

Form 3160-3  
(June 2015)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

## APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED  
OMB No. 1004-0137  
Expires: January 31, 2018

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER		5. Lease Serial No.
1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator [162683]		8. Lease Name and Well No. [326032]
3a. Address	3b. Phone No. (include area code)	9. API Well No. 30-025-50984
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 [97994]
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		12. County or Parish
16. No of acres in lease		13. State
17. Spacing Unit dedicated to this well		
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		
19. Proposed Depth		
20. BLM/BIA Bond No. in file		
21. Elevations (Show whether DF, KDB, RT, GL, etc.)		
22. Approximate date work will start*		
23. Estimated duration		
24. Attachments		
The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)		
1. Well plat certified by a registered surveyor.		4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
2. A Drilling Plan.		5. Operator certification.
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).		6. Such other site specific information and/or plans as may be requested by the BLM.
25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.		
Conditions of approval, if any, are attached.		
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.		

NGMP Rec 01/11/2023

SL

(Continued on page 2)

APPROVED WITH CONDITIONS

Approval Date: 01/06/2023

KZ  
01/24/2023

\*(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

<sup>1</sup> API Number <b>30-025 50984</b>	<sup>2</sup> Pool Code <b>97994</b>	<sup>3</sup> Pool Name <b>WC-025 G-06 S253329D; Upr Bone Spring</b>
<sup>4</sup> Property Code	<sup>5</sup> Property Name <b>RED HILLS 32-5 FED COM</b>	<sup>6</sup> Well Number <b>175H</b>
<sup>7</sup> OGRID No. <b>162683</b>	<sup>8</sup> Operator Name <b>CIMAREX ENERGY CO. OF COLORADO</b>	<sup>9</sup> Elevation <b>3409.1'</b>

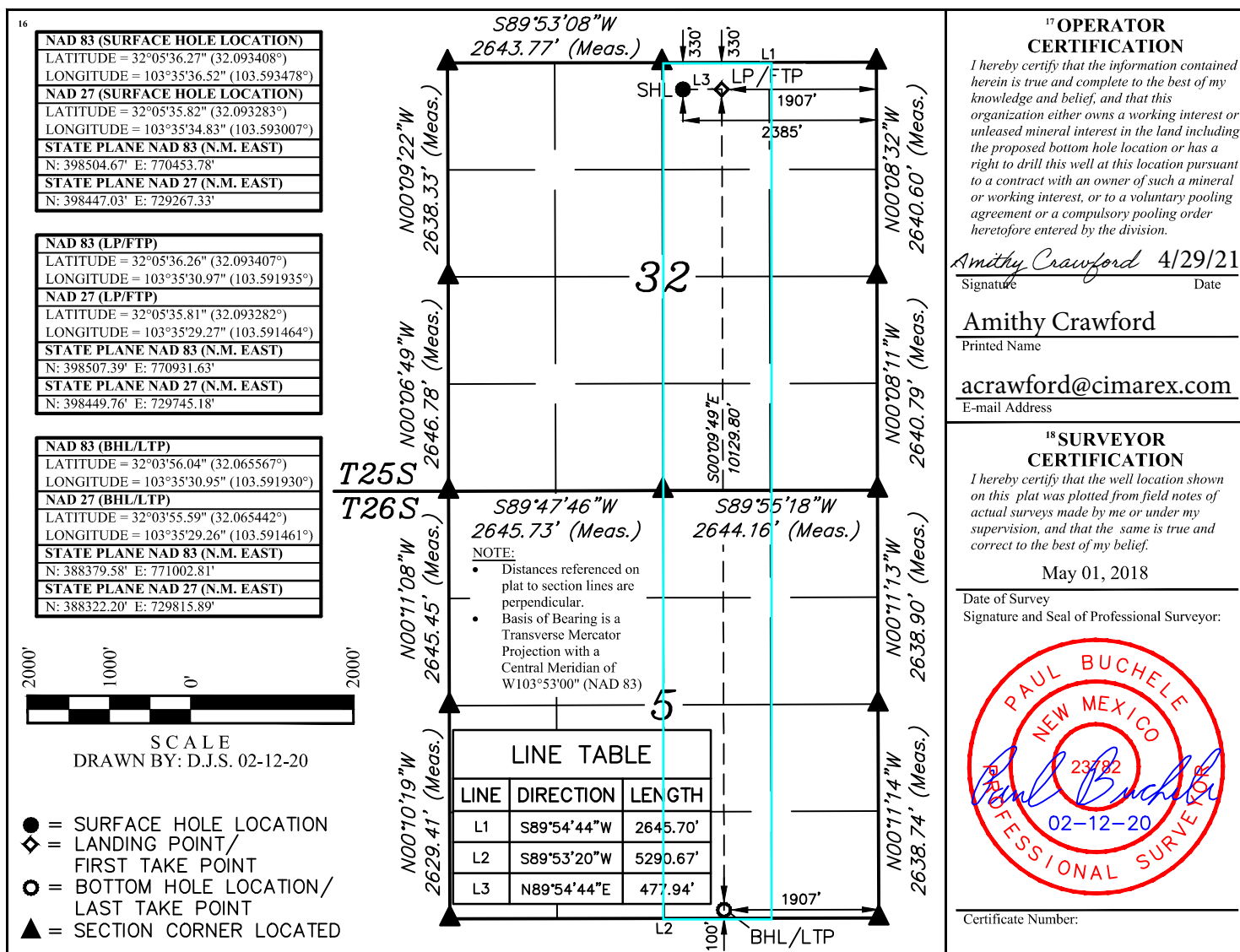
<sup>10</sup> Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
B	32	25S	33E		330	NORTH	2385	EAST	LEA

<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	5	26S	33E		100	SOUTH	1907	EAST	LEA
<sup>12</sup> Dedicated Acres <b>320</b>	<sup>13</sup> Joint or Infill	<sup>14</sup> Consolidation Code	<sup>15</sup> 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.





Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

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

First Take Point (FTP)

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

Last Take Point (LTP)

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

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

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

API #		
Operator Name:	Property Name:	Well Number

Estimated Formation Tops

Formation:	Top:	Formation:	Top:



State of New Mexico  
Energy, Minerals and Natural Resources Department

Submit Electronically  
Via E-permitting

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

## NATURAL GAS MANAGEMENT PLAN

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

### Section 1 – Plan Description

Effective May 25, 2021

**I. Operator:** Cimarex Energy Company of Colorado **OGRID:** 162683 **Date:** 1/11/2023

**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 32-5 Federal Com 175H		Sec 32 T25S, R33E	330 FNL/2385 FEL	1000	6595	5500

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

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Red Hills 32-5 Federal Com 172H		1/11/2026	3/21/2026	5/1/2026	6/1/2026	6/1/2026

**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: 1/11/2023
Phone: 432/620-1909
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
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

<b>OPERATOR'S NAME:</b>	<b>Cimarex</b>
<b>LEASE NO.:</b>	<b>NMNM106040</b>
<b>LOCATION:</b>	Section 32, T.25 S., R.33 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Red Hills 32-5 Fed Com 175H
<b>SURFACE HOLE FOOTAGE:</b>	330'/N & 2385'/E
<b>BOTTOM HOLE FOOTAGE:</b>	100'/S & 1907'/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 checked="" type="checkbox"/> COM	<input type="checkbox"/> Unit

### A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Wolfcamp** 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 **1170** 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 1/3<sup>rd</sup> fluid filled to meet BLM minimum collapse requirement.**

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

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

**Operator shall use a max minimum of 12.5 ppg MW in this location.**

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)****Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

**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)  
689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
  - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
  - b. When the operator proposes to set surface casing with Spudder Rig

- Notify the BLM when moving in and removing the Spudder Rig.
  - Notify the BLM when moving in the 2<sup>nd</sup> 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.

**ZS082922**



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

# Operator Certification Data Report

01/10/2023

## Operator

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

**NAME:** AMITHY CRAWFORD

**Signed on:** 04/29/2021

**Title:** Regulatory Analyst

**Street Address:** 600 N MARIENFELD STE 600

**City:** MIDLAND

**State:** TX

**Zip:** 79701

**Phone:** (432)620-1909

**Email address:** AMITHY.CRAWFORD@COTERRA.COM

## Field

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**



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

## Application Data

01/10/2023

APD ID: 10400073999

Submission Date: 05/05/2021

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 175H

Well Type: OIL WELL

Well Work Type: Drill

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

### Section 1 - General

APD ID: 10400073999

Tie to previous NOS? Y

Submission Date: 05/05/2021

BLM Office: Carlsbad

User: AMITHY CRAWFORD

Title: Regulatory Analyst

Federal/Indian APD: FED

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

Lease number: NMNM106040

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 OF COLORADO

Operator letter of

### Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY OF COLORADO

Operator Address: 600 N MARIENFELD STREET SUITE 600

Zip: 79701

Operator PO Box:

Operator City: MIDLAND

State: TX

Operator Phone: (432)620-1936

Operator Internet Address:

### Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 175H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: WC-025 G-06  
S253329D Bone SpringPool Name: WC-025 G-06  
S253329D; Bone Spring

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H**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?** N**New surface disturbance?****Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:** Red Hills 32-5 Fed Com**Number:** W2E2 Pad 4**Well Class:** HORIZONTAL**Number of Legs:** 1**Well Work Type:** Drill**Well Type:** OIL WELL**Describe Well Type:****Well sub-Type:** INFILL**Describe sub-type:****Distance to town:** 24 Miles**Distance to nearest well:** 20 FT**Distance to lease line:** 330 FT**Reservoir well spacing assigned acres Measurement:** 320 Acres**Well plat:** Red\_Hills\_32\_5\_Fed\_Com\_175H\_C102\_20210429130928.pdf

Red\_Hills\_32\_5\_Fed\_Com\_Lease\_Plat\_20210429130942.pdf

**Well work start Date:** 09/30/2021**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:****Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	330	FNL	2385	FEL	25S	33E	32	Aliquot NWNE	32.093408	-103.593478	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	3409	0	0	Y
KOP Leg #1	330	FNL	2385	FEL	25S	33E	32	Aliquot NWNE	32.093408	-103.593478	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	-5413	8855	8822	Y

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H

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	1320	FNL	1907	FWL	26S	33E	5	Aliquot SWNE	32.076167	- 103.591931	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 106040	- 5891	15400	9300	Y
PPP Leg #1-2	0	FNL	1907	FWL	26S	33E	5	Aliquot NWNE	32.0798	- 103.591933	LEA	NEW MEXICO	NEW MEXICO	F	FEE	- 5891	14078	9300	Y
PPP Leg #1-3	330	FNL	1907	FEL	25S	33E	32	Aliquot NWNE	32.093407	- 103.591935	LEA	NEW MEXICO	NEW MEXICO	S	STATE	- 5891	9605	9300	Y
EXIT Leg #1	100	FSL	1907	FEL	26S	33E	5	Aliquot SWSE	32.065567	- 103.59193	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 160973	- 5891	19256	9300	Y
BHL Leg #1	100	FSL	1907	FEL	26S	33E	5	Aliquot SWSE	32.065567	- 103.59193	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 160973	- 5891	19256	9300	Y



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

# Drilling Plan Data Report

01/10/2023

APD ID: 10400073999

Submission Date: 05/05/2021

Highlighted data  
reflects the most  
recent changes

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 175H

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
3810287	RUSTLER	0	959	959	ANHYDRITE, SANDSTONE	USEABLE WATER	N
3810288	TOP SALT	-1374	1374	1374	ANHYDRITE	NONE	N
8220614	CASTILE	-4675	4675	4675	ANHYDRITE	NONE	N
3810289	BASE OF SALT	-4892	4892	4892	ANHYDRITE	NONE	N
3810291	BELL CANYON	-4954	4954	4954	SANDSTONE	NONE	N
3810292	CHERRY CANYON	-6026	6026	6026	SANDSTONE	NONE	N
3810293	BRUSHY CANYON	-7562	7562	7562	SANDSTONE	NONE	N
3810294	BONE SPRING	-9064	9064	9064	LIMESTONE	NATURAL GAS, OIL	N
3810295	UPPER AVALON SHALE	-9381	9381	9381	SHALE	NATURAL GAS, OIL	N
3810296	BONE SPRING 1ST	-10061	10061	10061	SANDSTONE	NATURAL GAS, OIL	N
3810297	BONE SPRING 2ND	-10248	10248	10248	LIMESTONE	NATURAL GAS, OIL	Y
3810298	BONE SPRING 3RD	-11042	11042	11042	SANDSTONE	NATURAL GAS, OIL	N
3810299	WOLFCAMP	-12150	12150	12150	SHALE	NATURAL GAS, OIL	N
3810286		0					

## Section 2 - Blowout Prevention

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H**Pressure Rating (PSI):** 2M**Rating Depth:** 4870

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

**Choke Diagram Attachment:**

Red\_Hills\_32\_5\_175H\_Choke\_2M\_20210429140222.pdf

**BOP Diagram Attachment:**

Red\_Hills\_32\_5\_Fed\_Com\_175H\_BOP\_5M\_20210429140241.pdf

---

**Pressure Rating (PSI):** 5M**Rating Depth:** 19257

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

**Requesting Variance?** YES

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

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



Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COMWell Number: 175H

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

Choke Diagram Attachment:

Red\_Hills\_32\_5\_Fed\_Com\_175H\_Choke\_5M\_20210429140308.pdf

BOP Diagram Attachment:

Red\_Hills\_32\_5\_Fed\_Com\_175H\_BOP\_5M\_20210429140325.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	NON API	N	0	1170	0	1170	3409	2239	1170	OTHER	48	ST&C	1.69	3.95	BUOY	6.64	BUOY	6.64
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4870	0	4870	3396	-1461	4870	J-55	40	LT&C	1.59	1.56	BUOY	2.67	BUOY	2.67
3	PRODUCTION	8.75	5.5	NEW	API	N	0	8856	0	8856	3396	-5447	8856	L-80	20	LT&C	2.13	2.22	BUOY	2.24	BUOY	2.24
4	PRODUCTION	8.75	5.5	NEW	API	N	8856	19257	8856	9300	-5447	-5891	10401	L-80	20	BUTT	2.18	2.07	BUOY	52.48	BUOY	52.48

Casing Attachments

Casing ID: 1StringSURFACE

Inspection Document:

Spec Document:

Red\_Hills\_32\_5\_Fed\_Com\_175H\_surf\_casing\_Specs\_20210429140429.pdf

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Red\_Hills\_32\_5\_175H\_Casing\_Assumptions\_20210429140657.pdf

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H**Casing Attachments****Casing ID:** 2      **String**      INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Red\_Hills\_32\_5\_175H\_Casing\_Assumptions\_20210429140712.pdf

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

Red\_Hills\_32\_5\_175H\_Casing\_Assumptions\_20210429140642.pdf

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

Red\_Hills\_32\_5\_175H\_Casing\_Assumptions\_20210429140757.pdf

**Section 4 - Cement**

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H

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	1010	489	1.72	13.5	841	45	Class C	Bentonite
SURFACE	Tail		0	1170	131	1.34	14.8	175	45	Class C	LCM
INTERMEDIATE	Lead		0	4870	924	1.88	12.9	171	50	35:65 (POZ C)	Salt Bentonite
INTERMEDIATE	Tail		0	4870	281	1.36	14.8	382	50	Class C	Retarder
PRODUCTION	Lead		0	1925 7	430	3.64	10.3	1565	25	tuned Light	LCM
PRODUCTION	Tail		0	1925 7	3032	1.3	14.2	3941	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 OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H

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	1170	OTHER : Fresh Water	7.8	8.3							
1170	4870	SALT SATURATED	9.5	10							
4870	1925 7	OIL-BASED MUD	8.5	9							

### Section 6 - Test, Logging, Coring

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

No DST Planned

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

GAMMA RAY LOG,DIRECTIONAL SURVEY,COMPENSATED NEUTRON LOG,

**Coring operation description for the well:**

N/A

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 4352

**Anticipated Surface Pressure:** 2306

**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\_32\_5\_Fed\_Com\_175H\_H2S\_Plan\_20210429141602.pdf

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** RED HILLS 32-5 FEDERAL COM

**Well Number:** 175H

## Section 8 - Other Information

### Proposed horizontal/directional/multi-lateral plan submission:

Red\_Hills\_32\_5\_Fed\_Com\_175H\_Directional\_20210429141623.pdf

Red\_Hills\_32\_5\_Fed\_Com\_175H\_AC\_Report\_20210429141629.pdf

### Other proposed operations facets description:

### Other proposed operations facets attachment:

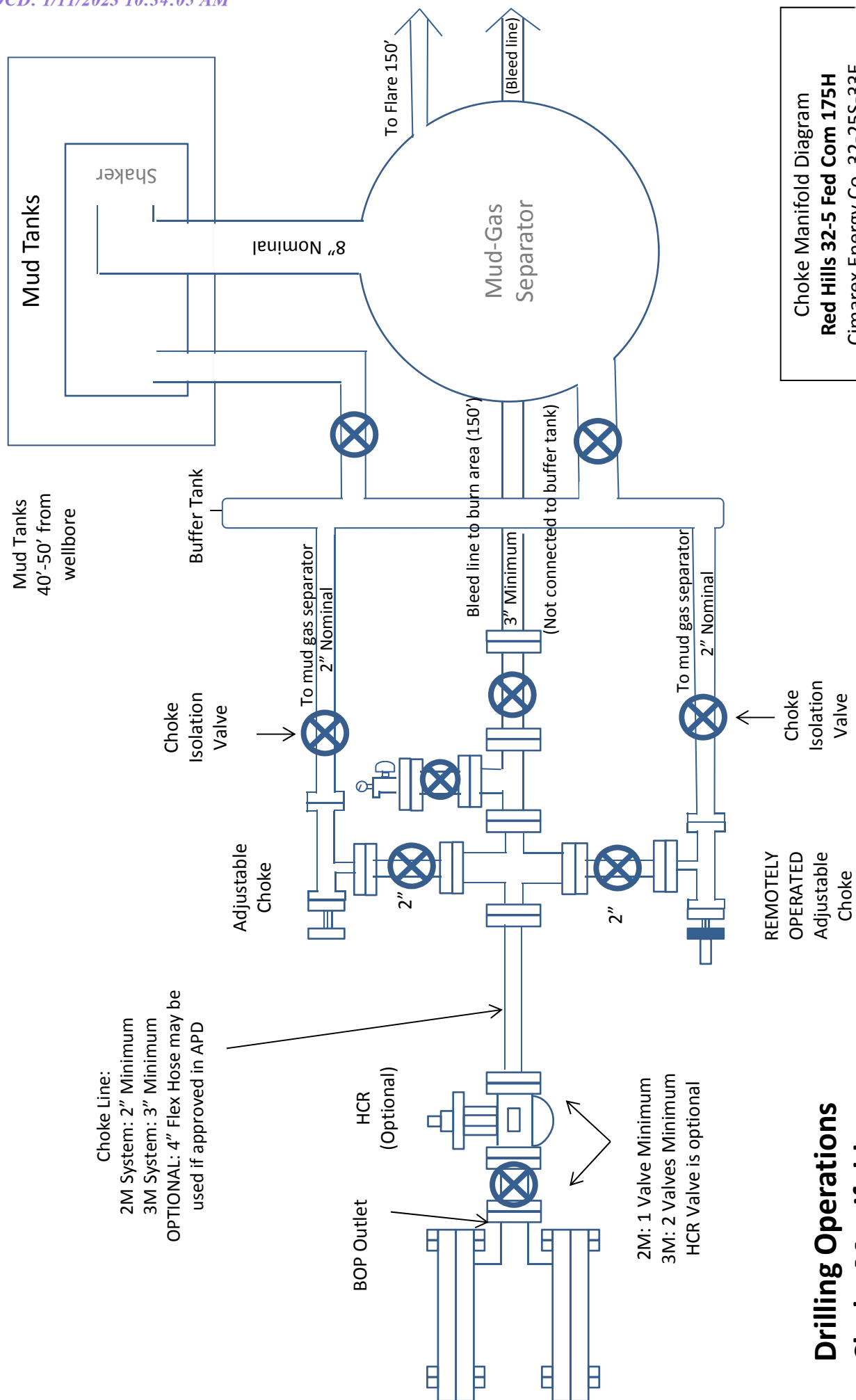
Red\_Hills\_32\_5\_Fed\_Com\_175H\_Gas\_Capture\_Plan\_20210429141655.pdf

