

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

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

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[323150]</div>	
2. Name of Operator <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[215099]</div>		9. API Well No. <div style="text-align: center; font-weight: bold; font-size: 1.2em;">30-025-51885</div>	
3a. Address		3b. Phone No. (include area code)	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[97994]</div> 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) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> 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). </div> <div style="width: 48%;"> 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. </div> </div>			
25. Signature		Name (Printed/Typed)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
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.			

NGCP Rec 08/21/2023

SL

(Continued on page 2)

APPROVED WITH CONDITIONS

KZ

 08/24/2023

*(Instructions on page 2)

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

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

District III
1000 Rio Brazos Road, Aztec, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-51885	² Pool Code 97994	³ Pool Name WC-025 G-06 S253329D Bone Spring
⁴ Property Code 323150	⁵ Property Name RED HILLS UNIT	⁶ Well Number 105H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3354.9'

¹⁰Surface Location

UL or lot no. B	Section 33	Township 25S	Range 33E	Lot Idn	Feet from the 395	North/South line NORTH	Feet from the 2370	East/West line EAST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. O	Section 4	Township 26S	Range 33E	Lot Idn	Feet from the 100	North/South line SOUTH	Feet from the 2316	East/West line EAST	County LEA
¹² Dedicated Acres 640		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

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

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NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°05'35.53" (32.093202°)
LONGITUDE = 103°34'35.05" (103.576404°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°05'35.08" (32.093077°)
LONGITUDE = 103°34'33.36" (103.575933°)
STATE PLANE NAD 83 (N.M. EAST)
N: 398466.39' E: 775742.01'
STATE PLANE NAD 27 (N.M. EAST)
N: 398408.78' E: 734555.51'

NAD 83 (LP/FTP)
LATITUDE = 32°05'35.53" (32.093202°)
LONGITUDE = 103°34'34.43" (103.576230°)
NAD 27 (LP/FTP)
LATITUDE = 32°05'35.08" (32.093077°)
LONGITUDE = 103°34'32.74" (103.575760°)
STATE PLANE NAD 83 (N.M. EAST)
N: 398466.69' E: 775795.74'
STATE PLANE NAD 27 (N.M. EAST)
N: 398409.08' E: 734609.23'

NAD 83 (BHL/LTP)
LATITUDE = 32°03'55.97" (32.065546°)
LONGITUDE = 103°34'34.29" (103.576192°)
NAD 27 (BHL/LTP)
LATITUDE = 32°03'55.52" (32.065421°)
LONGITUDE = 103°34'32.60" (103.575723°)
STATE PLANE NAD 83 (N.M. EAST)
N: 388406.04' E: 775878.30'
STATE PLANE NAD 27 (N.M. EAST)
N: 388348.68' E: 734691.32'

LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S89°59'45"W	2637.35'
L2	N89°55'02"E	53.74'

NOTE:

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

- = SURFACE HOLE LOCATION
- ◆ = LANDING POINT/FIRST TAKE POINT
- = BOTTOM HOLE LOCATION/LAST TAKE POINT
- ▲ = SECTION CORNER LOCATED

SCALE

DRAWN BY: T.L.L. 02-13-20

Detail "A"
No Scale

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.

Amithy Crawford 7/13/20
Signature Date

Amithy Crawford
Printed Name

acrawford@cimarex.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.

March 27, 2018

Date of Survey
Signature and Seal of Professional Surveyor:

Certificate Number:

Intent ☐ As Drilled ☐

API # 30-025-51885	
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 **OGRID:** 215099 **Date:** 08/3/2023

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 105H	30-025-51885	B, Sec 33 T25S, R33E	395 FNL/2370 FEL	2000	3000	4000

IV. Central Delivery Point Name: Red Hills 33-4 CDP 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 105H		7/1/2024	1/1/2025	2/1/25	4/1/25	4/1/25

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

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

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

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

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices


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

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

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

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

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

Signature: 
Printed Name: Sarah Jordan
Title: Regulatory Analyst
E-mail Address: sarah.jordan@coterra.com
Date: 8/3/23
Phone: 432/620-1909
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

From State of New Mexico, Natural Gas Management Plan

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

XEC Standard Response

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

Cimarex

VII. Operational Practices

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

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

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

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

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

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

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

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

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Company
LEASE NO.:	NMNM0005792
LOCATION:	Section 33, T.25 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Red Hills Unit 105H
SURFACE HOLE FOOTAGE:	395'/N & 2370'/E
BOTTOM HOLE FOOTAGE:	100'/S & 2316'/E

COA

H2S	<input checked="" type="radio"/> Yes	<input type="radio"/> No	
Potash	<input checked="" type="radio"/> None	<input type="radio"/> Secretary	<input type="radio"/> R-111-P
Cave/Karst Potential	<input checked="" type="radio"/> Low	<input type="radio"/> Medium	<input type="radio"/> High
Cave/Karst Potential	<input type="radio"/> Critical		
Variance	<input type="radio"/> None	<input checked="" type="radio"/> Flex Hose	<input type="radio"/> Other
Wellhead	<input type="radio"/> Conventional	<input checked="" type="radio"/> Multibowl	<input type="radio"/> Both
Other	<input type="checkbox"/> 4 String Area	<input type="checkbox"/> Capitan Reef	<input type="checkbox"/> WIPP
Other	<input checked="" type="checkbox"/> Fluid Filled	<input type="checkbox"/> Cement Squeeze	<input type="checkbox"/> Pilot Hole
Special Requirements	<input type="checkbox"/> Water Disposal	<input type="checkbox"/> COM	<input checked="" type="checkbox"/> Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Bell Canyon** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **1050** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) 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 1/3rd fluid filled to meet BLM minimum collapse requirement.

- 2. The minimum required fill of cement behind the **9-5/8** inch 1st 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 **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

- 1. **Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).**
- 2. 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 surface 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 OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

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

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
393-3612

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 Onshore Oil and Gas Order No. 2 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 integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the

formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
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 OOGO2.III.A.2.i 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 when specified), 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 plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 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 Onshore Order No. 2.

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 052322



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

Application Data

07/31/2023

APD ID: 10400058977

Submission Date: 08/17/2020

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS UNIT

Well Number: 105H

Well Type: OIL WELL

Well Work Type: Drill

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

Section 1 - General

APD ID: 10400058977

Tie to previous NOS? Y

Submission Date: 08/17/2020

BLM Office: Carlsbad

User: AMITHY CRAWFORD

Title: Regulatory Analyst

Federal/Indian APD: FED

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

Lease number: NMNM005792

Lease Acres:

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO

APD Operator: CIMAREX ENERGY COMPANY

Operator letter of

Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY

Operator Address: 6001 DEAUVILLE BLVD STE 300N

Zip: 79706

Operator PO Box:

Operator City: MIDLAND

State: TX

Operator Phone: (303)295-3995

Operator Internet Address: hknaults@cimarex.com

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: 105H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: WC-025 G-06
S253329DPool Name: WC-025 G-06
S253329D

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**Is the proposed well in an area containing other mineral resources?** USEABLE WATER,NATURAL GAS,OIL**Is the proposed well in a Helium production area?** N**Use Existing Well Pad?** Y**New surface disturbance?** N**Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:** Red Hills Unit**Number:** W2E2-W**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:** 395 FT**Reservoir well spacing assigned acres Measurement:** 320 Acres**Well plat:** Red_Hills_Unit_105H_C102_20200715125141.pdf

Red_Hills_Unit_W2E2_W_C102_BLM_Lease_20200715125154.pdf

Well work start Date: 11/30/2020**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:****Reference Datum:** GROUND LEVEL

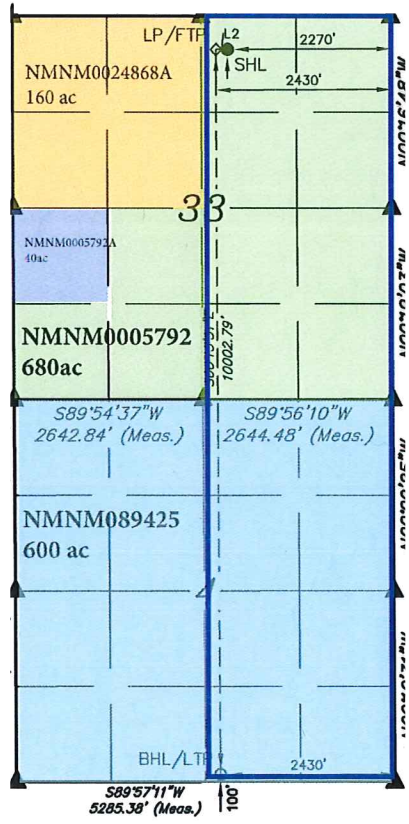
Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	395	FNL	2370	FEL	25S	33E	33	Aliquot NWNE	32.093202	-103.576404	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 0005792	3354	0	0	Y
KOP Leg #1	395	FNL	2370	FEL	25S	33E	33	Aliquot NWNE	32.093202	-103.576404	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 0005792	-5463	8817	8817	Y

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H

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 #1-1	395	FNL	2316	FEL	25S	33E	33	Aliquot NWNE	32.093202	- 103.57623	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0005792	- 5946	9576	9300	Y
EXIT Leg #1	100	FSL	2316	FEL	26S	33E	4	Aliquot SWSE	32.065546	- 103.576192	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 89425	- 5946	19158	9300	Y
BHL Leg #1	100	FSL	2316	FEL	26S	33E	4	Aliquot SWSE	32.065546	- 103.576192	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 89425	- 5946	19158	9300	Y

RED HILLS W2E2 Pad 3

LEASE MAP



E POINT



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

Drilling Plan Data Report

07/31/2023

APD ID: 10400058977

Submission Date: 08/17/2020

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS UNIT

Well Number: 105H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
784877	RUSTLER	3608	920	920	LIMESTONE	USEABLE WATER	N
784878	TOP SALT	2274	1334	1334	ANHYDRITE	NONE	N
784879	BASE OF SALT	-1284	4892	4892	ANHYDRITE	NONE	N
784880	BELL CANYON	-1311	4919	4919	SANDSTONE	NONE	N
784881	CHERRY CANYON	-2411	6019	6019	SANDSTONE	NONE	N
784882	BRUSHY CANYON	-3970	7578	7578	SANDSTONE	NONE	N
784883	BONE SPRING	-5439	9047	9047	LIMESTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 2M

Rating Depth: 4850

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 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 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by vendors representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder, monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 2000 psi. The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater. The

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H

casing strings utilizing steel body pack-off will be tested to 70% of casing burst. If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Choke Diagram Attachment:

Red_Hills_Unit_105H_Choke_2M3M_20200715130929.pdf

BOP Diagram Attachment:

Red_Hills_Unit_105H_BOP_2M_20200715130935.pdf

Pressure Rating (PSI): 3M**Rating Depth:** 19158

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. Cimarex requests a 5M annular variance for the 10M BOP system. See attached procedure

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 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by vendors representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder, monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 3000 psi. The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater. The casing strings utilizing steel body pack-off will be tested to 70% of casing burst. If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Choke Diagram Attachment:

Red_Hills_Unit_105H_Choke_2M3M_20200715131002.pdf

BOP Diagram Attachment:

Red_Hills_Unit_105H_BOP_3M_20200715131009.pdf

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	NON API	N	0	975	0	975	3354	2379	975	OTHER	48	ST&C	1.66	3.88	BUOY	6.88	BUOY	6.88
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4850	0	4850	3608	-1496	4850	J-55	40	LT&C	1.56	1.54	BUOY	2.68	BUOY	2.68
3	PRODUCTION	8.75	5.5	NEW	API	N	0	8818	0	8818	3608	-5464	8818	L-80	17	LT&C	1.52	1.88	BUOY	2.14	BUOY	2.14
4	PRODUCTION	8.75	5.5	NEW	API	N	8818	19158	8818	9300	-5464	-5946	10340	L-80	17	BUTT	1.45	1.78	BUOY	48.45	BUOY	48.45

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

Red_Hills_Unit_105H_Spec_Sheet_for_H40Hybrid_surf_casing_20200715131252.pdf

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

Red_Hills_Unit_105H_Casing_Assumptions_20200715131127.pdf

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**Casing Attachments****Casing ID:** 2 **String** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Red_Hills_Unit_105H_Casing_Assumptions_20200715131356.pdf

Casing ID: 3 **String** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Red_Hills_Unit_105H_Casing_Assumptions_20200715131440.pdf

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

Red_Hills_Unit_105H_Casing_Assumptions_20200715131546.pdf

Section 4 - Cement

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H

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	975	409	1.72	13.5	703	42	Class C	Bentonite
SURFACE	Tail		0	975	195	1.3	14.8	261	42	Class C	LCM
INTERMEDIATE	Lead		0	4850	922	1.88	12.9	1733	49	35:65 (POZ C)	Salt Bentonite
INTERMEDIATE	Tail		0	4850	283	1.34	14.8	379	49	Class C	LCM
PRODUCTION	Lead		0	1915 8	761	3.64	10.3	2518	25	Tuned Light	LCM
PRODUCTION	Tail		0	1915 8	3014	1.3	14.2	3265	25	50:50 (POZ H)	Salt, Bentonite, Fluid Loss, Dispersant, SMS

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H

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	975	SPUD MUD	8.3	8.8							
975	4850	SALT SATURATED	9.7	10.2							
4850	1915 8	OTHER : cut Brine or OBM	8.5	9							

Section 6 - Test, Logging, Coring

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

No DST Planned

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

GAMMA RAY LOG,DIRECTIONAL SURVEY,COMPENSATED NEUTRON LOG,

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 4352

Anticipated Surface Pressure: 2305

Anticipated Bottom Hole Temperature(F): 163

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

Describe:

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

Contingency Plans geohazards description:

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

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Red_Hills_Unit_W2E2_W_H2S_Plan_20220901211544.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS UNIT

Well Number: 105H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Red_Hills_Unit_105H_AC_Report_20211020145236.pdf

Red_Hills_Unit_105H_Directional_20211020145253.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

