

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

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

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. [330240]
2. Name of Operator [215099]		9. API Well No. 30-025-50207
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [97903] XXXXXX XXXXXX
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

NGMP Rec 05/20/2022

SL

(Continued on page 2)



Approval Date: 11/06/2020

KZ
06/03/2022

*(Instructions on page 2)

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

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

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

30-025-50207		² Pool Code 97903	³ Pool Name WC-025 G-08 S253235G:LOWER BONE SPRING
⁴ Property Code 330240	⁵ Property Name RED HILLS 32-5 FED COM		⁶ Well Number 128H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.		⁹ Elevation 3396.2'

UL or lot no. D	Section 32	Township 25S	Range 33E	Lot Idn	Feet from the 330	North/South line NORTH	Feet from the 430	East/West line WEST	County LEA
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UL or lot no. M	Section 5	Township 26S	Range 33E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 440	East/West line WEST	County LEA
¹² Dedicated Acres 640			¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.		

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

NOTE:

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

LINE	DIRECTION	LENGTH
L1	S89°53'08"W	2643.77'
L2	N89°53'08"E	9.96'
L3	S89°47'46"W	2645.73'

NAD 83 (SURFACE HOLE LOCATION)
 LATITUDE = 32°05'36.29" (32.093413°)
 LONGITUDE = 103°36'05.28" (103.601467°)

NAD 27 (SURFACE HOLE LOCATION)
 LATITUDE = 32°05'35.84" (32.093288°)
 LONGITUDE = 103°36'03.58" (103.600995°)

STATE PLANE NAD 83 (N.M. EAST)
 N: 398489.53' E: 767979.85'

STATE PLANE NAD 27 (N.M. EAST)
 N: 398431.89' E: 726793.42'

NAD 83 (LP/FTP)
 LATITUDE = 32°05'36.29" (32.093413°)
 LONGITUDE = 103°36'05.16" (103.601434°)

NAD 27 (LP/FTP)
 LATITUDE = 32°05'35.84" (32.093288°)
 LONGITUDE = 103°36'03.47" (103.600963°)

STATE PLANE NAD 83 (N.M. EAST)
 N: 398489.59' E: 767989.80'

STATE PLANE NAD 27 (N.M. EAST)
 N: 398431.95' E: 726803.38'

NAD 83 (BHL/LTP)
 LATITUDE = 32°03'58.34" (32.066205°)
 LONGITUDE = 103°36'05.15" (103.601431°)

NAD 27 (BHL/LTP)
 LATITUDE = 32°03'57.89" (32.066080°)
 LONGITUDE = 103°36'03.46" (103.600961°)

STATE PLANE NAD 83 (N.M. EAST)
 N: 388591.55' E: 768058.08'

STATE PLANE NAD 27 (N.M. EAST)
 N: 388534.16' E: 726871.20'

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

SCALE
 0 1000' 2000'

DRAWN BY: J.N. 08-09-19
 REV: 01 10-07-19 L.C.W. (SHL & BHL CHANGES)

¹⁷ OPERATOR CERTIFICATION

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

Signature: *Sarah Jordan* Date: 5/19/22

Printed Name: Sarah Jordan

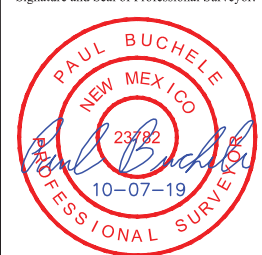
E-mail Address: sarah.jordan@coterra.com

¹⁸ SURVEYOR CERTIFICATION

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

May 01, 2018

Date of Survey
 Signature and Seal of Professional Surveyor:



Certificate Number:



U.S. Department of the Interior
Bureau of Land Management

Application for Permit to Drill

APD Package Report

Date Printed:

APD ID:
APD Received Date:
Operator:

Well Status:
Well Name:
Well Number:

APD Package Report Contents

- Form 3160-3
- Operator Certification Report
- Application Report
- Application Attachments
 - Well Plat: 2 file(s)
- Drilling Plan Report
- Drilling Plan Attachments
 - Blowout Prevention Choke Diagram Attachment: 2 file(s)
 - Blowout Prevention BOP Diagram Attachment: 2 file(s)
 - Casing Spec Documents: 1 file(s)
 - Casing Design Assumptions and Worksheet(s): 4 file(s)
 - Hydrogen sulfide drilling operations plan: 1 file(s)
 - Proposed horizontal/directional/multi-lateral plan submission: 2 file(s)
 - Other Facets: 3 file(s)
 - Other Variances: 1 file(s)
- SUPO Report
- SUPO Attachments
 - Existing Road Map: 1 file(s)
 - New Road Map: 1 file(s)
 - Attach Well map: 1 file(s)
 - Production Facilities map: 6 file(s)
 - Water source and transportation map: 1 file(s)
 - Well Site Layout Diagram: 1 file(s)
 - Recontouring attachment: 1 file(s)
 - Other SUPO Attachment: 5 file(s)
- PWD Report
- PWD Attachments
 - None

- Bond Report
- Bond Attachments
 - None

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Company
LEASE NO.:	NMNM106040A
WELL NAME & NO.:	Red Hills 32-5 Federal Com 128H
SURFACE HOLE FOOTAGE:	330'/N & 430'/W
BOTTOM HOLE FOOTAGE:	330'/S & 440'/W
LOCATION:	Section 32, T.25 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☒ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☒ COM	☐ 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 **10-3/4 inch** surface casing shall be set at approximately **984 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 fluid filled to meet BLM minimum collapse requirement.

- 2. The minimum required fill of cement behind the **7-5/8 inch** intermediate casing and shall be set at approximately **10,851 feet** 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 lead cement slurry due to cave/karst or potash.
- 3. The minimum required fill of cement behind the **5-1/2 inch** production casing with a tie-back into the previous casing of approximately **10,621 feet** 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**.
- 3. 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 intermediate casing shoe shall be **10,000 (10M) 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) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

YJ (09/09/2020)



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

Application Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400038359

Tie to previous NOS? Y

Submission Date: 01/28/2019

BLM Office: CARLSBAD

User: Amithy Crawford

Title: Regulatory Analyst

Federal/Indian APD: FED

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

Lease number: NMNM0106040A

Lease Acres: 240

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

APD Operator: CIMAREX ENERGY COMPANY

Operator letter of designation:

Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY

Operator Address: 600 N. Marienfeld St., Suite 600

Zip: 79701

Operator PO Box:

Operator City: Midland

State: TX

Operator Phone: (432)620-1936

Operator Internet Address: tstathem@cimarex.com

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: JENNINGS BONE
SPRING WESTPool Name: UPPER
WOLFCAMP

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Is the proposed well in an area containing other mineral resources?** USEABLE WATER**Is the proposed well in a Helium production area?** N**Use Existing Well Pad?** NO**New surface disturbance?****Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:** RED HILLS 32-5 FED COM**Number:** E2W2 PAD 4**Well Class:** HORIZONTAL**Number of Legs:** 1**Well Work Type:** Drill**Well Type:** CONVENTIONAL GAS WELL**Describe Well Type:****Well sub-Type:** INFILL**Describe sub-type:****Distance to town:** 26 Miles**Distance to nearest well:** 20 FT**Distance to lease line:** 330 FT**Reservoir well spacing assigned acres Measurement:** 1280 Acres**Well plat:** Red_Hills_32_5_Fed_Com_128H_C102_20191205153914.pdf

Red_Hills_32_5_Fed_Com_128H_C102_BLM_Lease_20191205153916.pdf

Well work start Date: 03/03/2020**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:****Reference Datum:**

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 lease?
SHL Leg #1	330	FNL	430	FW L	25S	33E	32	Aliquot NWN W	32.093413	- 103.601467	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	3369	0	0	
KOP Leg #1	330	FNL	439	FW L	25S	33E	32	Aliquot NWN W	32.093413	- 103.601434	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 7021	10396	10390	

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

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 lease?
PPP Leg #1-1	5275	FSL	443	FWL	25S	33E	5	Aliquot NWNW	32.079797	- 103.601433	LEA	NEW MEXICO	NEW MEXICO	F	FEE	- 7531	15763	10900	
PPP Leg #1-2	3951	FSL	443	FWL	25S	33E	5	Aliquot NWSW	32.076161	- 103.604133	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0106040A	- 7531	15763	10900	
PPP Leg #1-3	2629	FSL	442	FWL	25S	33E	5	Aliquot NWSW	32.072525	- 103.601431	LINC OLN	NEW MEXICO	FIRST PRIN	F	NMNM 0160973	- 7531	18408	10900	
EXIT Leg #1	330	FSL	440	FWL	26S	33E	5	Aliquot SWSW	32.066205	- 103.601431	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0160973	- 7531	20708	10900	
BHL Leg #1	330	FSL	440	FWL	25S	33E	5	Aliquot SWSW	32.066205	- 103.601431	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 0160973	- 7531	20709	10900	



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

Drilling Plan Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
380692	RUSTLER	3464	934	934		USEABLE WATER	N
380693	TOP SALT	2115	1349	1349		NONE	N
380694	BASE OF SALT	-1187	4651	4651		NONE	N
380703	LAMAR	-1428	4892	4892		NONE	N
380704	BELL CANYON	-1465	4929	4929		NONE	N
380705	CHERRY CANYON	-2537	6001	6001		NONE	N
380699	BRUSHY CANYON	-4073	7537	7537		NATURAL GAS, OIL	N
380697	BONE SPRING	-5575	9039	9039		NATURAL GAS, OIL	Y
380698	AVALON SAND	-5892	9356	9356		NATURAL GAS, OIL	N
380700	BONE SPRING 1ST	-6572	10036	10036		NATURAL GAS, OIL	N
380701	BONE SPRING 2ND	-7100	10564	10564		NATURAL GAS, OIL	N
380702	BONE SPRING 3RD	-8218	11682	11682		NATURAL GAS, OIL	N
622000	WOLFCAMP	-8661	12125	12125		NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Pressure Rating (PSI):** 10M**Rating Depth:** 20708

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

Requesting Variance? YES

Variance request: Co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only. Cimarex requests a 5M annular variance for the 10M BOP system. See attached procedure.

Testing Procedure: A multi-bowl wellhead system will be utilized. After running the 13-3/8" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 3000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by vendor's representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder while being monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 3000 psi. The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater. The casing string utilizing steel body pack-off will be tested to 70% of casing burst. If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Choke Diagram Attachment:

Red_Hills_32_5_Fed_Com_128H_Choke_10M_20191230141746.pdf

BOP Diagram Attachment:

Red_Hills_32_5_Fed_Com_128H_BOP_10M_20191230141807.pdf

Pressure Rating (PSI): 5M**Rating Depth:** 11021

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

Requesting Variance? YES

Variance request: Co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only. Cimarex requests a 5M annular variance for the 10M BOP system. See attached procedure.

Testing Procedure: A multi-bowl wellhead system will be utilized. After running the 10-3/4" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 10000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by 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 10000 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 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:

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

Red_Hills_32_5_Fed_Com_128H_Choke_5M_20191230141528.pdf

BOP Diagram Attachment:

Red_Hills_32_5_Fed_Com_128H_BOP_5M_20191230141543.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	14.75	13.375	NEW	API	N	0	984	0	984			984	J-55	40.5	BUTT	3.51	6.95	BUOY	15.78	BUOY	15.78
2	PRODUCT ION	6.75	5.5	NEW	API	N	0	10296	0	10296	0		10296	L-80	20	LT&C	1.32	1.37	BUOY	2.12	BUOY	2.12
3	INTERMEDIATE	9.875	9.625	NEW	NON API	N	0	11021	0	11021			11021	L-80	29.7	BUTT	2.82	1.36	BUOY	2.06	BUOY	2.06
4	PRODUCT ION	6.75	5.0	NEW	API	N	11787	20708	10900	20708			8921	L-80	17	BUTT	1.9	1.92	BUOY	53.35	BUOY	53.35

Casing Attachments**Casing ID:** 1 **String Type:** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Red_Hills_32_5_Fed_Com_128H_Casing_Assumptions_20191230143407.pdf

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Casing Attachments**

Casing ID: 2 **String Type:** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Red_Hills_32_5_Fed_Com_128H_Casing_Assumptions_20191230144433.pdf

Casing ID: 3 **String Type:** INTERMEDIATE**Inspection Document:****Spec Document:**

Red_Hills_32_5_Fed_Com_128H__Spec_Sheet_for_L80_7.625_Inter_Csg_20191230143830.pdf

Tapered String Spec:**Casing Design Assumptions and Worksheet(s):**Red_Hills_32_5_Fed_Com_128H_Casing_Assumptions_20191230144240.pdf

Casing ID: 4 **String Type:** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Red_Hills_32_5_Fed_Com_128H_Casing_Assumptions_20191230144648.pdf

Section 4 - Cement

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

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
PRODUCTION	Tail		0	0	0	0	0	0	0	0	0
PRODUCTION	Lead		0	0	0	0	0	0	0	0	0
PRODUCTION	Tail		1178 7	2070 8	829	1.3	14.2	1077	25	50:50 (Poz:H)	Salt, Bentonite, Fluid Loss, Dispersant, SMS
SURFACE	Lead		0	984	332	1.72	13.5	570	50	Class C	Bentonite
SURFACE	Tail		0	984	156	1.34	14.8	208	25	Class C	LCM
INTERMEDIATE	Lead		0	4892	455	3.64	10.3	1653	50	Tuned Light	LCM
INTERMEDIATE	Tail		4892	1102 1	198	1.36	14.8	268	25	Class C	Retarder
INTERMEDIATE	Lead	4892	4892	1102 1	793	1.88	12.9	1490	50	Class C	Retarder

Section 5 - Circulating Medium

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

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

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

Circulating Medium Table

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

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	984	SPUD MUD	8.3	8.8							
984	1102 1	OTHER : Brine Diesel Emulsion	8.5	9							
1102 1	2070 8	OIL-BASED MUD	12	12.5							

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:

CNL,DS,GR

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7085

Anticipated Surface Pressure: 4687

Anticipated Bottom Hole Temperature(F): 178

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 attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Red_Hills_32_5_Fed_Com_128H_H2S_Plan_20191230152336.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Red_Hills_32_5_Fed_Com_128H_AC_Report_20191230152056.pdf

Red_Hills_32_5_Fed_Com_128H_Directional_Plan_20191230152057.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

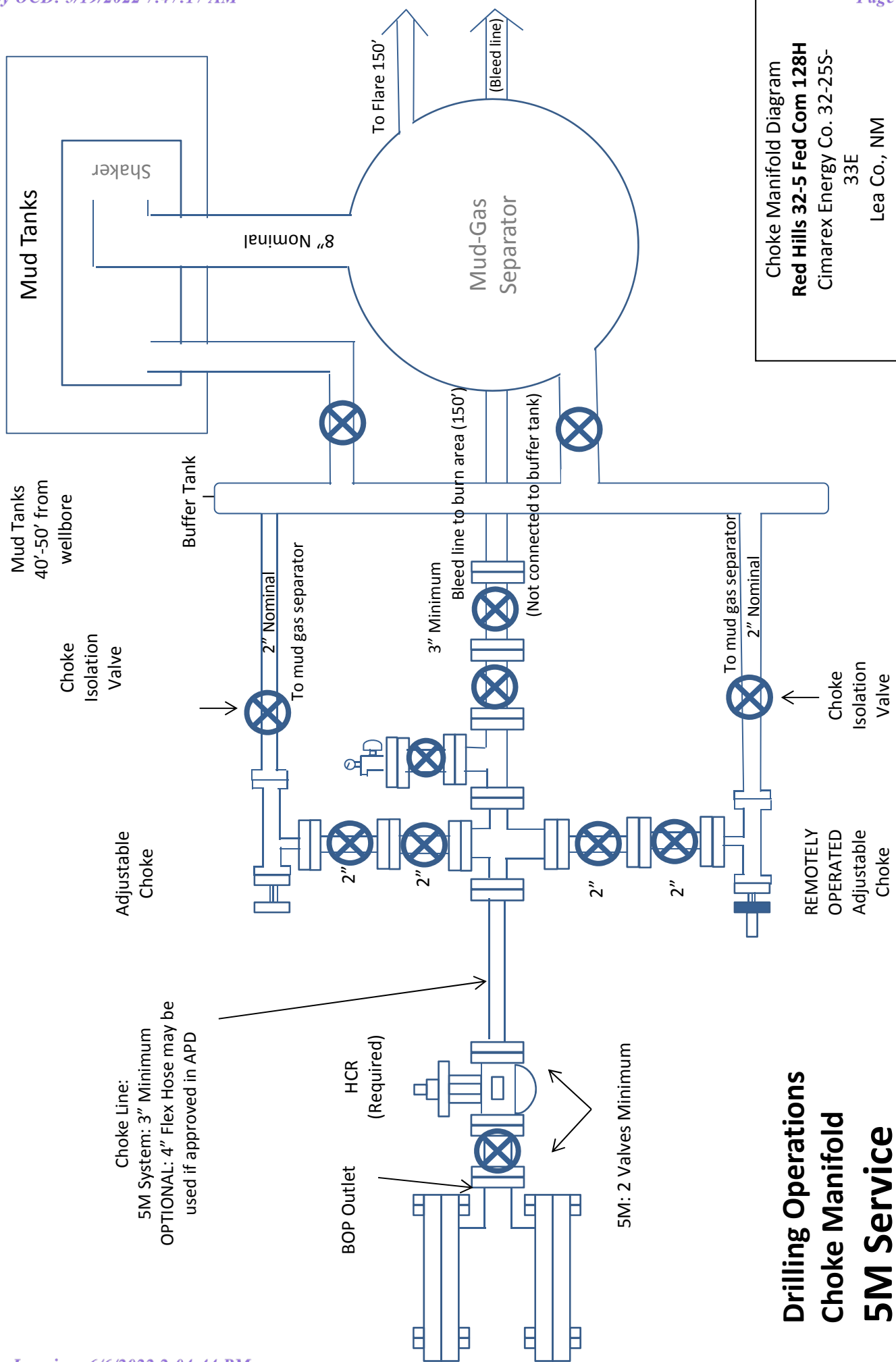
Red_Hills_32_5_Fed_Com_128H_Drilling_Plan_20191230152151.pdf