Red\_Hills\_32\_5\_Fed\_Com\_175H\_Revised\_Drilling\_Plan\_20220223155830.pdf

### Other Variance attachment:

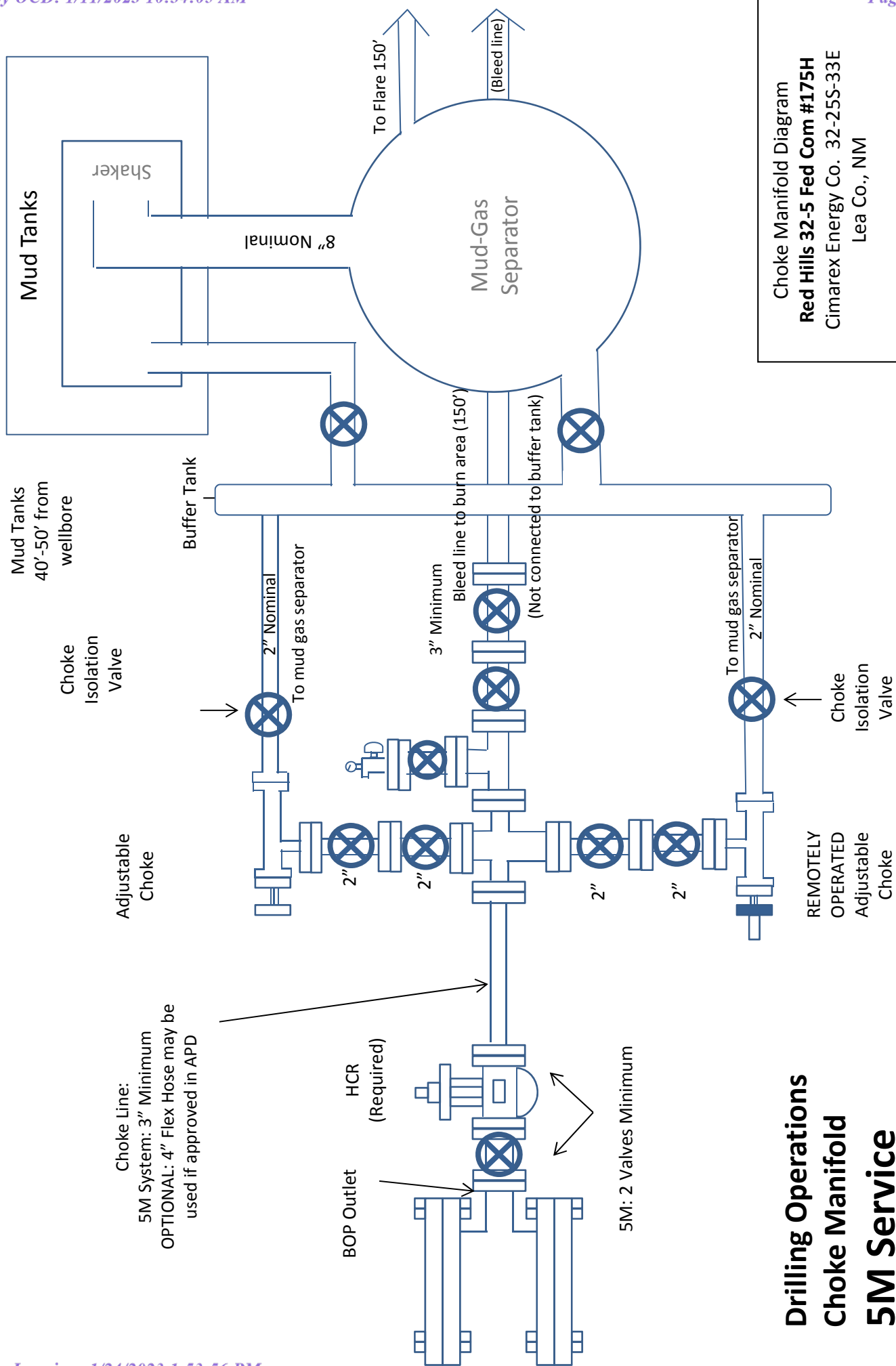
Red\_Hills\_32\_5\_Fed\_Com\_175H\_Flex\_Hose\_20210429141731.pdf

Red\_Hills\_32\_5\_175H\_Multibowl\_Wellhead\_20210429141742.pdf



Choke Manifold Diagram  
**Red Hills 32-5 Fed Com 175H**  
 Cimarex Energy Co. 32-25S-33E  
 Lea Co., NM

**Drilling Operations**  
**Choke Manifold**  
**2M/3M Service**





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

Fill Line

Flowline

5000# (5M)  
BOP

Annular Preventer

SRR &amp; A

Pipe Rams

Blind Rams

2" Minimum Kill Line

Kill Line

Drilling  
Spool

3" minimum choke line

Choke Line

2 Valves Minimum  
(HCR Required)

2 Valves and a check valve

Wellhead  
Assembly

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

Wellhead  
Assembly

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

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

5000# BOP  
**Red Hills 32-5 Fed Com #175H**  
Cimarex Energy Co. 32-25S-33E  
Lea Co., NM

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

Fill Line

Flowline

5000# (5M)  
BOP

Annular Preventer

SRR & A

Pipe Rams

Blind Rams

2" Minimum Kill Line

Kill Line

Drilling  
Spool

3" minimum choke line

Choke Line

2 Valves Minimum  
(HCR Required)

2 Valves and a check valve

Wellhead  
Assembly

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

Wellhead  
Assembly

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

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

5000# BOP

**Red Hills 32-5 Fed Com #175H**  
Cimarex Energy Co. 32-25S-33E  
Lea Co., NM

[Print](#)



# OCTG Performance Data

## Casing Performance

Availability: ERW

### Pipe Body Geometry

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

### Pipe Body Performance

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

## SC Connection

### Connection Geometry

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

### Connection Performance

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

## LC Connection

### Connection Geometry

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

### Connection Performance

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

## BC Connection

### Connection Geometry

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

### Connection Performance

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

## PE Connection

### Connection Geometry

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

Connection Performance

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

**Red Hills 32-5 Fed Com 175H**  
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	1010	1010	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.69	3.95	6.64
12 1/4	0	4870	4870	9-5/8"	40.00	J-55	LT&C	1.59	1.56	2.67
8 3/4	0	8856	8856	5-1/2"	20.00	L-80	LT&C	2.13	2.22	2.24
8 3/4	8856	19257	9300	5-1/2"	20.00	L-80	BT&C	2.18	2.07	52.48
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

## Red Hills 32-5 Fed Com 175H

### 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	1010	1010	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.69	3.95	6.64
12 1/4	0	4870	4870	9-5/8"	40.00	J-55	LT&C	1.59	1.56	2.67
8 3/4	0	8856	8856	5-1/2"	20.00	L-80	LT&C	2.13	2.22	2.24
8 3/4	8856	19257	9300	5-1/2"	20.00	L-80	BT&C	2.18	2.07	52.48
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

## Red Hills 32-5 Fed Com 175H

### 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	1010	1010	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.69	3.95	6.64
12 1/4	0	4870	4870	9-5/8"	40.00	J-55	LT&C	1.59	1.56	2.67
8 3/4	0	8856	8856	5-1/2"	20.00	L-80	LT&C	2.13	2.22	2.24
8 3/4	8856	19257	9300	5-1/2"	20.00	L-80	BT&C	2.18	2.07	52.48
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

**Red Hills 32-5 Fed Com 175H**  
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	1010	1010	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.69	3.95	6.64
12 1/4	0	4870	4870	9-5/8"	40.00	J-55	LT&C	1.59	1.56	2.67
8 3/4	0	8856	8856	5-1/2"	20.00	L-80	LT&C	2.13	2.22	2.24
8 3/4	8856	19257	9300	5-1/2"	20.00	L-80	BT&C	2.18	2.07	52.48
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet



## Hydrogen Sulfide Drilling Operations Plan

## Red Hills 32-5 Fed Com 175H

Cimarex Energy Co.

Sec. 32, 25S, 33E

Lea Co., NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazards
  - C. Principal and operation of H<sub>2</sub>S 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.

H<sub>2</sub>S Detection and Alarm Systems:

  - A. H<sub>2</sub>S 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 H<sub>2</sub>S 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 (H<sub>2</sub>S present in dangerous concentration). Only H<sub>2</sub>S 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 H<sub>2</sub>S has on tubular goods and other mechanical equipment.
- 9 If H<sub>2</sub>S 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 H<sub>2</sub>S scavengers if necessary.

H<sub>2</sub>S Contingency Plan  
**Red Hills 32-5 Fed Com 175H**  
Cimarex Energy Co.  
Sec. 32, 25S, 33E Lea Co., NM

**Emergency Procedures**

In the event of a release of gas containing H<sub>2</sub>S, the first responder(s) must:

- « Isolate the area and prevent entry by other persons into the 100 ppm ROE.
- « Evacuate any public places encompassed by the 100 ppm ROE.
- « Be equipped with H<sub>2</sub>S monitors and air packs in order to control the release.
- « Use the "buddy system" to ensure no injuries occur during the 432-620-1975
- « Take precautions to avoid personal injury during this operation.
- « Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
- « Have received training in the:
  - Detection of H<sub>2</sub>S, and
  - Measures for protection against the gas,
  - Equipment used for protection and emergency response.

**Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). 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 H<sub>2</sub>S and SO<sub>2</sub>**

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).

H<sub>2</sub>S Contingency Plan Emergency Contact s**Red Hills 32-5 Fed Com 175H**

Cimarex Energy Co.

Sec. 32, 25S, 33E

Lea Co., NM

**Company Office**

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

**Key Personnel**

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

**Artesia**

Ambulance	911
State Police	575-746-2703
City Police	575-746-2703
Sheriff's Office	575-746-9888
<b>Fire Department</b>	<b>575-746-2701</b>
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
<b>Fire Department</b>	<b>575-887-3798</b>
Local Emergency Planning Committee	575-887-6544
US Bureau of Land Management	575-887-6544

**Santa Fe**

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

**National**

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

**Medical**

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

**Other**

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



## Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20 Proposal Geodetic Report (Non-Def Plan)



**Report Date:** March 20, 2020 - 03:03 PM  
**Client:** Cimarex Energy  
**Field:** NM Lea County (NAD 83)  
**Structure / Slot:** Cimarex Red Hills 32-5 Fed Com #175H / New Slot  
**Well:** Red Hills 32-5 Fed Com #175H  
**Borehole:** Red Hills 32-5 Fed Com #175H  
**UWI / API#:** Unknown / Unknown  
**Survey Name:** Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20  
**Survey Date:** March 09, 2020  
**Tort / AHD / DDI / ERD Ratio:** 106.551 ° / 10606.290 ft / 6.369 / 1.140  
**Coordinate Reference System:** NAD83 New Mexico State Plane, Eastern Zone, US Feet  
**Location Lat / Long:** N 32° 5' 36.26950", W 103° 35' 36.52106"  
**Location Grid N/E Y/X:** N 398504.670 ftUS, E 770453.780 ftUS  
**CRS Grid Convergence Angle:** 0.3931 °  
**Grid Scale Factor:** 0.99996921  
**Version / Patch:** 2.10.794.0

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 179.598 ° (Grid North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** RKB  
**TVD Reference Elevation:** 3435.100 ft above MSL  
**Seabed / Ground Elevation:** 3409.100 ft above MSL  
**Magnetic Declination:** 6.568 °  
**Total Gravity Field Strength:** 998.4288mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 47672.728 nT  
**Magnetic Dip Angle:** 59.669 °  
**Declination Date:** March 09, 2020  
**Magnetic Declination Model:** HDGM 2019  
**North Reference:** Grid North  
**Grid Convergence Used:** 0.3931 °  
**Total Corr Mag North->Grid North:** 6.1750 °  
**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 [330° FNL, 2385° FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	100.00	0.00	89.67	100.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	200.00	0.00	89.67	200.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	300.00	0.00	89.67	300.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	400.00	0.00	89.67	400.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	500.00	0.00	89.67	500.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	600.00	0.00	89.67	600.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	700.00	0.00	89.67	700.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	800.00	0.00	89.67	800.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	900.00	0.00	89.67	900.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
Rustler	934.00	0.00	89.67	934.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1000.00	0.00	89.67	1000.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1100.00	0.00	89.67	1100.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1200.00	0.00	89.67	1200.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
Top of Salt	1300.00	0.00	89.67	1300.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1349.00	0.00	89.67	1349.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1400.00	0.00	89.67	1400.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1500.00	0.00	89.67	1500.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1600.00	0.00	89.67	1600.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1700.00	0.00	89.67	1700.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1800.00	0.00	89.67	1800.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	1900.00	0.00	89.67	1900.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	2000.00	0.00	89.67	2000.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	2100.00	0.00	89.67	2100.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	2200.00	0.00	89.67	2200.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	2300.00	0.00	89.67	2300.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	2400.00	0.00	89.67	2400.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	2500.00	0.00	89.67	2500.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	2600.00	0.00	89.67	2600.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
Nudge 2° DLS	2700.00	0.00	89.67	2700.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	2800.00	0.00	89.67	2800.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27 W 103 35 36.52	
	2900.00	2.00	89.67	2899.98	0.00	0.01	1.75	2.00	398504.68	770455.53	N 32 5 36.27 W 103 35 36.50	
	3000.00	4.00	89.67	2999.84	0.01	0.04	6.98	2.00	398504.71	770460.76	N 32 5 36.27 W 103 35 36.44	
	3100.00	6.00	89.67	3099.45	0.02	0.09	15.69	2.00	398504.76	770469.47	N 32 5 36.27 W 103 35 36.34	
Hold	3200.00	8.00	89.67	3198.70	0.04	0.16	27.88	2.00	398504.83	770481.66	N 32 5 36.27 W 103 35 36.20	
	3213.77	8.28	89.67	3212.34	0.04	0.17	29.83	2.00	398504.84	770483.61	N 32 5 36.27 W 103 35 36.17	
	3300.00	8.28	89.67	3297.67	0.05	0.24	42.24	0.00	398504.91	770496.02	N 32 5 36.27 W 103 35 36.03	
	3400.00	8.28	89.67	3396.62	0.07	0.33	56.63	0.00	398505.00	770510.41	N 32 5 36.27 W 103 35 35.86	
	3500.00	8.28	89.67	3495.58	0.09	0.41	71.03	0.00	398505.08	770524.80	N 32 5 36.27 W 103 35 35.70	
	3600.00	8.28	89.67	3594.54	0.11	0.49	85.42	0.00	398505.16	770539.20	N 32 5 36.27 W 103 35 35.53	
	3700.00	8.28	89.67	3693.50	0.13	0.57	99.81	0.00	398505.24	770553.59	N 32 5 36.27 W 103 35 35.36	
	3800.00	8.28	89.67	3792.46	0.14	0.66	114.20	0.00	398505.33	770567.98	N 32 5 36.27 W 103 35 35.19	
	3900.00	8.28	89.67	3891.42	0.16	0.74	128.60	0.00	398505.41	770582.37	N 32 5 36.27 W 103 35 35.03	
	4000.00	8.28	89.67	3990.38	0.18	0.82	142.99	0.00	398505.49	770596.77	N 32 5 36.27 W 103 35 34.86	
	4100.00	8.28	89.67	4089.33	0.20	0.91	157.38	0.00	398505.58	770611.16	N 32 5 36.27 W 103 35 34.69	
	4200.00	8.28	89.67	4188.29	0.22	0.99	171.78	0.00	398505.66	770625.55	N 32 5 36.27 W 103 35 34.52	
	4300.00	8.28	89.67	4287.25	0.23	1.07	186.17	0.00	398505.74	770639.94	N 32 5 36.27 W 103 35 34.36	
	4400.00	8.28	89.67	4386.21	0.25	1.15	200.56	0.00	398505.82	770654.34	N 32 5 36.27 W 103 35 34.19	
	4500.00	8.28	89.67	4485.17	0.27	1.24	214.96	0.00	398505.91	770668.73	N 32 5 36.27 W 103 35 34.02	
	4600.00	8.28	89.67	4584.13	0.29	1.32	229.35	0.00	398505.99	770683.12	N 32 5 36.27 W 103 35 33.86	
Base of Salt	4667.57	8.28	89.67	4651.00	0.30	1.38	239.08	0.00	398506.05	770692.85	N 32 5 36.27 W 103 35 33.74	
	4700.00	8.28	89.67	4683.09	0.31	1.40	243.74	0.00	398506.07	770697.51	N 32 5 36.27 W 103 35 33.69	
	4800.00	8.28	89.67	4782.05	0.33	1.49	258.14	0.00	398506.16	770711.91	N 32 5 36.27 W 103 35 33.52	
	4900.00	8.28	89.67	4881.00	0.34	1.57	272.53	0.00	398506.24	770726.30	N 32 5 36.27 W 103 35 33.35	
Lamar	4911.11	8.28	89.67	4892.00	0.35	1.58	274.13	0.00	398506.25	770727.90	N 32 5 36.27 W 103 35 33.33	
Bell Canyon	4948.50	8.28	89.67	4929.00	0.35	1.61	279.51	0.00	398506.28	770733.28	N 32 5 36.27 W 103 35 33.27	
	5000.00	8.28	89.67	4979.96	0.36	1.65	286.92	0.00	398506.32	770740.69	N 32 5 36.27 W 103 35 33.19	
	5100.00	8.28	89.67	5078.92	0.38	1.73	301.31	0.00	398506.40	770755.08	N 32 5 36.27 W 103 35 33.02	
	5200.00	8.28	89.67	5177.88	0.40	1.82	315.71	0.00	398506.49	770769.48	N 32 5 36.27 W 103 35 32.85	
	5300.00	8.28	89.67	5276.84	0.42	1.90	330.10	0.00	398506.57	770783.87	N 32 5 36.27 W 103 35 32.68	
	5400.00	8.28	89.67	5375.80	0.43	1.98	344.49	0.00	398506.65	770798.26	N 32 5 36.27 W 103 35 32.52	
	5500.00	8.28	89.67	5474.76	0.45	2.07	358.89	0.00	398506.74	770812.66	N 32 5 36.27 W 103 35 32.35	
	5600.00	8.28	89.67	5573.72	0.47	2.15	373.28	0.00	398506.82	770827.05	N 32 5 36.27 W 103 35 32.18	
	5700.00	8.28	89.67	5672.67	0.49	2.23	387.67	0.00	398506.90	770841.44	N 32 5 36.27 W 103 35 32.01	
	5800.00	8.28	89.67	5771.63	0.51	2.31	402.07	0.00	398506.98	770855.83	N 32 5 36.27 W 103 35 31.85	
	5900.00	8.28	89.67	5870.59	0.53	2.40	416.46	0.00	398507.07	770870.23	N 32 5 36.26 W 103 35 31.68	
	6000.00	8.28	89.67	5969.55	0.54	2.48	430.85	0.00	398507.15	770884.62	N 32 5 36.26 W 103 35 31.51	
Cherry Canyon	6031.78	8.28	89.67	6001.00	0.55	2.51	435.43	0.00	398507.18	770889.19	N 32 5 36.26 W 103 35 31.46	
	6100.00	8.28	89.67	6068.51	0.56	2.56	445.25	0.00	398507.23	770899.01	N 32 5 36.26 W 103 35 31.35	
Drop 2° DLS	6119.35	8.28	89.67	6087.66	0.57	2.58	448.03	0.00	398507.25	770901.80	N 32 5 36.26 W 103 35 31.31	
	6200.00	6.66	89.67	6167.62	0.58	2.64	458.51	2.00	398507.31	770912.28	N 32 5 36.26 W 103 35 31.19	
	6300.00	4.66	89.67	6267.13	0.59	2.70	468.38	2.00	398507.37	770922.14	N 32 5 36.26 W 103 35 31.08	
	6400.00	2.66	89.67	6366.92	0.60	2.73	474.77	2.00	398507.40	770928.53	N 32 5 36.26 W 103 35 31.00	
	6500.00	0.66	89.67	6466.87	0.60	2.75	477.67	2.00	398507.42	770931.43	N 32 5 36.26 W 103 35 30.97	
	6533.13	0.00	89.67	6500.00	0.60	2.75	477.86	2.00	398507.42	770931.62	N 32 5 36.26 W 103 35 30.97	
	6600.00	0.00										