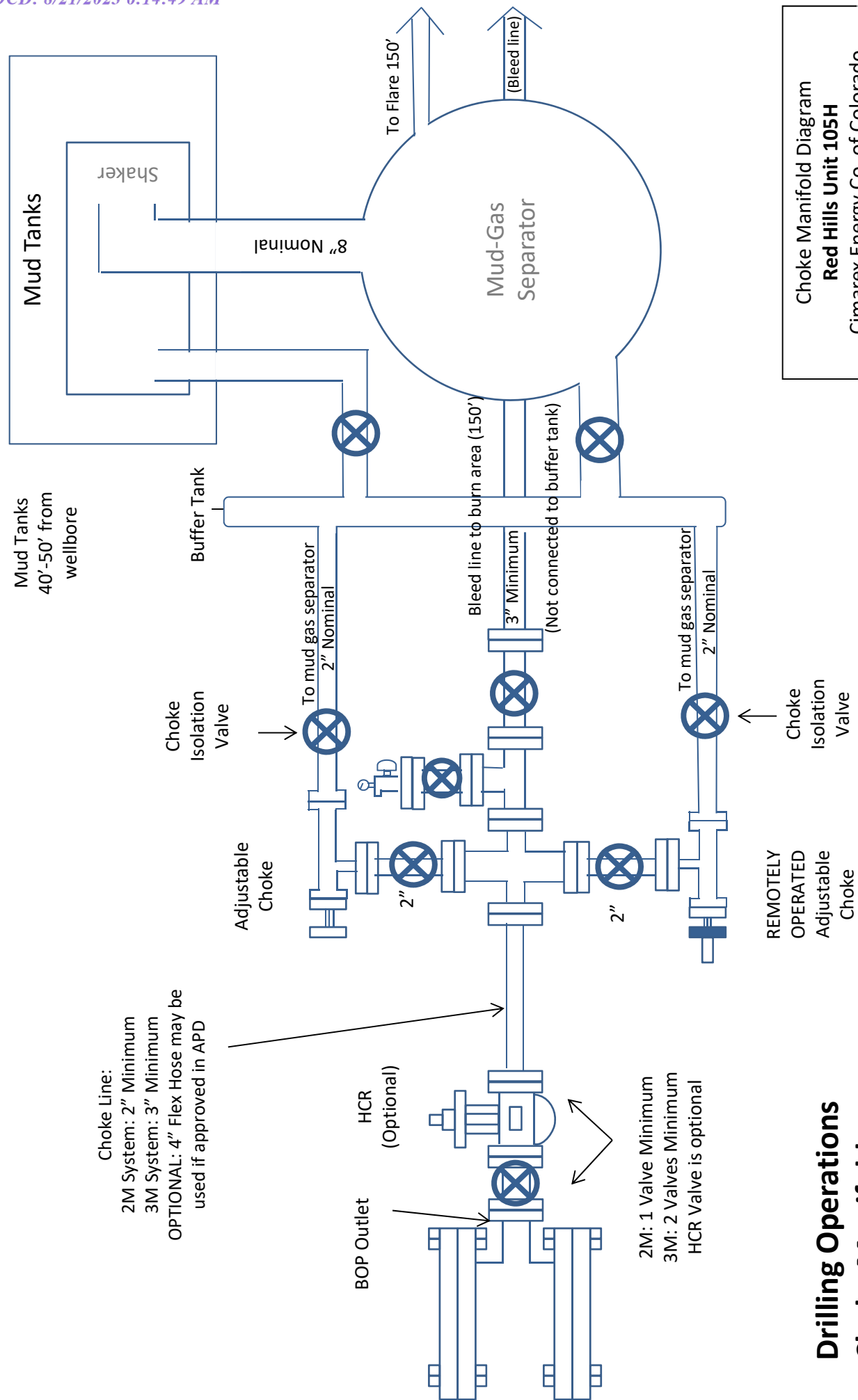
Red_Hills_Unit_105H_Gas_Capture_20200715132259.pdf

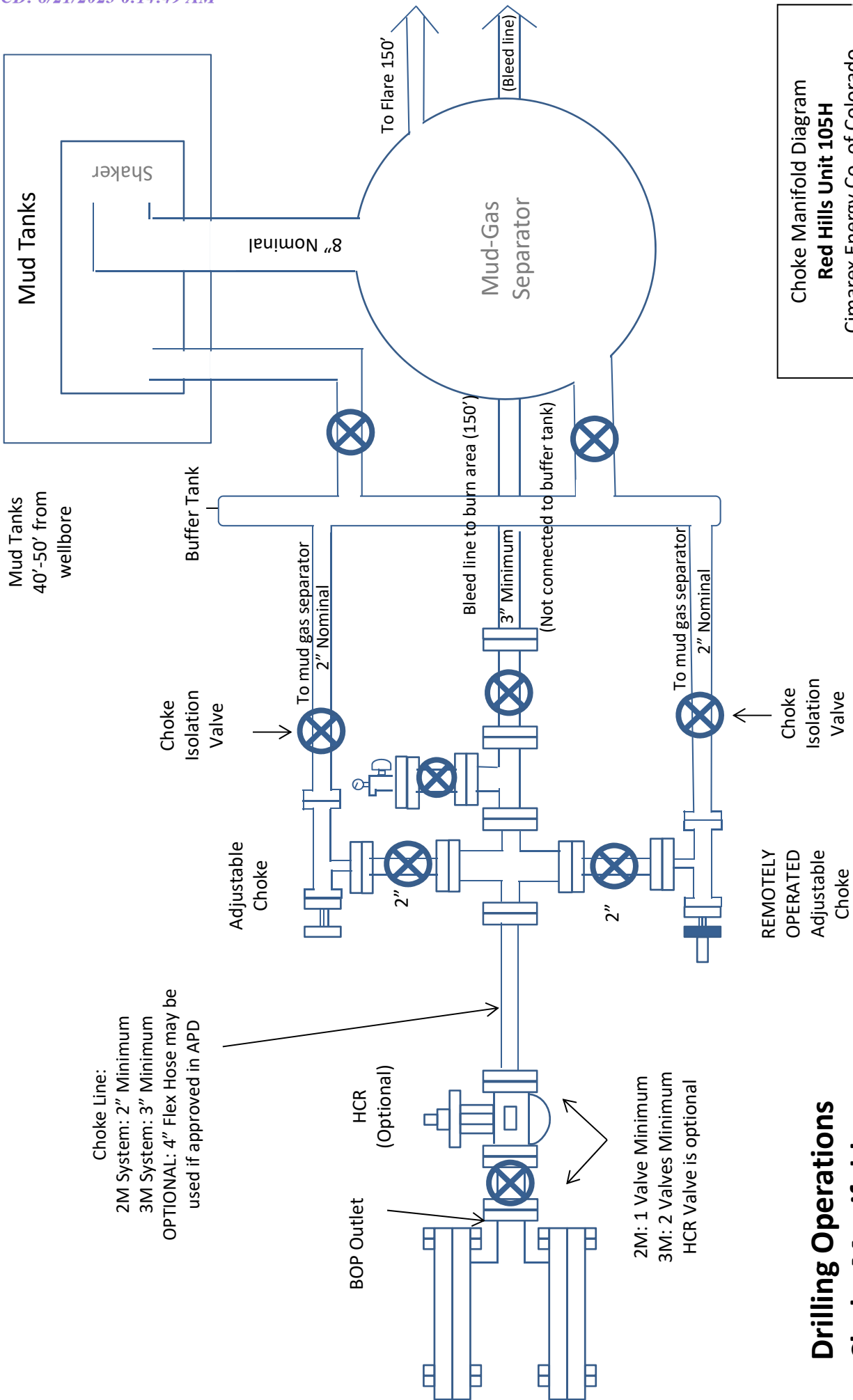
Red_Hills_Unit_105H_Drilling_Plan_1_20211020155031.pdf

Other Variance attachment:

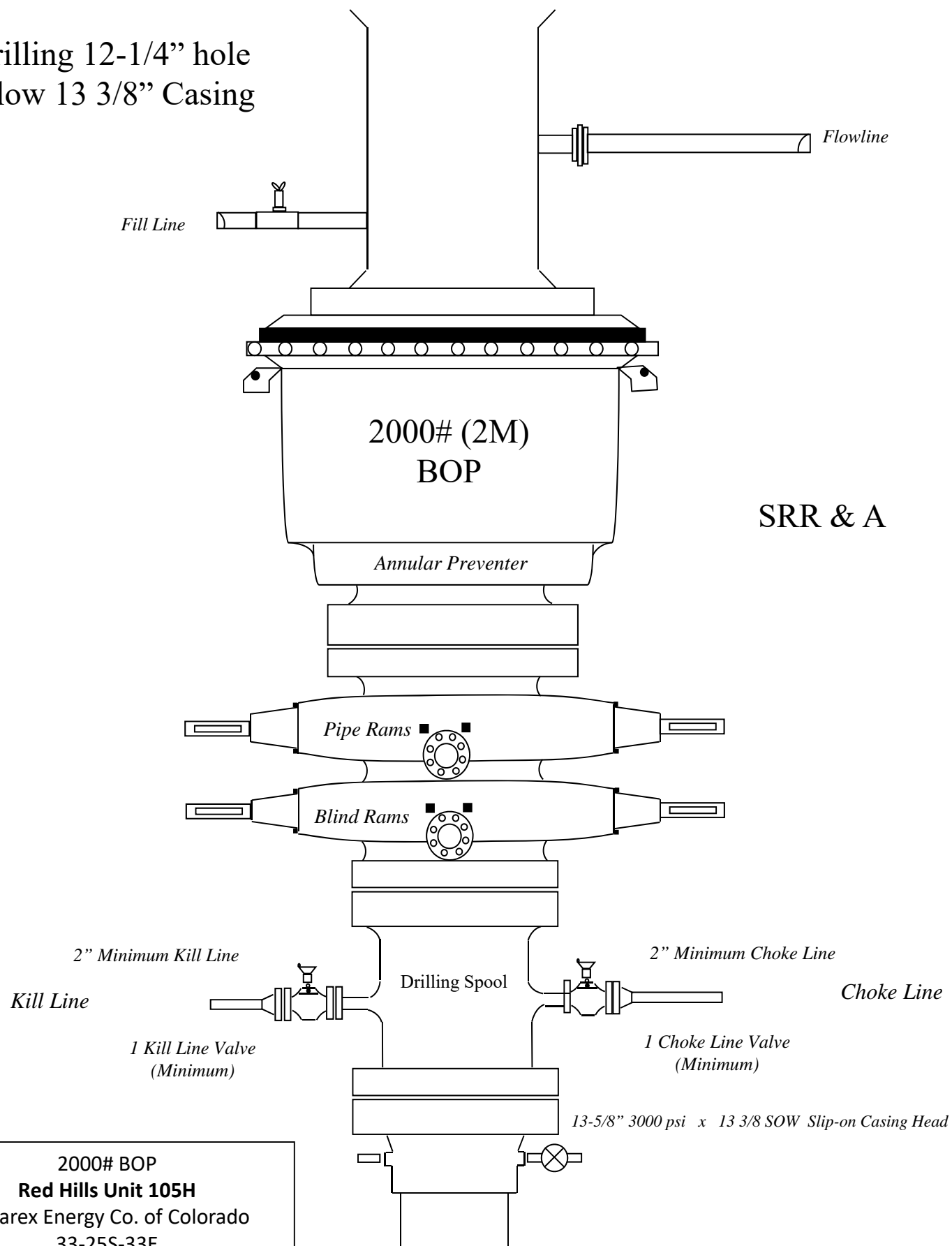
Red_Hills_Unit_W2E2_W_Flex_Hose_20200713135728.pdf

Red_Hills_Unit_105H_Multibowl_Wellhead_20200715132311.pdf

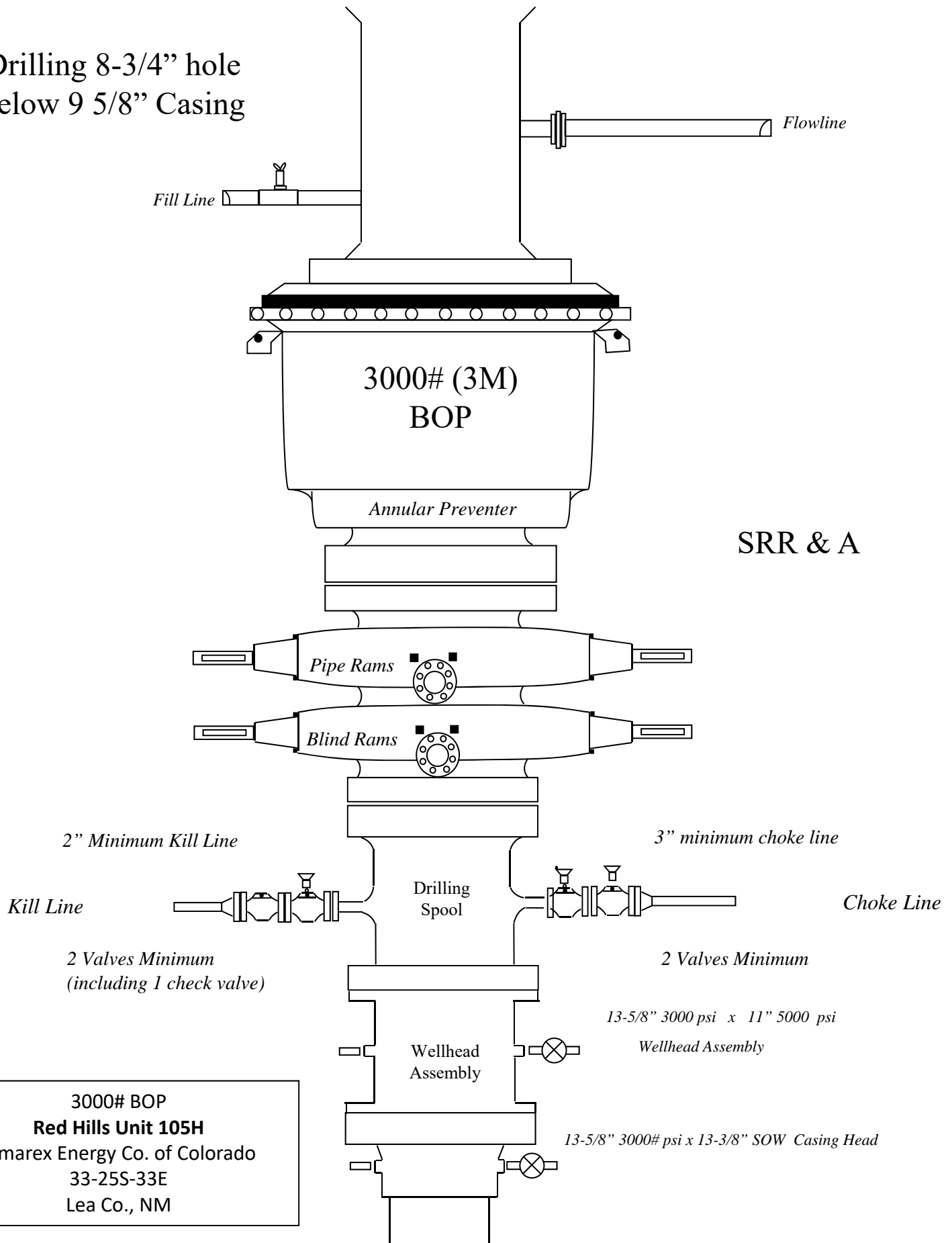




Drilling 12-1/4" hole
below 13 3/8" Casing



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



[Print](#)



Red Hills Unit 35H

Surface Casing Spec Sheet

OCTG Performance Data

Casing Performance

Availability: ERW

Pipe Body Geometry

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

Pipe Body Performance

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

SC Connection

Connection Geometry

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

Connection Performance

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

LC Connection

Connection Geometry

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

Connection Performance

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

BC Connection

Connection Geometry

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

Connection Performance

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

PE Connection

Connection Geometry

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

Connection Performance

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

Red Hills Unit 105H

Casing Assumptions

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	975	975	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.66	3.88	6.88
12 1/4	0	4850	4850	9-5/8"	40.00	J-55	LT&C	1.56	1.54	2.68
8 3/4	0	8818	8818	5-1/2"	17.00	L-80	LT&C	1.52	1.88	2.14
8 3/4	8818	19158	9300	5-1/2"	17.00	L-80	BT&C	1.45	1.78	48.45
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Red Hills Unit 105H

Casing Assumptions

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	975	975	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.66	3.88	6.88
12 1/4	0	4850	4850	9-5/8"	40.00	J-55	LT&C	1.56	1.54	2.68
8 3/4	0	8818	8818	5-1/2"	17.00	L-80	LT&C	1.52	1.88	2.14
8 3/4	8818	19158	9300	5-1/2"	17.00	L-80	BT&C	1.45	1.78	48.45
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Red Hills Unit 105H

Casing Assumptions

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	975	975	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.66	3.88	6.88
12 1/4	0	4850	4850	9-5/8"	40.00	J-55	LT&C	1.56	1.54	2.68
8 3/4	0	8818	8818	5-1/2"	17.00	L-80	LT&C	1.52	1.88	2.14
8 3/4	8818	19158	9300	5-1/2"	17.00	L-80	BT&C	1.45	1.78	48.45
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Red Hills Unit 105H

Casing Assumptions

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	975	975	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.66	3.88	6.88
12 1/4	0	4850	4850	9-5/8"	40.00	J-55	LT&C	1.56	1.54	2.68
8 3/4	0	8818	8818	5-1/2"	17.00	L-80	LT&C	1.52	1.88	2.14
8 3/4	8818	19158	9300	5-1/2"	17.00	L-80	BT&C	1.45	1.78	48.45
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Red Hills Unit 105H

Cimarex Energy Co.

