.21	4742.17	43.07	OSF1.50	13300.00	10635.00				MINPT-O-EOU	
	4914.69	174.84	4797.64	4739.85	42.51	OSF1.50	13430.00	10635.00				MinPt-CtCt	
	4915.26	176.55	4797.06	4738.70	42.10	OSF1.50	13560.00	10635.00				MINPT-O-EOU	
	4910.59	188.53	4784.41	4722.06	39.37	OSF1.50	14230.00	10635.00				MinPt-CtCt	
	4908.15	211.95	4766.36	4696.20	34.97	OSF1.50	15370.00	10635.00				MinPt-CtCt	
	4908.44	212.75	4766.11	4695.69	34.84	OSF1.50	15430.00	10635.00				MINPT-O-EOU	
	4908.66	213.02	4766.16	4695.64	34.80	OSF1.50	15450.00	10635.00				MinPt-O-ADP	
	4913.93	219.23	4767.28	4694.70	33.84	OSF1.50	15690.00	10635.00				MinPt-CtCt	
	4914.39	220.66	4766.79	4693.73	33.62	OSF1.50	15780.00	10635.00				MINPT-O-EOU	
	4917.05	232.19	4761.77	4684.86	31.96	OSF1.50	16240.00	10635.00				MinPt-CtCt	
	4917.40	239.02	4757.55	4678.37	31.04	OSF1.50	16520.00	10635.00				MinPt-CtCt	
	4917.16	245.72	4752.86	4671.45	30.19	OSF1.50	16790.00	10635.00				MinPt-CtCt	
	4917.61	247.06	4752.41	4670.56	30.03	OSF1.50	16870.00	10635.00				MINPT-O-EOU	
	4911.33	261.90	4736.24	4649.43	28.28	OSF1.50	17420.00	10635.00				MinPt-CtCt	
	4911.24	266.04	4733.39	4645.21	27.84	OSF1.50	17580.00	10635.00				MinPt-CtCt	
	4911.85	268.42	4732.41	4643.43	27.59	OSF1.50	17700.00	10635.00				MINPT-O-EOU	
	4912.42	269.11	4732.52	4643.31	27.52	OSF1.50	17740.00	10635.00				MinPt-O-ADP	
	4915.28	274.01	4732.11	4641.26	27.05	OSF1.50	17910.00	10635.00				MINPT-O-EOU	
	4915.68	274.50	4732.19	4641.18	27.00	OSF1.50	17940.00	10635.00				MinPt-O-ADP	
	4920.40	278.67	4734.13	4641.73	26.62	OSF1.50	18110.00	10635.00				MinPts	
	4943.99	300.99	4742.84	4643.00	24.75	OSF1.50	18870.00	10635.00				MinPt-CtCt	
	4944.44	302.35	4742.38	4642.09	24.64	OSF1.50	18950.00	10635.00				MINPT-O-EOU	
	4945.02	303.03	4742.51	4641.99	24.59	OSF1.50	18990.00	10635.00				MinPt-O-ADP	
	4895.09	333.11	4672.52	4561.98	22.13	OSF1.50	20020.00	10635.00				MinPt-CtCt	
	4895.88	337.69	4670.26	4558.19	21.84	OSF1.50	20180.00	10635.00				MinPt-CtCt	
	4898.39	344.66	4668.13	4553.74	21.40	OSF1.50	20460.00	10635.00				MINPT-O-EOU	
	4900.26	346.88	4668.51	4553.38	21.27	OSF1.50	20560.00	10635.00				MinPt-O-ADP	
	4904.98	354.30	4668.29	4550.68	20.85	OSF1.50	20790.00	10635.00				MINPT-O-EOU	
	4905.61	355.06	4668.41	4550.55	20.80	OSF1.50	20830.00	10635.00				MinPt-O-ADP	
	4907.51	356.57	4669.30	4550.94	20.72	OSF1.50	20910.88	10635.00				MinPt-O-SF	

1. Geological Formations

TVD of target 10,635
MD at TD 20,911

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
RUSTLER	926	Useable Water	
TOP SALT/SALADO	1295	N/A	
BASE SALT/LAMAR	4900	N/A	
TOP DELAWARE SANDS/BELL CANYON	4930	N/A	
CHERRY CANYON	5960	N/A	
BRUSHY CANYON	7480	Hydrocarbons	
BASAL BRUSHY CANYON	8855	Hydrocarbons	
BONE SPRING LIME	9040	Hydrocarbons	
LEONARD/AVALON SAND	9065	Hydrocarbons	
AVALON SHALE	9330	Hydrocarbons	
1ST BONE SPRING SAND	10020	Hydrocarbons	
2ND BONE SPRING SHALE	10220	Hydrocarbons	
2ND BONE SPRING SAND	10575	Hydrocarbons	
2ND BONE SPRING SAND TARGET	10635	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	976	976	13-3/8"	48.00	H-40	ST&C	1.75	4.09	6.87
12 1/4	0	4880	4880	9-5/8"	40.00	HCK-55	LT&C	1.45	1.51	2.87
8 3/4	0	10204	10204	7"	29.00	L-80	LT&C	1.39	1.62	1.91
8 3/4	10204	10954	10606	7"	29.00	P-110	BT&C	1.63	2.14	79.69
6	9204	20559	10635	4-1/2"	11.60	P-110	BT&C	1.44	2.04	22.11
					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

	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	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	410	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	727	11.90	2.40	13.80	30	Lead: 35:65 (poz/H) + Salt + Sodium Metasilcate + Bentonite + Fluid Loss + Dispersant + LCM + Retarder
	286	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	338	10.30	3.64	22.18		Lead: Tuned Light + LCM
	130	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Completion System	714	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	42
Intermediate	0	49
Production	4680	25
Completion System	10754	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 976'	FW Spud Mud	7.83 - 8.33	30-32	N/C
976' to 4880'	Brine Water	9.83 - 10.33	30-32	N/C
4880' to 10954'	Cut Brine or OBM	9.00 - 9.50	27-70	N/C
10954' to 20559'	OBM	9.00 - 9.50	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	
X	Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	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	5253 psi
Abnormal Temperature	No

Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
X	H2S is present
X	H2S plan is attached

8. Other Facets of Operation

9. Wellhead

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 pack off 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 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 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 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.

CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL

LEA CO., NM

Red Hills Unit 50H

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
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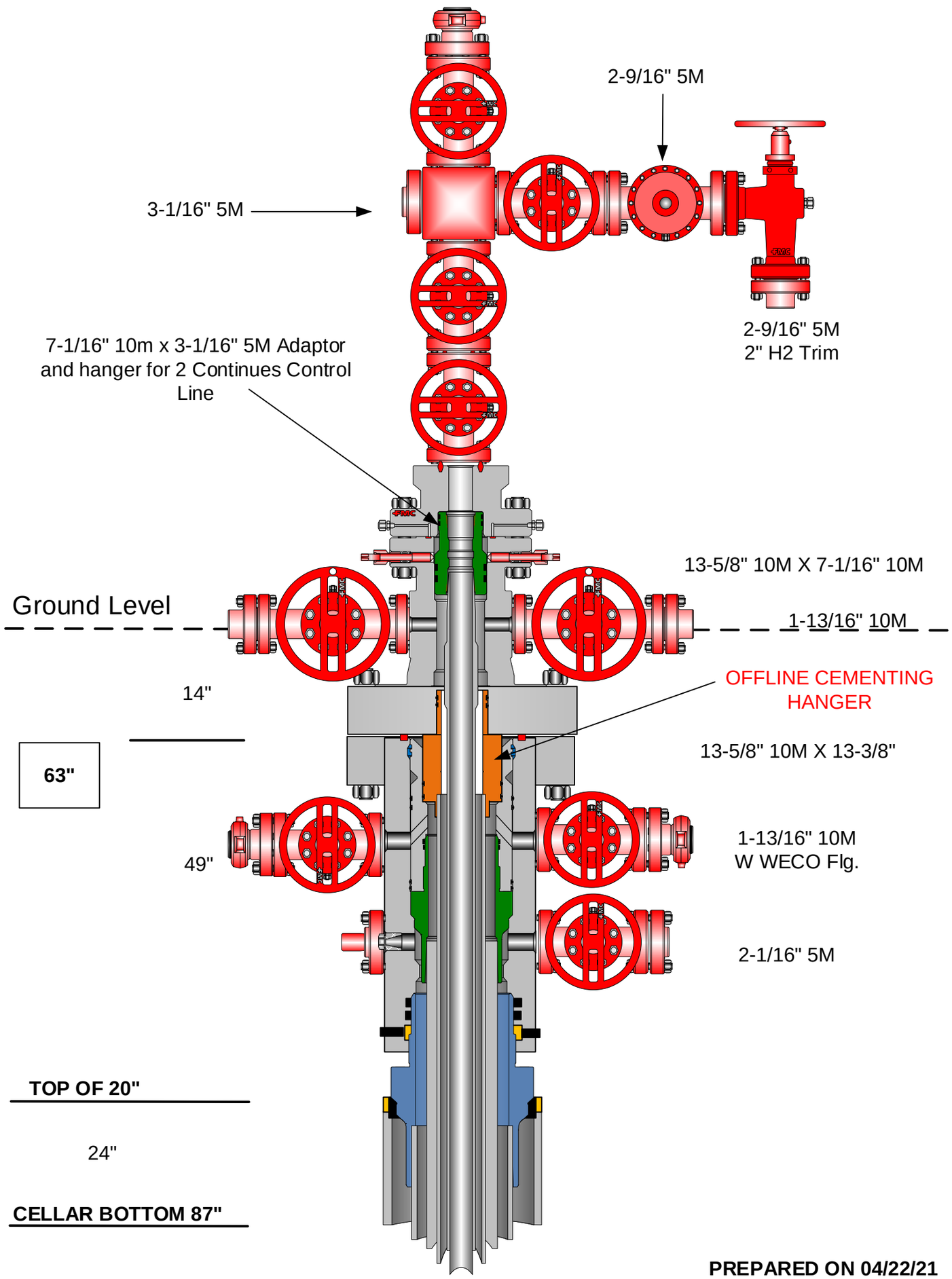