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 ° ' '')
	6800.00	0.00	89.67	6766.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	6900.00	0.00	89.67	6866.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7000.00	0.00	89.67	6966.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7100.00	0.00	89.67	7066.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7200.00	0.00	89.67	7166.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7300.00	0.00	89.67	7266.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7400.00	0.00	89.67	7366.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7500.00	0.00	89.67	7466.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
Brusy Canyon	7570.13	0.00	89.67	7537.00	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7600.00	0.00	89.67	7566.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7700.00	0.00	89.67	7666.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7800.00	0.00	89.67	7766.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	7900.00	0.00	89.67	7866.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8000.00	0.00	89.67	7966.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8100.00	0.00	89.67	8066.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8200.00	0.00	89.67	8166.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8300.00	0.00	89.67	8266.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8400.00	0.00	89.67	8366.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8500.00	0.00	89.67	8466.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8600.00	0.00	89.67	8566.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8700.00	0.00	89.67	8666.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8800.00	0.00	89.67	8766.87	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
KOP, Build 12° DLS	8855.66	0.00	89.67	8822.54	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
	8900.00	5.32	179.60	8866.81	2.66	0.69	477.87	12.00	398505.36	770931.64	N 32 5 36.24	W 103 35 30.97
	9000.00	17.32	179.60	8964.68	22.25	-18.90	478.01	12.00	398485.77	770931.78	N 32 5 36.05	W 103 35 30.97
Bone Spring	9080.33	26.96	179.60	9039.00	52.49	-49.14	478.22	12.00	398455.53	770931.99	N 32 5 35.75	W 103 35 30.97
	9100.00	29.32	179.60	9056.35	61.77	-58.41	478.29	12.00	398446.26	770932.05	N 32 5 35.66	W 103 35 30.97
Leonard Shale	9144.41	34.65	179.60	9094.00	85.28	-81.93	478.46	12.00	398422.74	770932.22	N 32 5 35.43	W 103 35 30.97
	9200.00	41.32	179.60	9137.79	119.48	-116.12	478.70	12.00	398388.55	770932.46	N 32 5 35.09	W 103 35 30.97
	9300.00	53.32	179.60	9205.46	192.86	-189.50	479.21	12.00	398315.18	770932.98	N 32 5 34.36	W 103 35 30.97
	9400.00	65.32	179.60	9256.39	278.70	-275.35	479.81	12.00	398229.33	770933.58	N 32 5 33.51	W 103 35 30.97
	9500.00	77.32	179.60	9288.36	373.26	-369.90	480.48	12.00	398134.78	770934.24	N 32 5 32.58	W 103 35 30.97
	9600.00	89.32	179.60	9299.97	472.40	-469.04	481.18	12.00	398035.65	770934.94	N 32 5 31.60	W 103 35 30.97
Landing Point	9605.66	90.00	179.60	9300.00	478.07	-474.70	481.22	12.00	398029.98	770934.98	N 32 5 31.54	W 103 35 30.97
	9700.00	90.00	179.60	9300.00	572.40	-569.04	481.88	0.00	397935.65	770935.64	N 32 5 30.61	W 103 35 30.97
	9800.00	90.00	179.60	9300.00	672.40	-669.03	482.58	0.00	397835.66	770936.35	N 32 5 29.62	W 103 35 30.97
	9900.00	90.00	179.60	9300.00	772.40	-769.03	483.28	0.00	397735.66	770937.05	N 32 5 28.63	W 103 35 30.96
	10000.00	90.00	179.60	9300.00	872.40	-869.03	483.99	0.00	397635.67	770937.75	N 32 5 27.64	W 103 35 30.96
	10100.00	90.00	179.60	9300.00	972.40	-969.03	484.69	0.00	397535.67	770938.45	N 32 5 26.65	W 103 35 30.96
	10200.00	90.00	179.60	9300.00	1072.40	-1069.02	485.39	0.00	397435.68	770939.16	N 32 5 25.66	W 103 35 30.96
	10300.00	90.00	179.60	9300.00	1172.40	-1169.02	486.10	0.00	397335.69	770939.86	N 32 5 24.67	W 103 35 30.96
	10400.00	90.00	179.60	9300.00	1272.40	-1269.02	486.80	0.00	397235.69	770940.56	N 32 5 23.68	W 103 35 30.96
	10500.00	90.00	179.60	9300.00	1372.40	-1369.02	487.50	0.00	397135.70	770941.27	N 32 5 22.69	W 103 35 30.96
	10600.00	90.00	179.60	9300.00	1472.40	-1469.01	488.20	0.00	397035.70	770941.97	N 32 5 21.70	W 103 35 30.96
	10700.00	90.00	179.60	9300.00	1572.40	-1569.01	488.91	0.00	396935.71	770942.67	N 32 5 20.71	W 103 35 30.96
	10800.00	90.00	179.60	9300.00	1672.40	-1669.01	489.61	0.00	396835.72	770943.37	N 32 5 19.72	W 103 35 30.96
	10900.00	90.00	179.60	9300.00	1772.40	-1769.01	490.31	0.00	396735.72	770944.08	N 32 5 18.73	W 103 35 30.96
	11000.00	90.00	179.60	9300.00	1872.40	-1869.00	491.02	0.00	396635.73	770944.78	N 32 5 17.74	W 103 35 30.96
	11100.00	90.00	179.60	9300.00	1972.40	-1969.00	491.72	0.00	396535.73	770945.48	N 32 5 16.75	W 103 35 30.96
	11200.00	90.00	179.60	9300.00	2072.40	-2069.00	492.42	0.00	396435.74	770946.19	N 32 5 15.76	W 103 35 30.96
	11300.00	90.00	179.60	9300.00	2172.40	-2169.00	493.12	0.00	396335.74	770946.89	N 32 5 14.77	W 103 35 30.96
	11400.00	90.00	179.60	9300.00	2272.40	-2268.99	493.83	0.00	396235.75	770947.59	N 32 5 13.78	W 103 35 30.96
	11500.00	90.00	179.60	9300.00	2372.40	-2368.99	494.53	0.00	396135.76	770948.29	N 32 5 12.79	W 103 35 30.96
	11600.00	90.00	179.60	9300.00	2472.40	-2468.99	495.23	0.00	396035.76	770949.00	N 32 5 11.80	W 103 35 30.96
	11700.00	90.00	179.60	9300.00	2572.40	-2568.99	495.94	0.00	395935.77	770949.70	N 32 5 10.82	W 103 35 30.96
	11800.00	90.00	179.60	9300.00	2672.40	-2668.98	496.64	0.00	395835.77	770950.40	N 32 5 9.83	W 103 35 30.96
	11900.00	90.00	179.60	9300.00	2772.40	-2768.98	497.34	0.00	395735.78	770951.11	N 32 5 8.84	W 103 35 30.96
	12000.00	90.00	179.60	9300.00	2872.40	-2868.98	498.04	0.00	395635.78	770951.81	N 32 5 7.85	W 103 35 30.96
	12100.00	90.00	179.60	9300.00	2972.40	-2968.98	498.75	0.00	395535.79	770952.51	N 32 5 6.86	W 103 35 30.96
	12200.00	90.00	179.60	9300.00	3072.40	-3068.98	499.45	0.00	395435.80	770953.21	N 32 5 5.87	W 103 35 30.96
	12300.00	90.00	179.60	9300.00	3172.40	-3168.97	500.15	0.00	395335.80	770953.92	N 32 5 4.88	W 103 35 30.96
	12400.00	90.00	179.60	9300.00	3272.40	-3268.97	500.86	0.00	395235.81	770954.62	N 32 5 3.89	W 103 35 30.96
	12500.00	90.00	179.60	9300.00	3372.40	-3368.97	501.56	0.00	395135.81	770955.32	N 32 5 2.90	W 103 35 30.96
	12600.00	90.00	179.60	9300.00	3472.40	-3468.97	502.26	0.00	395035.82	770956.03	N 32 5 1.91	W 103 35 30.96
	12700.00	90.00	179.60	9300.00	3572.40	-3568.96	502.96	0.00	394935.82	770956.73	N 32 5 0.92	W 103 35 30.96
	12800.00	90.00	179.60	9300.00	3672.40	-3668.96	503.67	0.00	394835.83	770957.43	N 32 4 59.93	W 103 35 30.96
	12900.00	90.00	179.60	9300.00	3772.40	-3768.96	504.37	0.00	394735.84	770958.13	N 32 4 58.94	W 103 35 30.96
	13000.00	90.00	179.60	9300.00	3872.40	-3868.96	505.07	0.00	394635.84	770958.84	N 32 4 57.95	W 103 35 30.96
	13100.00	90.00	179.60	9300.00	3972.40	-3968.95	505.78	0.00	394535.85	770959.54	N 32 4 56.96	W 103 35 30.96
	13200.00	90.00	179.60	9300.00	4072.40	-4068.95	506.48	0.00	394435.85	770960.24	N 32 4 55.97	W 103 35 30.96
	13300.00	90.00	179.60	9300.00	4172.40	-4168.95	507.18	0.00	394335.86	770960.95	N 32 4 54.98	W 103 35 30.96
	13400.00	90.00	179.60	9300.00	4272.40	-4268.95	507.88	0.00	394235.86	770961.65	N 32 4 53.99	W 103 35 30.96
	13500.00	90.00	179.60	9300.00	4372.40	-4368.94	508.59	0.00	394135.87	770962.35	N 32 4 53.00	W 103 35 30.96
	13600.00	90.00	179.60	9300.00	4472.40	-4468.94	509.29	0.00	394035.88	770963.05	N 32 4 52.01	W 103 35 30.96
	13700.00	90.00	179.60	9300.00	4572.40	-4568.94	509.99	0.00	393935.88	770963.76	N 32 4 51.02	W 103 35 30.96
	13800.00	90.00	179.60	9300.00	4672.40	-4668.94	510.70	0.00	393835.89	770964.46	N 32 4 50.04	W 103 35 30.96
	13900.00	90.00	179.60									

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 ° ' ")
NMNIM0106040 4 - NMNIM0160973 Crossing	16500.00	90.00	179.60	9300.00	7372.40	-7368.87	529.67	0.00	391136.04	770983.44	N 32 4 23.32	W 103 35 30.95
	16600.00	90.00	179.60	9300.00	7472.40	-7468.87	530.38	0.00	391036.05	770984.14	N 32 4 22.33	W 103 35 30.95
	16700.00	90.00	179.60	9300.00	7572.40	-7568.86	531.08	0.00	390936.05	770984.84	N 32 4 21.34	W 103 35 30.95
	16721.64	90.00	179.60	9300.00	7594.04	-7590.50	531.23	0.00	390914.42	770984.99	N 32 4 21.12	W 103 35 30.95
	16800.00	90.00	179.60	9300.00	7672.40	-7668.86	531.78	0.00	390836.06	770985.54	N 32 4 20.35	W 103 35 30.95
	16900.00	90.00	179.60	9300.00	7772.40	-7768.86	532.48	0.00	390736.07	770986.25	N 32 4 19.36	W 103 35 30.95
	17000.00	90.00	179.60	9300.00	7872.40	-7868.86	533.19	0.00	390636.07	770986.95	N 32 4 18.37	W 103 35 30.95
	17100.00	90.00	179.60	9300.00	7972.40	-7968.85	533.89	0.00	390536.08	770987.65	N 32 4 17.38	W 103 35 30.95
	17200.00	90.00	179.60	9300.00	8072.40	-8068.85	534.59	0.00	390436.08	770988.36	N 32 4 16.39	W 103 35 30.95
	17300.00	90.00	179.60	9300.00	8172.40	-8168.85	535.30	0.00	390336.09	770989.06	N 32 4 15.40	W 103 35 30.95
	17400.00	90.00	179.60	9300.00	8272.40	-8268.85	536.00	0.00	390236.09	770989.76	N 32 4 14.41	W 103 35 30.95
	17500.00	90.00	179.60	9300.00	8372.40	-8368.84	536.70	0.00	390136.10	770990.46	N 32 4 13.42	W 103 35 30.95
	17600.00	90.00	179.60	9300.00	8472.40	-8468.84	537.40	0.00	390036.11	770991.17	N 32 4 12.43	W 103 35 30.95
	17700.00	90.00	179.60	9300.00	8572.40	-8568.84	538.11	0.00	389936.11	770991.87	N 32 4 11.44	W 103 35 30.95
	17800.00	90.00	179.60	9300.00	8672.40	-8668.84	538.81	0.00	389836.12	770992.57	N 32 4 10.45	W 103 35 30.95
	17900.00	90.00	179.60	9300.00	8772.40	-8768.83	539.51	0.00	389736.12	770993.28	N 32 4 9.46	W 103 35 30.95
	18000.00	90.00	179.60	9300.00	8872.40	-8868.83	540.22	0.00	389636.13	770993.98	N 32 4 8.47	W 103 35 30.95
	18100.00	90.00	179.60	9300.00	8972.40	-8968.83	540.92	0.00	389536.13	770994.68	N 32 4 7.48	W 103 35 30.95
	18200.00	90.00	179.60	9300.00	9072.40	-9068.83	541.62	0.00	389436.14	770995.38	N 32 4 6.50	W 103 35 30.95
	18300.00	90.00	179.60	9300.00	9172.40	-9168.82	542.32	0.00	389336.15	770996.09	N 32 4 5.51	W 103 35 30.95
CimarexEnergy Red Hills 32-5 FedCom#175H - PBHL[100'FSL,1 907FEL]	18400.00	90.00	179.60	9300.00	9272.40	-9268.82	543.03	0.00	389236.15	770996.79	N 32 4 4.52	W 103 35 30.95
	18500.00	90.00	179.60	9300.00	9372.40	-9368.82	543.73	0.00	389136.16	770997.49	N 32 4 3.53	W 103 35 30.95
	18600.00	90.00	179.60	9300.00	9472.40	-9468.82	544.43	0.00	389036.16	770998.20	N 32 4 2.54	W 103 35 30.95
	18700.00	90.00	179.60	9300.00	9572.40	-9568.81	545.14	0.00	388936.17	770998.90	N 32 4 1.55	W 103 35 30.95
	18800.00	90.00	179.60	9300.00	9672.40	-9668.81	545.84	0.00	388836.18	770999.60	N 32 4 0.56	W 103 35 30.95
	18900.00	90.00	179.60	9300.00	9772.40	-9768.81	546.54	0.00	388736.18	771000.30	N 32 3 59.57	W 103 35 30.95
	19000.00	90.00	179.60	9300.00	9872.40	-9868.81	547.24	0.00	388636.19	771001.01	N 32 3 58.58	W 103 35 30.95
	19100.00	90.00	179.60	9300.00	9972.40	-9968.80	547.95	0.00	388536.19	771001.71	N 32 3 57.59	W 103 35 30.95
	19200.00	90.00	179.60	9300.00	10072.40	-10068.80	548.65	0.00	388436.20	771002.41	N 32 3 56.60	W 103 35 30.95
	19256.62	90.00	179.60	9300.00	10129.02	-10125.42	549.05	0.00	388379.58	771002.81	N 32 3 56.04	W 103 35 30.95

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	30.000	30.000		NAL_MWD_IFR1+MS-Depth Only	Red Hills 32-5 Fed Com #175H / Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20
	1	26.000	19256.621	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS	Red Hills 32-5 Fed Com #175H / Cimarex Red Hills 32-5 Fed Com



## Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20 Proposal Geodetic Report (Non-Def Plan)



**Report Date:** March 20, 2020 - 03:02 PM  
**Client:** Cimarex Energy  
**Field:** NM Lea County (NAD 83)  
**Structure / Slot:** Cimarex Red Hills 32-5 Fed Com #175H / New Slot  
**Well:** Red Hills 32-5 Fed Com #175H  
**Borehole:** Red Hills 32-5 Fed Com #175H  
**UWI / API#:** Unknown / Unknown  
**Survey Name:** Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20  
**Survey Date:** March 09, 2020  
**Tort / AHD / DDI / ERD Ratio:** 106.551 ° / 10606.290 ft / 6.369 / 1.140  
**Coordinate Reference System:** NAD83 New Mexico State Plane, Eastern Zone, US Feet  
**Location Lat / Long:** N 32° 5' 36.26950", W 103° 35' 36.52106"  
**Location Grid N/E Y/X:** N 398504.670 ftUS, E 770453.780 ftUS  
**CRS Grid Convergence Angle:** 0.3931 °  
**Grid Scale Factor:** 0.99996921  
**Version / Patch:** 2.10.794.0

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 179.598 ° (Grid North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** RKB  
**TVD Reference Elevation:** 3435.100 ft above MSL  
**Seabed / Ground Elevation:** 3409.100 ft above MSL  
**Magnetic Declination:** 6.568 °  
**Total Gravity Field Strength:** 998.4288mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 47672.728 nT  
**Magnetic Dip Angle:** 59.669 °  
**Declination Date:** March 09, 2020  
**Magnetic Declination Model:** HDGM 2019  
**North Reference:** Grid North  
**Grid Convergence Used:** 0.3931 °  
**Total Corr Mag North->Grid North:** 6.1750 °  
**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 [330' FNL, 2385' FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	398504.67	770453.78	N 32 5 36.27	W 103 35 36.52
Nudoe 2" DLS	2800.00	0.00	89.67	2800.00	0.00	0.00	0.00	0.00	398504.67	770453.78	N 32 5 36.27	W 103 35 36.52
Hold	3213.77	8.28	89.67	3212.34	0.04	0.17	29.83	2.00	398504.84	770483.61	N 32 5 36.27	W 103 35 36.17
Drop 2" DLS	6119.35	8.28	89.67	6087.66	0.57	2.58	448.03	0.00	398507.25	770901.80	N 32 5 36.26	W 103 35 31.31
Hold	6533.13	0.00	89.67	6500.00	0.60	2.75	477.86	2.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
KOP, Build 12" DLS	8855.66	0.00	89.67	8822.54	0.60	2.75	477.86	0.00	398507.42	770931.62	N 32 5 36.26	W 103 35 30.97
Landing Point CimarexEnergy Red Hills 32-5 FedCom#175H - PBHL[100'FSL,1 907'FEL]	9605.66	90.00	179.60	9300.00	478.07	-474.70	481.22	12.00	398029.98	770934.98	N 32 5 31.54	W 103 35 30.97
	19256.62	90.00	179.60	9300.00	10129.02	-10125.42	549.05	0.00	388379.58	771002.81	N 32 3 56.04	W 103 35 30.95

**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	30.000	30.000		NAL_MWD_IFR1+MS-Depth Only	Red Hills 32-5 Fed Com #175H / Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20
	1	26.000	19256.621	1/100.000	30.000	30.000		NAL_MWD_IFR1+MS	Red Hills 32-5 Fed Com #175H / Cimarex Red Hills 32-5 Fed Com