Red_Hills_32_5_Fed_Com_128H_Flex_Hose_20191230152215.pdf

Red_Hills_32_5_Fed_Com_128H_Gas_Capture_Plan_20191230152216.pdf

Other Variance attachment:

Red_Hills_32_5_Fed_Com_128H_Multibowl_Wellhead_REV_01_20200304055716.pdf





Drilling 6" hole below 7"
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

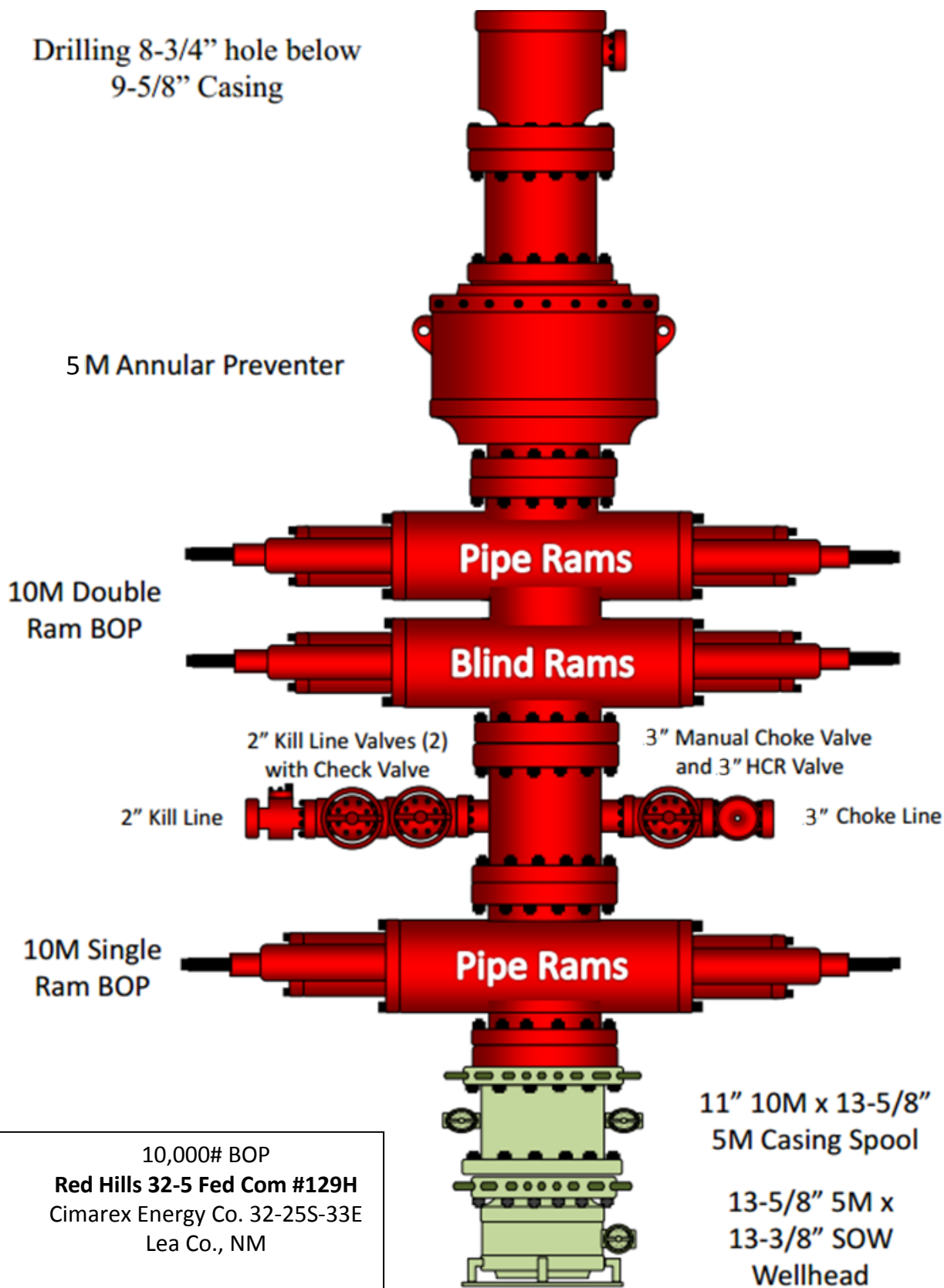
13-5/8" 3000# psi x 13-3/8" SOW Casing Head

5000# BOP

Red Hills 32-5 Fed Com #128H

Cimarex Energy Co. 32-25S-33E

Lea Co., NM



PERFORMANCE DATA

TMK UP ULTRA™ FJ Technical Data Sheet

7.625 in

29.70 lbs/ft

L80 HC

Tubular Parameters

Size	7.625	in	Minimum Yield	80,000	psi
Nominal Weight	29.70	lbs/ft	Minimum Tensile	95,000	psi
Grade	L80 HC		Yield Load	683,000	lbs
PE Weight	29.04	lbs/ft	Tensile Load	811,000	lbs
Wall Thickness	0.375	in	Min. Internal Yield Pressure	6,890	psi
Nominal ID	6.875	in	Collapse Pressure	5,510	psi
Drift Diameter	6.750	in			
Nom. Pipe Body Area	8.541	in ²			

Connection Parameters

Connection OD	7.625	in
Connection ID	6.881	in
Make-Up Loss	4.022	in
Critical Section Area	5.316	in ²
Tension Efficiency	62.2	%
Compression Efficiency	62.2	%
Yield Load In Tension	425,000	lbs
Min. Internal Yield Pressure	6,890	psi
Collapse Pressure	5,510	psi
Uniaxial Bending	30	°/ 100 ft

Make-Up Torques

Min. Make-Up Torque	13,200	ft-lbs
Opt. Make-Up Torque	14,700	ft-lbs
Max. Make-Up Torque	16,200	ft-lbs
Operating Torque	13,200	ft-lbs
Yield Torque	23,500	ft-lbs



Printed on: August-27-2018

NOTE:

The content of this Technical Data Sheet is for general information only and does not guarantee performance or imply fitness for a particular purpose, which only a competent drilling professional can determine considering the specific installation and operation parameters. Information that is printed or downloaded is no longer controlled by TMK IPSCO and might not be the latest information. Anyone using the information herein does so at their own risk. To verify that you have the latest TMK IPSCO technical information, please contact TMK IPSCO Technical Sales toll-free at 1-888-258-2000.



Red Hills 32-5 Fed Com 128H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
14 3/4	0	984	984	10-3/4"	40.50	J-55	BT&C	3.51	6.95	15.78
9 7/8	0	11021	10851	7-5/8"	29.70	L-80	BT&C	2.82	1.36	2.06
6 3/4	0	10296	10296	5-1/2"	20.00	L-80	LT&C	1.32	1.37	2.12
6 3/4	11787	20708	10900	5"	18.00	P-110	BT&C	1.90	1.92	53.35
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

Request Variance for 5-1/2" x 7-5/8" annular clearance. The portion that does not meet clearance will not be cemented

Red Hills 32-5 Fed Com 128H

Casing Assumptions

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Red Hills 32-5 Fed Com 128H

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Red Hills 32-5 Fed Com 128H

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Red Hills 32-5 Fed Com #128H

Cimarex Energy Co.

UL: D, Sec. 32, 25S, 33E

Lea Co., NM

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

H₂S Detection and Alarm Systems:

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

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

H₂S Contingency Plan
Red Hills 32-5 Fed Com #128H
Cimarex Energy Co. UL: D, Sec. 32,
25S, 33E Lea Co., NM

Emergency Procedures

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

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

Ignition of Gas Source

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

Characteristics of H₂S and SO₂

Please see attached International Chemical Safety Cards.

Contacting Authorities

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

H₂S Contingency Plan Emergency Contacts**Red Hills 32-5 Fed Com #128H**

Cimarex Energy Co.

UL: D, Sec. 32, 25S, 33E

Lea Co., NM

Company Office

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

Key Personnel

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

Artesia

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

Carlsbad

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

Santa Fe

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

National

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

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

Other

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



Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19 Anti-Collision Summary Report

Analysis Date-24hr Time: November 19, 2019 - 15:49
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure: Cimarex Red Hills 32-5 Fed Com #128H
Slot: New Slot
Well: Red Hills 32-5 Fed Com #128H
Borehole: Red Hills 32-5 Fed Com #128H
Scan MD Range: 0.00ft ~ 20708.81ft

Analysis Method: 3D Least Distance
Reference Trajectory: Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19 (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: 2.10.782.0
Database \ Project: US1153APP452.dir.slb.com\drilling-NM Lea County 2.10

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

Offset Trajectories Summary

Offset Selection Criteria

Wellhead distance scan: Restricted within 61277.79 ft
 Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
 - All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

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

Results highlighted: Sep-Factor separation <= 1.50 ft

Cimarex Red Hills Unit #4
 (Offset) Gas Blind 0ft-17675ft
 (Def Survey)

Fail Major

4615.83	32.81	4613.85	4583.02	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
4615.72	32.81	4613.73	4582.91	401199.79	MAS = 10.00 (m)	20.00	20.00					MinPt-O-SF
4615.70	32.81	4613.71	4582.89	509882.52	MAS = 10.00 (m)	26.00	26.00					WRP
4615.69	761.36	4107.46	3854.33	9.11	OSF1.50	2500.00	2500.00					MinPt-CtCt
4748.28	1429.00	3794.96	3319.28	4.99	OSF1.50	4630.00	4623.94	OSF<5.00				Enter Alert
3402.43	3404.04	1131.69	-1.60	1.50	OSF1.50	12070.00	10900.00		OSF<1.50			Enter Minor
2272.04	3405.49	-0.15	-1133.46	1.00	OSF1.50	13300.00	10900.00			OSF<1.00		Enter Major
1091.87	3402.86	-1177.37	-2310.99	0.48	OSF1.50	15290.00	10900.00					MinPts
2267.69	3402.44	-1.26	-1134.75	1.00	OSF1.50	17280.00	10900.00			OSF>1.00		Exit Major
3397.74	3402.25	1128.91	-4.52	1.50	OSF1.50	18510.00	10900.00		OSF>1.50			Exit Minor
5525.29	3402.14	3256.54	2123.15	2.44	OSF1.50	20708.81	10900.00					TD

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

Fail Minor

20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	0.00	0.00	CtCt<=15m<15.00				Enter Alert
20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	26.00	26.00					WRP
20.00	20.02	6.23	-0.02	1.50	OSF1.50	2050.00	2050.00		OSF<1.50			Enter Minor
20.00	24.26	3.40	-4.26	1.22	OSF1.50	2500.00	2500.00					MinPt-CtCt
20.26	25.29	2.97	-5.03	1.19	OSF1.50	2610.00	2609.97					MINPT-O-EOU
20.33	25.39	2.98	-5.05	1.19	OSF1.50	2620.00	2619.96					MinPt-O-SF
20.42	25.48	3.01	-5.06	1.19	OSF1.50	2630.00	2629.96					MinPt-O-ADP
26.74	27.17	8.20	-0.43	1.48	OSF1.50	2810.00	2809.43		OSF>1.50			Exit Minor
122.89	37.77	97.28	85.12	5.00	OSF1.50	3930.00	3924.64	OSF>5.00				Exit 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		
	141.91	43.56	112.44	98.35	4.99	OSF1.50	4770.00	4763.94	OSF<5.00			Enter Alert	
	141.91	90.79	80.95	51.12	2.36	OSF1.50	9790.00	9783.94				MINPT-O-EOU	
	141.95	90.84	80.96	51.11	2.36	OSF1.50	9800.00	9793.94				MinPts	
	255.36	77.97	202.94	177.38	4.97	OSF1.50	10190.00	10183.94	OSF>5.00			Exit Alert	
	599.90	32.25	577.97	567.65	29.00	OSF1.50	11540.00	10900.00				MinPt-CtCt	
	599.90	181.11	478.73	418.79	4.99	OSF1.50	16630.00	10900.00	OSF<5.00			Enter Alert	
	599.90	306.01	395.47	293.89	2.95	OSF1.50	20708.81	10900.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com #160H Rev2 RM
19Nov19 (Def Plan)

Fail Minor

1834.75	32.81	1833.46	1801.94	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1834.75	32.81	1833.43	1801.94	64976.56	MAS = 10.00 (m)	26.00	26.00					WRP	
261.22	81.10	206.04	180.12	4.97	OSF1.50	8410.00	8403.94	OSF<5.00				Enter Alert	
89.08	90.29	27.93	-1.21	1.48	OSF1.50	9230.00	9223.94		OSF<1.50			Enter Minor	
68.65	91.49	7.23	-22.84	1.12	OSF1.50	10110.00	10103.94					MinPt-CtCt	
68.66	91.52	7.22	-22.85	1.12	OSF1.50	10120.00	10113.94					MinPts	
87.34	88.64	27.82	-1.30	1.48	OSF1.50	10260.00	10253.94		OSF>1.50			Exit Minor	
216.56	67.42	171.18	149.14	4.88	OSF1.50	10600.00	10587.80	OSF>5.00				Exit Alert	
312.70	94.93	248.98	217.77	4.99	OSF1.50	13460.00	10900.00	OSF<5.00				Enter Alert	
312.70	312.76	103.76	-0.06	1.50	OSF1.50	20620.00	10900.00		OSF<1.50			Enter Minor	
312.70	315.48	101.95	-2.78	1.49	OSF1.50	20708.81	10900.00					MinPts	

Cimarex Red Hills 32-5 Fed
Com #131H Rev1 RM 11Oct19
(Def Plan)

Warning Alert

72.11	32.81	70.82	39.30	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
72.11	32.81	70.82	39.30	159373.07	MAS = 10.00 (m)	26.00	26.00					WRP	
72.11	32.81	56.64	39.30	4.99	MAS = 10.00 (m)	2320.00	2320.00	OSF<5.00				Enter Alert	
72.11	32.81	55.50	39.30	4.62	MAS = 10.00 (m)	2500.00	2500.00					MinPts	
72.25	32.81	55.37	39.45	4.55	MAS = 10.00 (m)	2560.00	2560.00					MINPT-O-EOU	
72.90	32.81	55.73	40.10	4.51	MAS = 10.00 (m)	2630.00	2629.96					MinPt-O-SF	
84.92	32.81	66.86	52.11	4.99	MAS = 10.00 (m)	2880.00	2879.13	OSF>5.00				Exit Alert	
227.05	69.04	180.60	158.02	5.00	OSF1.50	8420.00	8413.94	OSF<5.00				Enter Alert	
109.92	86.34	51.93	23.58	1.92	OSF1.50	10850.00	10778.58					MinPts	
283.58	87.09	225.09	196.49	4.94	OSF1.50	11130.00	10875.36	OSF>5.00				Exit Alert	
1603.57	305.35	1399.58	1298.23	7.90	OSF1.50	20708.81	10900.00					MinPts	

Cimarex Red Hills 32-5 Fed
Com #159H Rev2 RM
19Nov19 (Def Plan)

Warning Alert

1854.74	32.81	1853.45	1821.93	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1854.74	32.81	1853.42	1821.93	65171.87	MAS = 10.00 (m)	26.00	26.00					WRP	
841.58	82.72	785.49	758.86	15.75	OSF1.50	10110.00	10103.94					MinPt-CtCt	
841.61	82.82	785.44	758.79	15.73	OSF1.50	10130.00	10123.94					MinPts	
843.38	83.20	786.97	760.18	15.69	OSF1.50	10230.00	10223.94					MinPt-O-SF	
883.96	73.22	834.31	810.74	18.70	OSF1.50	11120.00	10873.48					MinPt-O-ADP	
883.85	73.09	834.28	810.76	18.73	OSF1.50	11140.00	10877.17					MINPT-O-EOU	
883.82	72.96	834.34	810.87	18.77	OSF1.50	11160.00	10880.59					MinPt-CtCt	
886.94	267.96	707.47	618.99	5.00	OSF1.50	19460.00	10900.00	OSF<5.00				Enter Alert	
886.94	307.02	681.43	579.92	4.36	OSF1.50	20708.81	10900.00					MinPts	