PREPARED ON 04/22/21

Cementing Operational Workflow

Conventional Cementing

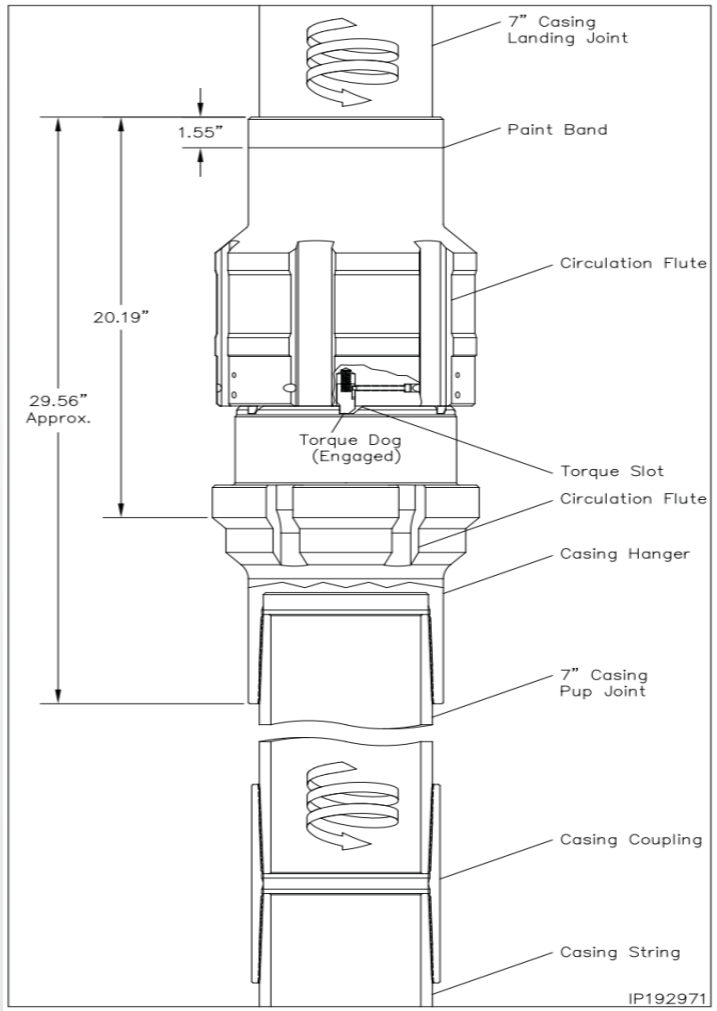
1. Land casing on fluted mandrel hanger
2. Circulate down casing, taking returns through BOP stack
3. Pump lead and tail cement
4. Displace cement and bump the plug
5. Ensure floats are holding pressure
6. RD cement crew
7. Install packoff to isolate pressure
8. Install BPV and skid rig

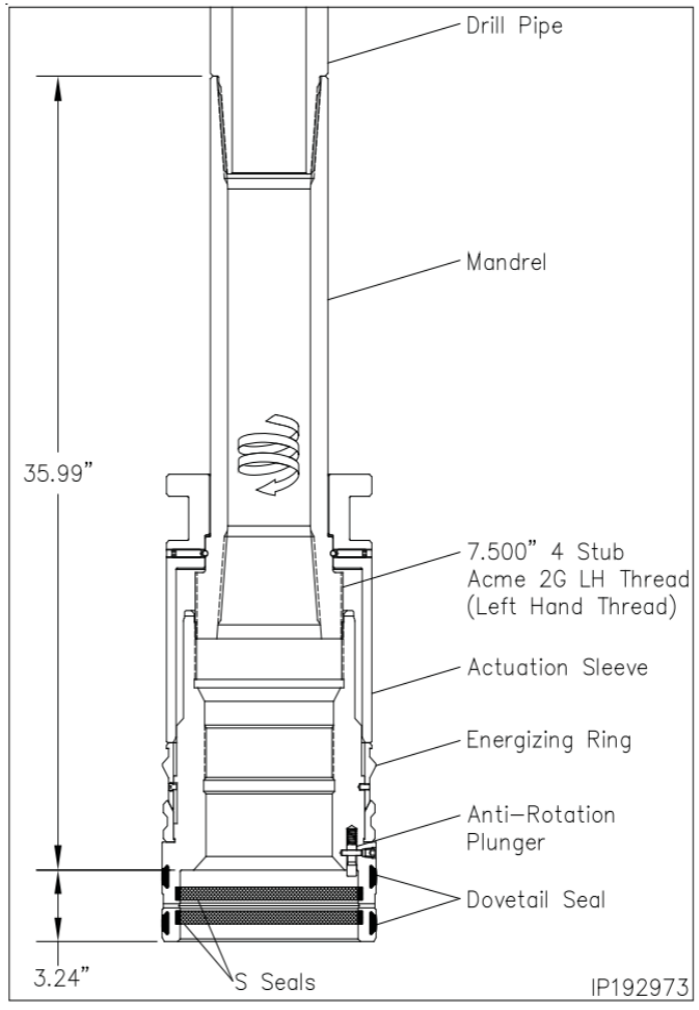
Offline Cementing

1. Land casing on **solid body** mandrel hanger
   a) Engage packoff and lockring
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