Cimarex Energy

Rev 0

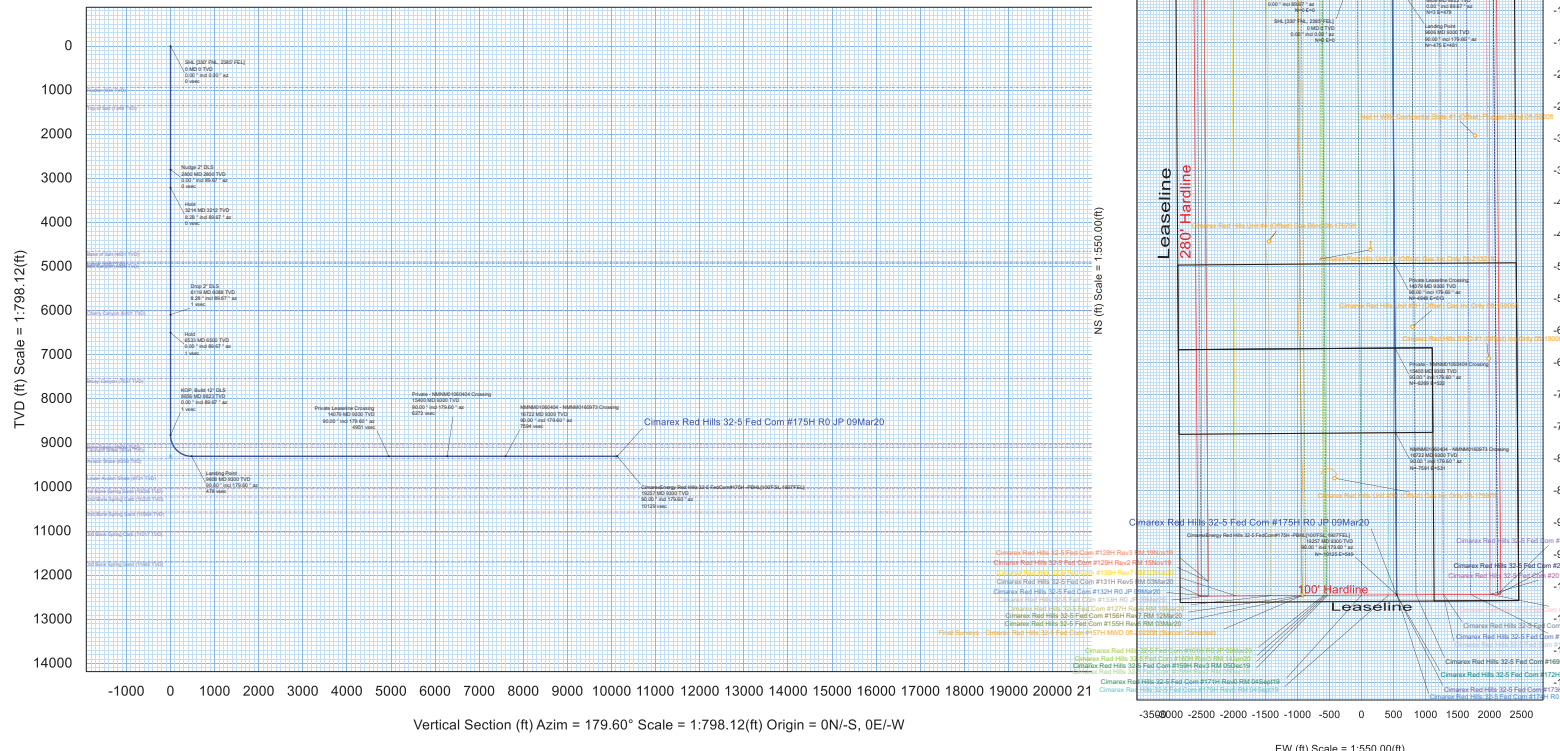


Borehole: Red Hills 32-5 Fed Com #175H				Well: Red Hills 32-5 Fed Com #175H				Field: NM Lea County (NAD 83)				Structure: Cimarex Red Hills 32-5 Fed Com #175H							
Gravity & Magnetic Parameters				Surface Location				Miscellaneous				TVD Ref: RKB(3435.1ft above MSL)							
Model: HDGM 2019				NADES New Mexico State Plane, Eastern Zone, US Feet				Slot: New Slot				Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20							
MagDec: 6.568°				Lat: N 32 5 36.27				Grid Conv: 0.3931"				Plan: Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20							
Dip: 59.668°				Northing: 388504.67RUS				Scale Fact: 0.99999921											
Date: 09-Mar-2020				Easting: 776453.76RUS															
Gravity FS: 47672.72mT																			
Critical Points																			
Critical Point		MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS										
SHL (30° FNL, 2385° FEL)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00										
Rustler		0.00	0.00	89.67	894.00	0.00	0.00	0.00	0.00										
Top of Salt		0.00	0.00	89.67	1349.00	0.00	0.00	0.00	0.00										
Nudge 2' DLS		0.00	0.00	89.67	2800.00	0.00	0.00	0.00	0.00										
Hold		3213.77	8.28	89.67	3213.77	0.04	0.17	29.83	2.00										
Base of Salt		4897.57	8.28	89.67	4897.57	0.30	1.38	239.09	0.00										
Lamar		4911.11	8.28	89.67	4892.00	0.35	1.58	274.13	0.00										
Bell Canyon		4948.50	8.28	89.67	4929.00	0.35	1.61	279.51	0.00										
Cherry Canyon		5031.78	8.28	89.67	5001.00	0.55	2.51	435.43	0.00										
Drop 2' DLS		6119.35	8.28	89.67	6087.66	0.57	2.58	448.03	0.00										
Hold		6533.13	0.00	89.67	6500.00	0.60	2.75	477.86	2.00										
Boruy Canyon		7570.13	0.00	89.67	7537.00	0.60	2.75	477.86	0.00										
KOP, Build 12' DLS		8855.66	0.00	89.67	8822.54	0.60	2.75	477.86	0.00										
Bone Spring		9080.33	28.96	179.60	9039.00	52.46	-48.14	478.22	12.00										
Leonard Shale		9144.41	34.65	179.60	9094.00	85.28	-81.93	478.48	12.00										
Landing Point		9505.66	90.00	179.60	9300.00	478.07	-474.73	481.22	0.00										
Private Lease/line Crossing		14078.57	90.00	179.60	9300.00	4950.98	-4847.50	512.65	0.00										
Private - NMN01000404 Crossing		15400.10	90.00	179.60	9300.00	6272.51	-6269.00	521.94	0.00										
NMN01000404 - NMN01000713 Crossing		16721.64	90.00	179.60	9300.00	7594.04	-7590.50	531.23	0.00										
Cimarex Red Hills 32-5 Fed Com #175H		16258.62	90.00	179.60	9300.00	10129.02	-10125.42	549.05	0.00										
1st Bone Spring Sand		NaN	NaN	NaN	10036.00	NaN	NaN	NaN	NaN										
Lower Avalon Shale		NaN	NaN	NaN	9731.00	NaN	NaN	NaN	NaN										
Avalon Shale		NaN	NaN	NaN	9356.00	NaN	NaN	NaN	NaN										
2nd Bone Spring Carb		NaN	NaN	NaN	10223.00	NaN	NaN	NaN	NaN										
3rd Bone Spring Carb		NaN	NaN	NaN	11017.00	NaN	NaN	NaN	NaN										
2nd Bone Spring Sand		NaN	NaN	NaN	10584.00	NaN	NaN	NaN	NaN										



Grid  
True  
Mag  
Grid North  
Tot Corr (M->G 6.175")  
Mag Dec (6.568")  
Grid Conv (0.393")

<b>CONTROLLED</b>	
Page ref	Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20
Drawing ref	
Draw number	012
Date	20-Mar-2020
1	Draw
2	Draw
3	Draw
4	Draw
Draw number	01







## Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20 Anti-Collision Summary Report

**Analysis Date-24hr Time:** March 20, 2020 - 15:04  
**Client:** Cimarex Energy  
**Field:** NM Lea County (NAD 83)  
**Structure:** Cimarex Red Hills 32-5 Fed Com #175H  
**Slot:** New Slot  
**Well:** Red Hills 32-5 Fed Com #175H  
**Borehole:** Red Hills 32-5 Fed Com #175H  
**Scan MD Range:** 0.00ft ~ 19256.62ft

**Analysis Method:** 3D Least Distance  
**Reference Trajectory:** Cimarex Red Hills 32-5 Fed Com #175H R0 JP 09Mar20 (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:** 2.10.794.0  
**Database / Project:** us1153app452.dir.slb.com/drilling-NM Lea County 2.10

**Trajectory Error Model:** ISCSWA0 3-D 95.000% Confidence 2.7955 sigma, for subject well. For offset wells, error model version is specified with each well respectively.

### Offset Selection Criteria

Wellhead distance scan: Restricted within 60267.12 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 Trajectories Summary

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
Cimarex Red Hills Unit #2H (Offset) Gas Inc Only Off-15005ft (Def Survey)													
	5978.30	32.81	5975.80	5945.49	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	5978.10	32.81	5975.58	5945.29	243921.10	MAS = 10.00 (m)	26.00	26.00					MinPt-O-SF
	5978.02	32.81	5975.43	5945.21	72953.28	MAS = 10.00 (m)	60.00	60.00					MinPts
	5978.05	32.81	5958.81	5945.24	357.06	MAS = 10.00 (m)	610.00	610.00					MinPts
	5977.53	37.44	5951.73	5940.09	256.48	OSF1.50	800.00	800.00					MinPt-CtCt
	5973.31	69.01	5926.47	5904.30	134.65	OSF1.50	1380.00	1380.00					MinPt-CtCt
	5971.13	111.97	5895.65	5859.16	81.79	OSF1.50	2200.00	2200.00					MinPt-CtCt
	5973.10	117.99	5893.60	5855.11	77.54	OSF1.50	2420.00	2420.00					MINPT-O-EOU
	5975.56	120.98	5894.07	5854.58	75.62	OSF1.50	2530.00	2530.00					MinPt-O-ADP
	5970.77	155.59	5866.21	5815.18	58.48	OSF1.50	3120.00	3119.33					MinPt-CtCt
	5962.55	188.24	5836.22	5774.31	48.14	OSF1.50	3770.00	3762.77					MinPt-CtCt
	5957.48	208.85	5817.41	5748.63	43.29	OSF1.50	4170.00	4158.61					MinPt-CtCt
	5950.76	232.56	5794.88	5718.20	38.79	OSF1.50	4610.00	4594.02					MinPt-CtCt
	5940.73	268.04	5761.20	5672.69	33.55	OSF1.50	5290.00	5266.94					MinPt-CtCt
	5934.57	293.32	5738.18	5641.25	30.60	OSF1.50	5760.00	5732.05					MinPt-CtCt
	5929.24	363.23	5686.24	5566.01	24.65	OSF1.50	7080.00	7046.87					MinPt-CtCt
	5935.70	383.31	5679.32	5552.39	23.37	OSF1.50	7600.00	7566.87					MINPT-O-EOU
	5928.30	436.20	5636.65	5492.10	20.50	OSF1.50	8470.00	8436.87					MinPt-CtCt
	5930.56	443.71	5633.91	5486.85	20.16	OSF1.50	8720.00	8686.87					MINPT-O-EOU
	5933.14	446.79	5634.44	5486.35	20.02	OSF1.50	8830.00	8796.87					MinPt-O-ADP
	1584.92	483.35	1259.95	1101.57	4.98	OSF1.50	13500.00	9300.00	OSF<5.00				Enter Alert
	485.20	490.07	155.67	-4.87	1.48	OSF1.50	14680.00	9300.00		OSF<1.50			Enter Minor
	331.77	496.06	-0.90	-164.30	1.00	OSF1.50	14930.00	9300.00			OSF<1.00		Enter Major
	306.99	497.65	-25.85	-190.66	0.92	OSF1.50	15050.00	9300.00					MinPts
	306.96	497.60	-25.76	-190.64	0.92	OSF1.50	15060.00	9300.00					MinPt-CtCt
	331.00	496.89	-1.09	-165.89	1.00	OSF1.50	15180.00	9300.00			OSF>1.00		Exit Major
	483.64	490.80	155.60	-7.17	1.48	OSF1.50	15430.00	9300.00			OSF>1.50		Exit Minor
	1602.80	485.12	1278.55	1117.68	4.97	OSF1.50	16630.00	9300.00	OSF>5.00				Exit Alert
	4209.98	486.98	3884.50	3723.01	13.03	OSF1.50	19256.62	9300.00					TD
Cimarex Red Hills 32-5 Fed Com #174H R0 JP 09Mar20 (Non-Def Plan)													
	19.99	16.49	17.49	3.50	N/A	MAS = 5.03 (m)	0.00	0.00	CtCt<=15m<15.00				Enter Alert
	19.99	16.49	17.49	3.50	N/A	MAS = 5.03 (m)	26.00	26.00					WRP
	19.99	20.00	5.82	-0.01	1.50	OSF1.50	1920.00	1920.00		OSF<1.50			Enter Minor
	19.99	25.47	2.18	-5.48	1.14	OSF1.50	2500.00	2500.00					MinPt-CtCt
	20.01	25.55	2.14	-5.54	1.14	OSF1.50	2510.00	2510.00					MINPT-O-EOU
	20.06	25.62	2.15	-5.56	1.14	OSF1.50	2520.00	2520.00					MinPts
	26.21	26.66	7.61	-0.45	1.47	OSF1.50	2690.00	2690.00					Exit Minor
	38.89	38.01	12.71	0.87	1.54	OSF1.50	4990.00	4970.07		OSF>1.50			MinPt-CtCt
	39.01	39.02	12.16	-0.01	1.50	OSF1.50	5120.00	5098.71					Enter Minor
	39.92	41.00	11.75	-1.08	1.46	OSF1.50	5370.00	5346.11		OSF<1.50			MINPT-O-EOU
	41.16	42.51	11.98	-1.35	1.45	OSF1.50	5560.00	5534.13					MinPt-O-SF
	41.32	42.67	12.03	-1.36	1.45	OSF1.50	5580.00	5553.92					MinPt-O-ADP
	46.77	46.80	14.73	-0.03	1.50	OSF1.50	6090.00	6058.61		OSF>1.50			Exit Minor
	50.36	50.38	15.94	-0.02	1.50	OSF1.50	7410.00	7376.87		OSF<1.50			Enter Minor
	50.36	61.10	8.80	-10.74	1.23	OSF1.50	8855.66	8822.54					MinPts
	59.65	61.30	17.95	-1.65	1.46	OSF1.50	8950.00	8916.26		OSF>1.50			Exit Minor
	196.87	61.65	154.94	135.22	4.93	OSF1.50	9240.00	9166.69	OSF>5.00				Exit Alert
	700.00	211.80	557.97	488.20	5.00	OSF1.50	15880.00	9300.00	OSF<5.00				Enter Alert
	700.00	315.32	488.96	384.68	3.34	OSF1.50	19256.62	9300.00					MinPts
Cimarex Red Hills Unit #1 (Offset) Gas Inc Only Off-21321ft (Def Survey)													
	4607.89	32.81	4605.39	4575.08	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	4607.85	32.81	4605.35	4575.04	N/A	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF
	4607.84	32.81	4605.34	4575.03	N/A	MAS = 10.00 (m)	20.00	20.00					MinPts
	4607.84	32.81	4605.34	4575.03	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
	4607.64	32.81	4591.62	4574.83	340.60	MAS = 10.00 (m)	460.00	460.00					MinPts
	4607.81	32.81	4591.25	4575.00	327.60	MAS = 10.00 (m)	510.00	510.00					MINPT-O-EOU
	4606.79	34.90	4582.69	4571.89	213.14	OSF1.50	690.00	690.00					MinPt-CtCt
	4607.05	35.75	4582.39	4571.31	207.74	OSF1.50	750.00	750.00					MINPT-O-EOU
	4606.81	41.75	4578.15	4565.07	175.97	OSF1.50	820.00	820.00					MinPt-CtCt
	4607.81	44.68	4577.15	4563.13	163.77	OSF1.50	950.00	950.00					MINPT-O-EOU
	4607.57	56.80	4568.87	4550.77	127.22	OSF1.50	1110.00	1110.00					MinPt-CtCt
	4608.31	59.16	4568.04	4549.15	121.93	OSF1.50	1220.00	1220.00					MINPT-O-EOU
	4607.85	71.31	4559.48	4536.54	100.39	OSF1.50	1390.00	1390.00					MinPt-CtCt
	4607.64	92.66	4545.03	4514.98	76.61	OSF1.50	1800.00	1800.00					MinPt-CtCt
	4607.28	119.90	4526.51	4487.37	58.83	OSF1.50	2320.00	2320.00					MinPt-CtCt
	4606.15	147.03	4507.30	4459.12	47.78	OSF1.50	2840.00	2840.00					MinPt-CtCt
	4605.82	167.50	4493.32	4438.31	41.85	OSF1.50	3250.00	3248.19					MinPt-CtCt
	4606.09	168.40	4492.95	4437.69	41.62	OSF1.50	3310.00	3307.56					MINPT-O-EOU
	4605.65	177.33	4486.59	4428.32	39.49	OSF1.50	3440.00	3436.21					MinPt-CtCt
	4607.76	183.66	4484.43	4424.10	38.13	OSF1.50	3650.00	3644.02					MINPT-O-EOU
	4606.68	196.63	4474.76	4410.05	35.58	OSF1.50	3810.00	3802.35					MinPt-CtCt

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
4606.77	196.86	4474.70	4409.91	35.53		OSF1.50	3840.00	3832.04				MINPT-O-EOU	
4606.84	196.93	4474.72	4409.91	35.52		OSF1.50	3850.00	3841.94				MinPt-O-ADP	
4606.01	209.09	4465.78	4396.92	33.43		OSF1.50	4050.00	4039.86				MinPt-CtCt	
4606.51	210.50	4465.35	4396.01	33.20		OSF1.50	4130.00	4119.02				MINPT-O-EOU	
4607.11	211.20	4465.48	4395.91	33.09		OSF1.50	4170.00	4158.61				MinPt-O-ADP	
4606.23	224.02	4456.05	4382.21	31.17		OSF1.50	4330.00	4316.94				MinPt-CtCt	
4606.64	225.44	4455.51	4381.19	30.98		OSF1.50	4410.00	4396.11				MINPT-O-EOU	
4607.03	225.92	4455.59	4381.11	30.91		OSF1.50	4440.00	4425.79				MinPt-O-ADP	
4605.73	243.74	4442.40	4361.99	28.62		OSF1.50	4710.00	4692.98				MinPt-CtCt	
4608.05	269.05	4427.85	4339.00	25.92		OSF1.50	5190.00	5167.99				MinPt-CtCt	
4617.70	345.13	4386.78	4272.57	20.20		OSF1.50	6700.00	6666.87				MinPt-CtCt	
4615.99	388.91	4355.88	4227.08	17.91		OSF1.50	7540.00	7506.87				MinPt-CtCt	
1604.35	485.80	1278.37	1118.55	5.00		OSF1.50	12170.00	9300.00	OSF<5.00			Enter Alert	
489.44	490.88	160.27	-1.44	1.50		OSF1.50	13410.00	9300.00		OSF<1.50		Enter Minor	
369.21	491.11	40.97	-121.91	1.13		OSF1.50	13730.00	9300.00				MinPts	
481.24	486.72	155.93	-5.48	1.48		OSF1.50	14040.00	9300.00				Exit Minor	
1601.78	482.41	1279.34	1119.37	5.00		OSF1.50	15290.00	9300.00	OSF>5.00			Exit Alert	
5537.54	483.24	5214.54	5054.30	17.27		OSF1.50	19256.62	9300.00				TD	

Cimarex Red Hills 32-5 Fed  
Com #173H R0 JP 09Mar20  
(Non-Def Plan)

Warning Alert

39.99	32.49	37.49	7.50	N/A	MAS = 9.90 (m)	0.00	0.00	CtCt<=15m<15.00				Enter Alert	
39.99	32.49	37.49	7.50	N/A	MAS = 9.90 (m)	26.00	26.00					WRP	
39.99	32.49	25.32	7.50	3.08	MAS = 9.90 (m)	2000.00	2000.00					MinPts	
40.06	32.49	25.29	7.57	3.06	MAS = 9.90 (m)	2020.00	2020.00					MINPT-O-EOU	
40.41	32.49	25.49	7.92	3.09	MAS = 9.90 (m)	2050.00	2050.00					MinPt-O-SF	
73.09	32.49	56.40	40.60	4.97	MAS = 9.90 (m)	2470.00	2470.00		OSF>5.00			Exit Alert	
99.05	32.49	77.21	66.55	4.99	MAS = 9.90 (m)	3970.00	3960.69		OSF<5.00			Enter Alert	
80.92	40.74	52.93	40.18	3.08	OSF1.50	5200.00	5177.88					MinPt-CtCt	
81.51	42.50	52.34	39.01	2.96	OSF1.50	5410.00	5385.69					MINPT-O-EOU	
82.27	43.42	52.49	38.85	2.92	OSF1.50	5520.00	5494.55					MinPt-O-ADP	
86.36	46.19	54.73	40.17	2.88	OSF1.50	5850.00	5821.11					MinPt-O-SF	
97.48	62.50	54.96	34.94	2.37	OSF1.50	8855.66	8822.54					MinPts	
97.50	62.55	54.96	34.96	2.37	OSF1.50	8860.00	8826.87					MinPt-O-SF	
203.47	62.97	160.65	140.49	4.98	OSF1.50	9180.00	9122.50		OSF>5.00			Exit Alert	
1000.00	301.93	797.88	698.07	5.00	OSF1.50	18800.00	9300.00		OSF<5.00			Enter Alert	
1000.00	315.94	788.54	684.06	4.77	OSF1.50	19256.62	9300.00					MinPts	

Cimarex Red Hills 32-5 Fed  
Com #172H R0 JP 09Mar20  
(Non-Def Plan)

Warning Alert

59.99	32.81	57.49	27.18	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
59.99	32.81	57.49	27.18	64690.91	MAS = 10.00 (m)	26.00	26.00					WRP	
59.99	32.81	46.64	27.18	5.30	MAS = 10.00 (m)	1790.00	1790.00					MinPts	
60.06	32.81	46.54	27.25	5.22	MAS = 10.00 (m)	1820.00	1820.00					MINPT-O-EOU	
61.03	32.81	47.20	28.23	5.17	MAS = 10.00 (m)	1880.00	1880.00					MinPt-O-SF	
189.68	32.81	168.66	156.87	10.11	MAS = 10.00 (m)	3640.00	3634.12					MinPts	
190.55	32.81	167.95	157.74	9.35	MAS = 10.00 (m)	4010.00	4000.27					MINPT-O-EOU	
191.87	34.22	168.22	157.65	8.95	OSF1.50	4230.00	4217.98					MinPt-O-ADP	
204.29	41.99	175.47	162.30	7.67	OSF1.50	5220.00	5197.67					MinPt-O-SF	
150.59	46.98	118.44	103.61	4.99	OSF1.50	6640.00	6606.87		OSF<5.00			Enter Alert	
150.59	63.80	107.22	86.79	3.62	OSF1.50	8855.66	8822.54					MinPts	
150.61	63.82	107.23	86.79	3.62	OSF1.50	8860.00	8826.87					MinPt-O-SF	
206.95	64.25	163.28	142.70	4.97	OSF1.50	9090.00	9047.58		OSF<5.00			Exit Alert	
1599.60	316.91	1387.49	1282.69	7.62	OSF1.50	19256.62	9300.00					MinPts	

Cimarex Red Hills 32-5 Fed  
Com #171H Rev0 RM  
04Sept19 (Non-Def Plan)