UL: B, Sec. 33-25S-33E

Lea Co., NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H₂S safety instructor to the following:
 - A. Characteristics of H₂S
 - B. Physical effects and hazards
 - C. Principal and operation of H₂S detectors, warning system and briefing areas.
 - D. Evacuation procedure, routes and first aid.
 - E. Proper use of safety equipment & life support systems
 - F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.

H₂S Detection and Alarm Systems:

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

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

H₂S Contingency Plan
Red Hills Unit 105H
Cimarex Energy Co.
UL: B, Sec. 33-25S- 33E
Lea Co., NM

Emergency Procedures

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

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

Ignition of Gas Source

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

Characteristics of H₂S and SO₂

Please see attached International Chemical Safety Cards.

Contacting Authorities

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

H₂S Contingency Plan Emergency Contacts
 Red Hills Unit 105H
Cimarex Energy Co.
 UL: B, Sec. 33- 25S- 33E
 Lea Co., NM

Company Office

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

Key Personnel

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

Artesia

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

Carlsbad

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

Santa Fe

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

National

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

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

Other

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



Cimarex Red Hills Unit #105H Rev0 RM 06Apr20 Anti-Collision Summary Report

Analysis Date-24hr Time: April 08, 2020 - 10:03
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure: Cimarex Red Hills 33-4 Unit #105H
Slot: New Slot
Well: Red Hills 33-4 Unit #105H
Borehole: Red Hills 33-4 Unit #105H
Scan MD Range: 0.00ft ~ 19158.04ft

Analysis Method: 3D Least Distance
Reference Trajectory: Cimarex Red Hills 33-4 Unit #105H Rev0 RM 06Apr20 (Non-Def Plan)
Depth Interval: Every 10.00 Measured Depth (ft)
Rule Set: NAL Procedure: D&M AntiCollision Standard S002
Min Pts: All local minima indicated.
Version / Patch: 2.10.787.0
Database \ Project: us1153APP452.DIR.SLB.COM\DRILLING-NM Lea County 2.10

Trajectory Error Model: ISCWSA0 3-D 95.000% Confidence 2.7955 sigma, for subject well. For offset wells, error model version is specified with each well respectively.

Offset Trajectories Summary

Offset Selection Criteria

Wellhead distance scan: Restricted within 60168.53 ft
 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

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

Results highlighted: Sep-Factor separation <= 1.50 ft

Cimarex Red Hills Unit #101H
 Rev0 RM 11Sept19 (Non-Def Plan)

Fail Minor

116.61	32.81	114.63	83.80	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
116.60	32.81	114.62	83.79	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
116.60	36.45	91.64	80.16	4.99	OSF1.50	3720.00	3720.00	OSF<5.00				Enter Alert
84.77	84.88	27.51	-0.11	1.50	OSF1.50	9070.00	9058.44		OSF<1.50			Enter Minor
83.11	84.83	25.88	-1.74	1.47	OSF1.50	9100.00	9083.86					MinPts
83.81	84.83	26.59	-1.03	1.48	OSF1.50	9120.00	9100.23		OSF>1.50			Exit Minor
279.74	85.41	222.14	194.33	4.99	OSF1.50	9430.00	9277.89	OSF>5.00				Exit Alert
2983.58	308.78	2777.06	2674.78	14.58	OSF1.50	19158.04	9300.00					MinPts

Cimarex Red Hills 33-4 Unit
 #104H Rev0 RM 06Apr20 (Non-Def Plan)

Warning Alert

20.00	16.26	18.72	3.74	N/A	MAS = 4.96 (m)	0.00	0.00	CtCt<=15m<15.00				Enter Alert
20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	26.00	26.00					WRP
20.00	19.54	6.54	0.46	1.54	OSF1.50	2000.00	2000.00					MinPt-CtCt
20.15	20.01	6.39	0.15	1.51	OSF1.50	2050.00	2050.00					MINPT-O-EQU
20.31	20.19	6.42	0.12	1.51	OSF1.50	2070.00	2070.00					MinPts
93.20	28.86	73.53	64.33	5.00	OSF1.50	3020.00	3020.00	OSF>5.00				Exit Alert
104.66	32.38	82.65	72.29	4.99	OSF1.50	3600.00	3600.00	OSF<5.00				Enter Alert
104.67	81.43	49.95	23.23	1.93	OSF1.50	8820.00	8820.00					MinPts
268.77	82.10	213.61	186.68	4.97	OSF1.50	9250.00	9193.83	OSF>5.00				Exit Alert
700.20	211.14	559.01	489.06	5.00	OSF1.50	15930.00	9300.00	OSF<5.00				Enter Alert
700.20	310.11	493.03	390.09	3.39	OSF1.50	19158.04	9300.00					MinPts

Cimarex Red Hills 33-4 Unit
 #103H Rev0 RM 06Apr20 (Non-Def Plan)

Warning Alert

39.99	32.25	38.71	7.74	N/A	MAS = 9.83 (m)	0.00	0.00	CtCt<=15m<15.00				Enter Alert
39.99	32.25	38.71	7.74	N/A	MAS = 9.83 (m)	26.00	26.00					WRP
39.99	32.25	28.42	7.74	3.76	MAS = 9.83 (m)	1700.00	1700.00					MinPts
40.06	32.25	28.38	7.81	3.73	MAS = 9.83 (m)	1720.00	1720.00					MINPT-O-EQU
40.41	32.25	28.59	8.16	3.71	MAS = 9.83 (m)	1750.00	1750.00					MinPt-O-SF
59.58	32.25	46.59	27.33	4.98	MAS = 9.83 (m)	2040.00	2040.00	OSF>5.00				Exit Alert
467.39	74.09	417.57	393.30	9.60	OSF1.50	8900.00	8899.60					MinPt-O-SF
466.91	74.02	417.13	392.89	9.60	OSF1.50	8940.00	8938.67					MinPt-O-SF
466.39	73.90	416.69	392.48	9.61	OSF1.50	9000.00	8995.61					MinPt-O-ADP
466.37	73.88	416.69	392.49	9.61	OSF1.50	9010.00	9004.85					MinPts
1797.63	308.51	1591.53	1489.12	8.77	OSF1.50	19158.04	9300.00					MinPts

Cimarex Red Hills Unit #47H
 Rev0 RM 27Aug18 (Non-Def Plan)

Warning Alert

851.81	32.81	849.83	819.00	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
851.81	32.81	849.82	819.00	59784.26	MAS = 10.00 (m)	26.00	26.00					WRP
473.70	73.41	423.99	400.29	9.93	OSF1.50	8900.00	8899.60					MinPt-O-SF
473.44	73.28	423.82	400.16	9.96	OSF1.50	8950.00	8948.32					MinPt-O-ADP
473.42	73.25	423.81	400.17	9.96	OSF1.50	8960.00	8957.91					MINPT-O-EQU
473.41	73.23	423.82	400.19	9.97	OSF1.50	8970.00	8967.44					MinPt-CtCt
827.85	249.78	660.67	578.07	5.00	OSF1.50	17040.00	9300.00	OSF<5.00				Enter Alert
832.05	315.58	621.03	516.51	3.97	OSF1.50	19158.04	9300.00					MinPts

Cimarex Red Hills 33-4 Unit
 #102H Rev0 RM 06Apr20 (Non-Def Plan)

Pass

60.00	32.81	58.71	27.19	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
59.99	32.81	58.71	27.18	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
59.99	32.81	49.68	27.18	6.50	MAS = 10.00 (m)	1500.00	1500.00					MinPts
60.01	32.81	49.64	27.20	6.47	MAS = 10.00 (m)	1510.00	1510.00					MINPT-O-EQU
61.35	32.81	50.61	28.54	6.39	MAS = 10.00 (m)	1590.00	1590.00					MinPt-O-SF
449.94	71.82	401.63	378.12	9.54	OSF1.50	9120.00	9100.23					MinPt-O-SF
449.86	71.80	401.56	378.06	9.54	OSF1.50	9130.00	9108.24					MinPts
1174.31	306.48	969.58	867.86	5.77	OSF1.50	19158.04	9300.00					MinPts

Cimarex Red Hills Unit #100H
 Rev0 RM 11Sept19 (Non-Def Plan)

Pass

134.15	32.81	132.17	101.34	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
134.15	32.81	132.17	101.34	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
134.15	32.81	114.97	101.34	7.69	MAS = 10.00 (m)	2800.00	2800.00					MinPts
134.20	32.81	114.93	101.39	7.65	MAS = 10.00 (m)	2820.00	2820.00					MINPT-O-EQU
135.61	32.81	115.97	102.80	7.57	MAS = 10.00 (m)	2900.00	2900.00					MinPt-O-SF
337.25	74.28	287.07	262.97	6.98	OSF1.50	9170.00	9139.02					MinPts
2996.98	308.25	2790.80	2688.71	14.67	OSF1.50	19158.04	9300.00					MinPts

Cimarex Red Hills Unit #99H
 Rev0 RM 11Sept19 (Non-Def Plan)