Conventional Cementing Equipment-Fluted Mandrel

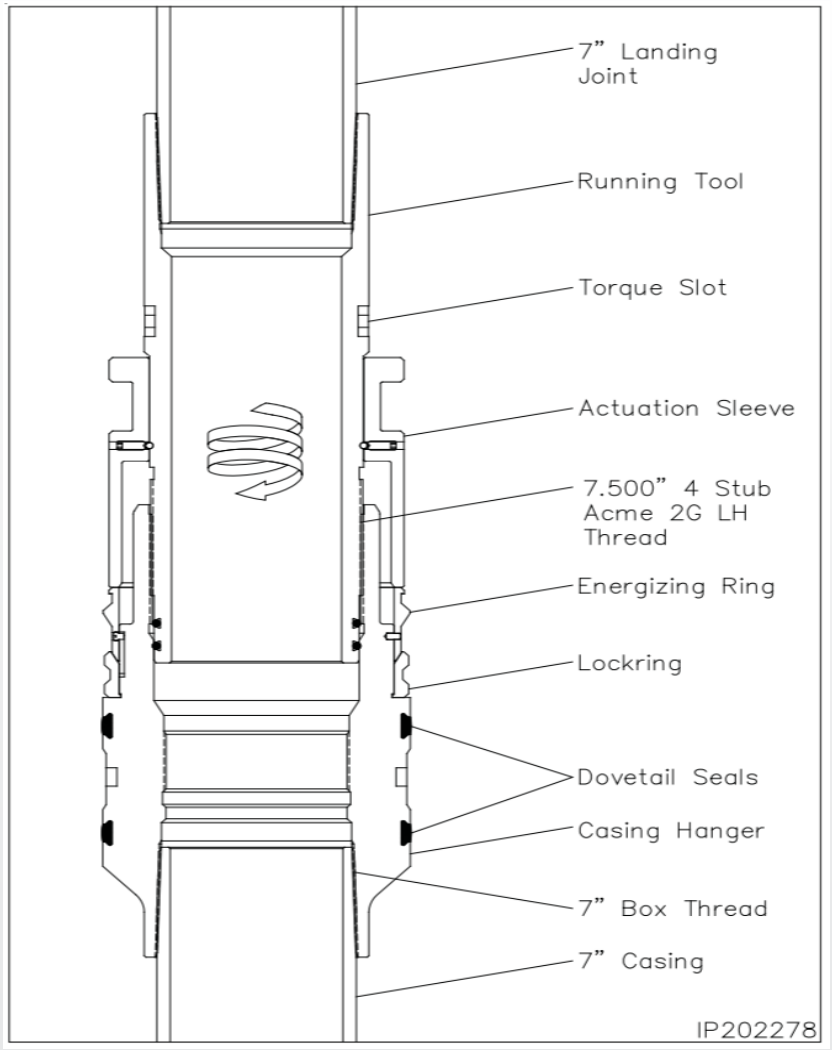
- Fluted Hanger allows returns up past the hanger body
- Returns throughout cement job flow up through BOP stack and into flowline
- Packoff is installed **after** cement job to isolate pressure above and below hanger
- Lockring engaged during packoff installation



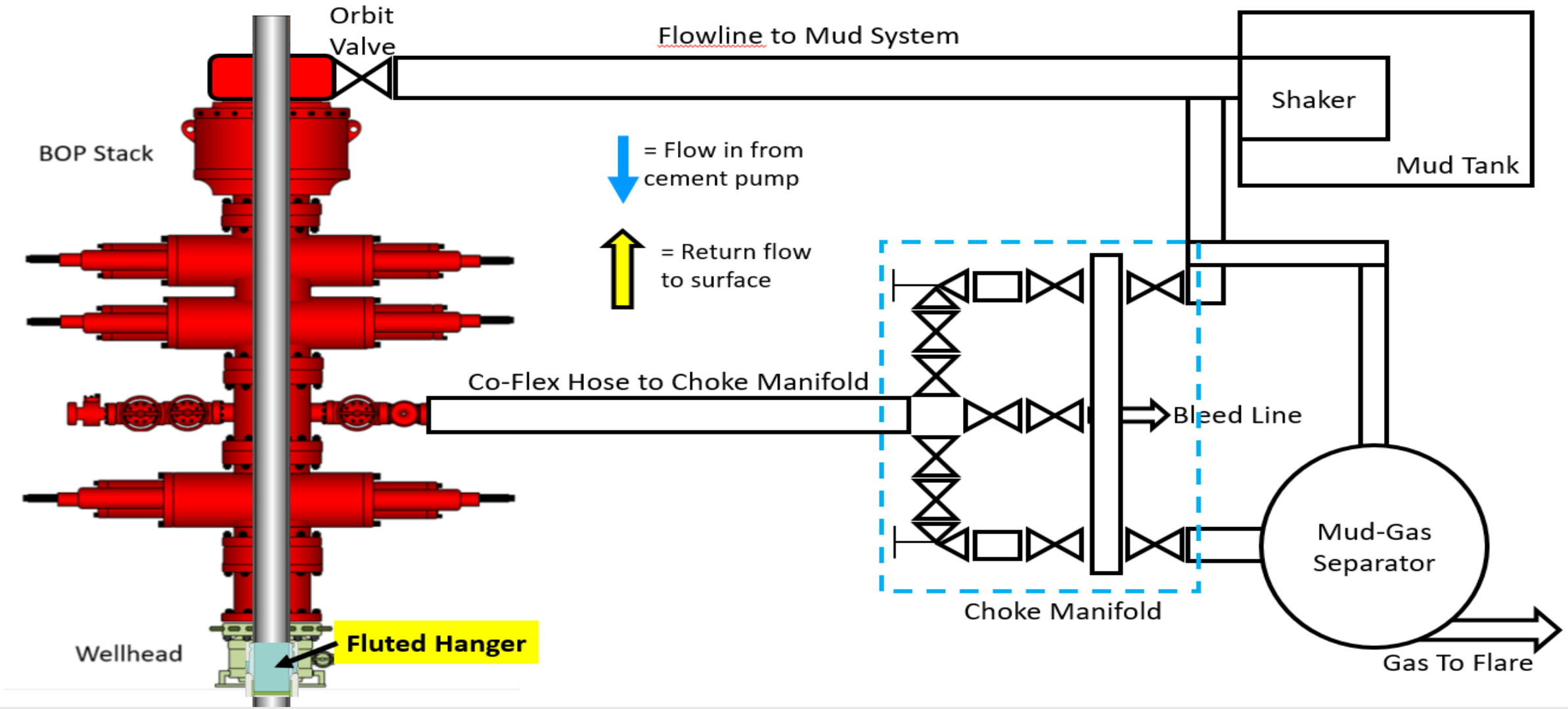


Offline Cementing Equipment-Solid Body Mandrel Hanger

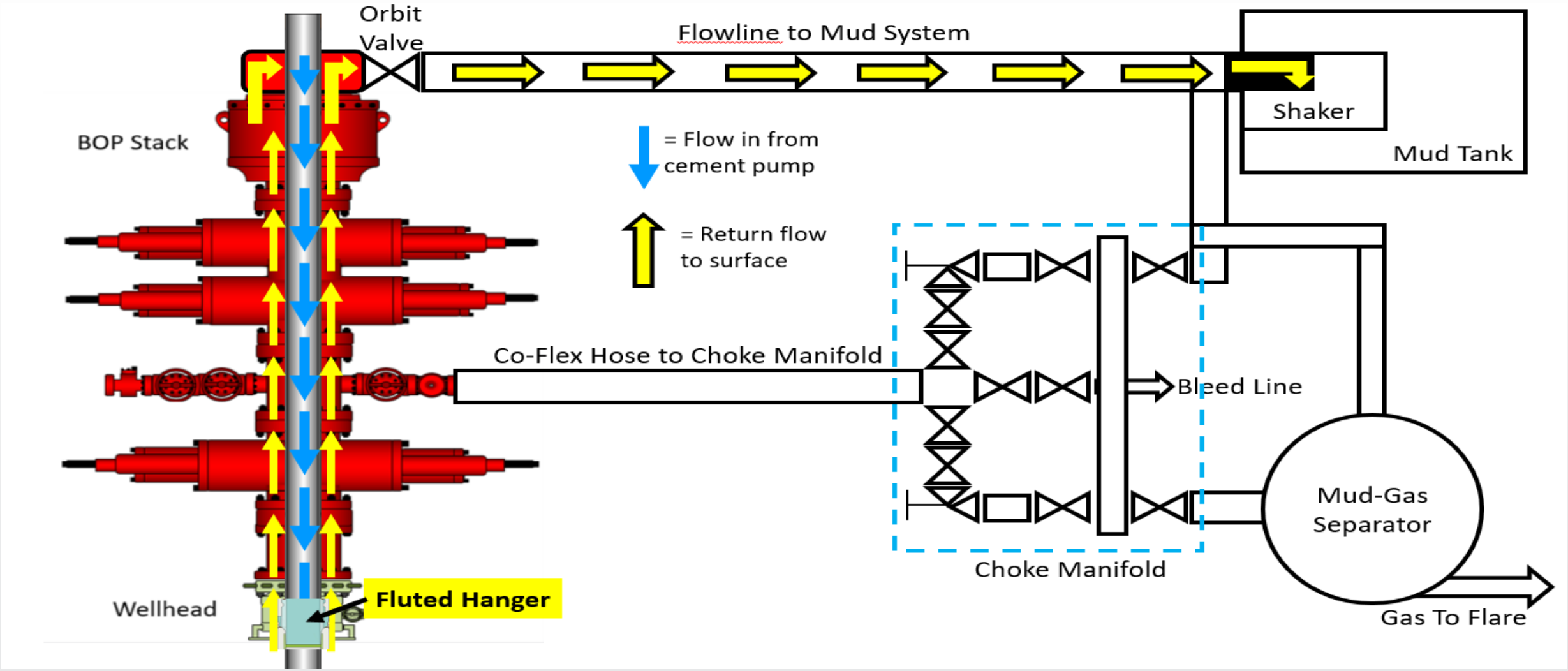
- Solid Body Mandrel Hanger allows for casing to be landed and pressure isolated in one step, **prior** to cementing
- Lockring is engaged to lock casing in place
- Casing is isolated and returns throughout cement job flow through the casing valves and through flowback iron independent of rig