Cimarex Red Hills Unit #3H
(Offset) Gas Inc Only Off-
17597ft (Def Survey)

Warning Alert

8426.52	32.81	8424.54	8393.71	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
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Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
8426.45	32.81	8424.46	8393.64	N/A	N/A	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
8426.43	32.81	8424.45	8393.63	N/A	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
8426.42	32.81	8422.71	8393.62	4852.30	N/A	MAS = 10.00 (m)	170.00	170.00				MinPts	
8425.05	35.49	8400.73	8389.56	377.05		OSF1.50	750.00	750.00				MinPt-CtCt	
8427.13	45.82	8395.92	8381.31	288.27		OSF1.50	1040.00	1040.00				MINPT-O-EOU	
8420.75	80.18	8366.64	8340.57	161.48		OSF1.50	1560.00	1560.00				MinPt-CtCt	
8421.69	85.75	8363.87	8335.95	150.77		OSF1.50	1740.00	1740.00				MINPT-O-EOU	
8422.68	86.92	8364.07	8335.76	148.70		OSF1.50	1810.00	1810.00				MinPt-O-ADP	
8422.77	134.49	8332.45	8288.28	95.32		OSF1.50	2540.00	2540.00				MinPt-CtCt	
8423.23	135.79	8332.04	8287.44	94.40		OSF1.50	2590.00	2589.99				MINPT-O-EOU	
8423.69	136.30	8332.16	8287.39	94.05		OSF1.50	2610.00	2609.97				MinPt-O-ADP	
8499.59	186.44	8374.64	8313.15	69.10		OSF1.50	3450.00	3446.69				MinPts	
8550.24	265.76	8372.40	8284.48	48.61		OSF1.50	5180.00	5173.94				MinPt-CtCt	
8554.06	275.85	8369.50	8278.21	46.84		OSF1.50	5540.00	5533.94				MINPT-O-EOU	
8546.98	358.13	8307.57	8188.85	35.99		OSF1.50	6940.00	6933.94				MinPt-CtCt	
8551.18	371.74	8302.70	8179.44	34.68		OSF1.50	7380.00	7373.94				MINPT-O-EOU	
8542.99	446.67	8244.55	8096.32	28.81		OSF1.50	8620.00	8613.94				MinPt-CtCt	
8545.01	454.57	8241.30	8090.43	28.31		OSF1.50	8910.00	8903.94				MINPT-O-EOU	
8547.00	456.96	8241.70	8090.03	28.17		OSF1.50	9020.00	9013.94				MinPt-O-ADP	
8544.70	533.33	8188.49	8011.37	24.12		OSF1.50	10290.00	10283.94				MinPt-CtCt	
1941.54	588.20	1547.14	1353.34	4.99		OSF1.50	18220.00	10900.00	OSF<5.00			Enter Alert	
1757.68	591.88	1362.41	1165.80	4.46		OSF1.50	19040.00	10900.00				MinPts	
1757.74	591.96	1362.45	1165.79	4.46		OSF1.50	19060.00	10900.00				MinPt-O-ADP	
1758.03	592.08	1362.65	1165.95	4.46		OSF1.50	19080.00	10900.00				MinPt-O-SF	
1968.04	591.98	1572.72	1376.06	5.00		OSF1.50	19930.00	10900.00	OSF>5.00			Exit Alert	
2420.47	587.08	2028.42	1833.39	6.20		OSF1.50	20708.81	10900.00				TD	

Cimarex Red Hills 32-5 Fed
Com #130H Rev2 RM
14Nov19 (Def Plan)

Pass

84.84	32.81	83.56	52.03	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
84.84	32.81	83.56	52.03	125357.10	MAS = 10.00 (m)	26.00	26.00					WRP	
84.84	32.81	68.24	52.03	5.46	MAS = 10.00 (m)	2500.00	2500.00					MinPts	
84.95	32.81	68.16	52.14	5.40	MAS = 10.00 (m)	2530.00	2530.00					MINPT-O-EOU	
87.13	32.81	69.64	54.32	5.30	MAS = 10.00 (m)	2640.00	2639.94					MinPt-O-SF	
476.58	82.89	420.88	393.68	8.74	OSF1.50	10400.00	10393.94					MinPt-O-SF	
433.07	81.69	378.18	351.38	8.06	OSF1.50	10840.00	10772.68					MinPt-O-SF	
433.01	81.66	378.14	351.35	8.06	OSF1.50	10850.00	10778.58					MinPts	
1417.46	303.02	1215.02	1114.44	7.04	OSF1.50	20708.81	10900.00					MinPts	

Cimarex Red Hills 32-5 Fed
Com #127H Rev2 RM
14Nov19 (Def Plan)

Pass

99.99	32.81	98.70	67.18	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
99.99	32.81	98.70	67.18	74037.11	MAS = 10.00 (m)	26.00	26.00					WRP	
99.99	32.81	83.38	67.18	6.44	MAS = 10.00 (m)	2500.00	2500.00					MinPts	
100.07	32.81	83.28	67.26	6.37	MAS = 10.00 (m)	2530.00	2530.00					MINPT-O-EOU	
103.54	32.81	85.75	70.73	6.19	MAS = 10.00 (m)	2690.00	2689.86					MinPt-O-SF	
996.12	82.93	940.40	913.19	18.28	OSF1.50	10400.00	10393.94					MinPt-O-SF	
977.81	81.64	922.95	896.17	18.23	OSF1.50	10770.00	10726.87					MinPt-O-SF	
975.97	81.39	921.28	894.58	18.25	OSF1.50	10840.00	10772.68					MinPt-O-ADP	
975.94	81.36	921.27	894.58	18.26	OSF1.50	10850.00	10778.58					MinPts	
1873.64	299.45	1673.58	1574.19	9.42	OSF1.50	20708.81	10900.00					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 32-5 Fed Com #158H Rev1 RM 14Oct19 (Def Plan)													
												Pass	
	1874.74	32.81	1873.45	1841.93	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1874.74	32.81	1873.42	1841.93	65364.49	MAS = 10.00 (m)	26.00	26.00				WRP	
	1140.49	83.12	1084.31	1057.37	21.13	OSF1.50	10400.00	10393.94				MinPts	
	1131.94	82.03	1076.48	1049.91	21.26	OSF1.50	10760.00	10719.71				MinPts	
	1131.92	82.00	1076.48	1049.92	21.27	OSF1.50	10770.00	10726.87				MinPt-CtCt	
	1751.87	315.96	1540.80	1435.91	8.34	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #156H Rev3 RM 14Nov19 (Def Plan)													
												Pass	
	1935.66	32.81	1934.38	1902.85	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1935.66	32.81	1934.35	1902.85	64490.54	MAS = 10.00 (m)	26.00	26.00				WRP	
	1468.74	86.46	1410.48	1382.28	26.01	OSF1.50	10400.00	10393.94				MinPts	
	1466.87	80.80	1412.39	1386.07	27.84	OSF1.50	11080.00	10865.27				MinPt-CtCt	
	1466.87	80.15	1412.82	1386.72	28.07	OSF1.50	11190.00	10885.20				MinPt-CtCt	
	1466.92	308.49	1260.64	1158.43	7.17	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #157H Rev2 RM 14Nov19 (Def Plan)													
												Pass	
	1894.73	32.81	1893.44	1861.92	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1894.73	32.81	1893.42	1861.92	65553.81	MAS = 10.00 (m)	26.00	26.00				WRP	
	1825.17	36.57	1800.35	1788.60	77.65	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	1473.51	78.60	1420.49	1394.91	28.78	OSF1.50	9810.00	9803.94				MinPt-CtCt	
	1473.56	78.77	1420.41	1394.79	28.71	OSF1.50	9840.00	9833.94				MINPT-O-EOU	
	1473.60	78.82	1420.43	1394.78	28.69	OSF1.50	9850.00	9843.94				MinPt-O-ADP	
	1477.39	79.32	1423.88	1398.06	28.58	OSF1.50	10030.00	10023.94				MinPt-O-SF	
	1589.79	305.81	1385.49	1283.98	7.82	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #155H Rev3 RM 14Nov19 (Def Plan)													
												Pass	
	1955.64	32.81	1954.36	1922.84	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1955.64	32.81	1954.33	1922.84	64677.61	MAS = 10.00 (m)	26.00	26.00				WRP	
	1954.14	33.31	1931.51	1920.83	91.47	OSF1.50	3460.00	3456.65				MinPt-CtCt	
	1902.00	36.59	1877.16	1865.41	80.85	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	1653.64	84.38	1596.81	1569.25	29.97	OSF1.50	10400.00	10393.94				MinPt-O-SF	
	1641.52	83.38	1585.36	1558.14	30.12	OSF1.50	10840.00	10772.68				MinPts	
	1641.50	83.35	1585.36	1558.15	30.13	OSF1.50	10850.00	10778.58				MinPt-CtCt	
	2023.08	310.52	1815.64	1712.57	9.81	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #171H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	2574.72	32.81	2572.74	2541.91	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2574.72	32.81	2572.71	2541.91	86413.14	MAS = 10.00 (m)	26.00	26.00				WRP	
	2571.93	38.42	2545.66	2533.51	105.77	OSF1.50	3930.00	3924.64				MinPt-CtCt	
	2571.97	39.59	2544.92	2532.38	102.49	OSF1.50	4100.00	4094.04				MinPts	
	2566.16	97.09	2500.76	2469.06	40.44	OSF1.50	10710.00	10681.80				MinPt-O-SF	
	2564.17	96.93	2498.89	2467.24	40.48	OSF1.50	10840.00	10772.68				MinPt-O-ADP	
	2564.16	96.91	2498.88	2467.24	40.49	OSF1.50	10850.00	10778.58				MinPts	
	2750.61	306.40	2545.69	2444.21	13.54	OSF1.50	20708.81	10900.00				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 #1 (Offset) Gas Inc Only Off- 21321ft (Def Survey)													
												Pass	
	5279.88	32.81	5277.90	5247.07	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	5279.87	32.81	5277.89	5247.07	N/A	MAS = 10.00 (m)	10.00	10.00				MinPts	
	5279.88	32.81	5277.90	5247.07	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	5279.65	32.81	5265.51	5246.84	434.15	MAS = 10.00 (m)	410.00	410.00				MinPts	
	5278.77	33.39	5255.85	5245.39	252.02	OSF1.50	660.00	660.00				MinPt-CtCt	
	5279.03	34.17	5255.59	5244.86	245.89	OSF1.50	720.00	720.00				MINPT-O-EOU	
	5279.02	40.65	5251.26	5238.37	204.70	OSF1.50	800.00	800.00				MinPt-CtCt	
	5279.15	41.01	5251.15	5238.14	202.81	OSF1.50	840.00	840.00				MINPT-O-EOU	
	5279.32	41.19	5251.20	5238.12	201.88	OSF1.50	860.00	860.00				MinPt-O-ADP	
	5279.93	55.16	5242.50	5224.77	148.87	OSF1.50	1080.00	1080.00				MinPt-CtCt	
	5280.42	69.42	5233.48	5211.00	117.41	OSF1.50	1350.00	1350.00				MinPt-CtCt	
	5280.31	90.81	5219.10	5189.49	89.13	OSF1.50	1760.00	1760.00				MinPt-CtCt	
	5280.11	114.75	5202.95	5165.36	70.20	OSF1.50	2220.00	2220.00				MinPt-CtCt	
	5281.99	135.82	5190.79	5146.17	59.18	OSF1.50	2550.00	2550.00				MinPt-CtCt	
	5282.79	138.73	5189.65	5144.07	57.93	OSF1.50	2620.00	2619.96				MINPT-O-EOU	
	5283.66	139.80	5189.80	5143.86	57.48	OSF1.50	2650.00	2649.93				MinPt-O-ADP	
	5313.63	162.57	5204.58	5151.05	49.61	OSF1.50	3060.00	3058.36				MinPts	
	5332.91	174.45	5215.94	5158.45	46.36	OSF1.50	3310.00	3307.29				MinPts	
	5359.24	192.49	5230.26	5166.75	42.18	OSF1.50	3620.00	3615.97				MINPT-O-EOU	
	5359.83	193.21	5230.36	5166.62	42.03	OSF1.50	3630.00	3625.92				MinPt-O-ADP	
	5377.72	206.65	5239.30	5171.08	39.40	OSF1.50	3870.00	3864.90				MinPts	
	5396.33	220.36	5248.77	5175.97	37.05	OSF1.50	4160.00	4153.97				MINPT-O-EOU	
	5396.88	222.65	5247.79	5174.23	36.67	OSF1.50	4300.00	4293.94				MinPt-CtCt	
	5397.38	224.21	5247.24	5173.16	36.42	OSF1.50	4390.00	4383.94				MINPT-O-EOU	
	5394.38	243.06	5231.68	5151.32	33.55	OSF1.50	4690.00	4683.94				MinPt-CtCt	
	5393.30	275.36	5209.06	5117.94	29.58	OSF1.50	5310.00	5303.94				MinPt-CtCt	
	5393.75	331.15	5172.32	5062.60	24.57	OSF1.50	6380.00	6373.94				MinPt-CtCt	
	5392.55	372.91	5143.28	5019.64	21.80	OSF1.50	7180.00	7173.94				MinPt-CtCt	
	5394.53	453.85	5091.30	4940.68	17.90	OSF1.50	8730.00	8723.94				MinPt-CtCt	
	5396.76	511.30	5055.23	4885.46	15.89	OSF1.50	9830.00	9823.94				MinPt-CtCt	
	2573.21	573.98	2189.90	1999.23	6.74	OSF1.50	15420.00	10900.00				MinPt-CtCt	
	2573.23	574.01	2189.89	1999.22	6.74	OSF1.50	15430.00	10900.00				MinPts	
	2573.52	574.10	2190.12	1999.41	6.74	OSF1.50	15460.00	10900.00				MinPt-O-SF	
	5881.26	573.65	5498.17	5307.61	15.43	OSF1.50	20708.81	10900.00				TD	
Cimarex Red Hills 32-5 Fed Com #170H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	2594.71	32.81	2593.43	2561.91	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2594.71	32.81	2593.40	2561.91	85827.03	MAS = 10.00 (m)	26.00	26.00				WRP	
	2594.05	32.81	2575.52	2561.24	150.40	MAS = 10.00 (m)	2810.00	2809.43				MinPts	
	2594.10	32.81	2575.49	2561.29	149.72	MAS = 10.00 (m)	2830.00	2829.34				MINPT-O-EOU	
	2690.17	34.07	2667.03	2656.10	123.02	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	2825.63	43.01	2796.53	2782.62	101.53	OSF1.50	5550.00	5543.94				MinPt-O-SF	
	2826.44	85.68	2768.89	2740.76	50.22	OSF1.50	10400.00	10393.94				MinPts	
	2819.29	84.84	2762.30	2734.45	50.59	OSF1.50	10840.00	10772.68				MinPts	
	2819.28	84.81	2762.31	2734.47	50.61	OSF1.50	10850.00	10778.58				MinPt-CtCt	
	3127.57	303.42	2924.86	2824.14	15.52	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #169H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	2614.70	32.81	2613.41	2581.89	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	