Pass

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
	152.30	32.81	150.33	119.50	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	152.29	32.81	150.31	119.48	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	152.28	32.81	135.00	119.48	9.82	MAS = 10.00 (m)	2500.00	2500.00				MinPts	
	152.34	32.81	134.95	119.53	9.76	MAS = 10.00 (m)	2520.00	2520.00				MINPT-O-EOU	
	154.07	32.81	136.28	121.26	9.62	MAS = 10.00 (m)	2610.00	2610.00				MinPt-O-SF	
	752.14	72.17	703.36	679.97	16.03	OSF1.50	9210.00	9167.61				MinPt-O-SF	
	751.79	72.12	703.06	679.68	16.04	OSF1.50	9230.00	9181.03				MinPts	
	3069.18	306.72	2864.04	2762.46	15.10	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #62H Rev0 RM 06Apr20 (Non-Def Plan)													Pass
	732.21	32.81	730.93	699.40	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	732.18	32.81	730.89	699.37	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	222.68	59.97	182.25	162.69	5.66	OSF1.50	6420.00	6420.00				MinPt-CtCt	
	222.91	60.69	182.02	162.22	5.60	OSF1.50	6490.00	6490.00				MINPT-O-EOU	
	223.16	60.99	182.06	162.16	5.57	OSF1.50	6520.00	6520.00				MinPt-O-ADP	
	229.95	63.93	186.90	166.02	5.49	OSF1.50	6810.00	6810.00				MinPt-O-SF	
	275.87	77.81	223.55	198.04	5.38	OSF1.50	8817.84	8817.84				MINPT-O-EOU	
	275.87	77.84	223.55	198.03	5.38	OSF1.50	8820.00	8820.00				MinPts	
	3084.40	314.73	2874.14	2769.66	14.75	OSF1.50	19150.00	9300.00				MinPt-CtCt	
	3084.40	314.97	2873.95	2769.42	14.74	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #50H Rev0 RM 27Mar20 (Non-Def Plan)													Pass
	924.30	32.81	923.01	891.49	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	924.30	32.81	923.00	891.49	54661.72	MAS = 10.00 (m)	26.00	26.00				WRP	
	321.59	72.65	272.52	248.94	6.78	OSF1.50	8817.84	8817.84				MinPt-CtCt	
	321.62	72.75	272.48	248.87	6.77	OSF1.50	8860.00	8859.95				MINPT-O-EOU	
	321.64	72.77	272.48	248.86	6.77	OSF1.50	8870.00	8869.90				MinPt-O-ADP	
	321.75	72.84	272.55	248.90	6.76	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	1491.44	313.37	1282.10	1178.09	7.19	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #20H Rev0 RM 06Apr20 (Non-Def Plan)													Pass
	752.15	32.81	750.87	719.35	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	752.12	32.81	750.83	719.31	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	397.37	77.01	345.52	320.36	7.87	OSF1.50	8817.84	8817.84				MinPt-CtCt	
	397.37	77.02	345.52	320.35	7.87	OSF1.50	8820.00	8820.00				MinPts	
	397.68	77.14	345.74	320.54	7.86	OSF1.50	8850.00	8849.98				MinPt-O-SF	
	3096.10	313.67	2886.42	2782.23	14.83	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #19H Rev0 RM 06Apr20 (Non-Def Plan)													Pass
	772.08	32.81	770.80	739.27	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	772.05	32.81	770.77	739.24	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	743.43	81.85	688.44	661.59	13.82	OSF1.50	9150.00	9123.89				MinPt-O-SF	
	743.39	81.83	688.40	661.55	13.82	OSF1.50	9160.00	9131.52				MinPts	
	3161.04	309.06	2954.58	2851.99	15.40	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills Unit #48H Rev0 RM 27Aug18 (Non-Def Plan)													Pass
	871.55	32.81	869.57	838.74	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	871.55	32.81	869.56	838.74	58414.21	MAS = 10.00 (m)	26.00	26.00				WRP	
	871.55	84.54	814.53	787.01	15.80	OSF1.50	8817.84	8817.84				MinPt-CtCt	
	871.59	84.64	814.50	786.95	15.78	OSF1.50	8840.00	8839.99				MinPts	
	872.17	84.92	814.90	787.25	15.74	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	1149.45	309.76	942.28	839.69	5.59	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills Unit #49H Rev0 RM 27Aug18 (Non-Def Plan)													Pass
	891.36	32.81	889.38	858.55	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	891.36	32.81	889.36	858.55	53372.24	MAS = 10.00 (m)	26.00	26.00				WRP	
	891.36	32.81	880.39	858.55	98.92	MAS = 10.00 (m)	1490.00	1490.00				MinPts	
	891.40	32.81	880.34	858.59	97.92	MAS = 10.00 (m)	1510.00	1510.00				MINPT-O-EOU	
	1295.09	45.10	1264.37	1249.99	44.99	OSF1.50	5190.00	5190.00				MinPt-O-SF	
	1301.17	72.86	1251.97	1228.36	27.52	OSF1.50	8830.00	8830.00				MinPts	
	1302.12	73.02	1252.78	1229.10	27.43	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	1517.31	308.96	1310.71	1208.40	7.41	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #51H Rev0 RM 27Mar20 (Non-Def Plan)													Pass
	944.23	32.81	942.94	911.42	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	944.23	32.81	942.93	911.42	51756.07	MAS = 10.00 (m)	26.00	26.00				WRP	
	944.23	83.85	887.90	860.38	17.13	OSF1.50	8817.84	8817.84				MinPt-CtCt	
	944.26	83.91	887.89	860.35	17.12	OSF1.50	8830.00	8830.00				MinPts	
	945.38	84.24	888.79	861.14	17.07	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	1523.28	309.21	1316.71	1214.07	7.41	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #52H Rev0 RM 27Mar20 (Non-Def Plan)													Pass
	964.17	32.81	962.89	931.37	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	964.17	32.81	962.87	931.37	50985.37	MAS = 10.00 (m)	26.00	26.00				WRP	
	964.17	32.81	950.75	931.37	79.34	MAS = 10.00 (m)	1990.00	1990.00				MinPts	
	964.47	32.81	950.44	931.66	75.60	MAS = 10.00 (m)	2090.00	2090.00				MINPT-O-EOU	
	997.32	34.07	974.18	963.25	45.59	OSF1.50	3610.00	3610.00				MinPt-O-SF	
	998.60	81.50	943.84	917.10	18.65	OSF1.50	8820.00	8820.00				MINPT-O-EOU	
	998.64	81.54	943.85	917.10	18.64	OSF1.50	8830.00	8830.00				MinPt-O-ADP	
	1000.69	81.86	945.69	918.83	18.61	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	2039.89	310.36	1832.55	1729.53	9.89	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #53H Rev0 RM 27Mar20 (Non-Def Plan)													Pass
	984.12	32.81	982.83	951.31	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	984.12	32.81	982.81	951.31	49150.33	MAS = 10.00 (m)	26.00	26.00				WRP	
	984.12	32.81	973.84	951.31	109.25	MAS = 10.00 (m)	1490.00	1490.00				MinPts	
	984.16	32.81	973.78	951.36	108.09	MAS = 10.00 (m)	1510.00	1510.00				MINPT-O-EOU	
	1729.96	58.15	1690.77	1671.81	45.60	OSF1.50	6400.00	6400.00				MinPt-O-SF	
	1743.75	75.36	1693.08	1668.39	35.28	OSF1.50	8820.00	8820.00				MinPts	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
	1746.23	75.61	1695.40	1670.62	35.22	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	2302.73	307.28	2097.45	1995.43	11.28	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills Unit #75H Rev0 RM 11Sept19 (Non-Def Plan)													
	1481.05	32.81	1479.07	1448.24	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1480.99	32.81	1479.01	1448.19	418163.64	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1480.99	32.81	1479.01	1448.18	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1169.83	73.36	1120.13	1096.46	24.68	OSF1.50	9230.00	9181.03				MinPt-O-SF	
	1169.02	73.25	1119.40	1095.77	24.68	OSF1.50	9270.00	9205.99				MinPts	
	3204.84	311.62	2996.44	2893.23	15.52	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #79H Rev0 RM 27Mar20 (Non-Def Plan)													
	1380.15	32.81	1378.87	1347.35	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1380.10	32.81	1378.81	1347.29	495377.81	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1380.10	32.81	1378.81	1347.29	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1174.45	74.92	1124.02	1099.54	23.98	OSF1.50	9190.00	9153.60				MinPt-O-SF	
	1173.75	74.83	1123.38	1098.92	23.97	OSF1.50	9230.00	9181.03				MinPts	
	1855.83	311.92	1647.45	1543.92	8.96	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #78H Rev0 RM 27Mar20 (Non-Def Plan)													
	1400.15	32.81	1398.86	1367.34	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1400.10	32.81	1398.81	1367.29	747774.28	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1400.10	32.81	1398.81	1367.29	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1400.10	32.81	1386.61	1367.29	114.66	MAS = 10.00 (m)	2010.00	2010.00				MinPts	
	1400.14	32.81	1386.56	1367.33	113.82	MAS = 10.00 (m)	2030.00	2030.00				MINPT-O-EQU	
	1925.31	54.12	1888.80	1871.19	54.63	OSF1.50	6290.00	6290.00				MinPt-O-SF	
	1929.28	73.24	1880.02	1856.04	40.13	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	1913.29	72.63	1864.44	1840.66	40.20	OSF1.50	9140.00	9116.13				MinPt-O-SF	
	1909.30	72.36	1860.63	1836.94	40.27	OSF1.50	9240.00	9187.51				MinPt-O-ADP	
	1909.27	72.33	1860.62	1836.94	40.28	OSF1.50	9250.00	9193.83				MinPts	
	2573.18	305.98	2368.77	2267.21	12.66	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #77H Rev0 RM 27Mar20 (Non-Def Plan)													
	1420.14	32.81	1418.85	1387.33	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1420.09	32.81	1418.80	1387.28	641075.33	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1420.09	32.81	1418.80	1387.28	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1420.09	32.81	1407.86	1387.28	129.67	MAS = 10.00 (m)	1810.00	1810.00				MinPts	
	1420.13	32.81	1407.81	1387.32	128.64	MAS = 10.00 (m)	1830.00	1830.00				MINPT-O-EQU	
	1924.65	51.76	1889.72	1872.89	57.18	OSF1.50	6080.00	6080.00				MinPt-O-SF	
	1927.72	72.14	1879.20	1855.58	40.73	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	1906.36	71.40	1858.33	1834.90	40.73	OSF1.50	9160.00	9131.52				MinPt-O-SF	
	1900.69	71.04	1852.90	1829.65	40.85	OSF1.50	9280.00	9211.82				MinPt-O-ADP	
	1900.67	71.01	1852.90	1829.66	40.86	OSF1.50	9290.00	9217.49				MinPts	
	2180.48	307.67	1974.94	1872.81	10.67	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #82H Rev0 RM 06Apr20 (Non-Def Plan)													
	1481.62	32.81	1480.33	1448.81	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1481.57	32.81	1480.28	1448.76	483095.63	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1481.56	32.81	1480.28	1448.75	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1479.99	83.83	1423.67	1396.16	26.87	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	1425.86	78.34	1373.16	1347.52	27.77	OSF1.50	9570.00	9299.95				MinPts	
	1425.85	78.31	1373.17	1347.54	27.78	OSF1.50	9576.81	9300.00				MinPt-CtCt	
	1425.86	312.71	1216.92	1113.15	6.86	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #76H Rev0 RM 27Mar20 (Non-Def Plan)													
	1440.15	32.81	1438.86	1407.34	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1440.09	32.81	1438.80	1407.29	474674.14	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1440.09	32.81	1438.81	1407.28	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1440.09	32.81	1429.75	1407.28	158.91	MAS = 10.00 (m)	1510.00	1510.00				MinPts	
	1440.13	32.81	1429.70	1407.32	157.41	MAS = 10.00 (m)	1530.00	1530.00				MINPT-O-EQU	
	2036.71	53.82	2000.40	1982.89	58.14	OSF1.50	6300.00	6300.00				MinPt-O-SF	
	2040.27	70.30	1992.98	1969.98	44.32	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	2010.63	69.27	1964.02	1941.36	44.33	OSF1.50	9180.00	9146.38				MinPt-O-SF	
	1999.96	68.68	1953.75	1931.28	44.48	OSF1.50	9350.00	9247.81				MinPts	
	1999.95	68.65	1953.76	1931.30	44.51	OSF1.50	9360.00	9252.23				MinPt-CtCt	
	2109.68	310.70	1902.12	1798.98	10.22	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills Unit #74H Rev0 RM 11Sept19 (Non-Def Plan)													
	1501.07	32.81	1499.10	1468.27	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1501.02	32.81	1499.04	1468.21	415700.47	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1501.02	32.81	1499.04	1468.21	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1467.70	84.66	1410.58	1383.04	26.60	OSF1.50	9270.00	9205.99				MinPt-O-SF	
	1467.43	84.63	1410.34	1382.80	26.61	OSF1.50	9290.00	9217.49				MinPts	
	1467.43	84.61	1410.35	1382.82	26.61	OSF1.50	9300.00	9222.98				MinPt-CtCt	
	3377.92	308.10	3171.86	3069.81	16.54	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #81H RM 06Apr20 (Non-Def Plan)													
	1501.58	32.81	1500.29	1468.77	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1501.53	32.81	1500.25	1468.73	992423.78	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1501.53	32.81	1500.25	1468.73	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1479.69	81.80	1424.72	1397.89	27.53	OSF1.50	9140.00	9116.13				MinPt-O-SF	
	1479.47	81.78	1424.52	1397.70	27.55	OSF1.50	9160.00	9131.52				MinPts	
	1611.29	312.21	1402.72	1299.08	7.77	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills Unit #21H Rev0 RM 11Sept19 (Non-Def Plan)													
	1521.07	32.81	1519.09	1488.26	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	1521.01	32.81	1519.03	1488.21	378072.10	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	1521.01	32.81	1519.03	1488.20	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1521.01	32.81	1503.70	1488.20	99.05	MAS = 10.00 (m)	2510.00	2510.00				MinPts	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
	1521.04	32.81	1503.64	1488.23	98.47	MAS = 10.00 (m)	2530.00	2530.00				MINPT-O-EQU	
	2036.11	57.52	1997.10	1978.59	54.94	OSF1.50	6800.00	6800.00				MinPt-O-SF	
	2038.40	72.58	1989.36	1965.83	43.27	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	2010.71	71.73	1962.23	1938.98	43.20	OSF1.50	9190.00	9153.60				MinPt-O-SF	
	2004.05	71.32	1955.85	1932.73	43.31	OSF1.50	9330.00	9238.42				MinPts	
	3592.24	304.79	3388.39	3287.45	17.78	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills 33-4 Unit #80H Rev0 RM 06Apr20 (Non-Def Plan)													Pass
	1521.57	32.81	1520.28	1488.76	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1521.52	32.81	1520.23	1488.71	529893.51	MAS = 10.00 (m)	10.00	10.00				MinPts	
	1521.52	32.81	1520.23	1488.71	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	1521.52	32.81	1508.03	1488.71	124.65	MAS = 10.00 (m)	2010.00	2010.00				MinPts	
	1521.75	32.81	1507.80	1488.94	120.03	MAS = 10.00 (m)	2090.00	2090.00				MINPT-O-EQU	
	1547.85	32.81	1527.10	1515.04	79.47	MAS = 10.00 (m)	3240.00	3240.00				MinPt-O-SF	
	1538.55	81.76	1483.62	1456.79	28.63	OSF1.50	9150.00	9123.89				MinPt-O-SF	
	1538.49	81.76	1483.47	1456.65	28.66	OSF1.50	9170.00	9139.02				MinPts	
	1629.79	311.95	1421.39	1317.84	7.86	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills Unit#36H Rev0 RM 27Aug18 (Non-Def Plan)													Pass
	2393.69	32.81	2391.71	2360.88	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2393.69	32.81	2391.65	2360.88	46199.86	MAS = 10.00 (m)	26.00	26.00				WRP	
	1720.01	76.30	1668.24	1643.72	35.01	OSF1.50	8817.84	8817.84				MinPt-CtCt	
	1720.02	76.30	1668.24	1643.71	35.01	OSF1.50	8820.00	8820.00				MinPts	
	1722.21	76.51	1670.30	1645.70	34.93	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	1901.90	321.18	1687.10	1580.71	8.93	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills Unit #37H Rev0 RM 27Aug18 (Non-Def Plan)													Pass
	2413.53	32.81	2411.55	2380.73	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2413.53	32.81	2411.50	2380.73	45991.11	MAS = 10.00 (m)	26.00	26.00				WRP	
	1813.88	78.03	2131.14	2105.85	43.14	OSF1.50	8817.84	8817.84				MinPt-CtCt	
	1813.88	78.04	2131.13	2105.84	43.13	OSF1.50	8820.00	8820.00				MinPts	
	2185.77	78.35	2132.82	2107.42	42.99	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	2349.38	315.13	2138.63	2034.25	11.24	OSF1.50	19158.04	9300.00				MinPts	
Cimarex Red Hills Unit #5H (Offset) Gyro Off-12608ft (Def Survey)													Pass
	2515.38	32.81	2513.38	2482.55	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts	
	2515.39	32.81	2513.38	2482.58	80821.58	MAS = 10.00 (m)	26.00	26.00				WRP	
	2515.55	32.81	2513.30	2482.74	9493.89	MAS = 10.00 (m)	80.00	80.00				MINPT-O-EQU	
	2521.12	32.81	2509.22	2488.31	254.05	MAS = 10.00 (m)	2120.00	2120.00				MinPts	
	2521.12	32.81	2508.34	2488.31	233.37	MAS = 10.00 (m)	2340.00	2340.00				MinPts	
	2521.24	32.81	2507.62	2488.43	216.41	MAS = 10.00 (m)	2510.00	2510.00				MinPts	
	2489.36	37.76	2463.53	2451.60	104.31	OSF1.50	5380.00	5380.00				MinPt-CtCt	
	2490.32	39.96	2463.02	2450.35	98.27	OSF1.50	5730.00	5730.00				MINPT-O-EQU	
	2490.87	40.78	2463.06	2450.14	96.35	OSF1.50	5850.00	5850.00				MINPT-O-EQU	
	2492.33	42.52	2463.32	2449.80	92.13	OSF1.50	6130.00	6130.00				MinPt-O-ADP	
	2492.58	42.78	2463.41	2449.81	91.57	OSF1.50	6170.00	6170.00				MinPt-O-ADP	
	2493.03	43.23	2463.56	2449.81	90.59	OSF1.50	6240.00	6240.00				MinPt-O-ADP	
	2494.13	44.50	2463.81	2449.64	87.92	OSF1.50	6430.00	6430.00				MinPt-O-ADP	
	2496.33	46.86	2464.43	2449.48	83.37	OSF1.50	6780.00	6780.00				MinPt-O-ADP	
	2527.37	61.64	2485.61	2465.73	63.59	OSF1.50	8900.00	8899.60				MinPt-O-SF	
	2189.21	57.87	2149.97	2131.34	58.70	OSF1.50	10460.00	9300.00				MinPts	
	2189.25	57.92	2149.97	2131.32	58.65	OSF1.50	10470.00	9300.00				MinPt-O-ADP	
	2308.30	63.19	2265.52	2245.12	56.52	OSF1.50	11190.00	9300.00				MinPt-O-SF	
	2321.30	63.54	2278.28	2257.76	56.52	OSF1.50	11230.00	9300.00				MinPt-O-SF	
	8971.00	80.69	8916.54	8890.31	170.92	OSF1.50	19158.04	9300.00				TD	
Cimarex Red Hills Unit #16H MWD Final (Surcon Corrected) (Def Survey)													Pass
	2321.63	32.81	2319.65	2288.83	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2321.62	32.81	2319.58	2288.81	40269.92	MAS = 10.00 (m)	26.00	26.00				WRP	
	2305.32	32.81	2297.87	2272.51	421.27	MAS = 10.00 (m)	1270.00	1270.00				MinPts	
	2306.11	32.81	2297.10	2273.31	327.70	MAS = 10.00 (m)	1620.00	1620.00				MINPT-O-EQU	
	2307.20	32.81	2297.40	2274.39	295.00	MAS = 10.00 (m)	1800.00	1800.00				MINPT-O-EQU	
	2314.34	32.81	2301.20	2281.53	207.21	MAS = 10.00 (m)	2550.00	2550.00				MINPT-O-EQU	
	2305.35	32.81	2288.10	2272.54	150.93	MAS = 10.00 (m)	3490.00	3490.00				MinPts	
	2305.88	32.81	2287.75	2273.07	142.75	MAS = 10.00 (m)	3690.00	3690.00				MINPT-O-EQU	
	2304.54	32.81	2285.01	2271.73	131.27	MAS = 10.00 (m)	4000.00	4000.00				MinPts	
	2304.62	32.81	2284.96	2271.81	130.29	MAS = 10.00 (m)	4030.00	4030.00				MINPT-O-EQU	
	2304.59	32.81	2283.13	2271.78	118.28	MAS = 10.00 (m)	4430.00	4430.00				MinPts	
	2304.65	32.81	2283.07	2271.84	117.50	MAS = 10.00 (m)	4460.00	4460.00				MINPT-O-EQU	
	2301.90	35.78	2277.39	2266.12	102.10	OSF1.50	5110.00	5110.00				MinPt-CtCt	
	2302.00	36.03	2277.32	2265.97	101.36	OSF1.50	5150.00	5150.00				MINPT-O-EQU	
	2302.11	36.15	2277.34	2265.96	101.00	OSF1.50	5170.00	5170.00				MinPt-O-ADP	
	2379.03	60.45	2338.07	2318.58	60.98	OSF1.50	8817.84	8817.84				MinPt-O-SF	
	2540.85	58.37	2501.27	2482.48	67.53	OSF1.50	9770.00	9300.00				MinPts	
	2561.02	63.01	2518.35	2498.01	62.89	OSF1.50	10370.00	9300.00				MinPt-CtCt	
	2561.23	63.66	2518.14	2497.58	62.25	OSF1.50	10430.00	9300.00				MINPT-O-EQU	
	2561.60	64.09	2518.21	2497.51	61.81	OSF1.50	10470.00	9300.00				MinPt-O-ADP	
	2550.89	84.46	2493.92	2466.43	46.35	OSF1.50	11570.00	9300.00				MinPt-CtCt	
	2551.85	92.18	2489.73	2459.67	42.40	OSF1.50	11900.00	9300.00				MinPt-CtCt	
	2552.48	101.77	2483.98	2450.72	38.34	OSF1.50	12290.00	9300.00				MinPt-CtCt	
	2553.28	104.38	2483.03	2448.90	37.37	OSF1.50	12410.00	9300.00				MINPT-O-EQU	
	2554.16	105.47	2483.19	2448.69	36.99	OSF1.50	12460.00	9300.00				MinPt-O-ADP	
	2564.61	118.19	2485.16	2446.43	33.08	OSF1.50	12940.00	9300.00				MINPT-O-EQU	
	2561.82	135.89	2470.57	2425.93	28.67	OSF1.50	13580.00	9300.00				MinPt-CtCt	
	2565.07	146.68	2466.64	2418.42	26.58	OSF1.50	13990.00	9300.00				MINPT-O-EQU	
	2566.27	148.06	2466.90	2418.21	26.33	OSF1.50	14050.00	9300.00				MinPt-O-ADP	
	2573.96	173.14	2457.87	2400.82	22.54	OSF1.50	14900.00	9300.00				MinPt-CtCt	
	2574.91	176.03	2456.90	2398.88	22.17	OSF1.50	15020.00	9300.00				MINPT-O-EQU	
	2577.02	178.59	2457.30	2398.42	21.87	OSF1.50	15120.00	9300.00				MinPt-O-ADP	
	2570.63	198.56	2437.60	2372.07	19.60	OSF1.50	15780.00	9300.00				MinPt-CtCt	
	2571.24	200.38	2437.00	2370.86	19.43	OSF1.50	15860.00	9300.00				MINPT-O-EQU	
	2571.80	201.05	2437.11	2370.75	19.36	OSF1.50	15890.00	9300.00				MinPt-O-ADP	
	2577.28	209.22	2437.15	2368.07	18.64	OSF1.50	16170.00	9300.00				MINPT-O-EQU	
	2578.15	210.20	2437.30	2367.95	18.56	OSF1.50	16210.00	9300.00				MinPt-O-ADP	
	2582.98	214.90	2439.05	2368.07	18.18	OSF1.50	16360.00	9300.00				MINPT-O-EQU	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
2585.26	217.84	2439.37	2367.42	17.95		OSF1.50	16470.00	9300.00				MinPt-O-ADP	
2586.91	243.97	2423.61	2342.94	16.02		OSF1.50	17330.00	9300.00				MinPt-CtCt	
2587.42	245.48	2423.10	2341.93	15.93		OSF1.50	17400.00	9300.00				MINPT-O-EOU	
2587.97	246.13	2423.22	2341.84	15.89		OSF1.50	17430.00	9300.00				MinPt-O-ADP	
2546.98	268.83	2367.09	2278.14	14.31		OSF1.50	18170.00	9300.00				MinPt-CtCt	
2547.32	269.88	2366.74	2277.44	14.25		OSF1.50	18220.00	9300.00				MINPT-O-EOU	
2547.82	270.49	2366.83	2277.33	14.22		OSF1.50	18250.00	9300.00				MinPt-O-ADP	
2567.04	281.11	2378.98	2285.93	13.78		OSF1.50	18610.00	9300.00				MinPts	
2595.81	293.35	2399.58	2302.45	13.35		OSF1.50	19110.00	9300.00				MinPt-O-SF	
2600.04	293.73	2403.56	2306.31	13.36		OSF1.50	19158.04	9300.00				TD	