Conventional Cementing Flow Diagram



Conventional Cementing Flow Diagram



Offline Cementing -- Intermediate Casing

= Flow in from cement pump

= Return flow to surface

Cement Company Iron

Tank

Mud-Gas Separator

Gas To Flare

Solid Body Hanger

3” Flowback Iron

Same process flow as other casing valve

Choke Manifold

Open Top Tank

Offline Cementing -- Intermediate Casing

= Flow in from cement pump

= Return flow to surface

Cement Company Iron

Tank

Mud-Gas Separator

Gas To Flare

Solid Body Hanger

3” Flowback Iron

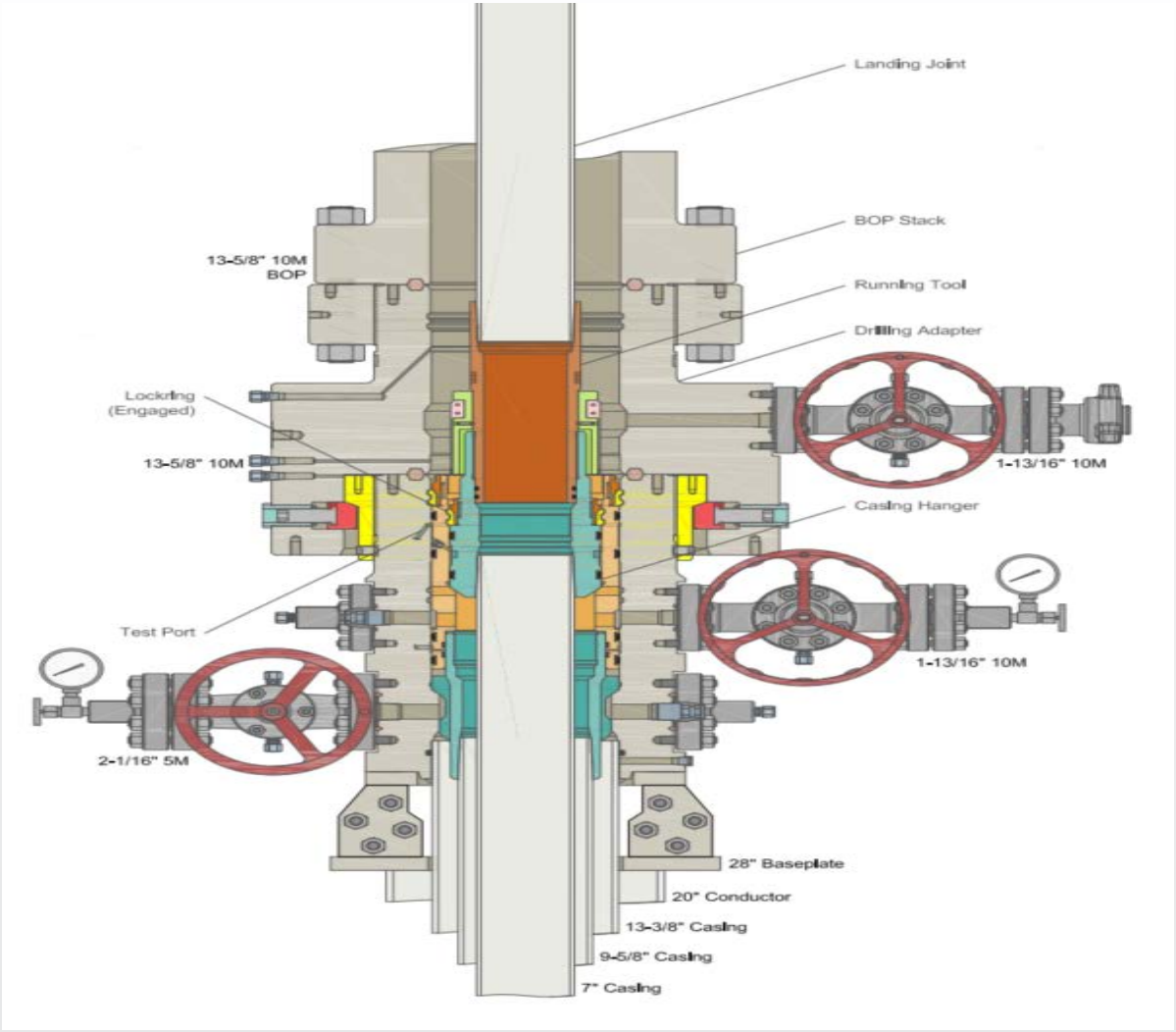
Same process flow as other casing valve

Choke Manifold

Open Top Tank

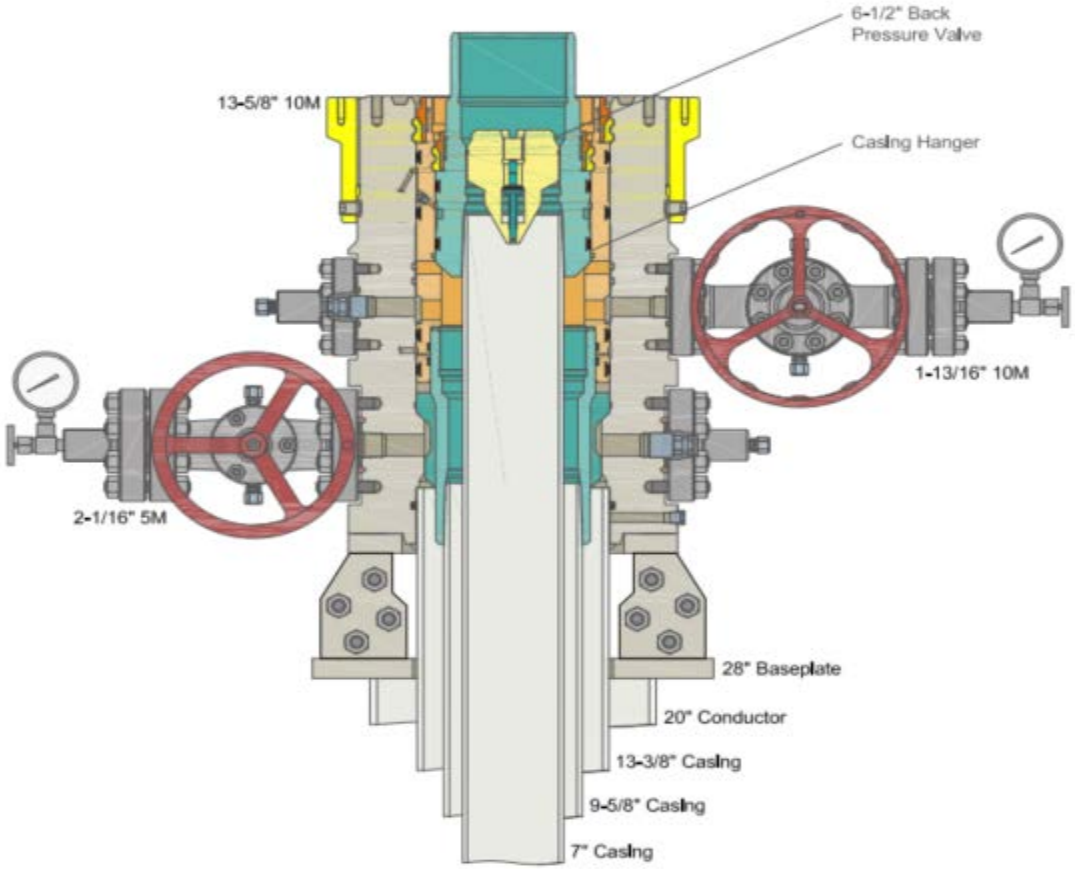
Offline Cementing Progression

- Run 7” casing
- Land 11” nominal x 7” hanger
- Test casing hanger
- Energize 11” nom x 7” hanger lock ring and pull test
- Re-test casing hanger
- Barriers & Procedures after landing casing before setting packoff
  - 10K BOP & 5K Annular-Internal and Annular barrier
  - Kill Weight Fluid in annulus and casing (ensure well is static before setting solid body packoff) Internal and Annular barrier
    - **If well is not static we <u>WILL NOT</u> set solid body packoff.**
  - 10K float collar-Internal Barrier
  - 10k float Shoe-Internal Barrier
    - **<u>After circulating a 1.5 casing capacities to ensure full column of mud and no entrained gas pumps will be shut off and floats checked for flow</u>**