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		
2614.70	32.81	2613.38	2581.89	85857.14		MAS = 10.00 (m)	26.00	26.00				WRP	
2614.70	32.81	2598.81	2581.89	178.95		MAS = 10.00 (m)	2380.00	2380.00				MinPts	
2614.75	32.81	2598.73	2581.94	177.33		MAS = 10.00 (m)	2410.00	2410.00				MINPT-O-EOU	
2784.02	33.15	2761.49	2750.87	130.99		OSF1.50	4100.00	4094.04				MinPt-O-SF	
3250.41	62.96	3208.01	3187.45	79.02		OSF1.50	7780.00	7773.94				MinPt-O-SF	
3250.47	82.15	3195.27	3168.31	60.27		OSF1.50	10400.00	10393.94				MinPts	
3244.25	80.77	3189.98	3163.48	61.20		OSF1.50	10830.00	10766.62				MinPt-O-ADP	
3244.22	80.74	3189.97	3163.48	61.23		OSF1.50	10840.00	10772.68				MINPT-O-EOU	
3244.21	80.70	3189.98	3163.50	61.25		OSF1.50	10850.00	10778.58				MinPt-CtCt	
3515.52	303.08	3313.04	3212.44	17.47		OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills Unit #2H (Offset) Gas Inc Only Off- 15005ft (Def Survey)													Pass
6756.55	32.81	6754.58	6723.75	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
6756.45	32.81	6754.46	6723.64	515314.71		MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
6756.43	32.81	6754.44	6723.62	519242.86		MAS = 10.00 (m)	26.00	26.00				WRP	
6756.40	32.81	6754.34	6723.59	76579.70		MAS = 10.00 (m)	50.00	50.00				MinPts	
6756.91	32.81	6739.42	6724.10	435.48		MAS = 10.00 (m)	560.00	560.00				MinPts	
6756.38	36.53	6731.36	6719.85	293.23		OSF1.50	780.00	780.00				MinPt-CtCt	
6753.30	62.43	6711.02	6690.87	167.53		OSF1.50	1260.00	1260.00				MinPt-CtCt	
6751.67	108.69	6678.55	6642.98	94.88		OSF1.50	2140.00	2140.00				MinPt-CtCt	
6752.94	112.62	6677.20	6640.32	91.53		OSF1.50	2310.00	2310.00				MINPT-O-EOU	
6756.10	118.02	6676.76	6638.08	87.31		OSF1.50	2470.00	2470.00				MINPT-O-EOU	
6757.73	120.14	6676.98	6637.59	85.76		OSF1.50	2530.00	2530.00				MinPt-O-ADP	
6758.14	138.84	6664.92	6619.30	74.05		OSF1.50	2580.00	2579.99				MinPt-CtCt	
6758.61	140.22	6664.47	6618.39	73.31		OSF1.50	2630.00	2629.96				MINPT-O-EOU	
6759.05	140.77	6664.55	6618.28	73.03		OSF1.50	2650.00	2649.93				MinPt-O-ADP	
6799.20	168.00	6686.54	6631.20	61.41		OSF1.50	3180.00	3177.85				MinPts	
6821.47	180.32	6700.60	6641.15	57.36		OSF1.50	3460.00	3456.65				MinPts	
6855.07	205.01	6717.73	6650.05	50.63		OSF1.50	3840.00	3835.03				MinPts	
6876.13	226.06	6724.76	6650.07	46.02		OSF1.50	4400.00	4393.94				MinPt-CtCt	
6877.42	229.98	6723.44	6647.44	45.23		OSF1.50	4570.00	4563.94				MINPT-O-EOU	
6878.69	231.57	6723.65	6647.12	44.93		OSF1.50	4640.00	4633.94				MinPt-O-ADP	
6878.36	245.83	6713.82	6632.53	42.30		OSF1.50	4770.00	4763.94				MinPt-CtCt	
6878.51	246.28	6713.66	6632.23	42.22		OSF1.50	4820.00	4813.94				MINPT-O-EOU	
6877.88	255.52	6706.88	6622.36	40.68		OSF1.50	4960.00	4953.94				MinPt-CtCt	
6875.69	266.51	6697.35	6609.18	38.98		OSF1.50	5170.00	5163.94				MinPt-CtCt	
6875.79	266.83	6697.24	6608.96	38.93		OSF1.50	5210.00	5203.94				MINPT-O-EOU	
6875.92	266.98	6697.27	6608.93	38.91		OSF1.50	5230.00	5223.94				MinPt-O-ADP	
6873.91	282.65	6684.82	6591.27	36.73		OSF1.50	5480.00	5473.94				MinPt-CtCt	
6874.33	357.25	6635.51	6517.08	29.02		OSF1.50	6920.00	6913.94				MinPt-CtCt	
6885.64	387.78	6626.46	6497.86	26.76		OSF1.50	7670.00	7663.94				MINPT-O-EOU	
6874.96	429.57	6587.92	6445.39	24.11		OSF1.50	8300.00	8293.94				MinPt-CtCt	
6880.76	444.12	6584.02	6436.64	23.34		OSF1.50	8730.00	8723.94				MINPT-O-EOU	
6879.93	472.44	6564.30	6407.48	21.93		OSF1.50	9110.00	9103.94				MinPt-CtCt	
6880.34	473.71	6563.88	6406.64	21.87		OSF1.50	9200.00	9193.94				MINPT-O-EOU	
6880.82	474.25	6563.99	6406.56	21.85		OSF1.50	9240.00	9233.94				MinPt-O-ADP	
6883.75	477.19	6564.97	6406.57	21.72		OSF1.50	9380.00	9373.94				MinPt-O-ADP	
6882.55	512.99	6539.90	6369.56	20.20		OSF1.50	9910.00	9903.94				MinPt-CtCt	
3239.94	582.36	2851.04	2657.59	8.37		OSF1.50	16760.00	10900.00				MinPt-CtCt	
3239.96	582.41	2851.03	2657.56	8.37		OSF1.50	16770.00	10900.00				MinPts	
3241.23	582.80	2852.04	2658.43	8.37		OSF1.50	16850.00	10900.00				MinPt-O-SF	
5108.84	587.35	4716.61	4521.49	13.09		OSF1.50	20708.81	10900.00				TD	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
Cimarex Red Hills 32-5 Fed Com #199H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	4450.88	32.81	4448.90	4418.07	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4450.87	32.81	4448.89	4418.06	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	4212.90	36.53	4187.82	4176.36	183.72	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	3679.82	84.28	3622.60	3595.54	67.94	OSF1.50	10400.00	10393.94				MinPts	
	3669.18	82.37	3613.23	3586.81	69.38	OSF1.50	10930.00	10819.41				MinPts	
	3669.16	82.33	3613.24	3586.83	69.41	OSF1.50	10940.00	10823.68				MinPt-CtCt	
	3918.31	314.30	3708.12	3604.01	18.81	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #198H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	4470.87	32.81	4468.89	4438.06	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4470.86	32.81	4468.89	4438.06	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	4311.85	36.28	4286.96	4275.56	189.13	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	4103.66	84.74	4046.36	4018.93	74.74	OSF1.50	10400.00	10393.94				MinPts	
	4094.11	83.44	4037.67	4010.67	75.77	OSF1.50	10930.00	10819.41				MinPts	
	4094.09	83.41	4037.68	4010.68	75.79	OSF1.50	10940.00	10823.68				MinPt-CtCt	
	4318.83	308.59	4112.45	4010.24	21.12	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills SWD #1 (Offset) Inc Only 0ft-19000ft (Def Survey)													
												Pass	
	7827.98	32.81	7826.00	7795.17	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	7827.82	32.81	7825.82	7795.01	376927.04	MAS = 10.00 (m)	26.00	26.00				MinPt-O-SF	
	7827.74	32.81	7825.68	7794.93	103584.52	MAS = 10.00 (m)	60.00	60.00				MinPts	
	7831.18	85.28	7773.67	7745.90	140.98	OSF1.50	1700.00	1700.00				MinPt-CtCt	
	7842.83	143.41	7746.56	7699.42	83.16	OSF1.50	2700.00	2699.84				MINPT-O-EQU	
	7854.18	156.69	7749.06	7697.49	76.13	OSF1.50	2910.00	2909.00				MinPt-O-ADP	
	7917.01	265.58	7739.30	7651.43	45.04	OSF1.50	5110.00	5103.94				MinPt-CtCt	
	7917.90	268.34	7738.35	7649.56	44.58	OSF1.50	5260.00	5253.94				MINPT-O-EQU	
	7918.95	269.61	7738.55	7649.34	44.37	OSF1.50	5330.00	5323.94				MinPt-O-ADP	
	7926.89	346.10	7695.50	7580.79	34.54	OSF1.50	6700.00	6693.94				MinPt-CtCt	
	7930.23	431.59	7641.85	7498.64	27.68	OSF1.50	8350.00	8343.94				MinPt-CtCt	
	7928.74	513.52	7585.74	7415.23	23.24	OSF1.50	9920.00	9913.94				MinPt-CtCt	
	4415.41	584.47	4025.09	3830.94	11.37	OSF1.50	17260.00	10900.00				MinPt-CtCt	
	4415.41	584.50	4025.09	3830.92	11.36	OSF1.50	17270.00	10900.00				MINPT-O-EQU	
	4415.44	584.54	4025.09	3830.90	11.36	OSF1.50	17280.00	10900.00				MinPt-O-ADP	
	4417.82	585.13	4027.08	3832.69	11.36	OSF1.50	17410.00	10900.00				MinPt-O-SF	
	5600.05	592.19	5204.60	5007.87	14.23	OSF1.50	20708.81	10900.00				TD	
Cimarex Red Hills 32-5 Fed Com #197H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	4490.85	32.81	4488.87	4458.04	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4490.85	32.81	4488.87	4458.04	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	4485.09	97.08	4419.71	4388.02	70.72	OSF1.50	10600.00	10587.80				MinPt-O-SF	
	4478.81	96.68	4413.69	4382.13	70.91	OSF1.50	10930.00	10819.41				MinPt-O-ADP	
	4478.80	96.67	4413.69	4382.13	70.93	OSF1.50	10940.00	10823.68				MinPts	
	4723.29	304.69	4519.50	4418.59	23.39	OSF1.50	20708.81	10900.00				MinPts	
Neil H Wills Continental State #1 (Offset) Plugged Blind 0ft- 5020ft (Def Survey)													
												Pass	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
5161.03		32.81	5159.05	5128.22	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
5160.94		32.81	5158.95	5128.13	577602.50	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
5160.93		32.81	5158.94	5128.12	814563.89	MAS = 10.00 (m)	26.00	26.00				WRP	
5160.92		761.99	4652.27	4398.93	10.18	OSF1.50	2500.00	2500.00				MinPt-CtCt	
5233.90		1567.71	4188.10	3666.19	5.01	OSF1.50	5070.00	5063.94				MinPts	
7200.17		921.41	6585.24	6278.77	11.74	OSF1.50	13770.00	10900.00				MinPt-CtCt	
7200.17		921.42	6585.23	6278.75	11.74	OSF1.50	13780.00	10900.00				MINPT-O-EOU	
7200.19		921.44	6585.24	6278.75	11.74	OSF1.50	13790.00	10900.00				MinPt-O-ADP	
8269.41		1120.34	7521.86	7149.08	11.09	OSF1.50	17840.00	10900.00				MinPt-O-SF	
9997.42		1284.41	9140.49	8713.01	11.69	OSF1.50	20708.81	10900.00				TD	

Rector Oil Maechtel Permit #1
(Offset) Plugged Oil Blind Off-
5006ft (Def Survey)

Pass

9883.19		32.81	9881.91	9850.39	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
9882.89		32.81	9881.56	9850.08	210488.89	MAS = 10.00 (m)	26.00	26.00				MinPt-O-SF	
9882.36		731.45	9394.30	9150.92	20.30	OSF1.50	2500.00	2500.00				MinPt-CtCt	
10021.19		1559.49	8981.10	8461.70	9.65	OSF1.50	5150.00	5143.94				MinPts	
8123.77		1101.01	7389.34	7022.76	11.08	OSF1.50	14970.00	10900.00				MinPt-O-SF	
5890.38		369.45	5643.65	5520.92	23.99	OSF1.50	19490.00	10900.00				MinPt-O-ADP	
5766.37		219.41	5619.67	5546.96	39.65	OSF1.50	20690.00	10900.00				MinPt-CtCt	
5766.39		219.91	5619.36	5546.49	39.56	OSF1.50	20708.81	10900.00				MinPts	



Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19 Proposal

Geodetic Report

(Non-Def Plan)



Report Date: November 19, 2019 - 03:45 PM
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Red Hills 32-5 Fed Com #128H / New Slot
Well: Red Hills 32-5 Fed Com #128H
Borehole: Red Hills 32-5 Fed Com #128H
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19
Survey Date: August 29, 2019
Tort / AHD / DDI / ERD Ratio: 100.600 ° / 10176.471 ft / 6.289 / 0.934
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 5' 36.28674", W 103° 36' 5.27970"
Location Grid N/E Y/X: N 398489.530 ftUS, E 767979.850 ftUS
CRS Grid Convergence Angle: 0.3889 °
Grid Scale Factor: 0.99996792
Version / Patch: 2.10.782.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.604 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3422.200 ft above MSL
Seabed / Ground Elevation: 3396.200 ft above MSL
Magnetic Declination: 6.601 °
Total Gravity Field Strength: 998.4291mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47706.472 nT
Magnetic Dip Angle: 59.681 °
Declination Date: November 19, 2019
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.3889 °
Total Corr Mag North->Grid North: 6.2120 °
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, 430' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	100.00	0.00	3.65	100.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	200.00	0.00	3.65	200.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	300.00	0.00	3.65	300.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	400.00	0.00	3.65	400.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	500.00	0.00	3.65	500.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	600.00	0.00	3.65	600.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	700.00	0.00	3.65	700.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	800.00	0.00	3.65	800.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	900.00	0.00	3.65	900.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
Rustler	934.00	0.00	3.65	934.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1000.00	0.00	3.65	1000.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1100.00	0.00	3.65	1100.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1200.00	0.00	3.65	1200.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1300.00	0.00	3.65	1300.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
Top of Salt	1349.00	0.00	3.65	1349.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1400.00	0.00	3.65	1400.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1500.00	0.00	3.65	1500.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1600.00	0.00	3.65	1600.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1700.00	0.00	3.65	1700.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1800.00	0.00	3.65	1800.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1900.00	0.00	3.65	1900.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2000.00	0.00	3.65	2000.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2100.00	0.00	3.65	2100.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2200.00	0.00	3.65	2200.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2300.00	0.00	3.65	2300.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2400.00	0.00	3.65	2400.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	

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 ° ' ")
Nudge 2°/100'	2500.00	0.00	3.65	2500.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32	5 36.29 W 103 36 5.28
DLS	2600.00	2.00	3.65	2599.98	-1.74	1.74	0.11	2.00	398491.27	767979.96	N 32	5 36.30 W 103 36 5.28
	2700.00	4.00	3.65	2699.84	-6.96	6.96	0.44	2.00	398496.49	767980.29	N 32	5 36.36 W 103 36 5.27
Hold Nudge	2765.00	5.30	3.65	2764.62	-12.22	12.22	0.78	2.00	398501.75	767980.63	N 32	5 36.41 W 103 36 5.27
	2800.00	5.30	3.65	2799.47	-15.44	15.45	0.99	0.00	398504.98	767980.84	N 32	5 36.44 W 103 36 5.27
	2900.00	5.30	3.65	2899.05	-24.66	24.67	1.57	0.00	398514.20	767981.42	N 32	5 36.53 W 103 36 5.26
	3000.00	5.30	3.65	2998.62	-33.87	33.89	2.16	0.00	398523.41	767982.01	N 32	5 36.62 W 103 36 5.25
	3100.00	5.30	3.65	3098.19	-43.08	43.10	2.75	0.00	398532.63	767982.60	N 32	5 36.71 W 103 36 5.24
	3200.00	5.30	3.65	3197.76	-52.30	52.32	3.34	0.00	398541.85	767983.19	N 32	5 36.80 W 103 36 5.24
	3300.00	5.30	3.65	3297.33	-61.51	61.54	3.93	0.00	398551.07	767983.78	N 32	5 36.90 W 103 36 5.23
	3400.00	5.30	3.65	3396.91	-70.73	70.76	4.51	0.00	398560.29	767984.36	N 32	5 36.99 W 103 36 5.22
	3500.00	5.30	3.65	3496.48	-79.94	79.98	5.10	0.00	398569.50	767984.95	N 32	5 37.08 W 103 36 5.21
	3600.00	5.30	3.65	3596.05	-89.15	89.20	5.69	0.00	398578.72	767985.54	N 32	5 37.17 W 103 36 5.21
	3700.00	5.30	3.65	3695.62	-98.37	98.41	6.28	0.00	398587.94	767986.13	N 32	5 37.26 W 103 36 5.20
	3800.00	5.30	3.65	3795.20	-107.58	107.63	6.87	0.00	398597.16	767986.72	N 32	5 37.35 W 103 36 5.19
	3900.00	5.30	3.65	3894.77	-116.80	116.85	7.45	0.00	398606.38	767987.30	N 32	5 37.44 W 103 36 5.18
	4000.00	5.30	3.65	3994.34	-126.01	126.07	8.04	0.00	398615.59	767987.89	N 32	5 37.53 W 103 36 5.18
Drop to Vertical	4005.68	5.30	3.65	4000.00	-126.53	126.59	8.08	0.00	398616.12	767987.93	N 32	5 37.54 W 103 36 5.18
	4100.00	3.41	3.65	4094.04	-133.68	133.74	8.53	2.00	398623.27	767988.38	N 32	5 37.61 W 103 36 5.17
	4200.00	1.41	3.65	4193.95	-137.88	137.95	8.80	2.00	398627.47	767988.65	N 32	5 37.65 W 103 36 5.17
Hold Vertical	4270.68	0.00	3.65	4264.62	-138.75	138.82	8.86	2.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4300.00	0.00	3.65	4293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4400.00	0.00	3.65	4393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4500.00	0.00	3.65	4493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4600.00	0.00	3.65	4593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
Base of Salt	4657.06	0.00	3.65	4651.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4700.00	0.00	3.65	4693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4800.00	0.00	3.65	4793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
Lamar	4898.06	0.00	3.65	4892.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4900.00	0.00	3.65	4893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
Bell Canyon	4935.06	0.00	3.65	4929.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5000.00	0.00	3.65	4993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5100.00	0.00	3.65	5093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5200.00	0.00	3.65	5193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5300.00	0.00	3.65	5293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5400.00	0.00	3.65	5393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5500.00	0.00	3.65	5493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5600.00	0.00	3.65	5593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5700.00	0.00	3.65	5693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5800.00	0.00	3.65	5793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5900.00	0.00	3.65	5893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6000.00	0.00	3.65	5993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
Cherry Canyon	6007.06	0.00	3.65	6001.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6100.00	0.00	3.65	6093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6200.00	0.00	3.65	6193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6300.00	0.00	3.65	6293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6400.00	0.00	3.65	6393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6500.00	0.00	3.65	6493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6600.00	0.00	3.65	6593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6700.00	0.00	3.65	6693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6800.00	0.00	3.65	6793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6900.00	0.00	3.65	6893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7000.00	0.00	3.65	6993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7100.00	0.00	3.65	7093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7200.00	0.00	3.65	7193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7300.00	0.00	3.65	7293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7400.00	0.00	3.65	7393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7500.00	0.00	3.65	7493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17