Cimarex Red Hills Unit #17H
MWD Final(Surcon Corrected)
(Def Survey)

Pass

2341.50	32.81	2339.52	2308.70	N/A		MAS = 10.00 (m)	0.00	0.00				MinPts	
2341.51	32.81	2339.48	2308.70	48118.43		MAS = 10.00 (m)	26.00	26.00				WRP	
2342.41	32.81	2338.40	2309.60	1148.87		MAS = 10.00 (m)	490.00	490.00				MINPT-O-EOU	
2351.64	32.81	2338.30	2318.83	206.90		MAS = 10.00 (m)	2550.00	2550.00				MinPts	
2351.71	32.81	2338.25	2318.90	204.65		MAS = 10.00 (m)	2580.00	2580.00				MINPT-O-EOU	
2489.73	48.45	2456.77	2441.28	80.30		OSF1.50	7000.00	7000.00				MinPt-CtCt	
2490.24	49.81	2456.38	2440.44	78.05		OSF1.50	7190.00	7190.00				MINPT-O-EOU	
2491.03	50.80	2456.51	2440.23	76.48		OSF1.50	7330.00	7330.00				MinPt-O-ADP	
2491.18	60.86	2449.95	2430.32	63.41		OSF1.50	8820.00	8820.00				MinPts	
2491.66	60.88	2450.41	2430.78	63.40		OSF1.50	8870.00	8869.90				MinPt-O-SF	
3967.91	115.49	3880.26	3852.42	52.41		OSF1.50	12910.00	9300.00				MinPt-CtCt	
3968.50	117.27	3889.66	3851.23	51.61		OSF1.50	13000.00	9300.00				MINPT-O-EOU	
3969.34	118.27	3889.83	3851.07	51.17		OSF1.50	13050.00	9300.00				MinPt-O-ADP	
3980.39	125.85	3895.83	3854.53	48.18		OSF1.50	13350.00	9300.00				MinPt-O-ADP	
3982.38	135.02	3891.71	3847.37	44.88		OSF1.50	13590.00	9300.00				MinPt-CtCt	
3987.92	147.57	3888.88	3840.35	41.07		OSF1.50	14050.00	9300.00				MINPT-O-EOU	
3989.24	149.16	3889.14	3840.08	40.64		OSF1.50	14120.00	9300.00				MinPt-O-ADP	
3991.87	175.03	3864.52	3806.84	34.50		OSF1.50	14960.00	9300.00				MinPt-CtCt	
3985.65	185.38	3861.42	3800.30	32.59		OSF1.50	15340.00	9300.00				MINPT-O-EOU	
3986.75	186.68	3861.63	3800.08	32.36		OSF1.50	15400.00	9300.00				MinPt-O-ADP	
3985.98	207.87	3846.74	3778.11	29.02		OSF1.50	16070.00	9300.00				MinPt-CtCt	
3988.17	213.74	3845.02	3774.43	28.24		OSF1.50	16300.00	9300.00				MINPT-O-EOU	
3989.54	215.35	3845.31	3774.19	28.03		OSF1.50	16370.00	9300.00				MinPt-O-ADP	
3995.57	222.02	3846.90	3773.56	27.22		OSF1.50	16590.00	9300.00				MINPT-O-EOU	
4003.85	251.94	3835.22	3751.90	24.01		OSF1.50	17550.00	9300.00				MinPt-CtCt	
4004.13	269.29	3823.94	3734.83	22.46		OSF1.50	18130.00	9300.00				MinPt-CtCt	
4006.08	289.32	3812.52	3716.73	20.90		OSF1.50	18800.00	9300.00				MinPt-CtCt	
4006.77	293.17	3810.67	3713.60	20.63		OSF1.50	18950.00	9300.00				MINPT-O-EOU	
4006.90	293.32	3810.68	3713.58	20.62		OSF1.50	18960.00	9300.00				MinPt-O-ADP	
4014.47	295.88	3816.55	3718.59	20.48		OSF1.50	19158.04	9300.00				MinPt-O-SF	

Cimarex Red Hills Unit #38H
Rev1 RM 16Oct18 (Def Plan)

Pass

2433.44	32.81	2431.46	2400.63	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
2433.44	32.81	2431.41	2400.63	46175.14		MAS = 10.00 (m)	26.00	26.00				WRP	
2433.44	32.81	2422.55	2400.63	272.68		MAS = 10.00 (m)	1470.00	1470.00				MinPts	
2433.52	32.81	2422.42	2400.72	266.53		MAS = 10.00 (m)	1510.00	1510.00				MINPT-O-EOU	
2555.46	34.40	2531.87	2521.06	118.13		OSF1.50	3680.00	3680.00				MinPt-O-SF	
2556.79	80.92	2502.18	2475.86	48.54		OSF1.50	8820.00	8820.00				MINPT-O-EOU	
2556.83	80.97	2502.19	2475.86	48.52		OSF1.50	8830.00	8830.00				MinPt-O-ADP	
2558.73	81.28	2503.88	2477.45	48.38		OSF1.50	8900.00	8899.60				MinPt-O-SF	
2710.03	312.12	2501.29	2397.91	13.10		OSF1.50	19158.04	9300.00				MinPts	

Texaco G W Miller Federal N #1
(Offset) Plugged Oil Blind Off-
5258ft (Def Survey)

Pass

9660.95	32.81	9658.97	9628.14	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
9660.89	32.81	9658.90	9628.08	N/A		MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
9660.88	32.81	9658.89	9628.07	N/A		MAS = 10.00 (m)	26.00	26.00				WRP	
9660.87	1636.66	8569.10	8024.21	8.86		OSF1.50	5290.00	5290.00				MinPt-CtCt	
9660.87	1639.45	8567.24	8021.41	8.89		OSF1.50	5300.00	5300.00				MinPts	
5625.20	1156.96	4853.23	4468.24	7.30		OSF1.50	15020.00	9300.00				MinPt-O-SF	
4337.72	667.05	3892.36	3670.67	9.78		OSF1.50	18600.00	9300.00				MinPt-CtCt	
4337.99	667.63	3892.24	3670.36	9.77		OSF1.50	18650.00	9300.00				MINPT-O-EOU	
4340.26	670.15	3892.84	3670.11	9.74		OSF1.50	18750.00	9300.00				MinPt-O-ADP	
4373.28	697.88	3907.36	3675.40	9.42		OSF1.50	19158.04	9300.00				MinPt-O-SF	



Cimarex Red Hills Unit #105H Rev0 RM 06Apr20 Proposal Geodetic Report



(Non-Def Plan)