Warning Alert

116.60	32.81	114.10	83.79	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
116.60	32.81	114.10	83.79	102708.70	MAS = 10.00 (m)	26.00	26.00					WRP	
94.86	32.81	73.65	62.05	4.94	MAS = 10.00 (m)	3190.00	3188.80		OSF<5.00			Enter Alert	
60.00	33.71	36.69	26.28	2.76	OSF1.50	3700.00	3693.50					MinPt-CtCt	
60.01	33.78	36.66	26.23	2.76	OSF1.50	3710.00	3703.40					MINPT-O-EOU	
60.06	33.85	36.66	26.21	2.75	OSF1.50	3720.00	3713.29					MinPt-O-ADP	
60.26	33.98	36.77	26.27	2.75	OSF1.50	3740.00	3733.08					MinPt-O-SF	
123.36	39.03	96.51	84.33	4.96	OSF1.50	4450.00	4435.69		OSF>5.00			Exit Alert	
377.97	74.01	327.80	303.96	7.88	OSF1.50	9100.00	9056.35					MinPts	
378.02	74.03	327.84	304.00	7.88	OSF1.50	9110.00	9065.01					MinPt-O-SF	
3014.71	314.70	2804.08	2700.01	14.47	OSF1.50	19256.62	9300.00					MinPts	

Cimarex Red Hills 32-5 Fed  
Com #170H Rev0 RM  
04Sept19 (Non-Def Plan)

Warning Alert

134.15	32.81	132.34	101.34	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
134.15	32.81	132.34	101.34	85091.29	MAS = 10.00 (m)	26.00	26.00					WRP	
134.15	32.81	115.20	101.34	7.72	MAS = 10.00 (m)	2790.00	2790.00					MinPts	
96.87	32.81	75.94	64.06	4.98	MAS = 10.00 (m)	4000.00	3990.38		OSF<5.00			Enter Alert	
60.01	38.86	33.51	21.16	2.36	OSF1.50	5450.00	5425.28					MinPt-CtCt	
60.02	38.87	33.51	21.15	2.36	OSF1.50	5460.00	5435.17					MinPts	
60.05	38.89	33.52	21.16	2.36	OSF1.50	5470.00	5445.07					MinPt-O-SF	
122.85	61.01	81.58	61.84	3.07	OSF1.50	9100.00	9056.35					MinPts	
199.35	61.59	157.69	137.76	4.98	OSF1.50	9330.00	9222.61		OSF<5.00			Exit Alert	
2966.85	313.06	2757.54	2653.79	14.29	OSF1.50	19256.62	9300.00					MinPts	

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

Warning Alert

6742.65	32.81	6740.15	6709.85	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
6742.42	32.81	6739.88	6709.61	205546.27	MAS = 10.00 (m)	26.00	26.00					MinPt-O-SF	
6742.24	32.81	6739.59	6709.43	45910.17	MAS = 10.00 (m)	80.00	80.00					MinPts	
6745.38	88.77	6685.37	6666.61	117.24	OSF1.50	1770.00	1770.00					MinPt-CtCt	
6606.45	350.30	6372.03	6256.14	28.49	OSF1.50	6830.00	6796.87					MinPt-CtCt	
6610.20	434.92	6319.37	6175.28	22.93	OSF1.50	8470.00	8436.87					MinPt-CtCt	
1633.93	494.82	1301.98	1139.11	5.00	OSF1.50	14880.00	9300.00		OSF<5.00			Enter Alert	
1478.55	500.01	1144.18	978.54	4.45	OSF1.50	15580.00	9300.00					MinPts	
1478.95	500.11	1144.58	978.84	4.45	OSF1.50	15610.00	9300.00					MinPt-O-SF	
1664.52	501.43	1329.41	1163.10	5.00	OSF1.50	16340.00	9300.00		OSF>5.00			Exit Alert	
3967.01	489.87	3639.60	3477.14	12.20	OSF1.50	19256.62	9300.00					TD	

Neil H Wells Continental State  
#1 (Offset) Plugged Blind Off-  
5020ft (Def Survey)

Warning Alert

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		
	3440.49	32.81	3437.99	3407.69	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3440.24	32.81	3437.72	3407.44	129609.10	MAS = 10.00 (m)	26.00	26.00				MinPt-O-SF	
	3414.51	1027.85	2728.44	2386.66	4.99	OSF1.50	3360.00	3357.04	OSF-5.00			Enter Alert	
	3291.91	1567.55	2246.00	1724.37	3.15	OSF1.50	5200.00	5177.88				MinPt-O-SF	
	3290.86	1566.85	2245.41	1724.01	3.15	OSF1.50	5240.00	5217.46				MinPt-O-ADP	
	3290.52	1566.42	2245.36	1724.10	3.15	OSF1.50	5260.00	5237.26				MINPT-O-EQU	
	3290.19	1565.08	2245.92	1725.11	3.16	OSF1.50	5310.00	5286.74				MinPt-CtCt	
	4097.63	1234.00	3274.13	2863.63	4.99	OSF1.50	760.87	7606.87	OSF-5.00			Exit Alert	
	4440.92	489.48	4113.77	3951.44	13.67	OSF1.50	11580.00	9300.00				MinPt-O-ADP	
	4411.70	459.91	4104.26	3951.79	14.46	OSF1.50	12090.00	9300.00				MinPt-CtCt	
	4411.89	460.27	4104.22	3951.63	14.45	OSF1.50	12130.00	9300.00				MINPT-O-EQU	
	4456.65	508.93	4116.54	3947.73	13.19	OSF1.50	12720.00	9300.00				MinPt-O-ADP	
	5962.75	1114.47	5218.94	4848.28	8.04	OSF1.50	16100.00	9300.00				MinPt-O-SF	
	8416.86	1362.81	7507.49	7054.05	9.28	OSF1.50	19256.62	9300.00				TD	
Cimarex Red Hills 32-5 Fed Com #169H Rev0 RM 04Sept19 (Non-Def Plan)													
	152.29	32.81	150.48	119.48	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	152.29	32.81	150.48	119.48	84660.71	MAS = 10.00 (m)	26.00	26.00				WRP	
	152.29	32.81	135.86	119.48	10.29	MAS = 10.00 (m)	2390.00	2390.00				MinPts	
	152.31	32.81	135.77	119.50	10.21	MAS = 10.00 (m)	2410.00	2410.00				MINPT-O-EQU	
	154.17	32.81	137.17	121.36	10.03	MAS = 10.00 (m)	2510.00	2510.00				MinPt-O-SF	
	151.67	44.77	121.21	106.90	5.23	OSF1.50	6170.00	6137.84				MinPt-CtCt	
	151.69	44.82	121.20	106.87	5.23	OSF1.50	6180.00	6147.76				MinPts	
	151.83	44.92	121.28	106.91	5.22	OSF1.50	6200.00	6167.62				MinPt-O-SF	
	302.09	58.73	262.33	243.36	7.91	OSF1.50	9100.00	9056.35				MinPts	
	2979.54	311.02	2771.59	2668.52	14.44	OSF1.50	19256.62	9300.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #155H MWD Off-Update (Non-Def Survey)													
	522.78	32.81	520.97	489.97	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts	Pass
	522.79	32.81	520.98	489.98	107908.71	MAS = 10.00 (m)	26.00	26.00				WRP	
	522.92	32.81	520.91	490.11	2583.70	MAS = 10.00 (m)	90.00	90.00				MINPT-O-EQU	
	523.12	32.81	520.88	490.31	1225.39	MAS = 10.00 (m)	140.00	140.00				MINPT-O-EQU	
	522.39	32.81	516.10	489.58	116.08	MAS = 10.00 (m)	1050.00	1050.00				MinPts	
	587.53	32.81	579.84	554.72	99.58	MAS = 10.00 (m)	1320.00	1320.00				MinPt-O-SF	
	11719.93	135.00	11629.32	11584.92	131.97	OSF1.50	17470.00	9300.00				MinPt-O-SF	
	13041.64	147.30	12942.84	12894.34	134.44	OSF1.50	19256.62	9300.00				TD	
Cimarex Red Hills 32-5 Fed Com #155H Rev6 RM 03Mar20 (Def Plan)													
	522.78	32.81	520.97	489.97	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	522.78	32.81	520.97	489.97	334967.12	MAS = 10.00 (m)	26.00	26.00				WRP	
	522.78	32.81	503.77	489.97	30.28	MAS = 10.00 (m)	2800.00	2800.00				MinPts	
	522.79	32.81	503.74	489.98	30.20	MAS = 10.00 (m)	2810.00	2810.00				MINPT-O-EQU	
	539.42	32.81	519.22	506.62	29.22	MAS = 10.00 (m)	3110.00	3109.40				MinPt-O-SF	
	1357.66	45.71	1326.58	1311.95	46.33	OSF1.50	6930.00	6896.87				MinPt-O-SF	
	1361.78	58.97	1321.86	1302.81	35.69	OSF1.50	9070.00	9029.74				MinPt-O-SF	
	1361.73	58.97	1321.82	1302.77	35.69	OSF1.50	9090.00	9047.58				MinPts	
	3286.73	162.21	3177.99	3124.53	30.72	OSF1.50	14300.00	9300.00				MinPt-CtCt	
	3286.98	314.18	3076.96	2972.85	15.78	OSF1.50	19256.62	9300.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #156H Rev7 RM 12Mar20 (Def Plan)													
	542.64	32.81	540.83	509.83	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	542.64	32.81	540.83	509.83	268542.22	MAS = 10.00 (m)	26.00	26.00				WRP	
	542.38	32.81	538.96	509.57	341.34	MAS = 10.00 (m)	400.00	400.00				MinPts	
	543.25	32.81	538.57	510.44	188.89	MAS = 10.00 (m)	680.00	680.00				MINPT-O-EQU	
	540.36	32.81	530.55	507.55	66.01	MAS = 10.00 (m)	1840.00	1840.00				MinPts	
	540.48	32.81	530.42	507.67	64.08	MAS = 10.00 (m)	1900.00	1900.00				MINPT-O-EQU	
	614.23	32.81	600.04	581.42	48.86	MAS = 10.00 (m)	2810.00	2810.00				MinPt-O-SF	
	1449.82	32.81	1427.51	1417.01	69.73	MAS = 10.00 (m)	6119.35	6087.66				MinPt-O-SF	
	1457.98	36.07	1433.42	1421.91	63.26	OSF1.50	7620.00	7586.87				MinPt-CtCt	
	1458.00	36.17	1433.37	1421.83	63.09	OSF1.50	7640.00	7606.87				MINPT-O-EQU	
	1458.04	36.22	1433.38	1421.82	63.01	OSF1.50	7650.00	7616.87				MinPt-O-ADP	
	1474.73	42.70	1445.74	1432.02	53.69	OSF1.50	8900.00	8866.81				MinPt-O-SF	
	2214.74	322.94	1998.94	1891.81	10.33	OSF1.50	19256.62	9300.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #156H MWD Off-Update (Non-Def Survey)													
	542.64	32.81	540.83	509.83	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	542.64	32.81	540.83	509.83	268542.22	MAS = 10.00 (m)	26.00	26.00				WRP	
	542.38	32.81	538.96	509.57	341.34	MAS = 10.00 (m)	400.00	400.00				MinPts	
	543.25	32.81	538.57	510.44	188.89	MAS = 10.00 (m)	680.00	680.00				MINPT-O-EQU	
	540.36	32.81	530.55	507.55	66.01	MAS = 10.00 (m)	1840.00	1840.00				MinPts	
	540.48	32.81	530.42	507.67	64.08	MAS = 10.00 (m)	1900.00	1900.00				MINPT-O-EQU	
	614.23	32.81	600.04	581.42	48.86	MAS = 10.00 (m)	2810.00	2810.00				MinPt-O-SF	
	1449.82	32.81	1427.51	1417.01	69.73	MAS = 10.00 (m)	6119.35	6087.66				MinPt-O-SF	
	1457.98	36.07	1433.42	1421.91	63.26	OSF1.50	7620.00	7586.87				MinPt-CtCt	
	1458.00	36.17	1433.37	1421.83	63.09	OSF1.50	7640.00	7606.87				MINPT-O-EQU	
	1458.04	36.22	1433.38	1421.82	63.01	OSF1.50	7650.00	7616.87				MinPt-O-ADP	
	1474.73	42.70	1445.74	1432.02	53.69	OSF1.50	8900.00	8866.81				MinPt-O-SF	
	10236.94	45.91	10205.82	10191.04	346.06	OSF1.50	19256.62	9300.00				TD	
Final Surveys - Cimarex Red Hills 32-5 Fed Com #157H MWD Off-2020ft (Surcon Corrected) (Def Survey)													
	562.52	32.81	560.72	529.72	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	Pass
	562.50	32.81	560.68	529.69	54527.67	MAS = 10.00 (m)	26.00	26.00				WRP	
	560.33	32.81	557.23	527.52	432.79	MAS = 10.00 (m)	340.00	340.00				MinPts	
	560.41	32.81	557.15	527.60	384.90	MAS = 10.00 (m)	380.00	380.00				MINPT-O-EQU	
	560.92	32.81	557.15	528.11	285.14	MAS = 10.00 (m)	480.00	480.00				MINPT-O-EQU	
	707.24	32.81	692.86	674.43	55.48	MAS = 10.00 (m)	2890.00	2889.99				MinPt-O-SF	
	1466.83	32.91	1444.38	1433.92	70.06	OSF1.50	6119.35	6087.66				MinPt-O-SF	
	1482.71	42.95	1453.56	1439.76	53.63	OSF1.50	8855.66	8822.54				MinPt-O-SF	
	1482.24	42.94	1453.10	1439.30	53.63	OSF1.50	8900.00	8866.81				MinPt-O-SF	
	1477.77	41.42	1449.64	1436.35	55.52	OSF1.50	9160.00	9106.68				MinPts	
	1477.72	41.30	1449.67	1436.42	55.69	OSF1.50	9180.00	9122.50				MinPt-CtCt	
	1807.74	59.44	1767.60	1748.30	46.79	OSF1.50	10750.00	9300.00				MinPt-CtCt	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
1804.73	78.13	1752.13	1726.60	35.32		OSF1.50	11490.00	9300.00				MinPt-CtCt	
1805.39	80.10	1751.47	1725.29	34.44		OSF1.50	11580.00	9300.00				MINPT-O-EOU	
1808.27	88.76	1748.55	1719.52	31.07		OSF1.50	11900.00	9300.00				MINPT-O-EOU	
1809.91	90.72	1748.92	1719.19	30.42		OSF1.50	11980.00	9300.00				MinPt-O-ADP	
1799.41	118.16	1720.13	1681.25	23.13		OSF1.50	12930.00	9300.00				MinPt-CtCt	
1800.34	121.11	1719.02	1679.23	22.57		OSF1.50	13050.00	9300.00				MINPT-O-EOU	
1801.36	122.31	1719.31	1679.06	22.36		OSF1.50	13100.00	9300.00				MinPt-O-ADP	
1792.22	147.87	1693.12	1644.35	18.36		OSF1.50	13950.00	9300.00				MinPt-CtCt	
1792.55	148.86	1692.79	1643.68	18.24		OSF1.50	14000.00	9300.00				MINPT-O-EOU	
1792.89	149.25	1692.89	1643.64	18.19		OSF1.50	14020.00	9300.00				MinPt-O-ADP	
1801.28	157.53	1695.74	1643.75	17.31		OSF1.50	14310.00	9300.00				MinPt-O-ADP	
1804.36	191.94	1675.89	1612.43	14.20		OSF1.50	15440.00	9300.00				MinPt-CtCt	
1804.14	198.79	1671.10	1605.35	13.71		OSF1.50	15670.00	9300.00				MinPt-CtCt	
1802.77	214.23	1659.44	1588.54	12.70		OSF1.50	16190.00	9300.00				MinPt-CtCt	
1791.51	250.15	1624.23	1541.36	10.80		OSF1.50	17390.00	9300.00				MinPt-CtCt	
1792.01	251.75	1623.66	1540.25	10.73		OSF1.50	17460.00	9300.00				MINPT-O-EOU	
1794.70	256.72	1623.04	1537.98	10.54		OSF1.50	17630.00	9300.00				MINPT-O-EOU	
1798.51	261.51	1623.66	1537.00	10.37		OSF1.50	17800.00	9300.00				MinPt-O-ADP	
1808.45	272.32	1626.39	1536.13	10.01		OSF1.50	18150.00	9300.00				MINPT-O-EOU	
1809.25	273.27	1626.56	1535.98	9.98		OSF1.50	18190.00	9300.00				MinPt-O-ADP	
1799.20	306.16	1594.59	1493.04	8.85		OSF1.50	19256.62	9300.00				MinPts	

Cimarex Red Hills 32-5 Fed  
Com #158H Rev2 RM 14Jan20  
(Def Plan)

Pass

599.32	32.81	597.51	566.51	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
599.32	32.81	597.51	566.51	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
596.35	32.81	577.15	563.54	34.18	MAS = 10.00 (m)	2840.00	2840.00					MinPts	
596.37	32.81	577.12	563.56	34.09	MAS = 10.00 (m)	2850.00	2850.00					MINPT-O-EOU	
616.03	32.81	595.63	583.22	33.04	MAS = 10.00 (m)	3170.00	3168.97					MinPt-O-SF	
804.57	38.71	778.16	765.86	32.63	OSF1.50	4520.00	4504.96					MinPt-O-SF	
1030.37	49.37	996.85	981.00	32.44	OSF1.50	6119.35	6087.66					MinPt-O-SF	
1040.68	49.83	1006.86	990.85	32.43	OSF1.50	6200.00	6167.62					MinPt-O-SF	
1059.74	69.98	1012.49	989.77	23.28	OSF1.50	8870.00	8836.87					MinPts	
1060.76	70.20	1013.36	990.56	23.23	OSF1.50	8930.00	8896.57					MinPt-O-SF	
3187.97	319.98	2974.03	2867.97	15.02	OSF1.50	19256.62	9300.00					MinPts	

Cimarex Red Hills 32-5 Fed  
Com #159H Rev3 RM 14Jan19  
(Def Plan)

Pass

619.32	32.81	617.51	586.51	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
619.32	32.81	617.51	586.51	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
619.32	32.81	603.46	586.51	43.93	MAS = 10.00 (m)	2300.00	2300.00					MinPts	
620.12	32.81	601.13	587.31	35.99	MAS = 10.00 (m)	2800.00	2800.00					MINPT-O-EOU	
642.11	32.81	621.83	609.30	34.66	MAS = 10.00 (m)	3140.00	3139.20					MinPt-O-SF	
775.62	35.05	751.65	740.57	34.92	OSF1.50	4020.00	4010.17					MinPt-O-SF	
1075.96	49.68	1042.24	1026.28	33.69	OSF1.50	6119.35	6087.66					MinPt-O-SF	
1086.36	50.14	1052.33	1036.22	33.69	OSF1.50	6200.00	6167.62					MinPt-O-SF	
1105.59	70.39	1058.10	1035.25	24.16	OSF1.50	8870.00	8836.87					MINPT-O-EOU	
1105.64	70.39	1058.11	1035.25	24.14	OSF1.50	8880.00	8846.86					MinPt-O-ADP	
1107.31	70.64	1059.62	1036.67	24.09	OSF1.50	8970.00	8935.78					MinPt-O-SF	
1940.87	321.05	1726.24	1619.83	9.11	OSF1.50	19256.62	9300.00					MinPts	

Cimarex Red Hills 32-5 Fed  
Com #160H Rev3 RM 14Jan20  
(Def Plan)

Pass

639.31	32.81	637.51	606.50	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
639.31	32.81	637.51	606.50	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
639.31	32.81	620.31	606.50	37.07	MAS = 10.00 (m)	2800.00	2800.00					MinPts	
639.33	32.81	620.28	606.52	36.96	MAS = 10.00 (m)	2810.00	2810.00					MINPT-O-EOU	
664.48	32.81	644.02	631.67	35.53	MAS = 10.00 (m)	3180.00	3178.89					MinPt-O-SF	
1087.35	51.98	1052.10	1035.37	32.43	OSF1.50	6119.35	6087.66					MinPt-O-SF	
1097.83	52.45	1062.27	1045.39	32.47	OSF1.50	6200.00	6167.62					MinPt-O-SF	
1117.21	72.98	1067.96	1044.23	23.51	OSF1.50	8940.00	8906.43					MINPT-O-EOU	
1117.25	73.03	1067.96	1044.22	23.49	OSF1.50	8960.00	8926.04					MinPt-O-ADP	
1119.08	73.31	1069.60	1045.77	23.44	OSF1.50	9105.66	9061.27					MinPt-O-SF	
1500.46	320.61	1286.12	1179.85	7.05	OSF1.50	19256.62	9300.00					MinPts	

Cimarex Red Hills 32-5 Fed  
Com #161H R0 JP 09Mar20  
(Non-Def Plan)

Pass

659.31	32.81	656.81	626.51	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
659.31	32.81	656.81	626.51	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
659.31	32.81	641.50	626.51	42.89	MAS = 10.00 (m)	2500.00	2500.00					MinPts	
659.66	32.81	641.17	626.85	41.10	MAS = 10.00 (m)	2610.00	2610.00					MINPT-O-EOU	
686.30	32.81	665.45	653.49	37.28	MAS = 10.00 (m)	3120.00	3119.33					MinPt-O-SF	
909.97	38.64	883.38	871.33	37.63	OSF1.50	4440.00	4425.79					MinPt-O-SF	
1152.24	50.07	1118.03	1102.17	36.26	OSF1.50	6119.35	6087.66					MinPt-O-SF	
1162.60	50.52	1128.08	1112.08	36.24	OSF1.50	6200.00	6167.62					MinPt-O-SF	
1181.75	70.67	1133.80	1111.07	25.95	OSF1.50	8870.00	8836.87					MinPts	
1183.51	70.95	1135.38	1112.56	25.88	OSF1.50	8960.00	8926.04					MinPt-O-SF	
1728.27	322.76	1512.26	1405.51	8.08	OSF1.50	19256.62	9300.00					MinPts	