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 ° ' ")
Brusy Canyon	7543.06	0.00	3.65	7537.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	7600.00	0.00	3.65	7593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	7700.00	0.00	3.65	7693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	7800.00	0.00	3.65	7793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	7900.00	0.00	3.65	7893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8000.00	0.00	3.65	7993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8100.00	0.00	3.65	8093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8200.00	0.00	3.65	8193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8300.00	0.00	3.65	8293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8400.00	0.00	3.65	8393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8500.00	0.00	3.65	8493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8600.00	0.00	3.65	8593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8700.00	0.00	3.65	8693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8800.00	0.00	3.65	8793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8900.00	0.00	3.65	8893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9000.00	0.00	3.65	8993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
Bone Spring	9045.06	0.00	3.65	9039.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9100.00	0.00	3.65	9093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
Leonard Shale	9100.06	0.00	3.65	9094.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9200.00	0.00	3.65	9193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9300.00	0.00	3.65	9293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
Avalon Shale	9362.06	0.00	3.65	9356.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9400.00	0.00	3.65	9393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9500.00	0.00	3.65	9493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9600.00	0.00	3.65	9593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9700.00	0.00	3.65	9693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
Lower Avalon Shale	9737.06	0.00	3.65	9731.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9800.00	0.00	3.65	9793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9900.00	0.00	3.65	9893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10000.00	0.00	3.65	9993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
1st Bone Spring Sand	10042.06	0.00	3.65	10036.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10100.00	0.00	3.65	10093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10200.00	0.00	3.65	10193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
2nd Bone Spring Carb	10229.06	0.00	3.65	10223.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10300.00	0.00	3.65	10293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
KOP - Build 12°/100' DLS	10396.06	0.00	3.65	10390.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10400.00	0.47	179.60	10393.94	-138.74	138.80	8.86	12.00	398628.33	767988.71	N 32 5 37.66 W 103 36	5.17
	10500.00	12.47	179.60	10493.12	-127.48	127.55	8.93	12.00	398617.07	767988.78	N 32 5 37.55 W 103 36	5.17
2nd Bone Spring Sand	10574.16	21.37	179.60	10564.00	-105.92	105.98	9.08	12.00	398595.51	767988.93	N 32 5 37.33 W 103 36	5.17
	10600.00	24.47	179.60	10587.80	-95.85	95.92	9.15	12.00	398585.45	767989.00	N 32 5 37.24 W 103 36	5.17
	10700.00	36.47	179.60	10673.82	-45.23	45.30	9.50	12.00	398534.83	767989.35	N 32 5 36.73 W 103 36	5.17
	10800.00	48.47	179.60	10747.45	22.17	-22.10	9.97	12.00	398467.43	767989.82	N 32 5 36.07 W 103 36	5.17
	10900.00	60.47	179.60	10805.45	103.40	-103.33	10.53	12.00	398386.20	767990.38	N 32 5 35.26 W 103 36	5.17
	11000.00	72.47	179.60	10845.30	194.92	-194.85	11.16	12.00	398294.69	767991.01	N 32 5 34.36 W 103 36	5.17
Build 4°/100' DLS	11021.06	75.00	179.60	10851.19	215.14	-215.06	11.30	12.00	398274.47	767991.15	N 32 5 34.16 W 103 36	5.17
	11100.00	78.16	179.60	10869.51	291.91	-291.84	11.83	4.00	398197.70	767991.68	N 32 5 33.40 W 103 36	5.17
	11200.00	82.16	179.60	10886.60	390.42	-390.35	12.51	4.00	398099.20	767992.36	N 32 5 32.42 W 103 36	5.17
	11300.00	86.16	179.60	10896.78	489.88	-489.80	13.20	4.00	397999.74	767993.05	N 32 5 31.44 W 103 36	5.16
Landing Point	11396.06	90.00	179.60	10900.00	585.87	-585.79	13.86	4.00	397903.76	767993.71	N 32 5 30.49 W 103 36	5.16
	11400.00	90.00	179.60	10900.00	589.81	-589.73	13.89	0.00	397899.82	767993.74	N 32 5 30.45 W 103 36	5.16
	11500.00	90.00	179.60	10900.00	689.81	-689.73	14.58	0.00	397799.83	767994.43	N 32 5 29.46 W 103 36	5.16
	11600.00	90.00	179.60	10900.00	789.81	-789.72	15.27	0.00	397699.83	767995.12	N 32 5 28.47 W 103 36	5.16
	11700.00	90.00	179.60	10900.00	889.81	-889.72	15.96	0.00	397599.84	767995.81	N 32 5 27.48 W 103 36	5.16

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 ° ' ")
	11800.00	90.00	179.60	10900.00	989.81	-989.72	16.66	0.00	397499.84	767996.50	N 32	5 26.49 W	103 36 5.16
	11900.00	90.00	179.60	10900.00	1089.81	-1089.72	17.35	0.00	397399.85	767997.20	N 32	5 25.50 W	103 36 5.16
	12000.00	90.00	179.60	10900.00	1189.81	-1189.71	18.04	0.00	397299.86	767997.89	N 32	5 24.51 W	103 36 5.16
	12100.00	90.00	179.60	10900.00	1289.81	-1289.71	18.73	0.00	397199.86	767998.58	N 32	5 23.52 W	103 36 5.16
	12200.00	90.00	179.60	10900.00	1389.81	-1389.71	19.42	0.00	397099.87	767999.27	N 32	5 22.53 W	103 36 5.16
	12300.00	90.00	179.60	10900.00	1489.81	-1489.71	20.11	0.00	396999.87	767999.96	N 32	5 21.54 W	103 36 5.16
	12400.00	90.00	179.60	10900.00	1589.81	-1589.70	20.80	0.00	396899.88	768000.65	N 32	5 20.56 W	103 36 5.16
	12500.00	90.00	179.60	10900.00	1689.81	-1689.70	21.49	0.00	396799.89	768001.34	N 32	5 19.57 W	103 36 5.16
	12600.00	90.00	179.60	10900.00	1789.81	-1789.70	22.19	0.00	396699.89	768002.03	N 32	5 18.58 W	103 36 5.16
	12700.00	90.00	179.60	10900.00	1889.81	-1889.70	22.88	0.00	396599.90	768002.73	N 32	5 17.59 W	103 36 5.16
	12800.00	90.00	179.60	10900.00	1989.81	-1989.70	23.57	0.00	396499.90	768003.42	N 32	5 16.60 W	103 36 5.16
	12900.00	90.00	179.60	10900.00	2089.81	-2089.69	24.26	0.00	396399.91	768004.11	N 32	5 15.61 W	103 36 5.16
	13000.00	90.00	179.60	10900.00	2189.81	-2189.69	24.95	0.00	396299.91	768004.80	N 32	5 14.62 W	103 36 5.16
	13100.00	90.00	179.60	10900.00	2289.81	-2289.69	25.64	0.00	396199.92	768005.49	N 32	5 13.63 W	103 36 5.16
	13200.00	90.00	179.60	10900.00	2389.81	-2389.69	26.33	0.00	396099.93	768006.18	N 32	5 12.64 W	103 36 5.16
	13300.00	90.00	179.60	10900.00	2489.81	-2489.68	27.02	0.00	395999.93	768006.87	N 32	5 11.65 W	103 36 5.16
	13400.00	90.00	179.60	10900.00	2589.81	-2589.68	27.71	0.00	395899.94	768007.56	N 32	5 10.66 W	103 36 5.16
	13500.00	90.00	179.60	10900.00	2689.81	-2689.68	28.41	0.00	395799.94	768008.25	N 32	5 9.67 W	103 36 5.16
	13600.00	90.00	179.60	10900.00	2789.81	-2789.68	29.10	0.00	395699.95	768008.95	N 32	5 8.68 W	103 36 5.16
	13700.00	90.00	179.60	10900.00	2889.81	-2889.67	29.79	0.00	395599.95	768009.64	N 32	5 7.69 W	103 36 5.16
	13800.00	90.00	179.60	10900.00	2989.81	-2989.67	30.48	0.00	395499.96	768010.33	N 32	5 6.70 W	103 36 5.16
	13900.00	90.00	179.60	10900.00	3089.81	-3089.67	31.17	0.00	395399.97	768011.02	N 32	5 5.71 W	103 36 5.16
	14000.00	90.00	179.60	10900.00	3189.81	-3189.67	31.86	0.00	395299.97	768011.71	N 32	5 4.72 W	103 36 5.16
	14100.00	90.00	179.60	10900.00	3289.81	-3289.66	32.55	0.00	395199.98	768012.40	N 32	5 3.73 W	103 36 5.16
	14200.00	90.00	179.60	10900.00	3389.81	-3389.66	33.24	0.00	395099.98	768013.09	N 32	5 2.74 W	103 36 5.16
	14300.00	90.00	179.60	10900.00	3489.81	-3489.66	33.94	0.00	394999.99	768013.78	N 32	5 1.75 W	103 36 5.16
	14400.00	90.00	179.60	10900.00	3589.81	-3589.66	34.63	0.00	394900.00	768014.48	N 32	5 0.76 W	103 36 5.16
	14500.00	90.00	179.60	10900.00	3689.81	-3689.65	35.32	0.00	394800.00	768015.17	N 32	4 59.77 W	103 36 5.16
	14600.00	90.00	179.60	10900.00	3789.81	-3789.65	36.01	0.00	394700.01	768015.86	N 32	4 58.79 W	103 36 5.16
	14700.00	90.00	179.60	10900.00	3889.81	-3889.65	36.70	0.00	394600.01	768016.55	N 32	4 57.80 W	103 36 5.16
	14800.00	90.00	179.60	10900.00	3989.81	-3989.65	37.39	0.00	394500.02	768017.24	N 32	4 56.81 W	103 36 5.16
	14900.00	90.00	179.60	10900.00	4089.81	-4089.65	38.08	0.00	394400.02	768017.93	N 32	4 55.82 W	103 36 5.16
	15000.00	90.00	179.60	10900.00	4189.81	-4189.64	38.77	0.00	394300.03	768018.62	N 32	4 54.83 W	103 36 5.16
	15100.00	90.00	179.60	10900.00	4289.81	-4289.64	39.46	0.00	394200.04	768019.31	N 32	4 53.84 W	103 36 5.16
	15200.00	90.00	179.60	10900.00	4389.81	-4389.64	40.16	0.00	394100.04	768020.00	N 32	4 52.85 W	103 36 5.16
	15300.00	90.00	179.60	10900.00	4489.81	-4489.64	40.85	0.00	394000.05	768020.70	N 32	4 51.86 W	103 36 5.16
	15400.00	90.00	179.60	10900.00	4589.81	-4589.63	41.54	0.00	393900.05	768021.39	N 32	4 50.87 W	103 36 5.16
	15500.00	90.00	179.60	10900.00	4689.81	-4689.63	42.23	0.00	393800.06	768022.08	N 32	4 49.88 W	103 36 5.16
	15600.00	90.00	179.60	10900.00	4789.81	-4789.63	42.92	0.00	393700.06	768022.77	N 32	4 48.89 W	103 36 5.16
	15700.00	90.00	179.60	10900.00	4889.81	-4889.63	43.61	0.00	393600.07	768023.46	N 32	4 47.90 W	103 36 5.16
Private Leaseline Crossing	15763.90	90.00	179.60	10900.00	4953.71	-4953.52	44.05	0.00	393536.17	768023.90	N 32	4 47.27 W	103 36 5.16
	15800.00	90.00	179.60	10900.00	4989.81	-4989.62	44.30	0.00	393500.08	768024.15	N 32	4 46.91 W	103 36 5.16
	15900.00	90.00	179.60	10900.00	5089.81	-5089.62	44.99	0.00	393400.08	768024.84	N 32	4 45.92 W	103 36 5.16
	16000.00	90.00	179.60	10900.00	5189.81	-5189.62	45.69	0.00	393300.09	768025.53	N 32	4 44.93 W	103 36 5.16
	16100.00	90.00	179.60	10900.00	5289.81	-5289.62	46.38	0.00	393200.09	768026.23	N 32	4 43.94 W	103 36 5.16
	16200.00	90.00	179.60	10900.00	5389.81	-5389.61	47.07	0.00	393100.10	768026.92	N 32	4 42.95 W	103 36 5.16
	16300.00	90.00	179.60	10900.00	5489.81	-5489.61	47.76	0.00	393000.11	768027.61	N 32	4 41.96 W	103 36 5.16
	16400.00	90.00	179.60	10900.00	5589.81	-5589.61	48.45	0.00	392900.11	768028.30	N 32	4 40.97 W	103 36 5.16
	16500.00	90.00	179.60	10900.00	5689.81	-5689.61	49.14	0.00	392800.12	768028.99	N 32	4 39.98 W	103 36 5.16
	16600.00	90.00	179.60	10900.00	5789.81	-5789.60	49.83	0.00	392700.12	768029.68	N 32	4 38.99 W	103 36 5.16
	16700.00	90.00	179.60	10900.00	5889.81	-5889.60	50.52	0.00	392600.13	768030.37	N 32	4 38.00 W	103 36 5.16
	16800.00	90.00	179.60	10900.00	5989.81	-5989.60	51.22	0.00	392500.13	768031.06	N 32	4 37.02 W	103 36 5.16
	16900.00	90.00	179.60	10900.00	6089.81	-6089.60	51.91	0.00	392400.14	768031.75	N 32	4 36.03 W	103 36 5.16
	17000.00	90.00	179.60	10900.00	6189.81	-6189.60	52.60	0.00	392300.15	768032.45	N 32	4 35.04 W	103 36 5.16
Private - NMNM0106040 4 Crossing	17086.40	90.00	179.60	10900.00	6276.21	-6275.99	53.19	0.00	392213.75	768033.04	N 32	4 34.18 W	103 36 5.16