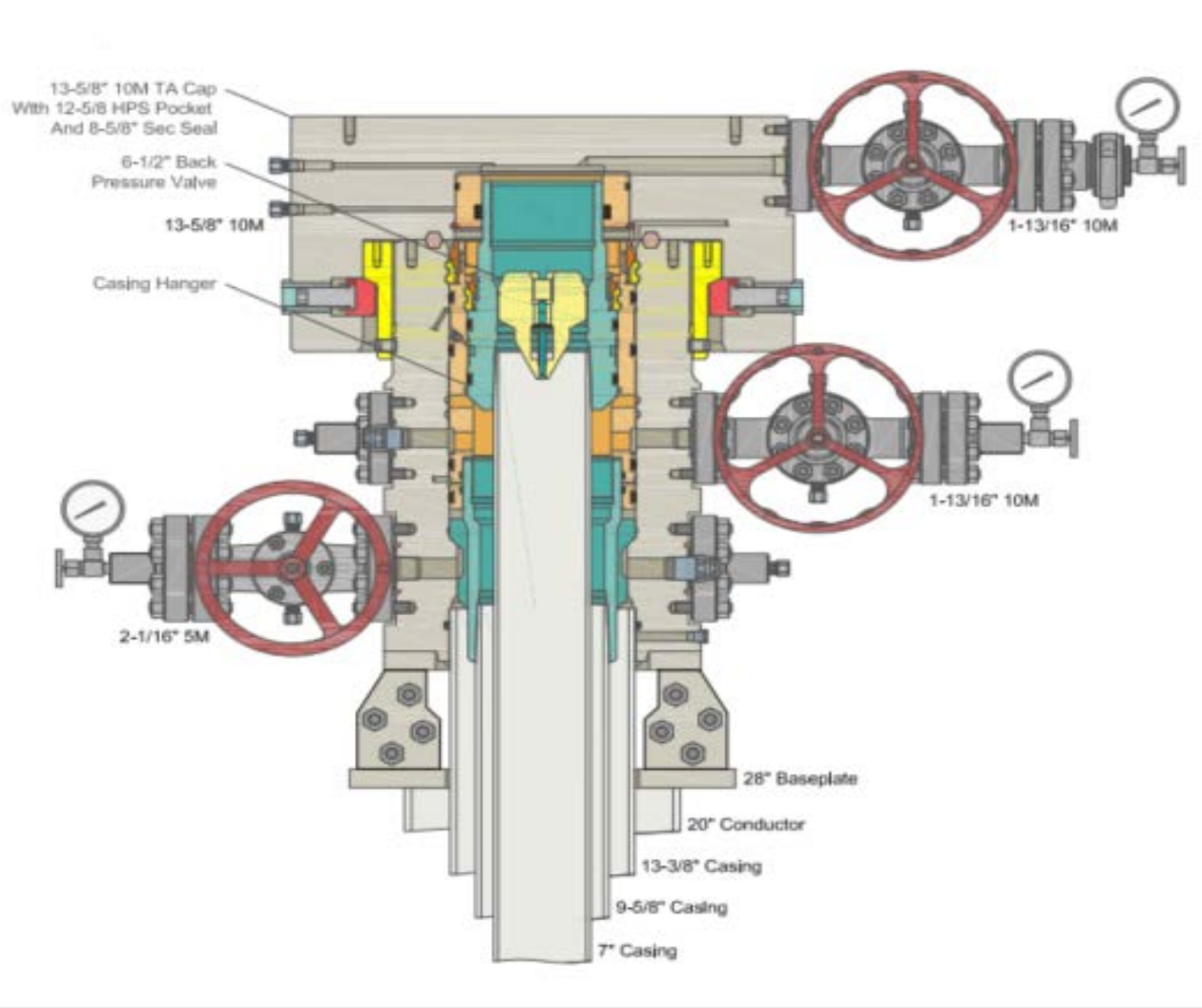
Offline Cementing Progression

- Pick up running tool with 6-1/2” nominal Back Pressure valve run into well and set
- Barriers and procedures **BEFORE** removing BOP’s
  - Kill weight Fluid in annulus-Annular Barrier
  - Solid Body Packoff-Annular Barrier
  - 10K Float Equipment-Internal Barrier
  - 10K Back pressure valve installed with BOP still on well-Internal Barrier
    - BPV will be tested before it arrives on location by Cactus