Report Date: April 08, 2020 - 10:02 AM
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Red Hills 33-4 Unit #105H / New Slot
Well: Red Hills 33-4 Unit #105H
Borehole: Red Hills 33-4 Unit #105H
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills 33-4 Unit #105H Rev0 RM 06Apr20
Survey Date: April 06, 2020
Tort / AHD / DDI / ERD Ratio: 91.076 ° / 10065.922 ft / 6.276 / 1.082
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 5' 35.52753", W 103° 34' 35.05301"
Location Grid N/E Y/X: N 398466.390 ftUS, E 775742.010 ftUS
CRS Grid Convergence Angle: 0.4022 °
Grid Scale Factor: 0.99997202
Version / Patch: 2.10.787.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.529 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3380.900 ft above MSL
Seabed / Ground Elevation: 3354.900 ft above MSL
Magnetic Declination: 6.545 °
Total Gravity Field Strength: 998.4359mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47667.434 nT
Magnetic Dip Angle: 59.684 °
Declination Date: April 06, 2020
Magnetic Declination Model: HDGM 2020
North Reference: Grid North
Grid Convergence Used: 0.4022 °
Total Corr Mag North->Grid North: 6.1430 °
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [395' FNL, 2370' FEL]	0.00	0.00	89.68	0.00	0.00	0.00	0.00	N/A	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	100.00	0.00	166.19	100.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	200.00	0.00	166.19	200.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	300.00	0.00	166.19	300.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	400.00	0.00	166.19	400.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	500.00	0.00	166.19	500.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	600.00	0.00	166.19	600.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	700.00	0.00	166.19	700.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	800.00	0.00	166.19	800.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	900.00	0.00	166.19	900.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
Rustler	926.00	0.00	166.19	926.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1000.00	0.00	166.19	1000.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1100.00	0.00	166.19	1100.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
Top of Salt	1200.00	0.00	166.19	1200.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1260.00	0.00	166.19	1260.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1300.00	0.00	166.19	1300.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1400.00	0.00	166.19	1400.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1500.00	0.00	166.19	1500.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1600.00	0.00	166.19	1600.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1700.00	0.00	166.19	1700.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1800.00	0.00	166.19	1800.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	1900.00	0.00	166.19	1900.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2000.00	0.00	166.19	2000.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2100.00	0.00	166.19	2100.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2200.00	0.00	166.19	2200.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2300.00	0.00	166.19	2300.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2400.00	0.00	166.19	2400.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2500.00	0.00	166.19	2500.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2600.00	0.00	166.19	2600.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2700.00	0.00	166.19	2700.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2800.00	0.00	166.19	2800.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	2900.00	0.00	166.19	2900.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3000.00	0.00	166.19	3000.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3100.00	0.00	166.19	3100.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3200.00	0.00	166.19	3200.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3300.00	0.00	166.19	3300.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3400.00	0.00	166.19	3400.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3500.00	0.00	166.19	3500.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3600.00	0.00	166.19	3600.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3700.00	0.00	166.19	3700.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3800.00	0.00	166.19	3800.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	3900.00	0.00	166.19	3900.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4000.00	0.00	166.19	4000.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4100.00	0.00	166.19	4100.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4200.00	0.00	166.19	4200.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4300.00	0.00	166.19	4300.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4400.00	0.00	166.19	4400.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4500.00	0.00	166.19	4500.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
Base of Salt	4600.00	0.00	166.19	4600.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4652.00	0.00	166.19	4652.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4700.00	0.00	166.19	4700.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
Lamar	4800.00	0.00	166.19	4800.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4888.00	0.00	166.19	4888.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	4900.00	0.00	166.19	4900.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
Bell Canyon	4932.00	0.00	166.19	4932.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5000.00	0.00	166.19	5000.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5100.00	0.00	166.19	5100.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5200.00	0.00	166.19	5200.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5300.00	0.00	166.19	5300.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5400.00	0.00	166.19	5400.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5500.00	0.00	166.19	5500.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5600.00	0.00	166.19	5600.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5700.00	0.00	166.19	5700.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5800.00	0.00	166.19	5800.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	5900.00	0.00	166.19	5900.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	6000.00	0.00	166.19	6000.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
Cherry Canyon	6017.00	0.00	166.19	6017.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	6100.00	0.00	166.19	6100.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	6200.00	0.00	166.19	6200.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	6300.00	0.00	166.19	6300.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	6400.00	0.00	166.19	6400.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	6500.00	0.00	166.19	6500.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	6600.00	0.00	166.19	6600.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	6700.00	0.00	166.19	6700.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	6800.00	0.00	166.19	6800.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Brushy Canyon	7100.00	0.00	166.19	7100.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	7200.00	0.00	166.19	7200.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	7300.00	0.00	166.19	7300.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	7400.00	0.00	166.19	7400.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	7490.00	0.00	166.19	7490.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	7500.00	0.00	166.19	7500.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	7600.00	0.00	166.19	7600.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	7700.00	0.00	166.19	7700.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	7800.00	0.00	166.19	7800.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	7900.00	0.00	166.19	7900.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	8000.00	0.00	166.19	8000.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	8100.00	0.00	166.19	8100.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	8200.00	0.00	166.19	8200.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	8300.00	0.00	166.19	8300.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	8400.00	0.00	166.19	8400.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	8500.00	0.00	166.19	8500.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
	8600.00	0.00	166.19	8600.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
8700.00	0.00	166.19	8700.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05	
8800.00	0.00	166.19	8800.00	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05	
KOP - Build 12"/100' DLS	8817.84	0.00	166.19	8817.84	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
Bone Spring	8900.00	9.86	166.19	8899.60	6.86	-6.85	1.68	12.00	398459.54	775743.69	N 32 5 35.46	W 103 34 35.03
	9000.00	21.86	166.19	8995.61	33.40	-33.33	8.20	12.00	398433.06	775750.21	N 32 5 35.20	W 103 34 34.96
	9047.79	27.59	166.19	9039.00	52.84	-52.74	12.97	12.00	398413.66	775754.98	N 32 5 35.00	W 103 34 34.91
Build & Turn 12"/100' DLS Leonard Shale	9100.00	33.86	166.19	9083.86	78.79	-78.63	19.33	12.00	398387.76	775761.34	N 32 5 34.75	W 103 34 34.83
	9109.51	35.00	166.19	9091.71	84.02	-83.85	20.62	12.00	398382.54	775762.63	N 32 5 34.70	W 103 34 34.82
Landing Point	9112.32	35.32	166.35	9094.00	85.59	-85.42	21.00	12.00	398380.97	775763.01	N 32 5 34.68	W 103 34 34.82
	9200.00	45.52	170.40	9160.68	141.31	-141.05	32.24	12.00	398325.34	775774.24	N 32 5 34.13	W 103 34 34.69
	9300.00	57.26	173.57	9222.98	218.64	-218.30	42.94	12.00	398248.10	775784.95	N 32 5 33.36	W 103 34 34.57
	9400.00	69.07	175.98	9268.05	307.41	-307.00	50.95	12.00	398159.40	775792.96	N 32 5 32.49	W 103 34 34.49
	9500.00	80.90	178.05	9293.91	403.73	-403.28	55.92	12.00	398063.12	775797.93	N 32 5 31.53	W 103 34 34.44
	9576.81	90.00	179.53	9300.00	480.21	-479.75	57.54	12.00	397986.65	775799.54	N 32 5 30.78	W 103 34 34.42
	9600.00	90.00	179.53	9300.00	503.40	-502.94	57.73	0.00	397993.47	775799.73	N 32 5 30.55	W 103 34 34.42
	9700.00	90.00	179.53	9300.00	603.40	-602.94	58.55	0.00	397863.47	775800.56	N 32 5 29.56	W 103 34 34.42
	9800.00	90.00	179.53	9300.00	703.40	-702.93	59.37	0.00	397763.48	775801.38	N 32 5 28.57	W 103 34 34.42
	9900.00	90.00	179.53	9300.00	803.40	-802.93	60.19	0.00	397663.49	775802.20	N 32 5 27.58	W 103 34 34.42
	10000.00	90.00	179.53	9300.00	903.40	-902.93	61.01	0.00	397563.49	775803.02	N 32 5 26.59	W 103 34 34.42
	10100.00	90.00	179.53	9300.00	1003.40	-1002.92	61.84	0.00	397463.50	775803.84	N 32 5 25.60	W 103 34 34.42
	10200.00	90.00	179.53	9300.00	1103.40	-1102.92	62.66	0.00	397363.50	775804.67	N 32 5 24.61	W 103 34 34.41
	10300.00	90.00	179.53	9300.00	1203.40	-1202.92	63.48	0.00	397263.51	775805.49	N 32 5 23.62	W 103 34 34.41
	10400.00	90.00	179.53	9300.00	1303.40	-1302.91	64.30	0.00	397163.52	775806.31	N 32 5 22.63	W 103 34 34.41
	10500.00	90.00	179.53	9300.00	1403.40	-1402.91	65.12	0.00	397063.52	775807.13	N 32 5 21.64	W 103 34 34.41
NMNIM0005792 - NMNIM089425 Crossing	10600.00	90.00	179.53	9300.00	1503.40	-1502.91	65.95	0.00	396963.53	775807.95	N 32 5 20.65	W 103 34 34.41
	10700.00	90.00	179.53	9300.00	1603.40	-1602.90	66.77	0.00	396863.54	775808.78	N 32 5 19.66	W 103 34 34.41
	10800.00	90.00	179.53	9300.00	1703.40	-1702.90	67.59	0.00	396763.54	775809.60	N 32 5 18.67	W 103 34 34.41
	10900.00	90.00	179.53	9300.00	1803.40	-1802.90	68.41	0.00	396663.55	775810.42	N 32 5 17.68	W 103 34 34.40
	11000.00	90.00	179.53	9300.00	1903.40	-1902.89	69.23	0.00	396563.56	775811.24	N 32 5 16.69	W 103 34 34.40
	11100.00	90.00	179.53	9300.00	2003.40	-2002.89	70.06	0.00	396463.56	775812.06	N 32 5 15.70	W 103 34 34.40
	11200.00	90.00	179.53	9300.00	2103.40	-2102.88	70.88	0.00	396363.57	775812.89	N 32 5 14.71	W 103 34 34.40
	11300.00	90.00	179.53	9300.00	2203.40	-2202.88	71.70	0.00	396263.57	775813.71	N 32 5 13.72	W 103 34 34.40
	11400.00	90.00	179.53	9300.00	2303.40	-2302.88	72.52	0.00	396163.58	775814.53	N 32 5 12.74	W 103 34 34.40
	11500.00	90.00	179.53	9300.00	2403.40	-2402.87	73.34	0.00	396063.59	775815.35	N 32 5 11.75	W 103 34 34.40
	11600.00	90.00	179.53	9300.00	2503.40	-2502.87	74.17	0.00	395963.59	775816.17	N 32 5 10.76	W 103 34 34.40
	11700.00	90.00	179.53	9300.00	2603.40	-2602.87	74.99	0.00	395863.60	775817.00	N 32 5 9.77	W 103 34 34.39
	11800.00	90.00	179.53	9300.00	2703.40	-2702.86	75.81	0.00	395763.61	775817.82	N 32 5 8.78	W 103 34 34.39
	11900.00	90.00	179.53	9300.00	2803.40	-2802.86	76.63	0.00	395663.61	775818.64	N 32 5 7.79	W 103 34 34.39
	12000.00	90.00	179.53	9300.00	2903.40	-2902.86	77.45	0.00	395563.62	775819.46	N 32 5 6.80	W 103 34 34.39
	12100.00	90.00	179.53	9300.00	3003.40	-3002.85	78.28	0.00	395463.63	775820.28	N 32 5 5.81	W 103 34 34.39
	12200.00	90.00	179.53	9300.00	3103.40	-3102.85	79.10	0.00	395363.63	775821.11	N 32 5 4.82	W 103 34 34.39
	12300.00	90.00	179.53	9300.00	3203.40	-3202.85	79.92	0.00	395263.64	775821.93	N 32 5 3.83	W 103 34 34.39
	12400.00	90.00	179.53	9300.00	3303.40	-3302.84	80.74	0.00	395163.64	775822.75	N 32 5 2.84	W 103 34 34.38
	12500.00	90.00	179.53	9300.00	3403.40	-3402.84	81.56	0.00	395063.65	775823.57	N 32 5 1.85	W 103 34 34.38
	12600.00	90.00	179.53	9300.00	3503.40	-3502.84	82.39	0.00	394963.66	775824.39	N 32 5 0.86	W 103 34 34.38
	12700.00	90.00	179.53	9300.00	3603.40	-3602.83	83.21	0.00	394863.66	775825.22	N 32 4 59.87	W 103 34 34.38
	12800.00	90.00	179.53	9300.00	3703.40	-3702.83	84.03	0.00	394763.67	775826.04	N 32 4 58.88	W 103 34 34.38
	12900.00	90.00	179.53	9300.00	3803.40	-3802.83	84.85	0.00	394663.68	775826.86	N 32 4 57.89	W 103 34 34.38
	13000.00	90.00	179.53	9300.00	3903.40							

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Cimarex Red Hills 33-4 Unit #105H - PBHL [100' FSL, 2316' FEL]	16900.00	90.00	179.53	9300.00	7803.40	-7802.69	117.73	0.00	390663.93	775859.74	N 32 4 18.31	W 103 34 34.32
	17000.00	90.00	179.53	9300.00	7903.40	-7902.69	118.55	0.00	390563.94	775860.56	N 32 4 17.32	W 103 34 34.32
	17100.00	90.00	179.53	9300.00	8003.40	-8002.69	119.38	0.00	390463.94	775861.38	N 32 4 16.33	W 103 34 34.32
	17200.00	90.00	179.53	9300.00	8103.40	-8102.68	120.20	0.00	390363.95	775862.21	N 32 4 15.34	W 103 34 34.32
	17300.00	90.00	179.53	9300.00	8203.40	-8202.68	121.02	0.00	390263.96	775863.03	N 32 4 14.35	W 103 34 34.32
	17400.00	90.00	179.53	9300.00	8303.40	-8302.68	121.84	0.00	390163.96	775863.85	N 32 4 13.36	W 103 34 34.31
	17500.00	90.00	179.53	9300.00	8403.40	-8402.67	122.66	0.00	390063.97	775864.67	N 32 4 12.37	W 103 34 34.31
	17600.00	90.00	179.53	9300.00	8503.40	-8502.67	123.49	0.00	389963.98	775865.49	N 32 4 11.38	W 103 34 34.31
	17700.00	90.00	179.53	9300.00	8603.40	-8602.67	124.31	0.00	389863.98	775866.32	N 32 4 10.39	W 103 34 34.31
	17800.00	90.00	179.53	9300.00	8703.40	-8702.66	125.13	0.00	389763.99	775867.14	N 32 4 9.40	W 103 34 34.31
	17900.00	90.00	179.53	9300.00	8803.40	-8802.66	125.95	0.00	389664.00	775867.96	N 32 4 8.42	W 103 34 34.31
	18000.00	90.00	179.53	9300.00	8903.40	-8902.66	126.77	0.00	389564.00	775868.78	N 32 4 7.43	W 103 34 34.31
	18100.00	90.00	179.53	9300.00	9003.40	-9002.65	127.60	0.00	389464.01	775869.60	N 32 4 6.44	W 103 34 34.30
	18200.00	90.00	179.53	9300.00	9103.40	-9102.65	128.42	0.00	389364.01	775870.43	N 32 4 5.45	W 103 34 34.30
	18300.00	90.00	179.53	9300.00	9203.40	-9202.64	129.24	0.00	389264.02	775871.25	N 32 4 4.46	W 103 34 34.30
	18400.00	90.00	179.53	9300.00	9303.40	-9302.64	130.06	0.00	389164.03	775872.07	N 32 4 3.47	W 103 34 34.30
	18500.00	90.00	179.53	9300.00	9403.40	-9402.64	130.89	0.00	389064.03	775872.89	N 32 4 2.48	W 103 34 34.30
	18600.00	90.00	179.53	9300.00	9503.40	-9502.63	131.71	0.00	388964.04	775873.71	N 32 4 1.49	W 103 34 34.30
	18700.00	90.00	179.53	9300.00	9603.40	-9602.63	132.53	0.00	388864.05	775874.54	N 32 4 0.50	W 103 34 34.30
	18800.00	90.00	179.53	9300.00	9703.40	-9702.63	133.35	0.00	388764.05	775875.36	N 32 3 59.51	W 103 34 34.29
	18900.00	90.00	179.53	9300.00	9803.40	-9802.62	134.17	0.00	388664.06	775876.18	N 32 3 58.52	W 103 34 34.29
	19000.00	90.00	179.53	9300.00	9903.40	-9902.62	135.00	0.00	388564.07	775877.00	N 32 3 57.53	W 103 34 34.29
	19100.00	90.00	179.53	9300.00	10003.40	-10002.62	135.82	0.00	388464.07	775877.82	N 32 3 56.54	W 103 34 34.29
Cimarex Red Hills 33-4 Unit #105H - PBHL [100' FSL, 2316' FEL]	19158.04	90.00	179.53	9300.00	10061.43	-10060.65	136.29	0.00	388406.04	775878.30	N 32 3 55.97	W 103 34 34.29

Survey Type: Non-Def Plan

Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	26.000	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS-Depth Only	Red Hills 33-4 Unit #105H / Cimarex Red Hills 33-4 Unit #105H Rev0 RM 06Apr20
	1	26.000	19158.036	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS	Red Hills 33-4 Unit #105H / Cimarex Red Hills 33-4 Unit



Cimarex Red Hills 33-4 Unit #105H Rev0 RM 06Apr20 Proposal Geodetic Report (Non-Def Plan)



Report Date: April 08, 2020 - 10:02 AM
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Red Hills 33-4 Unit #105H / New Slot
Well: Red Hills 33-4 Unit #105H
Borehole: Red Hills 33-4 Unit #105H
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills 33-4 Unit #105H Rev0 RM 06Apr20
Survey Date: April 06, 2020
Tort / AHD / DDI / ERD Ratio: 91.076 ° / 10065.922 ft / 6.276 / 1.082
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 5' 35.52753", W 103° 34' 35.05301"
Location Grid N/E Y/X: N 398466.390 ftUS, E 775742.010 ftUS
CRS Grid Convergence Angle: 0.4022 °
Grid Scale Factor: 0.99997202
Version / Patch: 2.10.787.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.529 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3380.900 ft above MSL
Seabed / Ground Elevation: 3354.900 ft above MSL
Magnetic Declination: 6.545 °
Total Gravity Field Strength: 998.4359mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47667.434 nT
Magnetic Dip Angle: 59.684 °
Declination Date: April 06, 2020
Magnetic Declination Model: HDGM 2020
North Reference: Grid North
Grid Convergence Used: 0.4022 °
Total Corr Mag North->Grid North: 6.1430 °
Local Coord Referenced To: Well Head

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
SHL [395' FNL, 2370' FEL]	0.00	0.00	89.68	0.00	0.00	0.00	0.00	N/A	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
KOP - Build 12"/100' DLS	8817.84	0.00	166.19	8817.84	0.00	0.00	0.00	0.00	398466.39	775742.01	N 32 5 35.53	W 103 34 35.05
Build & Turn 12"/100' DLS	9109.51	35.00	166.19	9091.71	84.02	-83.85	20.62	12.00	398382.54	775762.63	N 32 5 34.70	W 103 34 34.82
Landing Point Cimarex Red Hills 33-4 Unit #105H - PBHL [100' FSL, 2316' FEL]	9576.81	90.00	179.53	9300.00	480.21	-479.75	57.54	12.00	397986.65	775799.54	N 32 5 30.78	W 103 34 34.42
	19158.04	90.00	179.53	9300.00	10061.43	-10060.65	136.29	0.00	388406.04	775878.30	N 32 3 55.97	W 103 34 34.29

Survey Type: Non-Def Plan

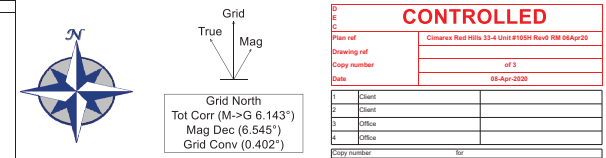
Survey Error Model: ISCWSA Rev 0 *** 3-D 95.000% Confidence 2.7955 sigma
Survey Program:

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	26.000	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS-Depth Only	Red Hills 33-4 Unit #105H / Cimarex Red Hills 33-4 Unit #105H Rev0 RM 06Apr20
	1	26.000	19158.036	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS	Red Hills 33-4 Unit #105H / Cimarex Red Hills 33-4 Unit