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 ° ' ")
	17100.00	90.00	179.60	10900.00	6289.81	-6289.59	53.29	0.00	392200.15	768033.14	N 32 4 34.05 W	103 36 5.16
	17200.00	90.00	179.60	10900.00	6389.81	-6389.59	53.98	0.00	392100.16	768033.83	N 32 4 33.06 W	103 36 5.16
	17300.00	90.00	179.60	10900.00	6489.81	-6489.59	54.67	0.00	392000.16	768034.52	N 32 4 32.07 W	103 36 5.16
	17400.00	90.00	179.60	10900.00	6589.81	-6589.59	55.36	0.00	391900.17	768035.21	N 32 4 31.08 W	103 36 5.16
	17500.00	90.00	179.60	10900.00	6689.81	-6689.58	56.05	0.00	391800.17	768035.90	N 32 4 30.09 W	103 36 5.16
	17600.00	90.00	179.60	10900.00	6789.81	-6789.58	56.74	0.00	391700.18	768036.59	N 32 4 29.10 W	103 36 5.16
	17700.00	90.00	179.60	10900.00	6889.81	-6889.58	57.44	0.00	391600.19	768037.28	N 32 4 28.11 W	103 36 5.16
	17800.00	90.00	179.60	10900.00	6989.81	-6989.58	58.13	0.00	391500.19	768037.98	N 32 4 27.12 W	103 36 5.16
	17900.00	90.00	179.60	10900.00	7089.81	-7089.57	58.82	0.00	391400.20	768038.67	N 32 4 26.13 W	103 36 5.16
	18000.00	90.00	179.60	10900.00	7189.81	-7189.57	59.51	0.00	391300.20	768039.36	N 32 4 25.14 W	103 36 5.16
	18100.00	90.00	179.60	10900.00	7289.81	-7289.57	60.20	0.00	391200.21	768040.05	N 32 4 24.15 W	103 36 5.15
	18200.00	90.00	179.60	10900.00	7389.81	-7389.57	60.89	0.00	391100.22	768040.74	N 32 4 23.16 W	103 36 5.15
	18300.00	90.00	179.60	10900.00	7489.81	-7489.56	61.58	0.00	391000.22	768041.43	N 32 4 22.17 W	103 36 5.15
	18400.00	90.00	179.60	10900.00	7589.81	-7589.56	62.27	0.00	390900.23	768042.12	N 32 4 21.18 W	103 36 5.15
NMNM0106040 4 - NMNM0160973 Crossing	18408.90	90.00	179.60	10900.00	7598.71	-7598.46	62.34	0.00	390891.33	768042.18	N 32 4 21.09 W	103 36 5.15
	18500.00	90.00	179.60	10900.00	7689.81	-7689.56	62.97	0.00	390800.23	768042.81	N 32 4 20.19 W	103 36 5.15
	18600.00	90.00	179.60	10900.00	7789.81	-7789.56	63.66	0.00	390700.24	768043.50	N 32 4 19.20 W	103 36 5.15
	18700.00	90.00	179.60	10900.00	7889.81	-7889.55	64.35	0.00	390600.24	768044.20	N 32 4 18.21 W	103 36 5.15
	18800.00	90.00	179.60	10900.00	7989.81	-7989.55	65.04	0.00	390500.25	768044.89	N 32 4 17.22 W	103 36 5.15
	18900.00	90.00	179.60	10900.00	8089.81	-8089.55	65.73	0.00	390400.26	768045.58	N 32 4 16.24 W	103 36 5.15
	19000.00	90.00	179.60	10900.00	8189.81	-8189.55	66.42	0.00	390300.26	768046.27	N 32 4 15.25 W	103 36 5.15
	19100.00	90.00	179.60	10900.00	8289.81	-8289.54	67.11	0.00	390200.27	768046.96	N 32 4 14.26 W	103 36 5.15
	19200.00	90.00	179.60	10900.00	8389.81	-8389.54	67.80	0.00	390100.27	768047.65	N 32 4 13.27 W	103 36 5.15
	19300.00	90.00	179.60	10900.00	8489.81	-8489.54	68.50	0.00	390000.28	768048.34	N 32 4 12.28 W	103 36 5.15
	19400.00	90.00	179.60	10900.00	8589.81	-8589.54	69.19	0.00	389900.28	768049.03	N 32 4 11.29 W	103 36 5.15
	19500.00	90.00	179.60	10900.00	8689.81	-8689.54	69.88	0.00	389800.29	768049.73	N 32 4 10.30 W	103 36 5.15
	19600.00	90.00	179.60	10900.00	8789.81	-8789.53	70.57	0.00	389700.30	768050.42	N 32 4 9.31 W	103 36 5.15
	19700.00	90.00	179.60	10900.00	8889.81	-8889.53	71.26	0.00	389600.30	768051.11	N 32 4 8.32 W	103 36 5.15
	19800.00	90.00	179.60	10900.00	8989.81	-8989.53	71.95	0.00	389500.31	768051.80	N 32 4 7.33 W	103 36 5.15
	19900.00	90.00	179.60	10900.00	9089.81	-9089.53	72.64	0.00	389400.31	768052.49	N 32 4 6.34 W	103 36 5.15
	20000.00	90.00	179.60	10900.00	9189.81	-9189.52	73.33	0.00	389300.32	768053.18	N 32 4 5.35 W	103 36 5.15
	20100.00	90.00	179.60	10900.00	9289.81	-9289.52	74.02	0.00	389200.33	768053.87	N 32 4 4.36 W	103 36 5.15
	20200.00	90.00	179.60	10900.00	9389.81	-9389.52	74.72	0.00	389100.33	768054.56	N 32 4 3.37 W	103 36 5.15
	20300.00	90.00	179.60	10900.00	9489.81	-9489.52	75.41	0.00	389000.34	768055.25	N 32 4 2.38 W	103 36 5.15
	20400.00	90.00	179.60	10900.00	9589.81	-9589.51	76.10	0.00	388900.34	768055.95	N 32 4 1.39 W	103 36 5.15
	20500.00	90.00	179.60	10900.00	9689.81	-9689.51	76.79	0.00	388800.35	768056.64	N 32 4 0.40 W	103 36 5.15
	20600.00	90.00	179.60	10900.00	9789.81	-9789.51	77.48	0.00	388700.35	768057.33	N 32 3 59.41 W	103 36 5.15
	20700.00	90.00	179.60	10900.00	9889.81	-9889.51	78.17	0.00	388600.36	768058.02	N 32 3 58.42 W	103 36 5.15
Cimarex Red Hills 32-5 Fed Com #128H - PBHL 330' FSL, 440' FWL]	20708.81	90.00	179.60	10900.00	9898.62	-9898.32	78.23	0.00	388591.55	768058.08	N 32 3 58.34 W	103 36 5.15

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
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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
		1	0.000	26.000	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS-Depth Only		Red Hills 32-5 Fed Com #128H /	
		1	26.000	20708.811	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS		Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19	
											Red Hills 32-5 Fed Com #128H /	
											Cimarex Red Hills 32-5 Fed Com	



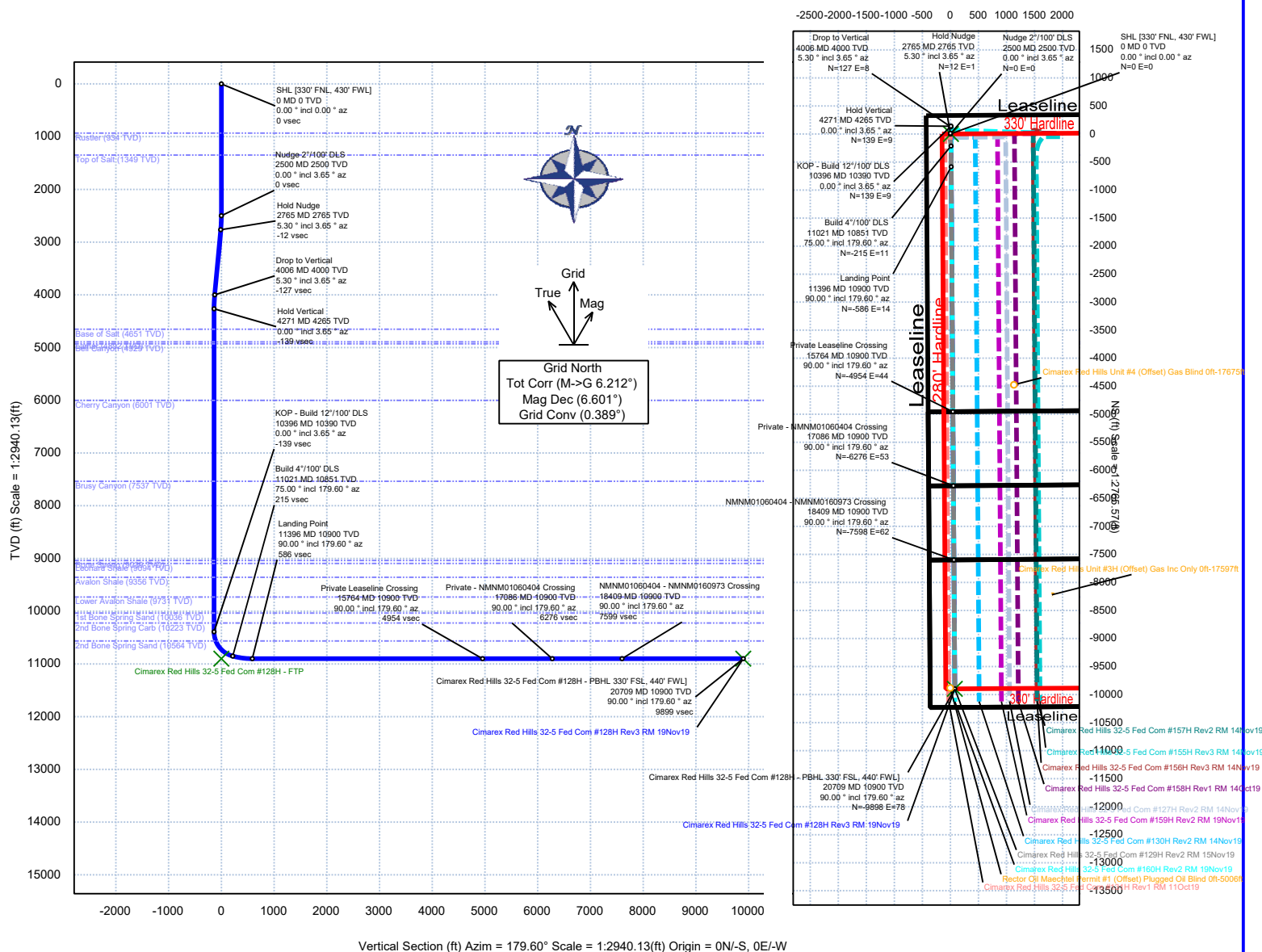
Cimarex Energy

Rev 3



Borehole: Red Hills 32-5 Fed Com #128H			Well: Red Hills 32-5 Fed Com #128H			Field: NM Lea County (NAD 83)			Structure: Cimarex Red Hills 32-5 Fed Com #128H				
Gravity & Magnetic Parameters						Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model: HDGM 2019		Dip: 59.681°		Date: 19-Nov-2019		Lat: N 32 5 36.29		Northing: 398489.531US		Grid Conv: 0.3889°		Slot: New Slot	
MagDec: 6.601°		FS: 47706.472nT		Gravity FS: 998.422mgm (9.80665 Based)		Lon: W 103 36 5.28		Easting: 767979.85ftUS		Scale Fact: 0.9996792		TVD Ref: RKB(3422.2ft above MSL)	
												Plan: Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19	

EW (ft) Scale = 1:2765.57(ft)



Vertical Section (ft) Azim = 179.60° Scale = 1:2940.13(ft) Origin = 0N/-S, 0E/-W

Critical Point	MD	INCL	AZIM	Critical Points	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL (330' FNL, 430' FWL)	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00
Rustler	934.00	0.00	3.65		934.00	0.00	0.00	0.00	0.00
Top of Salt	1349.00	0.00	3.65		1349.00	0.00	0.00	0.00	0.00
Nudge 27'100' DLS	2500.00	0.00	3.65		2500.00	0.00	0.00	0.00	0.00
Hold Nudge	2765.00	5.30	3.65		2764.62	-12.22	12.22	0.78	2.00
Drop to Vertical	4006.00	5.30	3.65		4000.00	-126.53	126.59	8.08	0.00
Hold Vertical	4270.68	0.00	3.65		4264.62	-138.75	138.82	8.86	2.00
Base of Salt	4657.00	0.00	3.65		4651.00	-138.75	138.82	8.86	0.00
Lamar	4898.00	0.00	3.65		4892.00	-138.75	138.82	8.86	0.00
Bell Canyon	4935.00	0.00	3.65		4929.00	-138.75	138.82	8.86	0.00
Cherry Canyon	6007.00	0.00	3.65		6001.00	-138.75	138.82	8.86	0.00
Brusy Canyon	7543.00	0.00	3.65		7537.00	-138.75	138.82	8.86	0.00
Bone Spring	9045.00	0.00	3.65		9039.00	-138.75	138.82	8.86	0.00
Leonard Shale	9100.00	0.00	3.65		9094.00	-138.75	138.82	8.86	0.00
Avalon Shale	9362.00	0.00	3.65		9356.00	-138.75	138.82	8.86	0.00
Lower Avalon Shale	9737.00	0.00	3.65		9731.00	-138.75	138.82	8.86	0.00
1st Bone Spring Sand	10042.00	0.00	3.65		10036.00	-138.75	138.82	8.86	0.00
2nd Bone Spring Carb	10229.00	0.00	3.65		10223.00	-138.75	138.82	8.86	0.00
KOP - Build 12'100' DLS	10396.00	0.00	3.65		10390.00	-138.75	138.82	8.86	0.00
2nd Bone Spring Sand	10574.16	21.37	179.60		10564.00	-105.92	105.98	9.08	12.00
Build 4'100' DLS	11021.00	75.00	179.60		10851.19	215.14	-215.06	11.30	12.00
Landing Point	11396.00	90.00	179.60		10900.00	585.87	-585.79	13.86	4.00
Private Leaseline Crossing	15763.90	90.00	179.60		10900.00	4953.71	-4953.52	44.05	0.00
Private - NMNM01060404 Crossing	17086.40	90.00	179.60		10900.00	6276.21	-6275.99	53.19	0.00
NMNM01060404 - NMNM01060973 Crossing	18409.90	90.00	179.60		10900.00	7598.71	-7598.46	62.34	0.00
Cimarex Red Hills 32-5 Fed Com #128H - PBHL 330' FSL, 440' FWL	20709.81	90.00	179.60		10900.00	9896.62	-9896.32	78.23	0.00
Wolfcamp A2	NaN				12848.00				
Wolfcamp Y SS Target	NaN				12285.00				
3rd Bone Spring Sand	NaN				11682.00				
3rd Bone Spring Carb	NaN				11017.00				
Wolfcamp	NaN				12125.00				
Wolfcamp A1	NaN				12301.00				
Wolfcamp Y Sand	NaN				12255.00				

1. Geological Formations

TVD of target 10,900

Pilot Hole TD N/A

MD at TD 20,708

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	934	N/A	
Top Salt	1349	N/A	
Base Salt	4651	N/A	
Lamar	4892	N/A	
Bell Canyon	4929	N/A	
Cherry Canyon	6001	N/A	
Brushy Canyon	7537	N/A	
Bone Spring	9039	N/A	
Leonard Shale	9094	N/A	
Avalon shale	9356	N/A	
1st Bone Spring Sand	10036	N/A	
2nd BSPG Carb	10223	N/A	
2nd BSPG Sand	10564	N/A	
3rd BSPG Carb	11017	N/A	
3rd BSPG Sand	11682	N/A	
Top Wolfcamp	12125	N/A	
Wolfcamp Y Sand	12225	N/A	
Wolfcamp A1	12301	N/A	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
14 3/4	0	984	984	10-3/4"	40.50	J-55	BT&C	3.51	6.95	15.78
9 7/8	0	11021	10851	7-5/8"	29.70	L-80	BT&C	2.82	1.36	2.06
6 3/4	0	10296	10296	5-1/2"	20.00	L-80	LT&C	1.32	1.37	2.12
6 3/4	11787	20708	10900	5"	18.00	P-110	BT&C	1.90	1.92	53.35
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

Request Variance for 5-1/2" x 7-5/8" annular clearance. The portion that does not meet clearance will not be cemented

Cimarex Energy Co., Red Hills 32-5 Fed Com #128H

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

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	332	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	156	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate Stage 1	455	10.30	3.64	22.18		Lead: Tuned Light + LCM
	198	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Intermediate Stage 2	793	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
Production	829	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

DV tool with possible annular casing packer as needed is proposed at a depth of +/- 4,892'.

Casing String	TOC	% Excess
Surface	0	42
Intermediate Stage 1	4892	46
Intermediate Stage 2	0	40
Production	10821	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
9 7/8	13 5/8	5M	Annular	X	50% of working pressure
			Blind Ram		5M
			Pipe Ram	X	
			Double Ram	X	
			Other		
6 3/4	13 5/8	10M	Annular	X	50% of working pressure
			Blind Ram		10M
			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 984'	FW Spud Mud	8.30 - 8.80	30-32	N/C
984' to 11021'	Brine Diesel Emulsion	8.50 - 9.00	30-35	N/C
11021' to 20708'	Oil Based Mud	12.00 - 12.50	50-70	N/C

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

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

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

6. Logging and Testing Procedures

Logging, Coring and Testing	
X	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	7085 psi
Abnormal Temperature	No

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

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

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

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 10000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2.

The multi-bowl wellhead will be installed by 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.