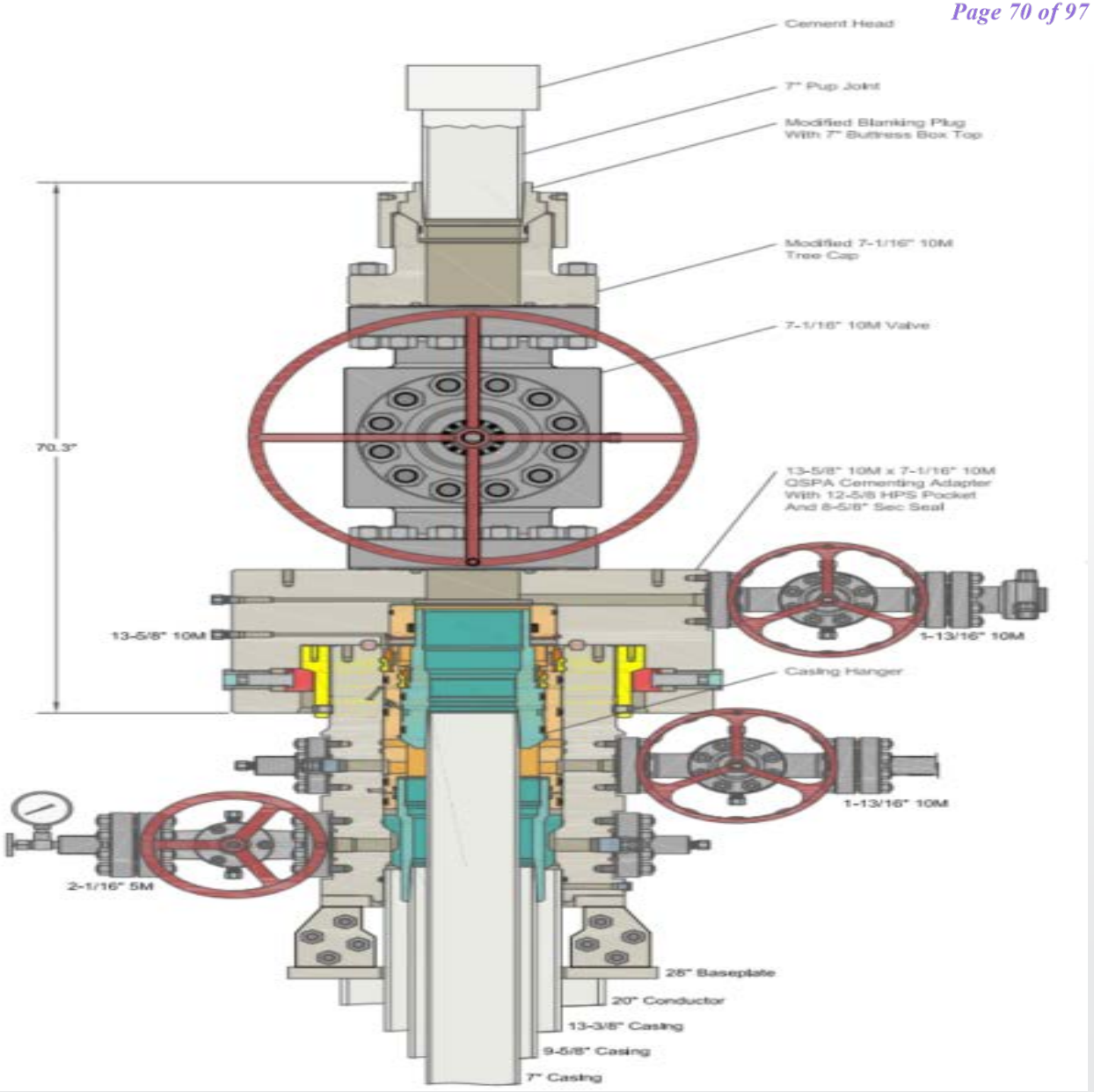
Offline Cementing Progression

- Nipple down BOP
- Nipple up TA Cap and test
- Skid Drilling Rig
- Barriers and procedures **AFTER** removing BOP's
  - Kill weight Fluid in annulus-Annular Barrier
  - Solid Body Packoff-Annular Barrier
  - 10K Float Equipment-Internal Barrier
  - 10K Back pressure valve-Internal Barrier
  - 10K rated TA cap with Valve-Internal Barrier



Offline Cementing Progression

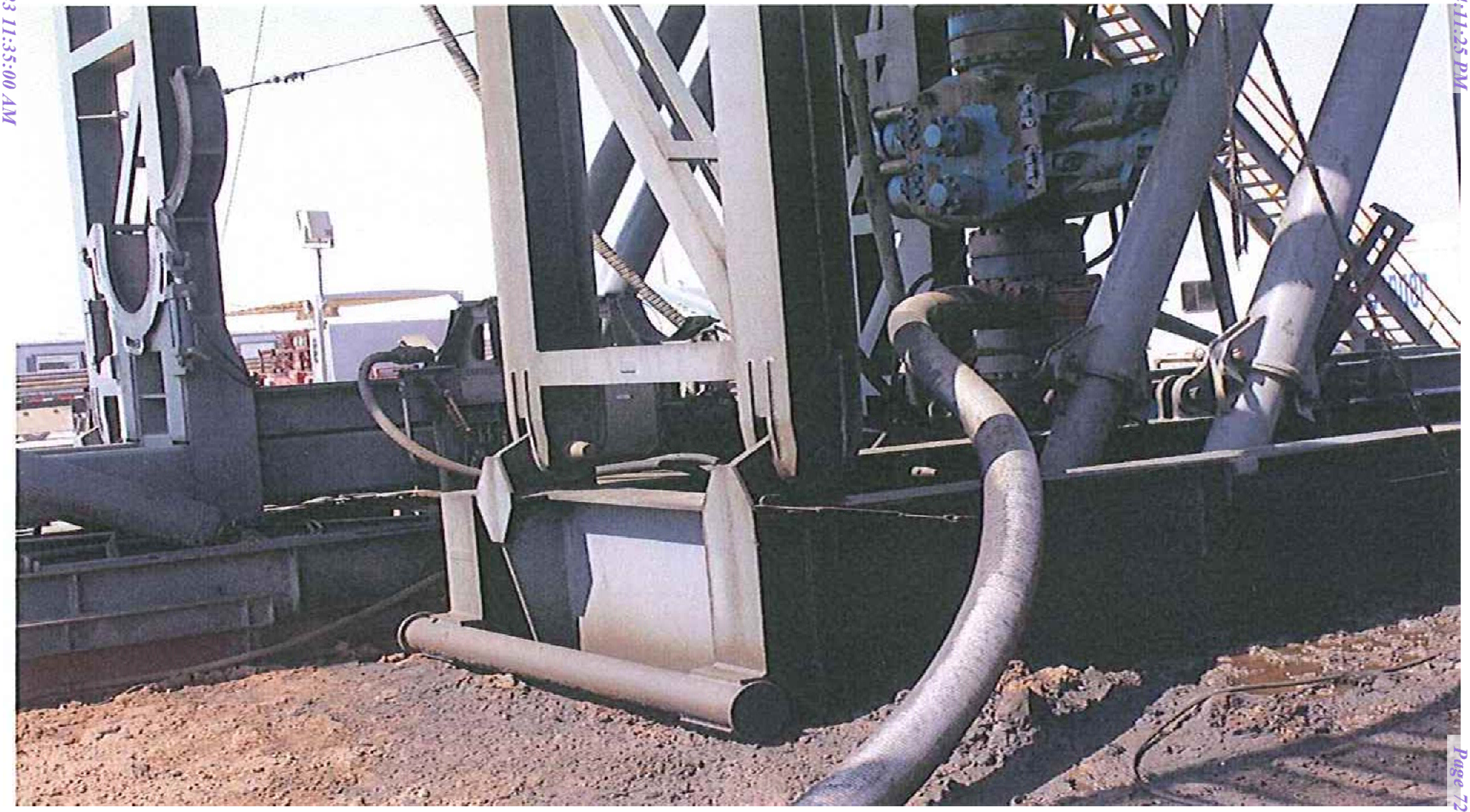
- Check Pressure on TA Cap and remove
- Install adaptor with Gate valve for off line cementing and test
- Rig up flowback iron independent of rig
- Retrieve Back Pressure Valve
- Shut in well
- Rig up to cement and pump job
- NU 10K TA cap after cement job
- Barriers and procedures before **rigging up cementing equipment**
  - **Address well and ensure no pressure on TA cap**
    - **Ability to pump into well through casing valves on backside to kill if needed**
  - Kill weight Fluid in annulus-Annular barrier
  - Solid Body Packoff-Annular barrier
  - 10K Float Equipment-Internal Barrier
  - 10K Back pressure valve-Internal Barrier



Offline Cementing Risk and COA Compliance

- All testing and breaks tested in accordance with Onshore Order # 2 and COA's
- If no cement to surface, bradenhead squeeze still possible with offline cementing equipment
- Time from skid rig to offline cementing ops typically 24 hours
- Conditions where we would not Offline Cement
  - Well is flowing
- All wellhead equipment equipment rated to 10K maintaining APD compliant
  - 10K flowback iron independent of rig circulating system
  - 10K Back Pressure Valve
  - 10K Gate Valve & TA combo for second barrier during operations
  - 10K 1-13/16 Valve coming off TA cap
  - 10K TA Cap

Co-Flex Hose
Red Hills Unit 50H
Cimarex Energy Co. of Colorado



Co-Flex Hose Hydrostatic Test
Red Hills Unit 50H
Cimarex Energy Co. of Colorado

Midwest Hose & Specialty, Inc.

INTERNAL HYDROSTATIC TEST REPORT

Customer:	P.O. Number:
Oderco Inc	odyd-271

HOSE SPECIFICATIONS

Type:	Hose Length:
Stainless Steel Armor Choke & Kill Hose	45'ft.

I.D.	O.D.
4 INCHES	9 INCHES

WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE
10,000 PSI	15,000 PSI	0 PSI

COUPLINGS

Stem Part No.	Ferrule No.
OKC OKC	OKC OKC
Type of Coupling: Swage-It	

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

TIME HELD AT TEST PRESSURE	ACTUAL BURST PRESSURE:
15 MIN.	0 PSI

Hose Assembly Serial Number:	Hose Serial Number:
79793	OKC

Comments:

Date:	Tested:	Approved:
3/8/2011	A. Jaime Sanchez	

Midwest Hose & Specialty, Inc.