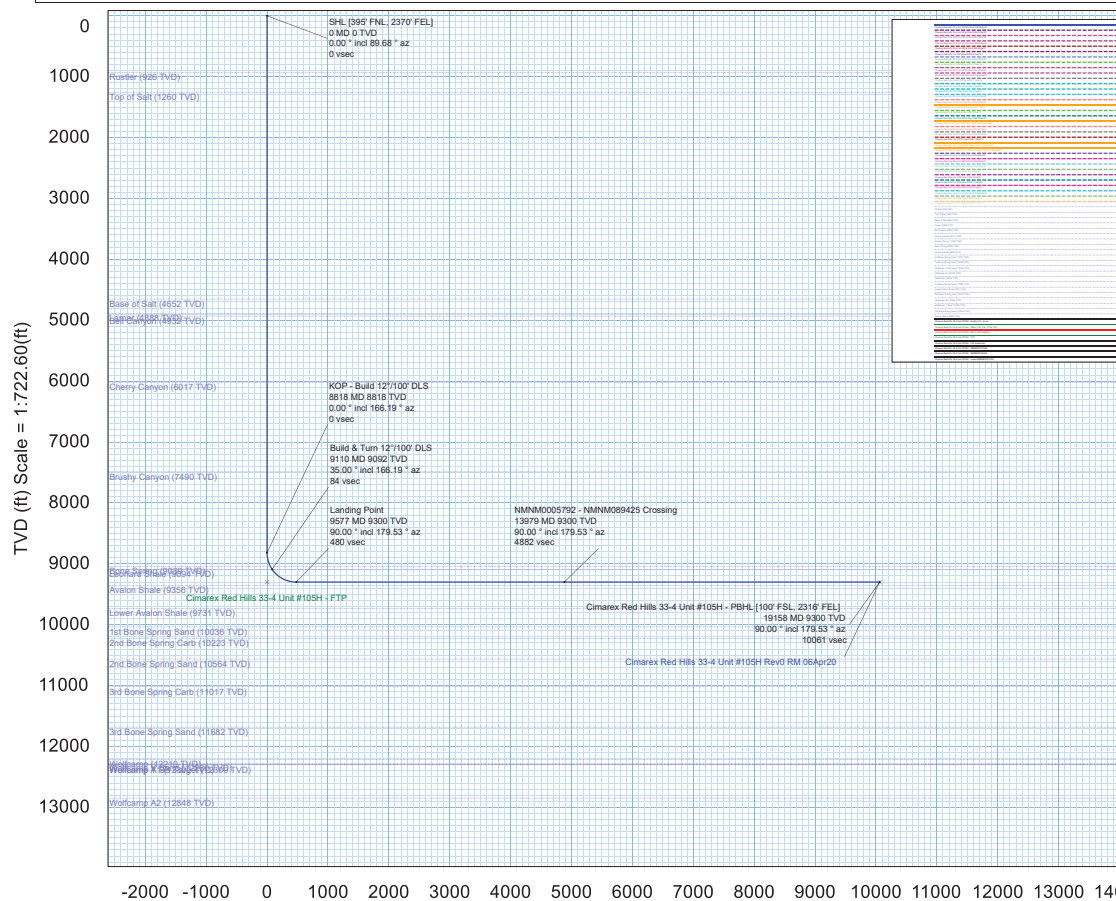
Borehole:	Red Hills 33-4 Unit #105H	Well:	Red Hills 33-4 Unit #105H	Field:	NM Lea County (NAD 83)	Structure:	Cimarex Red Hills 33-4 Unit #105H
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Gravity & Magnetic Parameters	Dip:	59.884°	Date:	06-Apr-2020	Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Grid Conv:	0.4022°	Miscellaneous	Slot:	New Slot	TVD Ref:	RKB(3380.9ft above MSL)
Model: HDGM 2020	FS:	47667.434nT	Gravity FS:	986.436mgN (9.80665 Based)	Lat: N 32 5 35.3	North: 398466.39NUS	Scale Fact:	0.99997202	Plan:	Cimarex Red Hills 33-4 Unit #105H Rev0 RM 06Apr20			
MagDec: 6.545°					Long: W 103 34 35.05	Easting: 775742.01NUS							

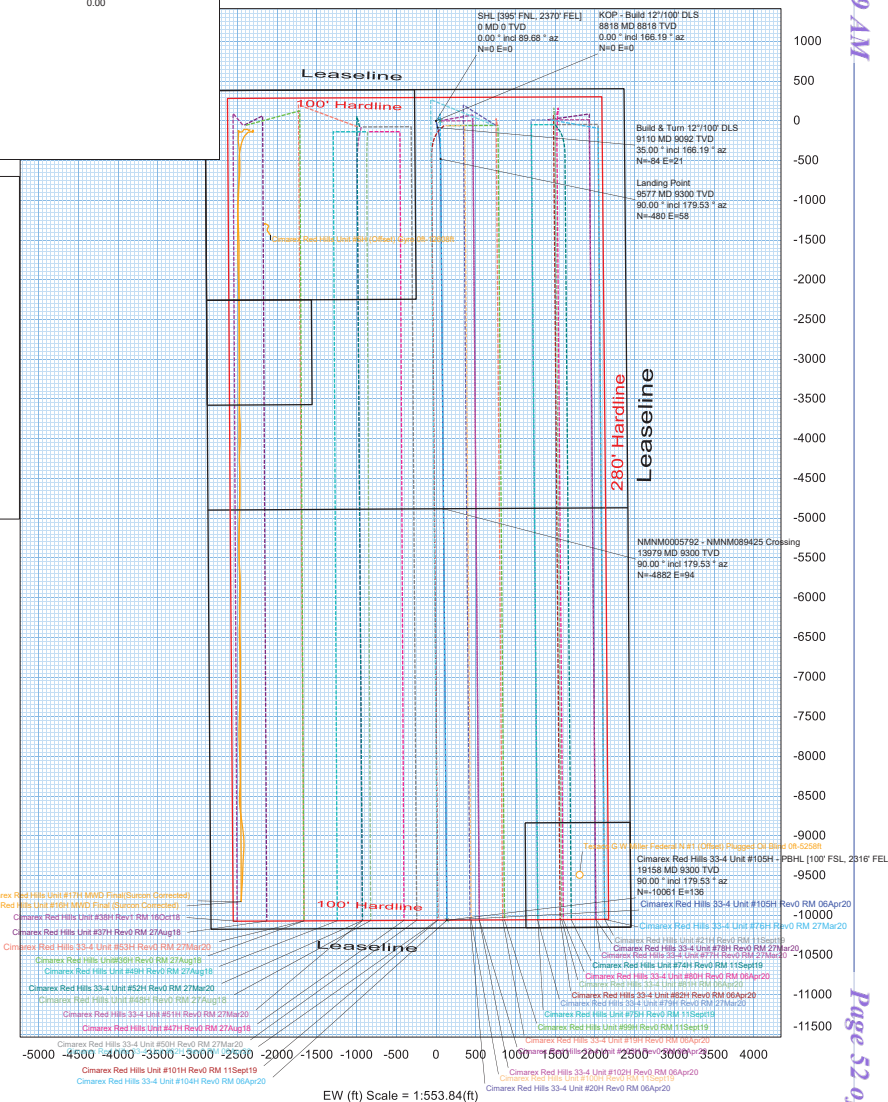
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL (395° FNL, 2370° FEL)	0.00	0.00	89.68	0.00	0.00	0.00	0.00	0.00
Rustler	926.00	0.00	166.19	926.00	0.00	0.00	0.00	0.00
Top of Salt	1260.00	0.00	166.19	1260.00	0.00	0.00	0.00	0.00
Base of Salt	4652.00	0.00	166.19	4652.00	0.00	0.00	0.00	0.00
Lamar	4888.00	0.00	166.19	4888.00	0.00	0.00	0.00	0.00
Bell Canyon	4932.00	0.00	166.19	4932.00	0.00	0.00	0.00	0.00
Cherry Canyon	6017.00	0.00	166.19	6017.00	0.00	0.00	0.00	0.00
Brushy Canyon	7490.00	0.00	166.19	7490.00	0.00	0.00	0.00	0.00
KOP - Build 12°/100' DLS	8817.84	0.00	166.19	8817.84	0.00	0.00	0.00	0.00
Bone Spring	9047.79	27.59	166.19	9039.00	52.84	-52.74	12.97	12.00
Build & Turn 12°/100' DLS	9109.51	35.00	166.19	9091.71	84.02	-83.85	20.62	12.00
Leonard Shale	9112.32	35.32	166.35	9094.00	85.59	-85.42	21.00	12.00
Landing Point	9576.81	90.00	179.53	9300.00	480.21	-479.75	97.54	12.00
NMNM0005792 - NMNM089425 Crossing	13979.10	90.00	179.53	9300.00	4882.50	-4881.89	93.72	0.00
Cimarex Red Hills 33-4 Unit #105H - PBHL (100' FSL)	19158.04	90.00	179.53	9300.00	10061.43	-10060.65	136.29	0.00
2316° FEL								
3rd Bone Spring Carb	NaN			11017.00				
1st Bone Spring Sand	NaN			10036.00				
Wolfcamp Y/S Target	NaN			12300.00				
Wolfcamp A1	NaN			12302.00				
Wolfcamp	NaN			12210.00				
3rd Bone Spring Sand	NaN			11682.00				
Lower Avalon Shale	NaN			9731.00				
2nd Bone Spring Carb	NaN			10223.00				
Wolfcamp A2	NaN			12848.00				
Wolfcamp Y Sand	NaN			12280.00				
2nd Bone Spring Sand	NaN			10564.00				
Avalon Shale	NaN			9356.00				



CONTROLLED	
Plan ref	Cimarex Red Hills 33-4 Unit #105H Rev0 RM 06Apr20
Drawing ref	
Copy number	of 3
Date	08-Apr-2020
1 Client	
2 Client	
3 Office	
4 Office	
Copy number	for



Vertical Section (ft) Azim = 179.53° Scale = 1:722.60(ft) Origin = 0N/-S,



EW (ft) Scale = 1:553.84(ft)

Cimarex Energy Co., Red Hills Unit 105H

1. Geological Formations

TVD of target 9,300

Pilot Hole TD N/A

MD at TD 19,158

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Russter	920	N/A	
Top of Salt	1334	N/A	
Lamar	4877	N/A	
Base of Salt	4892	N/A	
Bell Canyon	4919	N/A	
Cherry Canyon	6019	N/A	
Brushy Canyon	7578	N/A	
Bone Spring	9047	Hydrocarbons	
Leonard Shale	9066	Hydrocarbons	
Avalon Shale	9338	Hydrocarbons	
Lower Avalon Shale	9711	Hydrocarbons	
1st Bone Spring Sand	10030	Hydrocarbons	
2nd Bone Spring Carb	10230	Hydrocarbons	
2nd Bone Spring Sand	10580	Hydrocarbons	
3rd Bone Spring Carb	11017	Hydrocarbons	
3rd Bone Spring Sand	11692	Hydrocarbons	
Wolfcamp	12128	Hydrocarbons	
Wolfcamp Y Sand	12236	Hydrocarbons	
Wolfcamp A1	12298	Hydrocarbons	
MA1 Target	12560	Hydrocarbons	
Wolfcamp A2	12912	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	975	975	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.66	3.88	6.88
12 1/4	0	4850	4850	9-5/8"	40.00	J-55	LT&C	1.56	1.54	2.68
8 3/4	0	8818	8818	5-1/2"	17.00	L-80	LT&C	1.52	1.88	2.14
8 3/4	8818	19158	9300	5-1/2"	17.00	L-80	BT&C	1.45	1.78	48.45
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.

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

Cimarex Energy Co., Red Hills Unit 105H

	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.	Y
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	N
Is well within the designated 4 string boundary.	N
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3rd string cement tied back 500' into previous casing?	N
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	N
Is 2nd string set 100' to 600' below the base of salt?	N
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	N
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	N
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	N
Is AC Report included?	Y

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	409	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	922	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	283	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	761	10.30	3.64	22.18		Lead: Tuned Light + LCM
	3014	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	0	25

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		

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 975'	FW Spud Mud	8.30 - 8.80	30-32	N/C
975' to 4850'	Brine Water	9.70 - 10.20	30-32	N/C
4850' to 19158'	Cut Brine or OBM	8.50 - 9.00	27-70	N/C

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

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

6. Logging and Testing Procedures

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

Additional Logs Planned	Interval
-------------------------	----------

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	4352 psi
Abnormal Temperature	No

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

X	H ₂ S is present
X	H ₂ S plan is attached

8. Other Facets of Operation**9. Wellhead**

A multi-bowl wellhead system will be utilized.

After running the 13-3/8" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 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 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 3000 psi.

All casing strings will be tested as per Onshore Order No.2 to atleast 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.



Midwest Hose
& Specialty, Inc.

Co-Flex Hose
Red Hills Unit W2E2-W
Cimarex Energy Co.
33-25S-33E
Lea Co., NM

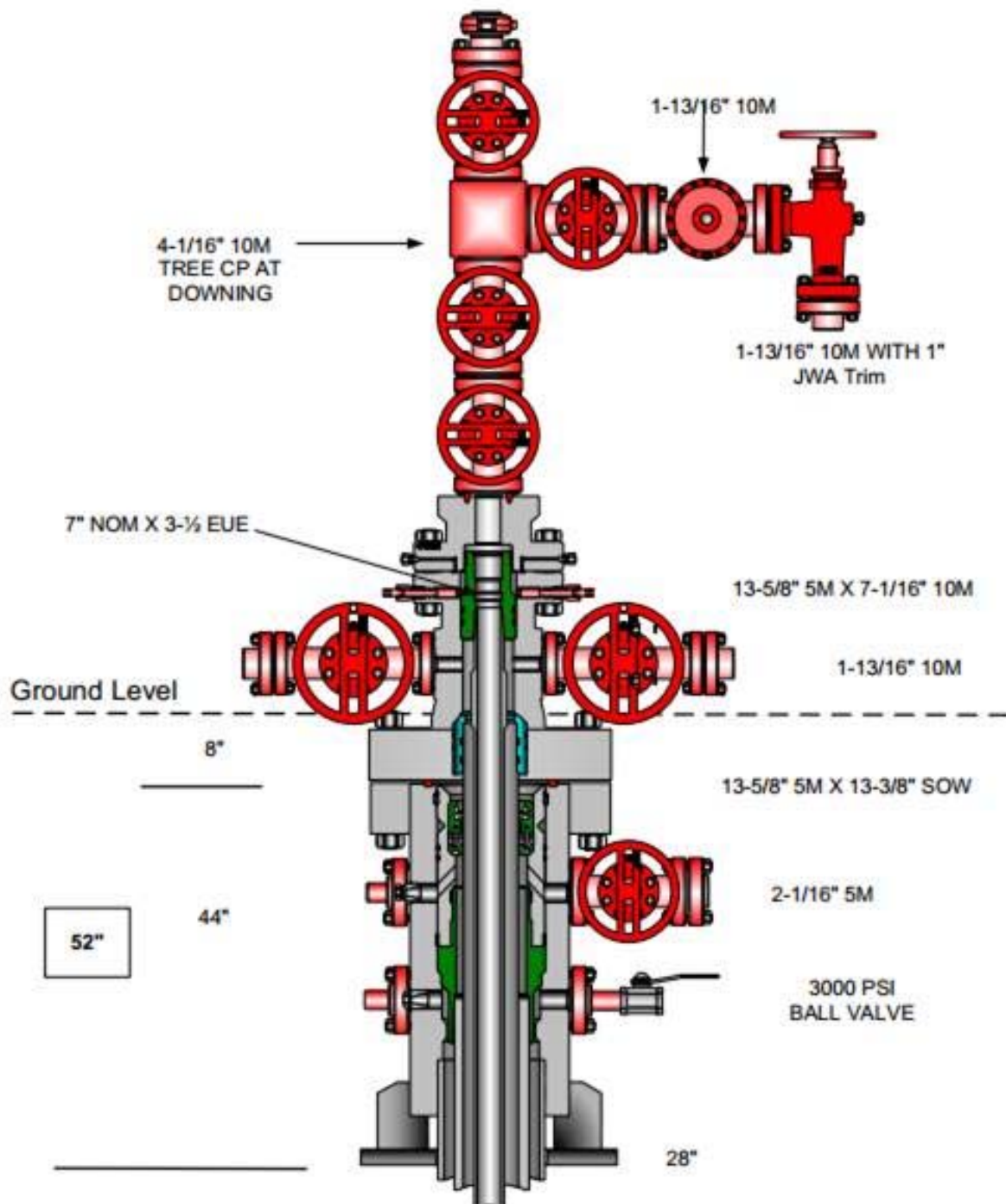
Specification Sheet Choke & Kill Hose

The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. 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 vermiculite 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, unbolt 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

Multi-bowl Wellhead Diagram



Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	975	975	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.66	3.88	6.88
12 1/4	0	4850	4850	9-5/8"	40.00	J-55	LT&C	1.56	1.54	2.68
8 3/4	0	8818	8818	5-1/2"	17.00	L-80	LT&C	1.52	1.88	2.14
8 3/4	8818	19158	9300	5-1/2"	17.00	L-80	BT&C	1.45	1.78	48.45
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Multi-bowl Wellhead Diagram
Red Hills Unit 105H
 Cimarex Energy Co.
 33-25S-33E
 Lea County, NM