Cimarex Red Hills 32-5 Fed  
Com #199H Rev0 RM  
04Sept19 (Non-Def Plan)

Pass

1979.59	32.81	1977.09	1946.78	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1979.51	32.81	1977.01	1946.71	233474.21	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF	
1979.49	32.81	1976.99	1946.68	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
739.75	62.56	696.65	677.19	18.94	OSF1.50	8900.00	8866.81					MinPt-O-SF	
727.76	62.02	685.01	665.75	18.79	OSF1.50	9180.00	9122.50					MinPt-O-SF	
727.03	61.92	684.35	665.11	18.79	OSF1.50	9230.00	9159.68					MinPts	
3071.85	315.38	2860.75	2756.43	14.71	OSF1.50	19256.62	9300.00					MinPts	

Cimarex Red Hills 32-5 Fed  
Com #203H Rev0 JP 18Mar20  
(Non-Def Plan)

Pass

1876.42	32.81	1873.92	1843.61	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1876.35	32.81	1873.84	1843.54	258164.21	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF	
1876.33	32.81	1873.83	1843.53	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
738.74	61.50	696.43	677.23	19.14	OSF1.50	8900.00	8866.81					MinPt-O-SF	
736.50	61.29	694.33	675.20	19.15	OSF1.50	9020.00	8983.65					MinPt-O-SF	
734.76	61.10	692.72	673.66	19.17	OSF1.50	9130.00	9082.02					MinPts	
1776.48	316.96	1564.34	1459.52	8.46	OSF1.50	19256.62	9300.00					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		
Cimarex Red Hills Unit #3H (Offset) Gas Gyro & Inc Off-17597ft (Def Survey)													
													Pass
	8263.78	32.81	8261.98	8230.97	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	8263.66	32.81	8261.84	8230.85	576206.13	MAS = 10.00 (m)	26.00	26.00					WRP
	8190.47	32.81	8170.02	8157.66	439.69	MAS = 10.00 (m)	3640.00	3634.12					MinPts
	8190.61	32.81	8169.88	8157.81	433.07	MAS = 10.00 (m)	3770.00	3762.77					MINPT-O-EQU
	8194.37	34.94	8170.47	8159.43	371.00	OSF1.50	4640.00	4623.71					MINPT-O-EQU
	8194.71	35.36	8170.54	8159.35	366.40	OSF1.50	4720.00	4702.88					MinPt-O-ADP
	8213.28	41.11	8185.28	8172.18	313.42	OSF1.50	6200.00	6167.62					MinPt-O-SF
	8215.39	39.78	8188.26	8175.60	324.35	OSF1.50	6580.00	6546.87					MinPts
	8215.39	39.79	8188.26	8175.60	324.35	OSF1.50	6590.00	6556.87					MinPt-O-SF
	8216.11	42.21	8187.37	8173.90	304.96	OSF1.50	7170.00	7136.87					MINPT-O-EQU
	8217.15	43.43	8187.59	8173.72	296.06	OSF1.50	7420.00	7386.87					MinPt-O-ADP
	8233.63	49.55	8200.00	8184.08	258.63	OSF1.50	8855.66	8822.54					MinPt-O-SF
	8232.58	49.56	8198.94	8183.02	258.55	OSF1.50	8900.00	8866.81					MinPt-O-SF
	955.89	190.02	828.61	765.87	7.60	OSF1.50	17320.00	9300.00					MinPt-CtCt
	955.90	190.07	828.58	765.83	7.60	OSF1.50	17330.00	9300.00					MinPts
	956.01	190.10	828.67	765.91	7.60	OSF1.50	17340.00	9300.00					MinPt-O-SF
	2154.48	98.61	2088.14	2055.87	33.36	OSF1.50	19256.62	9300.00					TD
Cimarex Red Hills 32-5 Fed Com #198H Rev0 RM 04Sept19 (Non-Def Plan)													
													Pass
	1999.54	32.81	1997.04	1966.73	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	1999.47	32.81	1996.96	1966.66	243275.60	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF
	1999.44	32.81	1996.94	1966.64	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
	1177.49	44.68	1146.54	1132.81	42.73	OSF1.50	6240.00	6207.38					MinPt-O-SF
	1151.96	60.60	1110.38	1091.37	30.19	OSF1.50	9230.00	9159.68					MinPts
	1151.99	60.60	1110.41	1091.39	30.19	OSF1.50	9240.00	9166.69					MinPt-O-SF
	3198.97	311.97	2990.15	2887.00	15.49	OSF1.50	19256.62	9300.00					MinPts
Cimarex Red Hills 32-5 Fed Com #202H Rev0 JP 18Mar20 (Non-Def Plan)													
													Pass
	1896.40	32.81	1893.90	1863.59	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	1896.33	32.81	1893.82	1863.52	247809.00	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF
	1896.31	32.81	1893.81	1863.50	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
	1851.29	32.81	1830.24	1818.48	99.87	MAS = 10.00 (m)	3200.00	3198.70					MinPt-O-SF
	1400.14	70.76	1351.93	1329.38	30.98	OSF1.50	8855.66	8822.54					MinPt-CtCt
	1400.17	70.99	1351.80	1329.17	30.87	OSF1.50	8900.00	8866.81					MINPT-O-EQU
	1400.18	71.01	1351.81	1329.17	30.86	OSF1.50	8910.00	8876.75					MinPt-O-ADP
	1403.32	71.41	1354.69	1331.92	30.74	OSF1.50	9130.00	9082.02					MinPt-O-SF
	2075.43	309.68	1868.17	1765.78	10.12	OSF1.50	19256.62	9300.00					MinPts
Cimarex Red Hills 32-5 Fed Com #201H Rev0 JP 18Mar20 (Non-Def Plan)													
													Pass
	1916.38	32.81	1913.88	1883.57	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	1916.31	32.81	1913.80	1883.50	244235.58	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF
	1916.29	32.81	1913.79	1883.48	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
	1916.29	32.81	1900.36	1883.48	142.46	MAS = 10.00 (m)	2210.00	2210.00					MinPts
	1916.49	32.81	1900.09	1883.68	137.70	MAS = 10.00 (m)	2290.00	2290.00					MINPT-O-EQU
	1892.84	32.81	1871.59	1860.03	100.98	MAS = 10.00 (m)	3360.00	3357.04					MinPt-O-SF
	1467.61	70.38	1419.66	1397.22	32.64	OSF1.50	8855.66	8822.54					MinPt-CtCt
	1467.64	70.62	1419.54	1397.02	32.52	OSF1.50	8900.00	8866.81					MINPT-O-EQU
	1467.65	70.64	1419.54	1397.02	32.51	OSF1.50	8910.00	8876.75					MinPt-O-ADP
	1470.68	71.02	1422.32	1399.66	32.39	OSF1.50	9130.00	9082.02					MinPt-O-SF
	1785.79	310.43	1578.01	1475.36	8.69	OSF1.50	19256.62	9300.00					MinPts
Cimarex Red Hills 32-5 Fed Com #197H Rev0 RM 04Sept19 (Non-Def Plan)													
													Pass
	2019.47	32.81	2016.97	1986.66	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	2019.40	32.81	2016.90	1986.60	291581.74	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF
	2019.39	32.81	2016.89	1986.58	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
	1536.66	74.72	1485.82	1461.95	32.12	OSF1.50	9230.00	9159.68					MinPts
	1538.22	74.83	1487.31	1463.39	32.09	OSF1.50	9320.00	9217.06					MinPt-O-SF
	3374.10	307.27	3168.42	3066.83	16.59	OSF1.50	19256.62	9300.00					MinPts
Cimarex Red Hills 32-5 Fed Com #200H Rev0 JP 18Mar20 (Non-Def Plan)													
													Pass
	1936.37	32.81	1933.87	1903.56	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	1936.30	32.81	1933.79	1903.49	243692.61	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF
	1936.28	32.81	1933.78	1903.47	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
	1936.28	32.81	1922.86	1903.47	177.09	MAS = 10.00 (m)	1810.00	1810.00					MinPts
	1936.32	32.81	1922.78	1903.52	174.81	MAS = 10.00 (m)	1840.00	1840.00					MINPT-O-EQU
	1957.21	32.81	1937.68	1924.40	114.80	MAS = 10.00 (m)	3690.00	3683.60					MinPt-O-SF
	1578.69	64.56	1534.65	1514.13	38.40	OSF1.50	8900.00	8866.81					MinPts
	1578.53	64.33	1534.64	1514.19	38.53	OSF1.50	8960.00	8926.04					MINPT-O-EQU
	1576.77	60.43	1535.47	1516.33	41.11	OSF1.50	9540.00	9295.49					MinPt-CtCt
	1576.89	318.27	1363.71	1258.62	7.49	OSF1.50	19256.62	9300.00					MinPts
Cimarex Red Hills Unit #4 (Offset) Gas Gyro to 12499 Blind to 17675ft (Def Survey)													
													Pass
	4686.05	32.81	4683.55	4653.24	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	4685.85	32.81	4683.33	4653.04	218736.67	MAS = 10.00 (m)	26.00	26.00					MinPt-O-SF
	4685.67	32.81	4681.96	4652.88	3858.38	MAS = 10.00 (m)	330.00	330.00					MinPts
	4686.82	32.81	4672.05	4654.01	381.87	MAS = 10.00 (m)	2820.00	2820.00					MinPts
	4686.85	32.81	4672.01	4654.04	379.73	MAS = 10.00 (m)	2850.00	2850.00					MINPT-O-EQU
	4652.99	33.78	4829.64	4819.21	232.62	OSF1.50	6200.00	6167.62					MinPt-O-SF
	4893.65	46.84	4861.59	4846.81	165.48	OSF1.50	8900.00	8866.81					MinPt-O-SF
	1891.86	105.42	1820.75	1786.45	27.54	OSF1.50	13640.00	9300.00					MinPt-CtCt
	1891.95	105.66	1820.67	1786.28	27.47	OSF1.50	13660.00	9300.00					MinPts
	1906.76	107.75	1834.10	1799.02	27.14	OSF1.50	13880.00	9300.00					MinPt-O-SF
	5924.68	71.72	5876.03	5852.95	128.33	OSF1.50	19256.62	9300.00					TD
Cimarex Red Hills 32-5 Fed Com #127H Rev6 RM 10Mar20 (Def Plan)													
													Pass
	2394.87	32.81	2393.06	2362.06	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
	2394.83	32.81	2393.02	2362.02	619279.61	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF
	2394.82	32.81	2393.01	2362.01	N/A	MAS = 10.00 (m)	20.00	20.00					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		
2394.82	32.81	2393.02	2362.02	975957.72		MAS = 10.00 (m)	26.00	26.00				WRP	
2394.90	32.81	2392.98	2362.09	20870.50		MAS = 10.00 (m)	70.00	70.00				MINPT-O-EQU	
2395.05	32.81	2392.99	2362.24	9562.99		MAS = 10.00 (m)	110.00	110.00				MINPT-O-EQU	
2391.30	32.81	2385.38	2358.50	566.01		MAS = 10.00 (m)	1010.00	1010.00				MINPT-O-EQU	
2389.60	32.81	2381.88	2356.88	382.44		MAS = 10.00 (m)	1460.00	1460.00				MinPts	
2328.74	32.81	2313.35	2295.93	168.82		MAS = 10.00 (m)	3750.00	3742.98				MinPts	
2328.77	32.81	2313.32	2295.96	168.13		MAS = 10.00 (m)	3790.00	3782.56				MINPT-O-EQU	
2328.96	32.81	2313.19	2296.16	164.18		MAS = 10.00 (m)	3970.00	3960.69				MinPts	
2329.01	32.81	2313.16	2296.20	163.39		MAS = 10.00 (m)	4000.00	3990.38				MINPT-O-EQU	
2335.43	32.81	2316.33	2302.62	133.29		MAS = 10.00 (m)	5050.00	5029.44				MinPts	
2326.96	34.33	2303.55	2292.64	106.58		OSF1.50	6200.00	6167.62				MinPt-O-SF	
2010.27	46.55	1978.48	1963.72	68.03		OSF1.50	8900.00	8866.81				MinPt-O-SF	
2000.46	45.40	1969.42	1955.06	69.55		OSF1.50	9150.00	9098.58				MinPt-O-ADP	
2000.43	45.35	1969.42	1955.07	69.63		OSF1.50	9160.00	9106.68				MinPts	
3754.77	127.70	3669.12	3627.07	44.63		OSF1.50	12840.00	9300.00				MinPt-CtCt	
3755.80	130.81	3668.07	3624.99	43.57		OSF1.50	12980.00	9300.00				MINPT-O-EQU	
3757.11	132.35	3668.35	3624.76	43.07		OSF1.50	13050.00	9300.00				MinPt-O-ADP	
3744.50	173.82	3628.10	3570.68	32.59		OSF1.50	14390.00	9300.00				MinPt-CtCt	
3748.81	324.38	3532.03	3424.42	17.41		OSF1.50	19256.62	9300.00				MinPts	

Cimarex Red Hills 32-5 Fed  
Com #127H MWD Off-Update  
(Non-Def Survey)

Pass

2394.87	32.81	2393.06	2362.06	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
2394.83	32.81	2393.02	2362.02	619279.61		MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
2394.82	32.81	2393.01	2362.01	N/A		MAS = 10.00 (m)	20.00	20.00				MinPts	
2394.82	32.81	2393.02	2362.02	975957.72		MAS = 10.00 (m)	26.00	26.00				WRP	
2394.90	32.81	2392.98	2362.09	20870.50		MAS = 10.00 (m)	70.00	70.00				MINPT-O-EQU	
2395.05	32.81	2392.99	2362.24	9562.99		MAS = 10.00 (m)	110.00	110.00				MINPT-O-EQU	
2391.30	32.81	2385.38	2358.50	566.01		MAS = 10.00 (m)	1010.00	1010.00				MINPT-O-EQU	
2389.60	32.81	2381.88	2356.88	382.44		MAS = 10.00 (m)	1460.00	1460.00				MinPts	
2328.74	32.81	2313.35	2295.93	168.82		MAS = 10.00 (m)	3750.00	3742.98				MinPts	
2328.77	32.81	2313.32	2295.96	168.13		MAS = 10.00 (m)	3790.00	3782.56				MINPT-O-EQU	
2328.96	32.81	2313.19	2296.16	164.18		MAS = 10.00 (m)	3970.00	3960.69				MinPts	
2329.01	32.81	2313.16	2296.20	163.39		MAS = 10.00 (m)	4000.00	3990.38				MINPT-O-EQU	
2335.43	32.81	2316.33	2302.62	133.29		MAS = 10.00 (m)	5050.00	5029.44				MinPts	
2326.96	34.33	2303.55	2292.64	106.58		OSF1.50	6200.00	6167.62				MinPt-O-SF	
2010.27	46.55	1978.48	1963.72	68.03		OSF1.50	8900.00	8866.81				MinPt-O-SF	
2000.46	45.40	1969.42	1955.06	69.55		OSF1.50	9150.00	9098.58				MinPt-O-ADP	
2000.43	45.35	1969.42	1955.07	69.63		OSF1.50	9160.00	9106.68				MinPts	
10267.16	53.74	10230.81	10213.41	295.12		OSF1.50	19256.62	9300.00				TD	

Cimarex Red Hills 32-5 Fed  
Com #130H MWD Off-Update  
(Non-Def Survey)

Pass

2414.86	32.81	2413.05	2382.05	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
2414.81	32.81	2413.00	2382.00	595930.79		MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
2414.80	32.81	2412.99	2382.00	866217.20		MAS = 10.00 (m)	26.00	26.00				WRP	
2414.21	32.81	2411.94	2381.40	4190.79		MAS = 10.00 (m)	180.00	180.00				MinPts	
2414.26	32.81	2411.87	2381.45	3466.98		MAS = 10.00 (m)	210.00	210.00				MINPT-O-EQU	
2416.25	32.81	2410.16	2383.44	549.11		MAS = 10.00 (m)	1010.00	1010.00				MINPT-O-EQU	
2411.98	32.81	2403.35	2379.17	340.98		MAS = 10.00 (m)	1620.00	1620.00				MinPts	
2412.06	32.81	2403.26	2379.26	332.98		MAS = 10.00 (m)	1660.00	1660.00				MINPT-O-EQU	
2412.60	32.81	2400.25	2379.79	223.61		MAS = 10.00 (m)	2450.00	2450.00				MinPts	
2384.96	32.81	2370.74	2352.16	188.59		MAS = 10.00 (m)	2990.00	2989.86				MinPt-O-SF	
2383.19	32.81	2368.99	2350.38	188.69		MAS = 10.00 (m)	3080.00	3079.55				MINPT-O-EQU	
2383.19	32.81	2368.99	2350.38	188.72		MAS = 10.00 (m)	3090.00	3089.50				MinPts	
2542.61	32.81	2520.23	2509.80	122.10		MAS = 10.00 (m)	6200.00	6167.62				MinPt-O-SF	
2503.14	37.20	2477.82	2465.94	105.32		OSF1.50	7790.00	7756.87				MinPt-CtCt	
2498.15	42.90	2469.03	2455.26	90.61		OSF1.50	8855.66	8822.54				MinPt-O-SF	
2498.04	42.89	2468.92	2455.15	90.62		OSF1.50	8900.00	8866.81				MinPt-O-ADP	
2497.40	42.28	2468.69	2455.12	91.95		OSF1.50	9010.00	8974.20				MinPt-O-ADP	
2497.18	42.01	2468.65	2455.17	92.56		OSF1.50	9060.00	9020.69				MINPT-O-EQU	
2497.09	41.77	2468.72	2455.32	93.11		OSF1.50	9105.66	9061.27				MinPt-CtCt	
10355.80	58.09	10316.55	10297.71	274.78		OSF1.50	19256.62	9300.00				TD	

Cimarex Red Hills 32-5 Fed  
Com #130H Rev7 RM 03Mar20  
(Def Plan)

Pass

2414.86	32.81	2413.05	2382.05	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
2414.81	32.81	2413.00	2382.00	595930.79		MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
2414.80	32.81	2412.99	2382.00	866217.20		MAS = 10.00 (m)	26.00	26.00				WRP	
2414.21	32.81	2411.94	2381.40	4190.79		MAS = 10.00 (m)	180.00	180.00				MinPts	
2414.26	32.81	2411.87	2381.45	3466.98		MAS = 10.00 (m)	210.00	210.00				MINPT-O-EQU	
2416.25	32.81	2410.16	2383.44	549.11		MAS = 10.00 (m)	1010.00	1010.00				MINPT-O-EQU	
2411.98	32.81	2403.35	2379.17	340.98		MAS = 10.00 (m)	1620.00	1620.00				MinPts	
2412.06	32.81	2403.26	2379.26	332.98		MAS = 10.00 (m)	1660.00	1660.00				MINPT-O-EQU	
2412.60	32.81	2400.25	2379.79	223.61		MAS = 10.00 (m)	2450.00	2450.00				MinPts	
2384.96	32.81	2370.74	2352.16	188.59		MAS = 10.00 (m)	2990.00	2989.86				MinPt-O-SF	
2383.19	32.81	2368.99	2350.38	188.69		MAS = 10.00 (m)	3080.00	3079.55				MINPT-O-EQU	
2383.19	32.81	2368.99	2350.38	188.72		MAS = 10.00 (m)	3090.00	3089.50				MinPts	
2542.61	32.81	2520.23	2509.80	122.10		MAS = 10.00 (m)	6200.00	6167.62				MinPt-O-SF	
2503.14	37.20	2477.82	2465.94	105.32		OSF1.50	7790.00	7756.87				MinPt-CtCt	
2498.15	42.90	2469.03	2455.26	90.61		OSF1.50	8855.66	8822.54				MinPt-O-SF	
2498.04	42.89	2468.92	2455.15	90.62		OSF1.50	8900.00	8866.81				MinPt-O-ADP	
2497.40	42.28	2468.69	2455.12	91.95		OSF1.50	9010.00	8974.20				MinPt-O-ADP	
2497.18	42.01	2468.65	2455.17	92.56		OSF1.50	9060.00	9020.69				MINPT-O-EQU	
2497.09	41.77	2468.72	2455.32	93.11		OSF1.50	9105.66	9061.27				MinPt-CtCt	
3880.53	318.50	3667.73	3562.05	18.35		OSF1.50	19256.62	9300.00				MinPts	

Cimarex Red Hills 32-5 Fed  
Com #131H Rev5 RM 03Mar20  
(Def Plan)