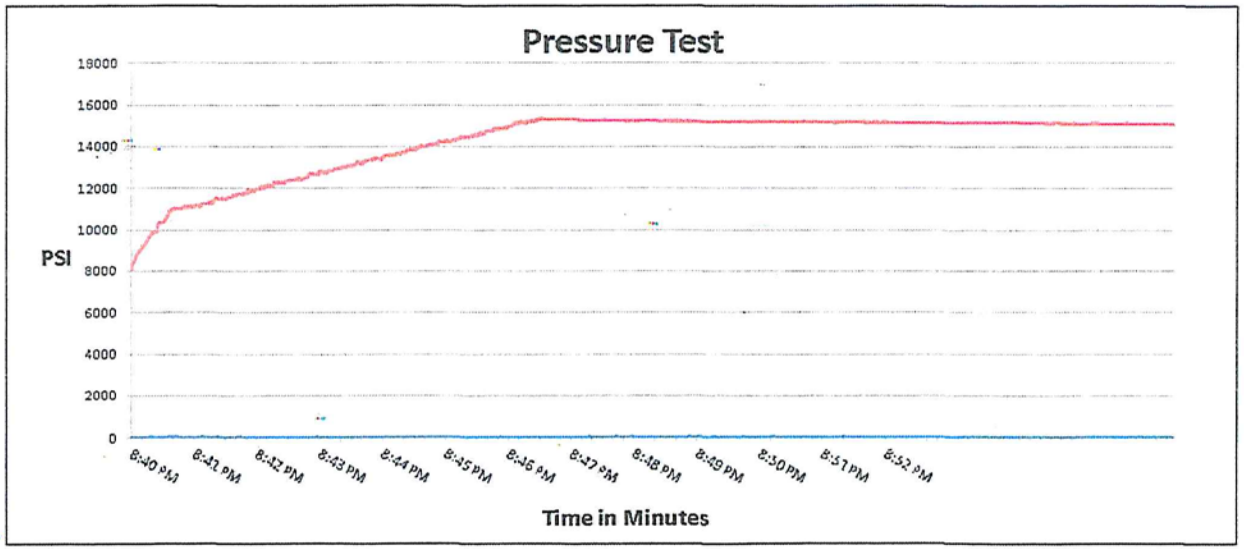
Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

Pick Ticket #: 94260

Hose Specifications		Verification	
Hose Type	Length	Type of Fitting	Coupling Method
C & K	45'	4 1/16 10K	Swage
I.D.	O.D.	Die Size	Final O.D.
4"	6.09"	6.38"	6.25"
Working Pressure	Burst Pressure	Hose Serial #	Hose Assembly Serial #
10000 PSI	Standard Safety Multiplier Applies	5544	79793



Test Pressure	Time Held at Test Pressure	Actual Burst Pressure	Peak Pressure
15000 PSI	11 Minutes		15483 PSI

Comments: Hose assembly pressure tested with water at ambient temperature.

Tested By: *Zac Mcconnell*

Approved By: *Kim Thomas*

Co-Flex Hose Hydrostatic Test

Cimarex Energy Co. of Colorado

Co-Flex Hose
Red Hills Unit 50H
Cimarex Energy Co.of Colorado

Midwest Hose
& Specialty, Inc.

Certificate of Conformity

Customer:	PO
DEM	ODYD-271

SPECIFICATIONS

Sales Order	Dated:
79793	3/8/2011

We hereby cerify that the material supplied for the referenced purchase order to be true according to the requirements of the purchase order and current industry standards

Supplier:
Midwest Hose & Specialty, Inc.
10640 Tanner Road
Houston, Texas 77041

Comments:	
Approved: Jamal Garcia	Date: 3/8/2011

Co-Flex Hose
Red Hills Unit 50H
Cimarex Energy Co.of Colorado

Midwest Hose & Specialty, Inc.

Specification Sheet
Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium componets.The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API male threads, hubs, hammer unions or other special fittings upon request. Hose assembly is manufactured to API 7K. This assembly is wrapped with fire resistant vermculite coated fiberglass insulation, rated at 2000 degrees with stainless steel armor cover.

Working Pressure:	5,000 or 10,000 psi working pressure
Test Pressure:	10,000 or 15,000 psi test pressure
Reinforcement:	Multiple steel cables
Cover:	Stainless Steel Armor
Inner Tube:	Petroleum resistant, Abrasion resistant
End Fitting:	API flanges, API male threads, threaded or butt weld hammer unions, unibolt and other special connections
Maximum Length:	110 Feet
ID:	2-1/2", 3", 3-1/2", 4"
Operating Temperature:	-22 deg F to +180 deg F (-30 deg C to +82 deg C)

P.O. Box 96558 – 1421 S.E. 29th St. Oklahoma City, OK 73143 * (405) 670-6718 * Fax: (405) 670-6816

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

SUPO Data Report
12/21/2023

APD ID: 10400090765 **Submission Date:** 02/24/2023

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Red_Hills_Unit_50H_Existing_Roads_map_20230220124634.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT **Row(s) Exist?** YES

ROW ID(s)

ID: NMNM130688

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? YES

New Road Map:

Red_Hills_Unit_E2W2_Road_ROW_20230220124905.pdf

New road type: COLLECTOR

Length: 7168 Feet **Width (ft.):** 30

Max slope (%): 2 **Max grade (%):** 6

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 18

New road access erosion control: Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.
New road access plan or profile prepared? N

New road access plan

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Access road engineering design? N

Access road engineering design

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

Onsite topsoil removal process: Push off and stockpile alongside the location

Access other construction information: The operator will prevent and abate fugitive dust as needed created by vehicular traffic, equipment operations or other events.
Access miscellaneous information: N/A

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: CULVERT,LOW WATER

Drainage Control comments: 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.

Road Drainage Control Structures (DCS) description: N/A

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Red_Hills_Unit_50H_Existing_Wells_Map_20230220130709.pdf

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: 2- 550 X 450 pads were staked with the BLM for construction and use as a central tank batteries (CTB), please see Exhibit F. Road: New and existing roads will be used. Please see Exhibit D for 7168 new road. Bulk Lines: 900 of 8- 12 buried steel Bulk lines will be constructed in the same 30 trench. Please see Attachment B for route. Power: 1 pole, 243 of 480 volt, 4 wire, 3 phase overhead powerline will be constructed for the facility. Please see Exhibit I for powerline route.

Production Facilities map:

Red_Hills_Unit__Zone_1_West_CTB_Btty_Layout_20230220131112.pdf

Red_Hills_Unit__Zone_2_West_CTB_Btty_Layout_20230220131134.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: FEDERAL

Source transportation land ownership: FEDERAL

Water source volume (barrels): 5000 **Source volume (acre-feet):** 0.64446548

Source volume (gal): 210000

Water source and transportation

Red_Hills_Unit_47H_Drilling_Water_Sources_20230220131650.pdf

Water source comments:

New water well? N

New Water Well Info

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

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:**

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: YES

Construction Materials description: The drilling and testing operations will be conducted on a watered and compacted native soil grade. Soft spots will be covered with caliche, free of large rocks (3" diameter). Upon completion as a commercial producer the location will be covered with caliche, free of large rocks (3" dia.) from an existing privately owned gravel pit. Per the Surface Use Agreement Cimarex will be required to use caliche from a BLM Approved pit in Sec. 29 T25S R33E NW/NE.

Construction Materials source location

DEEP_RIVER_CALICHE_PIT___ONX_MAP_IMAGE_2023_20230814120634.pdf

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 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: Haul to R360 Environmental Solutions, 4507 Carlsbad Hwy, Hobbs, NM 88240

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

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:

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

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

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

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

Red_Hills_Unit_50H_Location_Layout_Plats_20230220133122.pdf

Comments:

Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** Red Hills Unit

Multiple Well Pad Number: E2W2 Pad

Recontouring

Red_Hills_Unit_E2W2_Pad_Interim_Reclaim_20230220133210.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 UNIT **Well Number:** 50H

Well pad proposed disturbance (acres): 6.881
Well pad interim reclamation (acres): 2.69
Well pad long term disturbance (acres): 4.191
Road proposed disturbance (acres): 2.866
Road interim reclamation (acres): 0
Road long term disturbance (acres): 2.866
Powerline proposed disturbance (acres): 0.168
Powerline interim reclamation (acres): 0
Powerline long term disturbance (acres): 0.168
Pipeline proposed disturbance (acres): 5.628
Pipeline interim reclamation (acres): 0
Pipeline long term disturbance (acres): 5.628
Other proposed disturbance (acres): 12.57
Other interim reclamation (acres): 0
Other long term disturbance (acres): 12.57
Total proposed disturbance: 28.113
Total interim reclamation: 2.69
Total long term disturbance: 25.423000000000002

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 UNIT **Well Number:** 50H

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: Kanicia **Last Name:** Schlichting