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

SUPO Data Report

07/31/2023

APD ID: 10400058977**Submission Date:** 08/17/2020

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H[Show Final Text](#)**Well Type:** OIL WELL**Well Work Type:** Drill

Section 1 - Existing Roads

Will existing roads be used? YES**Existing Road Map:**

Red_Hills_Unit_W2E2_W_Existing_Acess_Road_20200713135807.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT**Row(s) Exist?** YES**ROW ID(s)****ID:****Do the existing roads need to be improved?** NO**Existing Road Improvement Description:****Existing Road Improvement Attachment:**

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Section 3 - Location of Existing Wells

Existing Wells Map? YES**Attach Well map:**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H

Red_Hills_Unit_W2E2_W_One_Mile_radius_20200713135917.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: This has been approved, we are just needing the powerline approval. 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 5857 new road. Bulk Lines: 4082 of 8- 12 buried steel Bulk lines will be constructed in the same 30 trench. Please see Attachment B for route. Power: 1 pole, 173 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_W2E2_W_Bulk_Flowline_ROW_20200713135947.pdf

Red_Hills_Unit_W2E2_W_Power_ROW_20200713135954.pdf

Red_Hills_Unit_Zone_1_West_CTB_Btty_Layout_20200708120443.pdf

Red_Hills_Unit_Zone_2_West_CTB_Btty_Layout_20200708120436.pdf

Red_Hills_Unit_105H_SUPO_20200715132338.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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**Water source and transportation**

Red_Hills_Unit_W2E2_W_Drilling_Water_Routes_20200713140023.pdf

Water source comments:**New water well?** N**New Water Well Info****Well latitude:****Well Longitude:****Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):****Est thickness of aquifer:****Aquifer comments:****Aquifer documentation:****Well depth (ft):****Well casing type:****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:** Caliche will be obtained from the actual well site if available. If not available onsite caliche will be obtained for a pit located in Sec 3 26S 33E**Construction Materials source location****Section 7 - Methods for Handling****Waste type:** DRILLING**Waste content description:** Drilling Fluids, drill cuttings, water and other waste produced from the well during drilling operations**Amount of waste:** 15000 barrels**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containmant attachment:**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Haul to R360 Environmental Solutions, 4507 Carlsbad Hwy, Hobbs, NM 88240**Waste type:** SEWAGE**Waste content description:** Human Waste**Amount of waste:** 300 gallons**Waste disposal frequency :** Weekly**Safe containment description:** Waste will be properly contained and disposed of properly at a state approved disposal facility.**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE**Disposal type description:****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**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H

Cuttings Area

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

Section 8 - Ancillary

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

Section 9 - Well Site

Well Site Layout Diagram:

Red_Hills_Unit_pad_3_W2E2_W_Wellsite_Pad_Info_20200713144244.docx

Red_Hills_Unit_105H_Wellsite_Layout_20211020150116.pdf

Comments: This multi-well pad has wells Red Hills Unit 99H 100H 101H 102H 103H 104H 105H 106H 107H 108H 109H 110H 111H 112H

Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance**Multiple Well Pad Name:** Red Hills Unit**Multiple Well Pad Number:** W2E2-W**Recontouring**

Red_Hills_Unit_W2E2_W_Interim_Reclamation_20200713144304.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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H

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.

Well pad proposed disturbance (acres): 6.69	Well pad interim reclamation (acres): 3	Well pad long term disturbance (acres): 3.69
Road proposed disturbance (acres): 4.034	Road interim reclamation (acres): 0	Road long term disturbance (acres): 4.034
Powerline proposed disturbance (acres): 0.119	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0.119
Pipeline proposed disturbance (acres): 7.028	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 7.028
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
Total proposed disturbance: 17.871	Total interim reclamation: 3	Total long term disturbance: 14.870999999999999

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**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**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)571-7894**Email:** kschlichting@cimarex.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**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**Success standards:** N/A**Pit closure description:** N/A**Pit closure attachment:**

Section 11 - Surface

Disturbance type: WELL PAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP**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:****Surface use plan certification:** YES**Surface use plan certification document:**

Red_Hills_Unit__Surface_owner_Agreement_20200727095748.pdf

Surface access agreement or bond: AGREEMENT**Surface Access Agreement Need description:** N/A**Surface Access Bond BLM or Forest Service:****BLM Surface Access Bond number:****USFS Surface access bond number:**

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS UNIT

Well Number: 105H

Disturbance type: PIPELINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP

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:

Surface use plan certification: YES

Surface use plan certification document:

Red_Hills_Unit__Surface_owner_Agreement_20200727095928.pdf

Surface access agreement or bond: AGREEMENT

Surface Access Agreement Need description: N/A

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS UNIT

Well Number: 105H

Disturbance type: TRANSMISSION LINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP

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:

Surface use plan certification: YES

Surface use plan certification document:

Red_Hills_Unit__Surface_owner_Agreement_20200727100025.pdf

Surface access agreement or bond: AGREEMENT

Surface Access Agreement Need description: N/A

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**Disturbance type:** NEW ACCESS ROAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT,PRIVATE OWNERSHIP**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:****Surface use plan certification:** YES**Surface use plan certification document:**

Red_Hills_Unit__Surface_owner_Agreement_20200727095811.pdf

Surface access agreement or bond: AGREEMENT**Surface Access Agreement Need description:** N/A**Surface Access Bond BLM or Forest Service:****BLM Surface Access Bond number:****USFS Surface access bond number:**

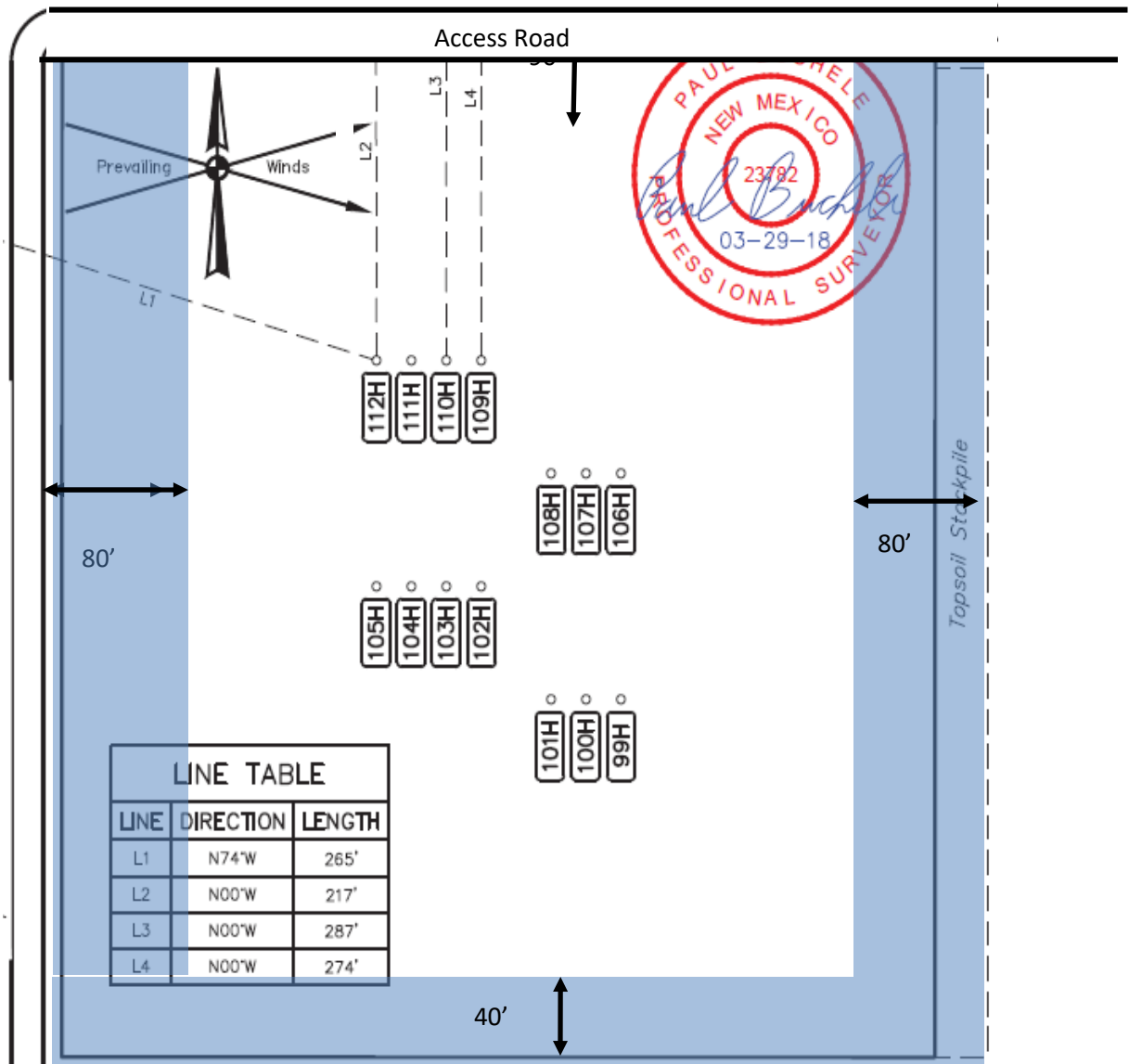
Section 12 - Other

Right of Way needed? Y**Use APD as ROW?** Y**ROW Type(s):** 281001 ROW - ROADS,288100 ROW – O&G Pipeline,289001 ROW- O&G Well Pad,FLPMA (Powerline)

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**ROW****SUPO Additional Information:****Use a previously conducted onsite?** Y

Previous Onsite information: Location was moved 20 ft. south to avoid pipeline to north. V-Door West. Tops soil west. Interim reclamation: All sides. Access road is from Red Hills Unit 33 West Zone 2 CTB, north and then east (Following existing pipeline) to the NE corner of this proposed pad. Pad size is 500' (East/West) x 560' (North/South)

Other SUPO



Pad will be reclaimed after cessation of drilling operations.
Please see Surface Use Plan for pad reclamation plans.

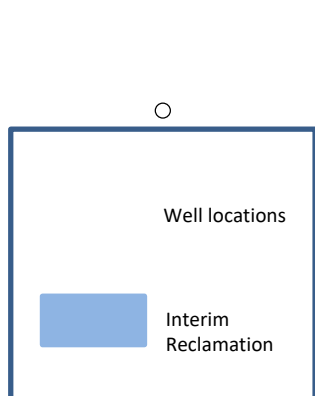


Exhibit P
Interim Reclamation Diagram
Red Hills Unit W2E2 pad
Cimarex Energy Co.
Sec 33-25S-33E
Lea Cty, NM

**SELF-CERTIFICATION STATEMENT
SURFACE OWNER SURFACE USE PLAN**

Federal Lease Number: NMNM5792

Well Name & Number: Red Hills Unit

I hereby certify to the Authorized Officer of the Bureau of Land Management that I have reached one of the following agreements with the Surface Owner; after failure of my good-faith effort to come to an agreement of any kind with the Surface Owner, have provided a Federal Bond and will provide evidence of service of such Federal Bond to the Surface Owner:

1. _____ I have a signed access agreement to enter the leased lands;
2. _____ I have a signed waiver from the Surface Owner;
3. X I have entered into an agreement regarding compensation to the Surface Owner for damages for loss of crops and tangible improvements;
4. _____ Because I have been unable to reach either 1, 2 or 3 with the Surface Owner, I have obtained a Federal Bond to cover loss of crops and damages to tangible improvements and served the surface owner with a copy of the surface owner with a copy of the Federal Bond.

Cimarex Energy Co.
Name of Operator or Agent for Operator


Signature of Operator

7/16/2020
Date

ACCESS AGREEMENT
Section 33-25S-33E
Lea County, NM

"Surface Owner name", ("Surface Owner"), has granted authority to Cimarex Energy Co. ("Cimarex") to enter onto the below described lands for all purposes necessary allowing Cimarex to proceed with its required permitting with the Bureau of Land Management.

Well name & # Red Hills Unit
Section 33, 25S-33E
Lea County, NM

The Surface Owner and Cimarex have also entered into negotiations for a Surface Damage Agreement to allow permanent access to the proposed location.

Executed this 16th day of July 2020

BY: 
Jim Suchecki
Surface Landman

**SELF-CERTIFICATION STATEMENT
SURFACE OWNER SURFACE USE PLAN**

Federal Lease Number: NMNM5792

Well Name & Number: Red Hills Unit

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Signature of Operator

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Cimarex Energy Co.
Name of Operator or Agent for Operator


Signature of Operator

7 / 16 / 2020
Date

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Lea County, NM

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Executed this 16th day of July 2020

BY: 
Jim Suchecki
Surface Landman

**SELF-CERTIFICATION STATEMENT
SURFACE OWNER SURFACE USE PLAN**

Federal Lease Number: NMNM5792

Well Name & Number: Red Hills Unit

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3. X I have entered into an agreement regarding compensation to the Surface Owner for damages for loss of crops and tangible improvements;
4. _____ Because I have been unable to reach either 1, 2 or 3 with the Surface Owner, I have obtained a Federal Bond to cover loss of crops and damages to tangible improvements and served the surface owner with a copy of the surface owner with a copy of the Federal Bond.

Cimarex Energy Co.
Name of Operator or Agent for Operator


Signature of Operator

7 / 16 / 2020
Date

ACCESS AGREEMENT
Section 33-25S-33E
Lea County, NM

"Surface Owner name", ("Surface Owner"), has granted authority to Cimarex Energy Co. ("Cimarex") to enter onto the below described lands for all purposes necessary allowing Cimarex to proceed with its required permitting with the Bureau of Land Management.

Well name & # Red Hills Unit
Section 33, 25S-33E
Lea County, NM

The Surface Owner and Cimarex have also entered into negotiations for a Surface Damage Agreement to allow permanent access to the proposed location.

Executed this 16th day of July 2020

BY: 
Jim Suchecki
Surface Landman



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

PWD Data Report

07/31/2023

APD ID: 10400058977

Submission Date: 08/17/2020

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS UNIT

Well Number: 105H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

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

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**Lined pit Monitor description:****Lined pit Monitor****Lined pit: do you have a reclamation bond for the pit?****Is the reclamation bond a rider under the BLM bond?****Lined pit bond number:****Lined pit bond amount:****Additional bond information**

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N**Produced Water Disposal (PWD) Location:****PWD disturbance (acres):****PWD surface owner:****Unlined pit PWD on or off channel:****Unlined pit PWD discharge volume (bbl/day):****Unlined pit****Precipitated solids disposal:****Describe precipitated solids disposal:****Precipitated solids disposal****Unlined pit precipitated solids disposal schedule:****Unlined pit precipitated solids disposal schedule****Unlined pit reclamation description:****Unlined pit reclamation****Unlined pit Monitor description:****Unlined pit Monitor****Do you propose to put the produced water to beneficial use?****Beneficial use user****Estimated depth of the shallowest aquifer (feet):****Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?****TDS lab results:****Geologic and hydrologic****State****Unlined Produced Water Pit Estimated****Unlined pit: do you have a reclamation bond for the pit?**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS UNIT**Well Number:** 105H**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

Well Name: RED HILLS UNIT

Well Number: 105H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements



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

Bond Info Data

07/31/2023

APD ID: 10400058977

Submission Date: 08/17/2020

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS UNIT

Well Number: 105H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

Bond

Federal/Indian APD: FED

BLM Bond number: NMB001188

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information

District I

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

District II

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

District III

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

District IV

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

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

CONDITIONS

Action 254508

CONDITIONS

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 254508
	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	8/24/2023
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	8/24/2023
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	8/24/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	8/24/2023
pkautz	IF ON ANY STRING CEMENT DOES NOT CIRCULATE, A RCBL MUST BE RUN ON THAT STRING OF CASING.	8/24/2023