Pass

2434.85	32.81	2433.15	2402.04	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
2434.81	32.81	2433.11	2402.00	595242.28		MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
2434.80	32.81	2433.10	2401.99	763237.29		MAS = 10.00 (m)	26.00	26.00				WRP	
2434.02	32.81	2431.61	2401.22	3383.52		MAS = 10.00 (m)	210.00	210.00				MinPts	
2434.12	32.81	2431.53	2401.31	2726.57		MAS = 10.00 (m)	250.00	250.00				MINPT-O-EQU	
2435.02	32.81	2430.68	2402.22	919.01		MAS = 10.00 (m)	650.00	650.00				MINPT-O-EQU	
2507.64	32.81	2493.13	2474.84	193.60		MAS = 10.00 (m)	2990.00	2989.86				MinPt-O-SF	
2555.78	32.81	2541.12	2522.98	195.01		MAS = 10.00 (m)	3290.00	3287.77				MinPt-O-SF	
2676.47	32.81	2660.84	2643.66	190.25		MAS = 10.00 (m)	3820.00	3812.25				MinPt-O-SF	
2742.44	32.81	2726.29	2709.64	187.91		MAS = 10.00 (m)	4220.00	4208.09				MinPt-O-SF	
3027.98	32.81	3005.95	2995.17	147.91		MAS = 10.00 (m)	6119.35	6087.66				MinPt-O-SF	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
3048.61	33.44	3025.79	3015.17	143.39		OSF1.50	7210.00	7176.87				MinPt-CiCi	
3048.80	34.00	3025.61	3014.80	140.92		OSF1.50	7320.00	7286.87				MINPT-O-EOU	
3049.13	35.00	3025.28	3014.13	136.74		OSF1.50	7520.00	7486.87				MinPt-CiCi	
3046.18	38.60	3019.93	3007.58	123.33		OSF1.50	8230.00	8196.87				MinPt-CiCi	
3043.29	41.90	3014.84	3001.40	113.14		OSF1.50	8900.00	8866.81				MinPt-O-SF	
3042.62	41.32	3014.55	3001.30	114.75		OSF1.50	9000.00	8964.68				MinPt-O-ADP	
3042.42	41.00	3014.51	3001.33	115.41		OSF1.50	9040.00	9002.33				MINPT-O-EOU	
3042.28	40.64	3014.67	3001.65	116.73		OSF1.50	9120.00	9073.57				MinPt-CiCi	
3211.85	39.66	3184.88	3172.19	126.42		OSF1.50	10220.00	9300.00				MinPt-O-SF	
3252.40	40.12	3225.13	3212.28	126.59		OSF1.50	10340.00	9300.00				MinPt-O-SF	
3296.82	40.64	3269.20	3256.18	126.59		OSF1.50	10460.00	9300.00				MinPt-O-SF	
3340.81	41.18	3312.83	3299.63	126.48		OSF1.50	10570.00	9300.00				MinPt-O-SF	
3383.40	41.70	3355.08	3341.71	126.41		OSF1.50	10670.00	9300.00				MinPt-O-SF	
3428.39	42.25	3399.70	3386.14	126.38		OSF1.50	10770.00	9300.00				MinPt-O-SF	
3470.84	42.76	3441.81	3428.08	126.34		OSF1.50	10860.00	9300.00				MinPt-O-SF	
3510.08	43.22	3480.74	3466.86	126.34		OSF1.50	10940.00	9300.00				MinPt-O-SF	
3550.69	43.69	3521.04	3507.00	126.37		OSF1.50	11020.00	9300.00				MinPt-O-SF	
4415.05	321.77	4200.01	4093.28	20.68		OSF1.50	19256.62	9300.00				MinPts	

Cimarex Red Hills 32-5 Fed  
Com #131H MWD 0ft-Update  
(Non-Def Survey)

Pass

2434.85	32.81	2433.15	2402.04	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2434.81	32.81	2433.11	2402.00	595242.23	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF	
2434.80	32.81	2433.10	2401.99	763237.29	MAS = 10.00 (m)	26.00	26.00					WRP	
2434.02	32.81	2431.61	2401.22	3383.52	MAS = 10.00 (m)	210.00	210.00					MinPts	
2434.12	32.81	2431.53	2401.31	2726.57	MAS = 10.00 (m)	250.00	250.00					MINPT-O-EOU	
2435.02	32.81	2430.68	2402.22	919.01	MAS = 10.00 (m)	650.00	650.00					MINPT-O-EOU	
2507.64	32.81	2493.13	2474.84	193.69	MAS = 10.00 (m)	2990.00	2989.86					MinPt-O-SF	
2555.78	32.81	2541.12	2522.98	195.01	MAS = 10.00 (m)	3290.00	3287.77					MinPt-O-SF	
2676.47	32.81	2660.84	2643.66	190.25	MAS = 10.00 (m)	3820.00	3812.25					MinPt-O-SF	
2742.44	32.81	2726.29	2709.64	187.91	MAS = 10.00 (m)	4220.00	4208.09					MinPt-O-SF	
3027.98	32.81	3005.95	2995.17	147.91	MAS = 10.00 (m)	6119.35	6087.66					MinPt-O-SF	
3048.61	33.44	3025.79	3015.17	143.39	OSF1.50	7210.00	7176.87					MinPt-CiCi	
3048.80	34.00	3025.61	3014.80	140.92	OSF1.50	7320.00	7286.87					MINPT-O-EOU	
3049.13	35.00	3025.28	3014.13	136.74	OSF1.50	7520.00	7486.87					MinPt-CiCi	
3046.18	38.60	3019.93	3007.58	123.33	OSF1.50	8230.00	8196.87					MinPt-CiCi	
3043.29	41.90	3014.84	3001.40	113.14	OSF1.50	8900.00	8866.81					MinPt-O-SF	
3042.62	41.32	3014.55	3001.30	114.75	OSF1.50	9000.00	8964.68					MinPt-O-ADP	
3042.42	41.00	3014.51	3001.33	115.41	OSF1.50	9040.00	9002.33					MINPT-O-EOU	
3042.28	40.64	3014.67	3001.65	116.73	OSF1.50	9120.00	9073.57					MinPt-CiCi	
3211.85	39.66	3184.88	3172.19	126.42	OSF1.50	10220.00	9300.00					MinPt-O-SF	
3252.40	40.12	3225.13	3212.28	126.59	OSF1.50	10340.00	9300.00					MinPt-O-SF	
3296.82	40.64	3269.20	3256.18	126.59	OSF1.50	10460.00	9300.00					MinPt-O-SF	
3340.81	41.18	3312.83	3299.63	126.48	OSF1.50	10570.00	9300.00					MinPt-O-SF	
3383.40	41.70	3355.08	3341.71	126.41	OSF1.50	10670.00	9300.00					MinPt-O-SF	
3428.39	42.25	3399.70	3386.14	126.38	OSF1.50	10770.00	9300.00					MinPt-O-SF	
3470.84	42.76	3441.81	3428.08	126.34	OSF1.50	10860.00	9300.00					MinPt-O-SF	
3510.08	43.22	3480.74	3466.86	126.34	OSF1.50	10940.00	9300.00					MinPt-O-SF	
3550.69	43.69	3521.04	3507.00	126.37	OSF1.50	11020.00	9300.00					MinPt-O-SF	
10517.74	65.39	10473.63	10452.35	247.15	OSF1.50	19256.62	9300.00					TD	

Cimarex Red Hills 32-5 Fed  
Com #128H Rev3 RM 19Nov19  
(Def Plan)

Pass

2474.09	32.81	2472.28	2441.28	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2474.06	32.81	2472.25	2441.25	N/A	MAS = 10.00 (m)	10.00	10.00					MinPts	
2474.06	32.81	2472.25	2441.25	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
2473.01	32.81	2453.91	2440.20	142.93	MAS = 10.00 (m)	2820.00	2820.00					MinPts	
2473.04	32.81	2453.89	2440.23	142.55	MAS = 10.00 (m)	2830.00	2830.00					MINPT-O-EOU	
2626.95	35.22	2602.86	2591.73	117.89	OSF1.50	4110.00	4099.23					MinPt-O-SF	
2945.56	70.16	2898.18	2875.40	64.60	OSF1.50	8890.00	8856.84					MINPT-O-EOU	
2945.60	70.21	2898.19	2875.38	64.55	OSF1.50	8900.00	8866.81					MinPt-O-ADP	
2952.49	70.70	2904.76	2881.79	64.24	OSF1.50	9180.00	9122.50					MinPt-O-SF	
2954.20	70.74	2906.44	2883.46	64.25	OSF1.50	9210.00	9145.23					MinPt-O-SF	
3356.33	314.98	3145.74	3041.35	16.07	OSF1.50	19050.00	9300.00					MINPT-O-EOU	
3356.42	315.08	3145.76	3041.34	16.06	OSF1.50	19060.00	9300.00					MinPt-O-ADP	
3363.17	316.55	3151.54	3046.62	16.02	OSF1.50	19240.00	9300.00					MinPt-O-SF	
3364.28	316.64	3152.58	3047.64	16.02	OSF1.50	19256.62	9300.00					TD	

Cimarex Red Hills 32-5 Fed  
Com #132H R0 JP 09Mar20  
(Non-Def Plan)

Pass

2514.09	32.81	2511.59	2481.29	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2514.06	32.81	2511.56	2481.25	N/A	MAS = 10.00 (m)	10.00	10.00					MinPts	
2514.06	32.81	2511.56	2481.25	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
2483.95	32.81	2463.83	2451.14	141.01	MAS = 10.00 (m)	2910.00	2909.97					MinPts	
2483.97	32.81	2463.83	2451.17	140.76	MAS = 10.00 (m)	2920.00	2919.96					MINPT-O-EOU	
2502.10	32.81	2480.96	2469.29	134.19	MAS = 10.00 (m)	3230.00	3228.39					MinPt-O-SF	
2942.53	70.36	2894.76	2872.13	64.95	OSF1.50	8900.00	8866.81					MinPts	
2949.44	70.93	2901.32	2878.51	64.60	OSF1.50	9230.00	9159.68					MinPt-O-SF	
3356.29	322.67	3140.35	3033.62	15.71	OSF1.50	19256.62	9300.00					MinPts	

Cimarex Red Hills 32-5 Fed  
Com #129H Rev2 RM 15Nov19  
(Def Plan)

Pass

2494.09	32.81	2492.29	2481.28	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2494.06	32.81	2492.25	2481.25	N/A	MAS = 10.00 (m)	10.00	10.00					MinPts	
2494.06	32.81	2492.25	2481.25	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
2494.06	32.81	2475.09	2461.25	145.24	MAS = 10.00 (m)	2800.00	2800.00					MinPts	
2494.08	32.81	2475.06	2461.27	144.84	MAS = 10.00 (m)	2810.00	2810.00					MINPT-O-EOU	
2971.97	72.98	2922.72	2898.99	62.60	OSF1.50	8970.00	8935.78					MINPT-O-EOU	
2972.00	73.02	2922.72	2898.98	62.56	OSF1.50	8990.00	8955.11					MinPt-O-ADP	
2976.88	73.50	2927.28	2903.39	62.25	OSF1.50	9270.00	9186.79					MinPt-O-SF	
2978.86	73.54	2929.24	2905.33	62.25	OSF1.50	9310.00	9211.35					MinPt-O-SF	
3112.82	313.16	2903.45	2799.66	14.99	OSF1.50	19050.00	9300.00					MINPT-O-EOU	
3112.92	313.27	2903.47	2799.65	14.98	OSF1.50	19060.00	9300.00					MinPt-O-ADP	
3118.27	314.53	2907.98	2803.74	14.95	OSF1.50	19210.00	9300.00					MinPt-O-SF	
3121.39	314.79	2910.93	2806.61	14.95	OSF1.50	19256.62	9300.00					TD	

Cimarex Red Hills 32-5 Fed  
Com #133H R0 JP 09Mar20  
(Non-Def Plan)

Pass

2534.08	32.81	2531.58	2501.28	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2534.05	32.81	2531.53	2501.24	N/A	MAS = 10.00 (m)	10.00	10.00					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		
2534.05		32.81	2531.55	2501.24	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
2515.85		32.81	2496.58	2483.04	149.94	MAS = 10.00 (m)	2950.00	2949.93					MinPts
2585.98		32.81	2565.24	2553.17	141.53	MAS = 10.00 (m)	3830.00	3822.15					MinPt-O-SF
2942.01		65.92	2897.23	2876.09	69.53	OSF1.50	8960.00	8926.04					MINPT-O-EQU
2942.02		65.93	2897.23	2876.09	69.51	OSF1.50	8970.00	8935.78					MinPt-O-ADP
2945.77		66.22	2900.78	2879.54	69.23	OSF1.50	9240.00	9166.69					MinPt-O-SF
3112.75		322.02	2897.23	2790.73	14.60	OSF1.50	19256.62	9300.00					MinPts



District I  
1625 N. French Dr., Hobbs, NM 88240  
District II  
811 S. First St., Artesia, NM 88210  
District III  
1000 Rio Brazos Road, Aztec, NM 87410  
District IV  
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Submit Original  
to Appropriate  
District Office

## GAS CAPTURE PLAN

Date: 4/29/21

☒ Original Operator & OGRID No.: Cimarex Energy Co- 162683  
☐ Amended - Reason for Amendment: \_\_\_\_\_

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomple to new zone, re-frac) activity.

*Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).*

### Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Red Hills 32-5 Fed Com 175H	Pending	32-25S-33E	330' FNL & 2385' FEL	7000		

### Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Enlink and will be connected to Enlink low/high pressure gathering system located in Loving County, Texas. It will require (no additional feet) of pipeline to connect the facility to low/high pressure gathering system. Cimarex provides (periodically) to Enlink a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, cimarex and Enlink have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Enlink Processing Plant located in Sec 4 Blk C-27, Loving County, Texas. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

### Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Enlink system at that time. Based on current information, it is Cimarex's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

### Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

**1. Geological Formations**

TVD of target 9,300

Pilot Hole TD N/A

MD at TD 19,257

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	959	Useable Water	
Top of Salt	1374	N/A	
Castile	4675	N/A	
Base of Salt	4892	N/A	
Bell Canyon	4954	N/A	
Cherry Canyon	6026	N/A	
Brushy Canyon	7562	N/A	
Bone Spring	9064	Hydrocarbons	
Upper Avalon Shale	9381	Hydrocarbons	
1st Bone Spring	10061	Hydrocarbons	
2nd Bone Spring	10248	Hydrocarbons	
3rd Bone Spring	11042	Hydrocarbons	
Wolfcamp	12150	Hydrocarbons	

**2. Casing Program**

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1170	1170	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.46	3.41	5.73
12 1/4	0	4870	4870	9-5/8"	40.00	J-55	LT&C	1.59	1.56	2.67
8 3/4	0	8856	8856	5-1/2"	20.00	L-80	LT&C	2.13	2.22	2.24
8 3/4	8856	19257	9300	5-1/2"	20.00	HCL-80	BT&C	2.18	2.07	52.48
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.

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

## Cimarex Energy Co., Red Hills 32-5 Federal Com 175H

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

**3. Cementing Program**

Casing	# Sk	Wt. lb/gal	Yld ft <sup>3</sup> /sack	H <sub>2</sub> O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	567	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	152	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	916	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	281	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Production	430	10.30	3.64	22.18		Lead: Tuned Light + LCM
	3032	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	45
Intermediate	0	50
Production	4670	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	100% of working pressure
			Blind Ram		2M
			Pipe Ram	X	
			Double Ram	X	
			Other		
8 3/4	13 5/8	5M	Annular	X	100% of working pressure
			Blind Ram		5M
			Pipe Ram	X	
			Double Ram	X	
			Other		

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

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

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

**5. Mud Program**

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1170'	Fresh Water	7.83 - 8.33	28	N/C
1170' to 4870'	Brine Water	9.50 - 10.00	30-32	N/C
4870' to 19257'	OBM	8.50 - 9.00	50-70	N/C

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

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

**6. Logging and Testing Procedures**

Logging, Coring and Testing	
	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	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 (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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.

	H <sub>2</sub> S is present
	H <sub>2</sub> S plan is attached

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

A multi-bowl wellhead system will be utilized.

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

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

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

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

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

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

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

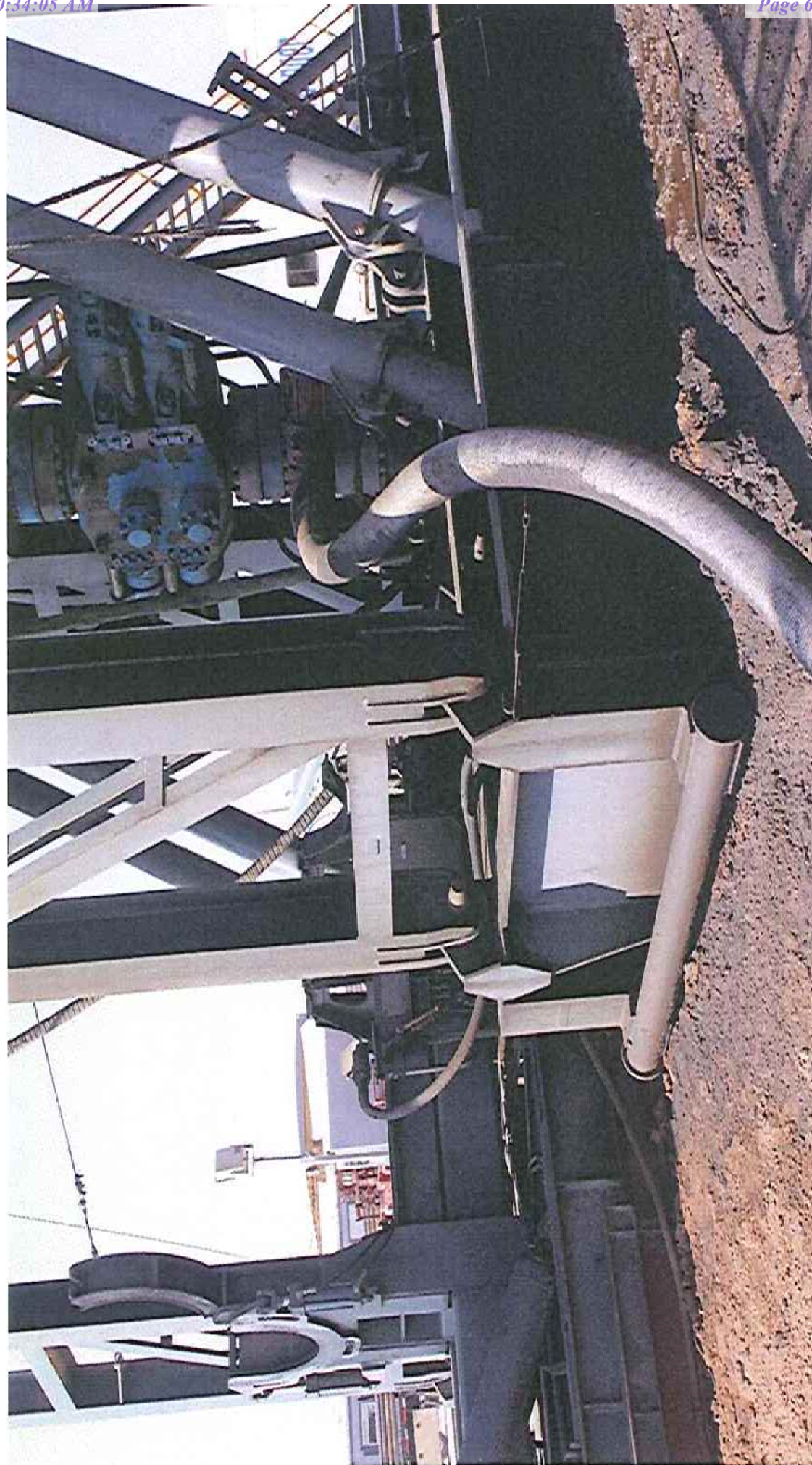
## 10. Other Variances

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

Cimarex requests permission to skid the rig to the next well on the pad to begin operations instead of waiting 8 hours for surface cement to harden on this 175H well. Surface cement will be pumped, we will ensure floats hold, do a green cement test and then Skid to the next well on pad. We will not perform any operations on this 175H well until at least 8 hours and when both tail and lead slurry reach 500psi. The mandrel hanger is made up on the last joint of 13 3/8" casing and then lowered down with a landing joint. It is then lowered down until the mandrel contacts the landing ring which is pre-welded to the conductor pipe. At this point the 13 3/8" casing is entirely supported by the conductor pipe via the landing ring / mandrel and is independent from the rig. This allows us to walk the rig away from the 175H well and begin work on the next well while the cement is hardening. There is no way for the casing to be moved or knocked off center since it is hanging from the landing ring.