Phone: (432)232-2875 **Email:** kanicia.schlichting@coterra.com

Seedbed prep:

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 UNIT **Well Number:** 50H

Disturbance type: WELL PAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Disturbance type: TRANSMISSION LINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Section 12 - Other

Right of Way needed? Y **Use APD as ROW?** Y

ROW Type(s): 281001 ROW - ROADS,288100 ROW – O&G Pipeline,288101 ROW – O&G Facility Sites,288103 ROW – Salt Water Disposal Pipeline/Facility,288104 ROW – Salt Water Disposal Apln/Fac-FLPMA,289001 ROW- O&G Well Pad

ROW

SUPO Additional Information:

Use a previously conducted onsite? Y

Previous Onsite information: Onsite date 4/11/17; BLM Personnel Jeff Robertson; Cimarex Personnel Barry Hunt

Other SUPO

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Red_Hills_Unit_50H_SUPO_20230220135425.pdf

Red_Hills_Unit_E2W2_Power_ROW_20230220135041.pdf

Red_Hills_Unit_E2W2_Flow_Gas_Lift_ROW_20230220135048.pdf

BEGINNING AT THE INTERSECTION J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD83 LATITUDE N32.0650° AND LONGITUDE W103.6743°) PROCEED IN AN EASTERLY DIRECTION APPROXIMATELY 5.0 MILES TO THE JUNCTION OF THIS ROAD AND AN EXISTING ROAD TO THE NORTHWEST; TURN LEFT AND PROCEED IN A NORTHWESTERLY, THEN NORTHEASTERLY DIRECTION APPROXIMATELY 2.1 MILES TO THE BEGINNING OF THE PROPOSED RED HILLS UNIT 33-4 ACCESS ROAD "A" TO THE SOUTHEAST; FOLLOW ROAD FLAGS IN A SOUTHEASTERLY, THEN EASTERLY, THEN NORTHERLY DIRECTION APPROXIMATELY 2,443' TO THE BEGINNING OF THE PROPOSED ACCESS ROAD TO THE WEST; FOLLOW THE ROAD FLAGS IN A WESTERLY, THEN NORTHERLY DIRECTION APPROXIMATELY 533' TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM THE INTERSECTION OF J-1/ORLA ROAD AND AN EXISTING ROAD TO THE EAST (LOCATED AT NAD83 LATITUDE N32.0650° AND LONGITUDE W103.6743°) TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 7.7 MILES.

REV: 5 08-18-21 Z.T. (ACCESS ROAD RE-ROUTE)

CIMAREX ENERGY CO.

RED HILLS UNIT E2W2
NE 1/4 NW 1/4, SECTION 33, T25S, R33E, N.M.P.M.
LEA COUNTY, NEW MEXICO

SURVEYED BY	C.J., A.H.	05-05-17	
DRAWN BY	V.L.D.	05-25-17	

ROAD DESCRIPTION

UINTAH ENGINEERING & LAND SURVEYING
UELS, LLC
Corporate Office * 85 South 200 East
Vernal, UT 84078 * (435) 789-1017

Cimarex Red Hills Unit 47H
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

Cimarex Energy plans to construct a new off-lease access road

- Length: 7168'
- Width: 30'
- Road Plat - Exhibit D.
- A ROW will be submitted to the BLM for approval.
- Cimarex Energy will complete improvements to the driving surface as needed.
- The maximum width of the driving surface for all roads above 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.
- Cimarex Energy will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.

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 battery will be utilized for the project if the well is productive.

- Red Hills Unit 33 Zone 1 & Zone 2 West CTB
    - Battery Pad diagram - Exhibit F
    - Battery will not require an expansion in order to accommodate additional production equipment for the project.
    - Battery Pad location previously approved
        - Sundry: Red Hill Unit 16H & Red Hills Unit 17H .

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.

Cimarex Red Hills Unit 47H
Surface Use Plan

Power Lines

- Cimarex plans to construct an off-lease power line to service the Red Hills Unit E2W2 Well Pad.
- Overhead power line from an existing power source located in the SW/4 of Sec.28-25S-33E.
- Length: 243'.
- Poles: 1
- Specifications: 480 volt, 4 wire, 3 phase.
- Please see Exhibit I for proposed route.
- A ROW application will be submitted to the BLM for the proposed route.

Well Site Location

- Proposed well pad/location layout - Exhibit J.
- Proposed Rig layout - Exhibit K
    - The rig layout, including V-door and flare line may change depending on rig availability. The pad dimensions and orientation will remain the same. No additional disturbance is anticipated if a rig layout change is necessary to accommodate the drilling rig. If additional disturbance is required a sundry notice will be submitted to the BLM for approval.
    - Mud pits in the closed circulation system will be steel pits and the cuttings will be stored in the steel containment pits.
    - Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- Archeological boundary - Exhibit L
- Multi well pad: Red Hills Unit #47H through #60H
- Pad Size: 500 x 560
- Construction Material
    - If possible, native caliche will be obtained from the excavation of drill site. The primary way of obtaining caliche will be by "turning over" the location. This means caliche will be obtained from the actual well site. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2,400 cu yds is the max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:
        - The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.
        - An approximate 120' x 120' area is used within the proposed well site to remove caliche.
        - Subsoil is removed and piled alongside the 120' x 120' area within the pad site.
        - When caliche is found, material will be stockpiled within the pad site to build the location and road.
        - Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
        - Once well is drilled, the stockpiled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in Exhibit J - Layout Diagram.
        - Per the Surface Use Agreement Cimarex will be required to use caliche from a BLM Approved pit in Sec. 20-25S-33E.
    - Mud pits in the closed circulation system will be steel pits and the cuttings will be stored in steel containment pits.
- Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- If the well is a producer, those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements. Exhibit P: Interim Reclamation Diagram.
- There are no known dwellings within 1.5 miles of this location.

Flowlines and Gas Lift Pipelines

All proposed pipelines will be constructed in a 30' ROW corridor.

- Flowlines
    - Cimarex Energy plans to construct on-lease flowlines to service the well.
    - 6" HP steel for oil, gas, and water production.
    - Length: 900'.
    - MAOP: 1,500 psi; Anticipated working pressure: 200-300 psi.
    - Please see Exhibit M for proposed on lease route.
- Gas Lift Pipeline
    - Cimarex Energy plans to construct on-lease gas lift pipelines to service the well.
    - 6" HP steel for gas lift.
    - Length: 900'.
    - MAOP: 1,500 psi; Anticipated working pressure: 200-300 psi.
    - Please see Exhibit N for proposed on lease route.

Cimarex Red Hills Unit 47H
Surface Use Plan

Water Resources

- A temporary surface fresh water pipeline(s) will be utilized for this project.
- Cimarex plans to lay the fresh water surface pipeline(s) prior to commencement of the stimulation job.
- 10" lay-flat surface pipeline.
- The surface pipeline(s) will follow the road from a frac pit to the well.
- Length: 11,050'.
- Operating pressure: <140 psi.
- Fresh water will be purchased from a 3rd party.
- Please see Exhibit O for proposed route.

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 NMOCD 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 NMOCD 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 Burau of Land Management.
- 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

Onsite Date: 4/11/2017
BLM Personnel on site: Jeff Robertson
Cimarex Energy personnel on site: Barry Hunt
Pertinent information from onsite:

AFMSS

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

PWD Data Report

12/21/2023

APD ID: 10400090765 **Submission Date:** 02/24/2023

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

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:

Decribe 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 UNIT **Well Number:** 50H

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:

Decribe 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 UNIT **Well Number:** 50H

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 UNIT **Well Number:** 50H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements

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

Bond Info Data
12/21/2023

APD ID: 10400090765 **Submission Date:** 02/24/2023

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS UNIT **Well Number:** 50H

Well Type: OIL WELL **Well Work Type:** Drill

Highlighted data reflects the most recent changes
Show Final Text

Bond

Federal/Indian APD: FED

BLM Bond number: NMB001187

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 297158

CONDITIONS

Operator: CIMAREX ENERGY CO. OF COLORADO 6001 Deauville Blvd, Ste 300N Midland, TX 79706	OGRID: 162683
	Action Number: 297158
	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	12/22/2023
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	12/22/2023
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	12/22/2023
pkautz	Cement is required to circulate on both surface and production strings of casing	12/22/2023
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	12/22/2023