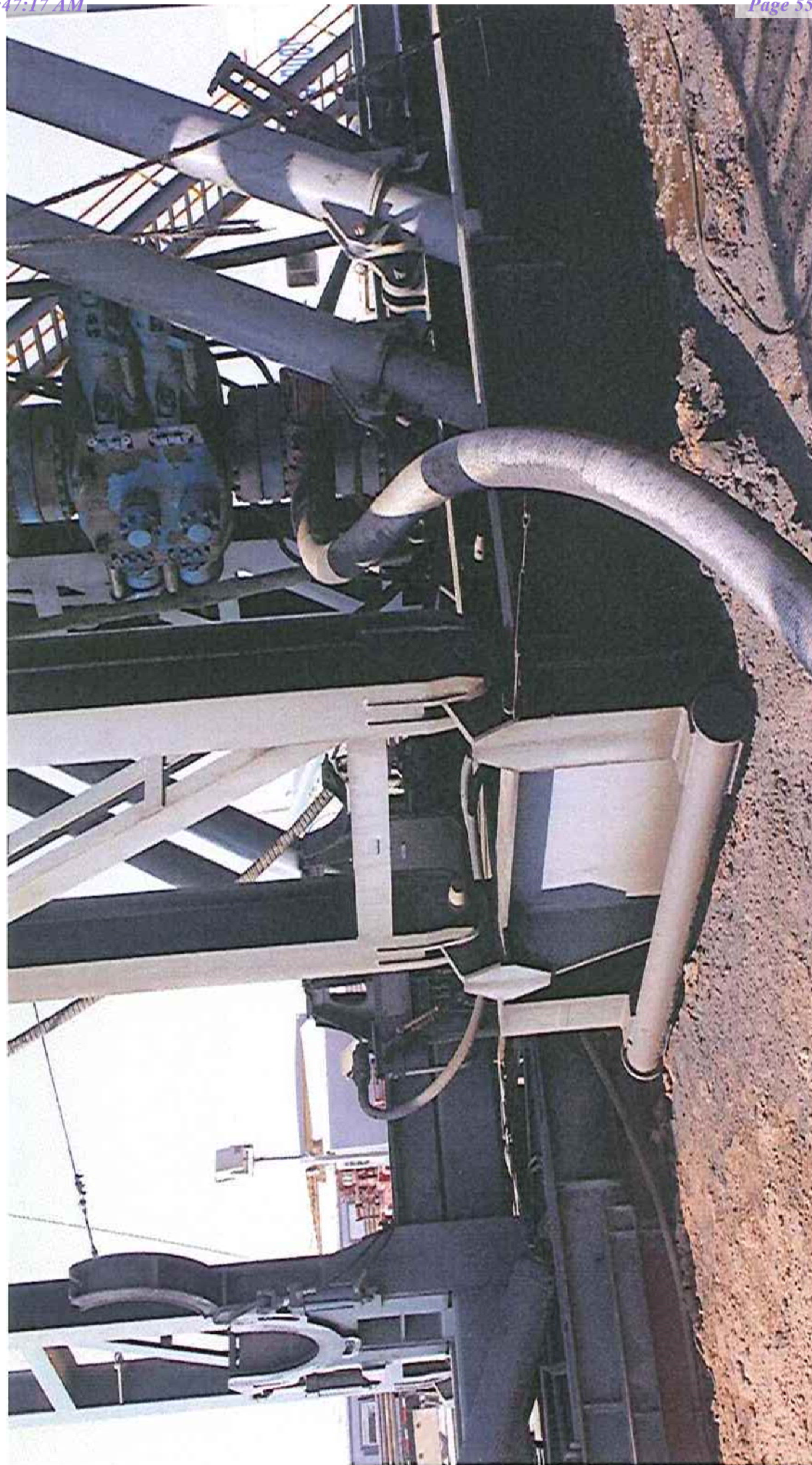
All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

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 10000 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.

Co-Flex Hose
Red Hills 32-5 Fed Com #128H
Cimarex Energy Co. 32-25S-33E
Lea Co., NM





Midwest Hose
& Specialty, Inc.

Co-Flex Hose Hydrostatic Test
Red Hills 32-5 Fed Com #128H
Cimarex Energy Co.
32-25S-33E
Lea Co., NM

INTERNAL HYDROSTATIC TEST REPORT

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

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

I.D.	4	INCHES	O.D.	9	INCHES
WORKING PRESSURE	PSI	TEST PRESSURE	PSI	BURST PRESSURE	PSI
10,000		15,000		0	

COUPLINGS

Stem Part No.	OKC OKC	Ferrule No.	OKC OKC
---------------	------------	-------------	------------

Type of Coupling:	Swage-It
-------------------	----------

PROCEDURE

Hose assembly pressure tested with water at ambient temperature.

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

Hose Assembly Serial Number:	79793	Hose Serial Number:	OKC
------------------------------	-------	---------------------	-----

Comments:

Date:	3/8/2011	Tested:	A. John Sam.	Approved:	<i>[Signature]</i>
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March 3, 2011

Co-Flex Hose Hydrostatic Test
Red Hills 32-5 Fed Com #128H
 Cimarex Energy Co.
 32-25S-33E
 Lea Co., NM

Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260



Midwest Hose
& Specialty, Inc.

Hose Specifications

Hose Type
C & K
I.D.
4"

Length
45'
O.D.
6.09"

Type of Fitting
4 1/16 10K
Die Size
6.38"

Coupling Method
Swage
Final O.D.
6.25"

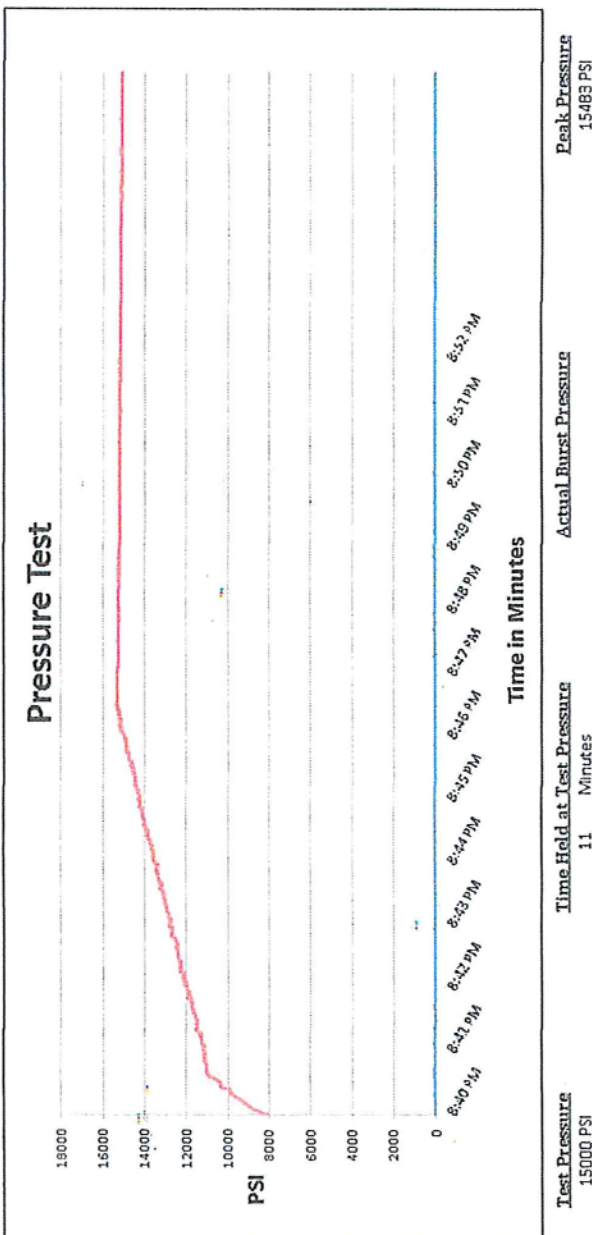
Working Pressure
10000 PSI

Burst Pressure
Standard Safety Multiplier Applies

Hose Serial #
5544

Hose Assembly Serial #
79793

Verification



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

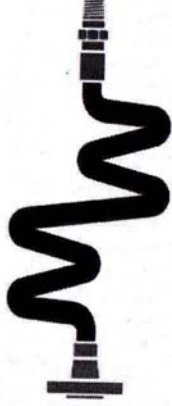
Tested By: Zac McConnell

Approved By: Kim Thomas

[Signature]

[Signature]

Co-Flex Hose
Red Hills 32-5 Fed Com #128H
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:		<i>Samuel Garcia</i>	Date: 3/8/2011



Midwest Hose
& Specialty, Inc.

Co-Flex Hose
Red Hills 32-5 Fed Com #128H
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.

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

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

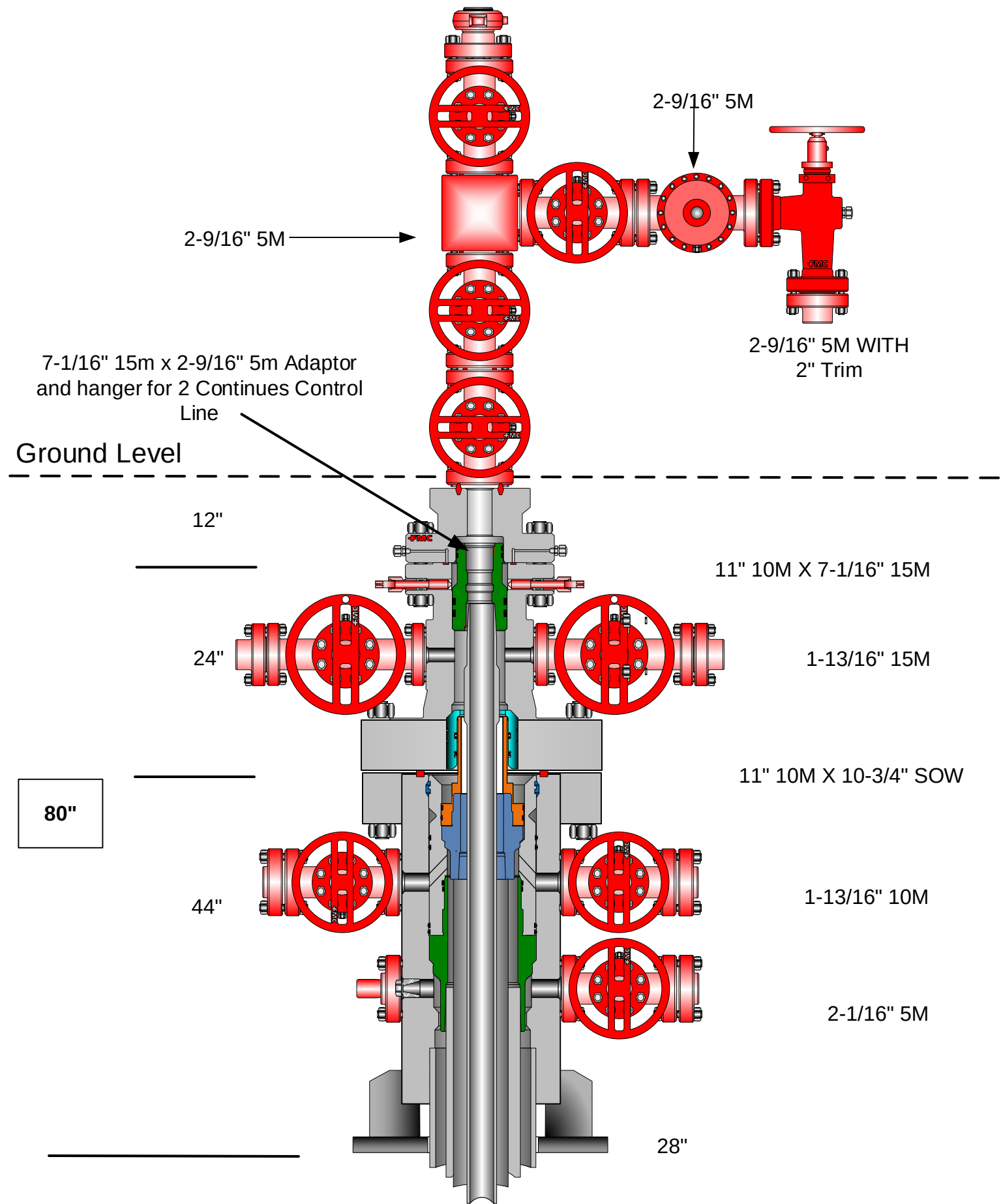


Red Hills 32-5 Fed Com 128H

CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL

LEA CO., NM

Multi-bowl Wellhead Diagram



Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.
14 3/4	0	984	984	10-3/4"	40.50	J-55	BT&C
9 7/8	0	11021	10851	7-5/8"	29.70	L-80	BT&C
6 3/4	0	10296	10296	5-1/2"	20.00	L-80	LT&C
6 3/4	11787	20708	10900	5"	18.00	P-110	BT&C



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

SUPO Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Red_Hills_32_5_Fed_Com_128H_Road_ROW_20191230152734.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

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Red_Hills_32_5_Fed_Com_128H_One_Mile_Radius___Existing_well_map_20191230153847.pdf

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: 500' x 560' pad was staked with the BLM for construction and will use 4 Central Tank Batteries: Red Hills Unit 32 West BS CTB 1 , Red Hills Unit West WC CTB 2, Red Hills Unit East BS CTB 3, Red Hills Unit WC CTB 4 will be utilized for this project. Bulkline: 6009' of 8- 12" Buried Steel Bulk lines will be constructed along the proposed road buried in the same 60' trench. Please see Attachment M for route.

Production Facilities map:

Red_Hills_Unit_32_East_BS__3_CTB_Battery_Layout_20191230153919.pdf

Red_Hills_Unit_32_East_WC__4_CTB_Battery_Layout_20191230153923.pdf

Red_Hills_Unit_32_West_BS__1_CTB_Battery_Layout_20191230153927.pdf

Red_Hills_Unit_32_West_WC__2_CTB_Battery_Layout_20191230153931.pdf

Red_Hills_32_5_Fed_Com_128H_SUPO_20200312141154.pdf

Red_Hills_32_5_Fed_Com_Bulk_Line_20200312141206.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
PIPELINE

Source land ownership: STATE

Source transportation land ownership: STATE

Water source volume (barrels): 5000

Source volume (acre-feet): 0.6444655

Source volume (gal): 210000

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Water source and transportation map:**

Red_Hills_32_5_Fed_Com_Drilling_Water_Route_20191230160738.pdf

Water source comments:**New water well?** NO**New Water Well Info****Well latitude:****Well Longitude:****Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):****Est thickness of aquifer:****Aquifer comments:****Aquifer documentation:****Well depth (ft):****Well casing type:****Well casing outside diameter (in.):****Well casing inside diameter (in.):****New water well casing?****Used casing source:****Drilling method:****Drill material:****Grout material:****Grout depth:****Casing length (ft.):****Casing top depth (ft.):****Well Production type:****Completion Method:****Water well additional information:****State appropriation permit:****Additional information attachment:****Section 6 - Construction Materials****Using any construction materials:** YES**Construction Materials description:** Caliche will be obtained from the actual well site if available. If not available onsite caliche will be obtained for a pit located in Sec.20-25S-33E Lea, NM.**Construction Materials source location attachment:****Section 7 - Methods for Handling Waste****Waste type:** DRILLING**Waste content description:** Drilling Fluids, drill cuttings, water and other waste produced from the well during drilling operations.**Amount of waste:** 15000 barrels**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containmant attachment:**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Haul to R360 commercial disposal**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 containment attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** A licensed 3rd party contractor will be used to haul and dispose human waste.**Waste type:** GARBAGE**Waste content description:** garbage & trash produced during drilling & completion operations**Amount of waste:** 32500 pounds**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containment attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Windmill Spraying Service hauls trash to Lea County Landfill

Reserve Pit

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

Cuttings Area

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

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO**Ancillary Facilities attachment:****Comments:**

Section 9 - Well Site Layout

Well Site Layout Diagram:

Red_Hills_32_5_Federal_Com_128H_Wellsite_Layout_20200312140538.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance**Multiple Well Pad Name:** RED HILLS 32-5 FED COM**Multiple Well Pad Number:** E2W2 PAD 4**Recontouring attachment:**

Red_Hills_32_5_Fed_Com_W2W2_Pad_1_Interim_Reclaim_20191231085447.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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

original condition to re-establish natural drainage.

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

Well pad proposed disturbance (acres): 6.9	Well pad interim reclamation (acres): 3.4	Well pad long term disturbance (acres): 3.55
Road proposed disturbance (acres): 6.22	Road interim reclamation (acres): 0	Road long term disturbance (acres): 6.22
Powerline proposed disturbance (acres): 0	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 8.25	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres): 25.13	Other interim reclamation (acres): 0	Other long term disturbance (acres): 25.13
Total proposed disturbance: 46.5	Total interim reclamation: 3.4	Total long term disturbance: 34.9

Disturbance Comments: Bulk line: 6009. Access Road: 9041' Temp fresh water line: 9641'. We have been working on engineering solutions to reduce our footprint in the section to lower cost, disturbance, and our economic hurdle for other marginal benches within the section to increase our total mineral recovery. It turns out that simply changing our flowline / well approach and moving our separation to our drilling pads significantly reduces our foot print and cost. By placing our separation on our drill pads we can use 6-12 Group lines to gather the separated oil gas and water from the entire section instead of using up to 90 flowlines to move production to the tank batteries for separation. The Group line ability to gather the entire section helps us eliminate 2 batteries per section by simply utilizing the group line approach.