Co-Flex Hose  
**Red Hills 32 5 Fed Com 175H**  
Cimarex Energy Co. 32-25S-  
33E  
Lea Co., NM





Co-  
Flex Hose Hydrostatic Test  
Red Hills 32 5 Fed Com 175H  
Cimarex Energy Co.  
32-25S-33E  
Lea Co., NM



## Midwest Hose & Specialty, Inc.

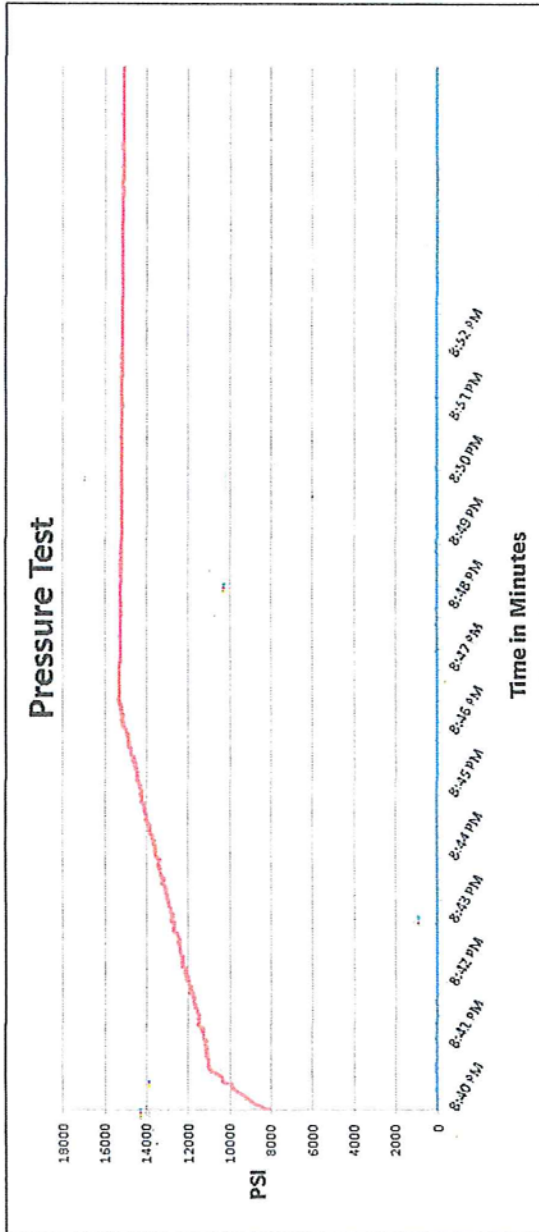
INTERNAL HYDROSTATIC TEST REPORT			
Customer:		P.O. Number:	
Oderco Inc		odyd-271	
HOSE SPECIFICATIONS			
Type: Stainless Steel Armor Choke & Kill Hose		Hose Length: 45'ft.	
I.D. 4 INCHES		O.D. 9 INCHES	
WORKING PRESSURE	TEST PRESSURE	BURST PRESSURE	
10,000 PSI	15,000 PSI	0 PSI	
COUPLINGS			
Stem Part No.		Ferrule No.	
OKC OKC		OKC OKC	
Type of Coupling: Swage-It			
PROCEDURE			
<u>Hose assembly pressure tested with water at ambient temperature.</u>			
TIME HELD AT TEST PRESSURE		ACTUAL BURST PRESSURE:	
15 MIN.		0 PSI	
Hose Assembly Serial Number: 79793		Hose Serial Number: OKC	
Comments:			
Date:	Tested:	Approved:	
3/8/2011	<i>A. Joins</i>	<i>Kevin</i>	

March 3, 2011

## Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260

Midwest Hose  
& Specialty, Inc.Hose SpecificationsHose Type  
C & KLength  
45'Type of Fitting  
4 1/16 10KCoupling Method  
SwageI.D.  
4"O.D.  
6.09"Die Size  
6.38"Final O.D.  
6.25"Working Pressure  
10000 PSIBurst Pressure  
Standard Safety Multiplier AppliesHose Serial #  
5544Hose Assembly Serial #  
79793VerificationTest Pressure  
15000 PSITime Held at Test Pressure  
11 Minutes

Actual Burst Pressure

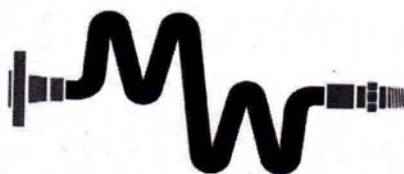
Peak Pressure  
15483 PSI

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

Tested By: Zac McConnell

Approved By: Kim Thomas

Co-Flex Hose  
Red Hills 32 5 Fed Com 175H  
Cimarex Energy Co. 32-25S-33E  
Lea Co., NM



Midwest Hose  
& Specialty, Inc.

### Certificate of Conformity

Customer:

DEM

PO

ODYD-271

### SPECIFICATIONS

Sales Order

79793

Dated:

3/8/2011

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

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

Comments:

Approved:

*Samuel Garcia*

Date:

3/8/2011



Midwest Hose  
& Specialty, Inc.

Co-Flex Hose  
Red Hills 32 5 Fed Com 175H  
Cimarex Energy Co. 32-25S-  
33E  
Lea Co., NM

## Specification Sheet Choke & Kill Hose

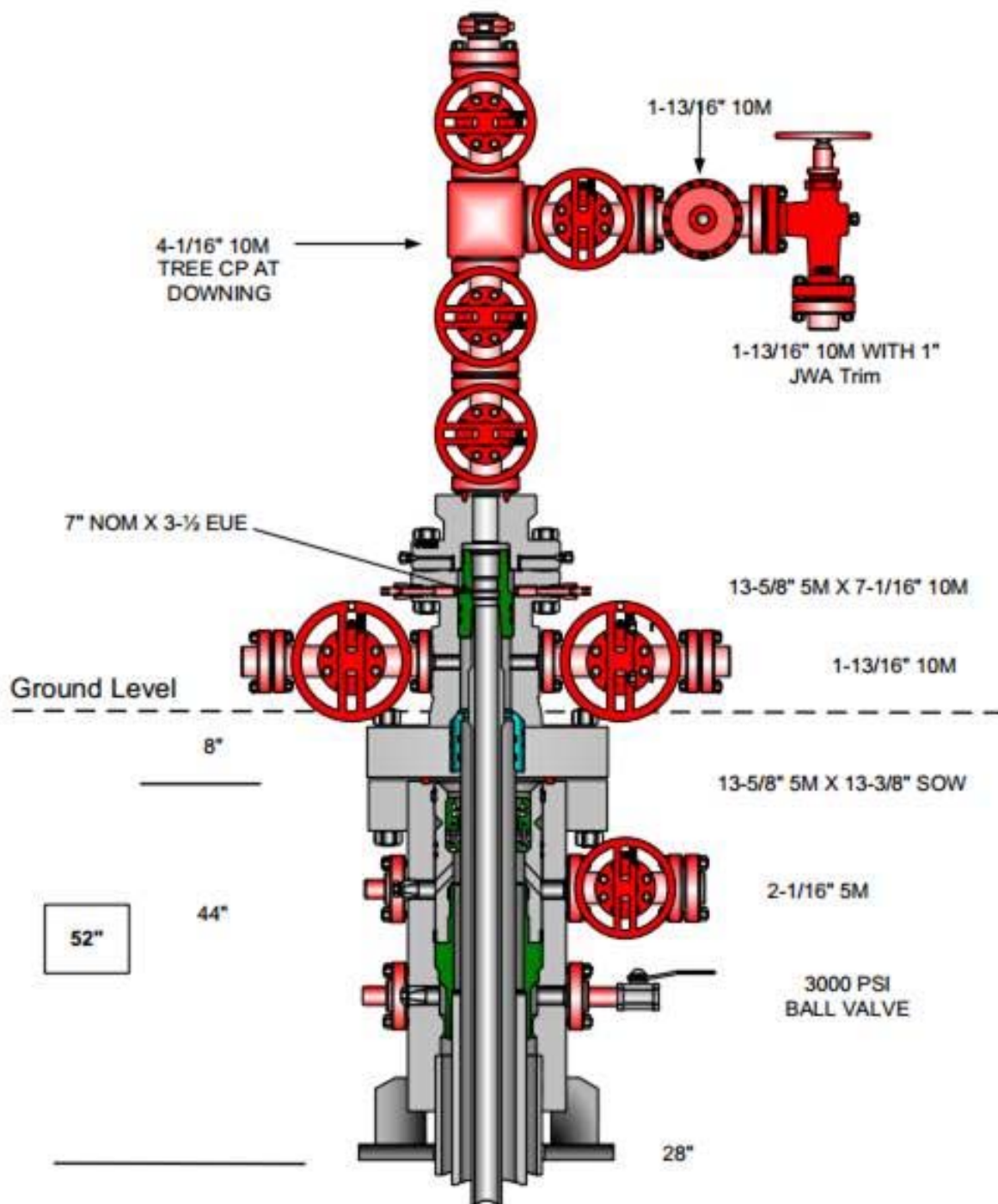
The Midwest Hose & Specialty Choke & Kill hose is manufactured with only premium components. The reinforcement cables, inner liner and cover are made of the highest quality material to handle the tough drilling applications of today's industry. The end connections are available with API flanges, API 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.

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

P.O. Box 96558 - 1421 S.E. 29<sup>th</sup> 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	1010	1010	13-3/8"	48.00	H-40/J-55 Hybrid	ST&C	1.69	3.95	6.64
12 1/4	0	4870	4870	9-5/8"	40.00	J-55	LT&C	1.59	1.56	2.67
8 3/4	0	8856	8856	5-1/2"	20.00	L-80	LT&C	2.13	2.22	2.24
8 3/4	8856	19257	9300	5-1/2"	20.00	HCL-80	BT&C	2.18	2.07	52.48
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Multi-  
bowl Wellhead Diagram  
Red Hills 32-5 Fed Com 175H  
Cimarex Energy Co.  
32-25S-33E

Lea Co., NM



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

## SUPO Data Report

01/10/2023

**APD ID:** 10400073999**Submission Date:** 05/05/2021

Highlighted data  
reflects the most  
recent changes

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H[Show Final Text](#)**Well Type:** OIL WELL**Well Work Type:** Drill

### Section 1 - Existing Roads

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

Red\_Hills\_32\_5\_Fed\_Com\_W2E2\_Pad\_4\_Existing\_Access\_20210429104351.pdf

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

### Section 2 - New or Reconstructed Access Roads

**Will new roads be needed?** NO

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** RED HILLS 32-5 FEDERAL COM

**Well Number:** 175H

## Section 2 - New or Reconstructed Access Roads

**Will new roads be needed?** NO

## Section 2 - New or Reconstructed Access Roads

**Will new roads be needed?** NO

## Section 3 - Location of Existing Wells

**Existing Wells Map?** YES

**Attach Well map:**

Red\_Hills\_32\_5\_Fed\_Com\_W2E2\_Pad\_4\_One\_Mile\_Radius\_Existing\_Road\_Map\_20210429104414.pdf

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

**Submit or defer a Proposed Production Facilities plan?** SUBMIT

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

**Production Facilities map:**

Red\_Hills\_Unit\_32\_5\_Bulkline\_Route\_20210111144034.pdf

Red\_Hills\_Unit\_32\_East\_BS\_\_20210111102150

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H

Red\_Hills\_Unit\_32\_East\_WC\_\_20210111102159

Red\_Hills\_Unit\_32\_West\_BS\_\_20210111102208

Red\_Hills\_Unit\_32\_West\_WC\_\_20210111102217

Red\_Hills\_32\_5\_Fed\_Com\_175H\_SUPO\_20210429141819.pdf

## Section 5 - Location and Types of Water Supply

### Water Source Table

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

### Water source and transportation

Red\_Hills\_Unit\_32\_5\_Drilling\_Water\_Routes\_20210111102817.pdf

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

### New Water Well Info

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



**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H**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 from a pit located in Sec 20 25S 33E Lea NM**Construction Materials source location**

### Section 7 - Methods for Handling

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

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H**Disposal location description:** A licensed 3rd party contractor will be used to haul and dispose human waste to City of Toyah TX waste water facility.**Waste type:** GARBAGE**Waste content description:** Garbage and trash produced during drilling and completion operations**Amount of waste:** 32500 pounds**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** A licensed 3rd party hauls trash to Lea County Landfill

### Reserve Pit

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

### Cuttings Area

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

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H

## Section 8 - Ancillary

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

## Section 9 - Well Site

**Well Site Layout Diagram:**

Red\_Hills\_32\_5\_W2E2\_Pad\_4\_Well\_list\_20210429104825.docx

Red\_Hills\_32\_5\_Fed\_Com\_175H\_Wellsite\_layout\_20210429141902.pdf

**Comments:** This well pad has wells 169H 170H 171H 172H 173H 174H 175H 176H 177H 178H 179H 180H 181H 182H

## Section 10 - Plans for Surface

**Type of disturbance:** New Surface Disturbance**Multiple Well Pad Name:** Red Hills 32-5 Fed Com**Multiple Well Pad Number:** W2E2 Pad 4**Recontouring**

Red\_hills\_32\_5\_Fed\_Com\_W2E2\_Pad\_4\_Interim\_Reclaim\_20210429105129.pdf

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

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

Operator Name: CIMAREX ENERGY COMPANY OF COLORADO

Well Name: RED HILLS 32-5 FEDERAL COM

Well Number: 175H

<b>Well pad proposed disturbance (acres):</b> 7.03	<b>Well pad interim reclamation (acres):</b> 3.45	<b>Well pad long term disturbance (acres):</b> 3.55
<b>Road proposed disturbance (acres):</b>	<b>Road interim reclamation (acres):</b> 0	<b>Road long term disturbance (acres):</b> 0
<b>Powerline proposed disturbance (acres):</b> 0	<b>Powerline interim reclamation (acres):</b> 0	<b>Powerline long term disturbance (acres):</b> 0
<b>Pipeline proposed disturbance (acres):</b> 8.13	<b>Pipeline interim reclamation (acres):</b> 0	<b>Pipeline long term disturbance (acres):</b> 8.13
<b>Other proposed disturbance (acres):</b> 25.13	<b>Other interim reclamation (acres):</b> 0	<b>Other long term disturbance (acres):</b> 25.13
<b>Total proposed disturbance:</b> 40.29	<b>Total interim reclamation:</b> 3.45	<b>Total long term disturbance:</b> 36.81

**Disturbance Comments:**

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

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

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

**Existing Vegetation at the well pad:** N/A

**Existing Vegetation at the well pad**

**Existing Vegetation Community at the road:** N/A

**Existing Vegetation Community at the road**

**Existing Vegetation Community at the pipeline:** N/A

**Existing Vegetation Community at the pipeline**

**Existing Vegetation Community at other disturbances:** N/A

**Existing Vegetation Community at other disturbances**

**Non native seed used?** N

**Non native seed description:**

**Seedling transplant description:**

**Will seedlings be transplanted for this project?** N

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H**Seedling transplant description****Will seed be harvested for use in site reclamation?** N**Seed harvest description:****Seed harvest description attachment:****Seed****Seed Table****Seed Summary****Total pounds/Acre:****Seed Type****Pounds/Acre****Seed reclamation****Operator Contact/Responsible Official****First Name:****Last Name:****Phone:****Email:****Seedbed prep:** N/A**Seed BMP:****Seed method:****Existing invasive species?** N**Existing invasive species treatment description:****Existing invasive species treatment****Weed treatment plan description:** N/A**Weed treatment plan****Monitoring plan description:** n/A**Monitoring plan****Success standards:** N/A**Pit closure description:** N/A**Pit closure attachment:****Section 11 - Surface**

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H**Disturbance type:** WELL PAD**Describe:****Surface Owner:** STATE GOVERNMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:** NMSLO**Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:****Section 12 - Other****Right of Way needed?** N**Use APD as ROW?****ROW Type(s):****ROW****SUPO Additional Information:****Use a previously conducted onsite?** Y**Previous Onsite information:** Onsite with BLM( Jeff Robertson) and Cimarex Barry Hunt on April 17, 2018**Other SUPO**

Red\_Hills\_32\_5\_Fed\_Com\_175H\_Road\_Description\_20210429142004.pdf

## **Cimarex Red Hills 32-5 Federal Com 175H Surface Use Plan**

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

### **Existing Roads**

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

### **New or Reconstructed Access Roads**

No new roads are proposed for this project.

### **Well Radius Map**

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

### **Proposed or Existing Production Facility**

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

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

### **Gas Pipeline Specifications**

- No new gas pipelines are required for this project.

### **Salt Water Disposal Specifications**

- No new SWD pipelines are required for this project.

### **Power Lines**

- No new power line is required for this project.

### **Well Site Location**

- An new well pad will be used to drill the proposed well.
  - Wells drilled or to be drilled: Red Hills 32-5 Federal Com 169H-182H
- Well pad previously approved. APD: Red Hills 32-5 Fed Com 171H

**Cimarex Red Hills 32-5 Federal Com 175H****Surface Use Plan****Bulklines**

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

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

**Water Resources**

No temporary fresh water pipelines are proposed for this project.

**Methods of Handling Waste**

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

**Waste Minimization Plan**

See Gas Capture Plan.

**Ancillary Facilities**

No camps or airstrips to be constructed.

**Interim and Final Reclamation**

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

**Surface Ownership**

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

**Cultural Resource Survey - Archeology**

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

**On Site Notes and Information**



**Cimarex Red Hills 32-5 Federal Com 175H  
Surface Use Plan**

Onsite Date: 4/17/2008

BLM Personnel on site: Jeff Robertson

Cimarex Energy personnel on site: Barry Hunt

Pertinent information from onsite:



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

## PWD Data Report

01/10/2023

**APD ID:** 10400073999

**Submission Date:** 05/05/2021

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** RED HILLS 32-5 FEDERAL COM

**Well Number:** 175H

**Well Type:** OIL WELL

**Well Work Type:** Drill

### Section 1 - General

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

### Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

**Produced Water Disposal (PWD) Location:**

**PWD surface owner:**

**PWD disturbance (acres):**

**Lined pit PWD on or off channel:**

**Lined pit PWD discharge volume (bbl/day):**

**Lined pit**

**Pit liner description:**

**Pit liner manufacturers**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal**

**Lined pit precipitated solids disposal schedule:**

**Lined pit precipitated solids disposal schedule**

**Lined pit reclamation description:**

**Lined pit reclamation**

**Leak detection system description:**

**Leak detection system**

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** RED HILLS 32-5 FEDERAL COM

**Well Number:** 175H

**Lined pit Monitor description:**

**Lined pit Monitor**

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

**Is the reclamation bond a rider under the BLM bond?**

**Lined pit bond number:**

**Lined pit bond amount:**

**Additional bond information**

### Section 3 - Unlined

**Would you like to utilize Unlined Pit PWD options?** N

**Produced Water Disposal (PWD) Location:**

**PWD disturbance (acres):**

**PWD surface owner:**

**Unlined pit PWD on or off channel:**

**Unlined pit PWD discharge volume (bbl/day):**

**Unlined pit**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal**

**Unlined pit precipitated solids disposal schedule:**

**Unlined pit precipitated solids disposal schedule**

**Unlined pit reclamation description:**

**Unlined pit reclamation**

**Unlined pit Monitor description:**

**Unlined pit Monitor**

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

**Beneficial use user**

**Estimated depth of the shallowest aquifer (feet):**

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

**TDS lab results:**

**Geologic and hydrologic**

**State**

**Unlined Produced Water Pit Estimated**

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

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO**Well Name:** RED HILLS 32-5 FEDERAL COM**Well Number:** 175H**Is the reclamation bond a rider under the BLM bond?****Unlined pit bond number:****Unlined pit bond amount:****Additional bond information****Section 4 -****Would you like to utilize Injection PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Injection PWD discharge volume (bbl/day):****Injection well mineral owner:****Injection well type:****Injection well number:****Injection well name:****Assigned injection well API number?****Injection well API number:****Injection well new surface disturbance (acres):****Minerals protection information:****Mineral protection****Underground Injection Control (UIC) Permit?****UIC Permit****Section 5 - Surface****Would you like to utilize Surface Discharge PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Surface discharge PWD discharge volume (bbl/day):****Surface Discharge NPDES Permit?****Surface Discharge NPDES Permit attachment:****Surface Discharge site facilities information:****Surface discharge site facilities map:****Section 6 -****Would you like to utilize Other PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD discharge volume (bbl/day):**

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** RED HILLS 32-5 FEDERAL COM

**Well Number:** 175H

**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

01/10/2023

**APD ID:** 10400073999

**Submission Date:** 05/05/2021

Highlighted data  
reflects the most  
recent changes

**Operator Name:** CIMAREX ENERGY COMPANY OF COLORADO

**Well Name:** RED HILLS 32-5 FEDERAL COM

**Well Number:** 175H

[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 175067

**CONDITIONS**

Operator: CIMAREX ENERGY CO. OF COLORADO 600 N. Marienfeld Street Midland, TX 79701	OGRID: 162683
	Action Number: 175067
	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	1/24/2023
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	1/24/2023
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	1/24/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	1/24/2023