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:

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Existing Vegetation Community at the pipeline attachment:****Existing Vegetation Community at other disturbances:****Existing Vegetation Community at other disturbances attachment:****Non native seed used?** NO**Non native seed description:****Seedling transplant description:****Will seedlings be transplanted for this project?** NO**Seedling transplant description attachment:****Will seed be harvested for use in site reclamation?** NO**Seed harvest description:****Seed harvest description attachment:****Seed Management****Seed Table****Seed Summary****Total pounds/Acre:****Seed Type****Pounds/Acre****Seed reclamation attachment:****Operator Contact/Responsible Official Contact Info****First Name:** Amithy**Last Name:** Crawford**Phone:** (432)620-1909**Email:** acrawford@cimarex.com**Seedbed prep:****Seed BMP:****Seed method:****Existing invasive species?** NO**Existing invasive species treatment description:****Existing invasive species treatment attachment:**

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Weed treatment plan description: na

Weed treatment plan attachment:

Monitoring plan description: na

Monitoring plan attachment:

Success standards: na

Pit closure description: na

Pit closure attachment:

Section 11 - Surface Ownership

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:

Disturbance type: PIPELINE

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**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:****Disturbance type:** OTHER**Describe:** Existing Battery**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:**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Disturbance type:** NEW ACCESS ROAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT, 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 Information

Right of Way needed? YES**Use APD as ROW?** YES**ROW Type(s):** 281001 ROW - ROADS, 287001 ROW – Water Facility, 288100 ROW – O&G Pipeline, 288101 ROW – O&G Facility Sites, 289001 ROW- O&G Well Pad

ROW Applications

SUPO Additional Information:**Use a previously conducted onsite?** YES**Previous Onsite information:** Onsite with BLM(Jeff Robertson) and Cimarex Barry Hunt on April 17, 2018

Other SUPO Attachment

Red_Hills_32_5_Fed_Com_W2W2_Pad_1_Public_Access_20191231091054.pdf

Red_Hills_32_5_Fed_Com_W2W2_Pad_1_Road_Description_20191231091049.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Red_Hills_32_5_Fed_Com_Temp_Water_Route_20191231091055.pdf

Red_Hills_32_5_Fed_Com_Flow_Gas_lift_Route_20191231091208.pdf

Red_Hills_32_5_Fed_Com_128H_SUPO_20200304064540.pdf

CONFIDENTIAL



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

PWD Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

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 specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Lined pit Monitor description:

Lined pit Monitor attachment:

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 attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

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 specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

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 evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Is the reclamation bond a rider under the BLM bond?****Unlined pit bond number:****Unlined pit bond amount:****Additional bond information attachment:**

Section 4 - Injection

Would you like to utilize Injection PWD options? NO**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 attachment:****Underground Injection Control (UIC) Permit?****UIC Permit attachment:**

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO**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 - Other

Would you like to utilize Other PWD options? NO**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD discharge volume (bbl/day):**

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



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

Bond Info Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Bond Information

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 attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

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

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

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. [330240]
2. Name of Operator [215099]		9. API Well No. 30-025-50207
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [97903] XXXXXX XXXXXX
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

NGMP Rec 05/20/2022

SL

(Continued on page 2)



Approval Date: 11/06/2020

KZ
06/03/2022

*(Instructions on page 2)

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

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

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

☒ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

30-025-50207		² Pool Code 97903	³ Pool Name WC-025 G-08 S253235G:LOWER BONE SPRING
⁴ Property Code 330240	⁵ Property Name RED HILLS 32-5 FED COM		⁶ Well Number 128H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.		⁹ Elevation 3396.2'

UL or lot no. D	Section 32	Township 25S	Range 33E	Lot Idn	Feet from the 330	North/South line NORTH	Feet from the 430	East/West line WEST	County LEA

UL or lot no. M	Section 5	Township 26S	Range 33E	Lot Idn	Feet from the 330	North/South line SOUTH	Feet from the 440	East/West line WEST	County LEA
¹² Dedicated Acres 640		¹³ Joint or Infill		¹⁴ Consolidation Code		¹⁵ Order No.			

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

NOTE:

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

LINE	DIRECTION	LENGTH
L1	S89°53'08"W	2643.77'
L2	N89°53'08"E	9.96'
L3	S89°47'46"W	2645.73'

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°05'36.29" (32.093413°)
LONGITUDE = 103°36'05.28" (103.601467°)

NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°05'35.84" (32.093288°)
LONGITUDE = 103°36'03.58" (103.600995°)

STATE PLANE NAD 83 (N.M. EAST)
N: 398489.53' E: 767979.85'

STATE PLANE NAD 27 (N.M. EAST)
N: 398431.89' E: 726793.42'

NAD 83 (LP/FTP)
LATITUDE = 32°05'36.29" (32.093413°)
LONGITUDE = 103°36'05.16" (103.601434°)

NAD 27 (LP/FTP)
LATITUDE = 32°05'35.84" (32.093288°)
LONGITUDE = 103°36'03.47" (103.600963°)

STATE PLANE NAD 83 (N.M. EAST)
N: 398489.59' E: 767989.80'

STATE PLANE NAD 27 (N.M. EAST)
N: 398431.95' E: 726803.38'

NAD 83 (BHL/LTP)
LATITUDE = 32°03'58.34" (32.066205°)
LONGITUDE = 103°36'05.15" (103.601431°)

NAD 27 (BHL/LTP)
LATITUDE = 32°03'57.89" (32.066080°)
LONGITUDE = 103°36'03.46" (103.600961°)

STATE PLANE NAD 83 (N.M. EAST)
N: 388591.55' E: 768058.08'

STATE PLANE NAD 27 (N.M. EAST)
N: 388534.16' E: 726871.20'

Detail "A"
No Scale

¹⁷ OPERATOR CERTIFICATION

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

Sarah Jordan 5/19/22
Signature Date

Sarah Jordan
Printed Name

sarah.jordan@coterra.com
E-mail Address

¹⁸ SURVEYOR CERTIFICATION

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

May 01, 2018
Date of Survey

Signature and Seal of Professional Surveyor:

Certificate Number:



U.S. Department of the Interior
Bureau of Land Management

Application for Permit to Drill

APD Package Report

Date Printed:

APD ID:	Well Status:
APD Received Date:	Well Name:
Operator:	Well Number:

APD Package Report Contents

- Form 3160-3
- Operator Certification Report
- Application Report
- Application Attachments
 - Well Plat: 2 file(s)
- Drilling Plan Report
- Drilling Plan Attachments
 - Blowout Prevention Choke Diagram Attachment: 2 file(s)
 - Blowout Prevention BOP Diagram Attachment: 2 file(s)
 - Casing Spec Documents: 1 file(s)
 - Casing Design Assumptions and Worksheet(s): 4 file(s)
 - Hydrogen sulfide drilling operations plan: 1 file(s)
 - Proposed horizontal/directional/multi-lateral plan submission: 2 file(s)
 - Other Facets: 3 file(s)
 - Other Variances: 1 file(s)
- SUPO Report
- SUPO Attachments
 - Existing Road Map: 1 file(s)
 - New Road Map: 1 file(s)
 - Attach Well map: 1 file(s)
 - Production Facilities map: 6 file(s)
 - Water source and transportation map: 1 file(s)
 - Well Site Layout Diagram: 1 file(s)
 - Recontouring attachment: 1 file(s)
 - Other SUPO Attachment: 5 file(s)
- PWD Report
- PWD Attachments
 - None

- Bond Report
- Bond Attachments
 - None

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	Cimarex Energy Company
LEASE NO.:	NMNM106040A
WELL NAME & NO.:	Red Hills 32-5 Federal Com 128H
SURFACE HOLE FOOTAGE:	330'/N & 430'/W
BOTTOM HOLE FOOTAGE:	330'/S & 440'/W
LOCATION:	Section 32, T.25 S., R.33 E., NMPM
COUNTY:	Lea County, New Mexico

COA

H2S	☒ Yes	☐ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☒ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☒ COM	☐ 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 **10-3/4 inch** surface casing shall be set at approximately **984 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 fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **7-5/8 inch** intermediate casing and shall be set at approximately **10,851 feet** 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 lead cement slurry due to cave/karst or potash.
3. The minimum required fill of cement behind the **5-1/2 inch** production casing with a tie-back into the previous casing of approximately **10,621 feet** 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**.
3. 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 intermediate casing shoe shall be **10,000 (10M) 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) 393-3612

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

YJ (09/09/2020)



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

Application Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

APD ID: 10400038359

Tie to previous NOS? Y

Submission Date: 01/28/2019

BLM Office: CARLSBAD

User: Amithy Crawford

Title: Regulatory Analyst

Federal/Indian APD: FED

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

Lease number: NMNM0106040A

Lease Acres: 240

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? YES

Permitting Agent? NO

APD Operator: CIMAREX ENERGY COMPANY

Operator letter of designation:

Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY

Operator Address: 600 N. Marienfeld St., Suite 600

Zip: 79701

Operator PO Box:

Operator City: Midland

State: TX

Operator Phone: (432)620-1936

Operator Internet Address: tstathem@cimarex.com

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: JENNINGS BONE
SPRING WESTPool Name: UPPER
WOLFCAMP

Is the proposed well in an area containing other mineral resources? USEABLE WATER

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Is the proposed well in an area containing other mineral resources?** USEABLE WATER**Is the proposed well in a Helium production area?** N**Use Existing Well Pad?** NO**New surface disturbance?****Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:** RED
HILLS 32-5 FED COM**Number:** E2W2 PAD 4**Well Class:** HORIZONTAL**Number of Legs:** 1**Well Work Type:** Drill**Well Type:** CONVENTIONAL GAS WELL**Describe Well Type:****Well sub-Type:** INFILL**Describe sub-type:****Distance to town:** 26 Miles**Distance to nearest well:** 20 FT**Distance to lease line:** 330 FT**Reservoir well spacing assigned acres Measurement:** 1280 Acres**Well plat:** Red_Hills_32_5_Fed_Com_128H_C102_20191205153914.pdf

Red_Hills_32_5_Fed_Com_128H_C102_BLM_Lease_20191205153916.pdf

Well work start Date: 03/03/2020**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:****Reference Datum:**

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 lease?
SHL Leg #1	330	FNL	430	FW L	25S	33E	32	Aliquot NWN W	32.093413	- 103.601467	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	3369	0	0	
KOP Leg #1	330	FNL	439	FW L	25S	33E	32	Aliquot NWN W	32.093413	- 103.601434	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	- 7021	10396	10390	

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

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 lease?
PPP Leg #1-1	5275	FSL	443	FWL	25S	33E	5	Aliquot NWNW	32.079797	-103.601433	LEA	NEW MEXICO	NEW MEXICO	F	FEE	-7531	15763	10900	
PPP Leg #1-2	3951	FSL	443	FWL	25S	33E	5	Aliquot NWSW	32.076161	-103.604133	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0106040A	-7531	15763	10900	
PPP Leg #1-3	2629	FSL	442	FWL	25S	33E	5	Aliquot NWSW	32.072525	-103.601431	LINC OLN	NEW MEXICO	FIRST PRIN	F	NMNM 0160973	-7531	18408	10900	
EXIT Leg #1	330	FSL	440	FWL	26S	33E	5	Aliquot SWSW	32.066205	-103.601431	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 0160973	-7531	20708	10900	
BHL Leg #1	330	FSL	440	FWL	25S	33E	5	Aliquot SWSW	32.066205	-103.601431	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 0160973	-7531	20709	10900	



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

Drilling Plan Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
380692	RUSTLER	3464	934	934		USEABLE WATER	N
380693	TOP SALT	2115	1349	1349		NONE	N
380694	BASE OF SALT	-1187	4651	4651		NONE	N
380703	LAMAR	-1428	4892	4892		NONE	N
380704	BELL CANYON	-1465	4929	4929		NONE	N
380705	CHERRY CANYON	-2537	6001	6001		NONE	N
380699	BRUSHY CANYON	-4073	7537	7537		NATURAL GAS, OIL	N
380697	BONE SPRING	-5575	9039	9039		NATURAL GAS, OIL	Y
380698	AVALON SAND	-5892	9356	9356		NATURAL GAS, OIL	N
380700	BONE SPRING 1ST	-6572	10036	10036		NATURAL GAS, OIL	N
380701	BONE SPRING 2ND	-7100	10564	10564		NATURAL GAS, OIL	N
380702	BONE SPRING 3RD	-8218	11682	11682		NATURAL GAS, OIL	N
622000	WOLFCAMP	-8661	12125	12125		NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Pressure Rating (PSI):** 10M**Rating Depth:** 20708

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

Requesting Variance? YES

Variance request: Co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only. Cimarex requests a 5M annular variance for the 10M BOP system. See attached procedure.

Testing Procedure: A multi-bowl wellhead system will be utilized. After running the 13-3/8" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 3000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 3000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by vendor's representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder while being monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 3000 psi. The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater. The casing string utilizing steel body pack-off will be tested to 70% of casing burst. If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Choke Diagram Attachment:

Red_Hills_32_5_Fed_Com_128H_Choke_10M_20191230141746.pdf

BOP Diagram Attachment:

Red_Hills_32_5_Fed_Com_128H_BOP_10M_20191230141807.pdf

Pressure Rating (PSI): 5M**Rating Depth:** 11021

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

Requesting Variance? YES

Variance request: Co-flex line between the BOP and choke manifold. Certification for proposed co-flex hose is attached. The hose is not required by the manufacturer to be anchored. In the event the specific hose is not available, one of equal or higher rating will be used. Variance to include Hammer Union connections on lines downstream of the buffer tank only. Cimarex requests a 5M annular variance for the 10M BOP system. See attached procedure.

Testing Procedure: A multi-bowl wellhead system will be utilized. After running the 10-3/4" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 10000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by 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 10000 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 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:

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

Red_Hills_32_5_Fed_Com_128H_Choke_5M_20191230141528.pdf

BOP Diagram Attachment:

Red_Hills_32_5_Fed_Com_128H_BOP_5M_20191230141543.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	14.75	13.375	NEW	API	N	0	984	0	984			984	J-55	40.5	BUTT	3.51	6.95	BUOY	15.78	BUOY	15.78
2	PRODUCT ION	6.75	5.5	NEW	API	N	0	10296	0	10296	0		10296	L-80	20	LT&C	1.32	1.37	BUOY	2.12	BUOY	2.12
3	INTERMEDIATE	9.875	9.625	NEW	NON API	N	0	11021	0	11021			11021	L-80	29.7	BUTT	2.82	1.36	BUOY	2.06	BUOY	2.06
4	PRODUCT ION	6.75	5.0	NEW	API	N	11787	20708	10900	20708			8921	L-80	17	BUTT	1.9	1.92	BUOY	53.35	BUOY	53.35

Casing Attachments**Casing ID:** 1 **String Type:** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Red_Hills_32_5_Fed_Com_128H_Casing_Assumptions_20191230143407.pdf

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Casing Attachments**

Casing ID: 2 **String Type:** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Red_Hills_32_5_Fed_Com_128H_Casing_Assumptions_20191230144433.pdf

Casing ID: 3 **String Type:** INTERMEDIATE**Inspection Document:****Spec Document:**

Red_Hills_32_5_Fed_Com_128H__Spec_Sheet_for_L80_7.625_Inter_Csg_20191230143830.pdf

Tapered String Spec:**Casing Design Assumptions and Worksheet(s):**Red_Hills_32_5_Fed_Com_128H_Casing_Assumptions_20191230144240.pdf

Casing ID: 4 **String Type:** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Red_Hills_32_5_Fed_Com_128H_Casing_Assumptions_20191230144648.pdf

Section 4 - Cement

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

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
PRODUCTION	Tail		0	0	0	0	0	0	0	0	0
PRODUCTION	Lead		0	0	0	0	0	0	0	0	0
PRODUCTION	Tail		1178 7	2070 8	829	1.3	14.2	1077	25	50:50 (Poz:H)	Salt, Bentonite, Fluid Loss, Dispersant, SMS
SURFACE	Lead		0	984	332	1.72	13.5	570	50	Class C	Bentonite
SURFACE	Tail		0	984	156	1.34	14.8	208	25	Class C	LCM
INTERMEDIATE	Lead		0	4892	455	3.64	10.3	1653	50	Tuned Light	LCM
INTERMEDIATE	Tail		4892	1102 1	198	1.36	14.8	268	25	Class C	Retarder
INTERMEDIATE	Lead	4892	4892	1102 1	793	1.88	12.9	1490	50	Class C	Retarder

Section 5 - Circulating Medium

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

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

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

Circulating Medium Table

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

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	984	SPUD MUD	8.3	8.8							
984	1102 1	OTHER : Brine Diesel Emulsion	8.5	9							
1102 1	2070 8	OIL-BASED MUD	12	12.5							

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:

CNL,DS,GR

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7085

Anticipated Surface Pressure: 4687

Anticipated Bottom Hole Temperature(F): 178

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 attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

Red_Hills_32_5_Fed_Com_128H_H2S_Plan_20191230152336.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Red_Hills_32_5_Fed_Com_128H_AC_Report_20191230152056.pdf

Red_Hills_32_5_Fed_Com_128H_Directional_Plan_20191230152057.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

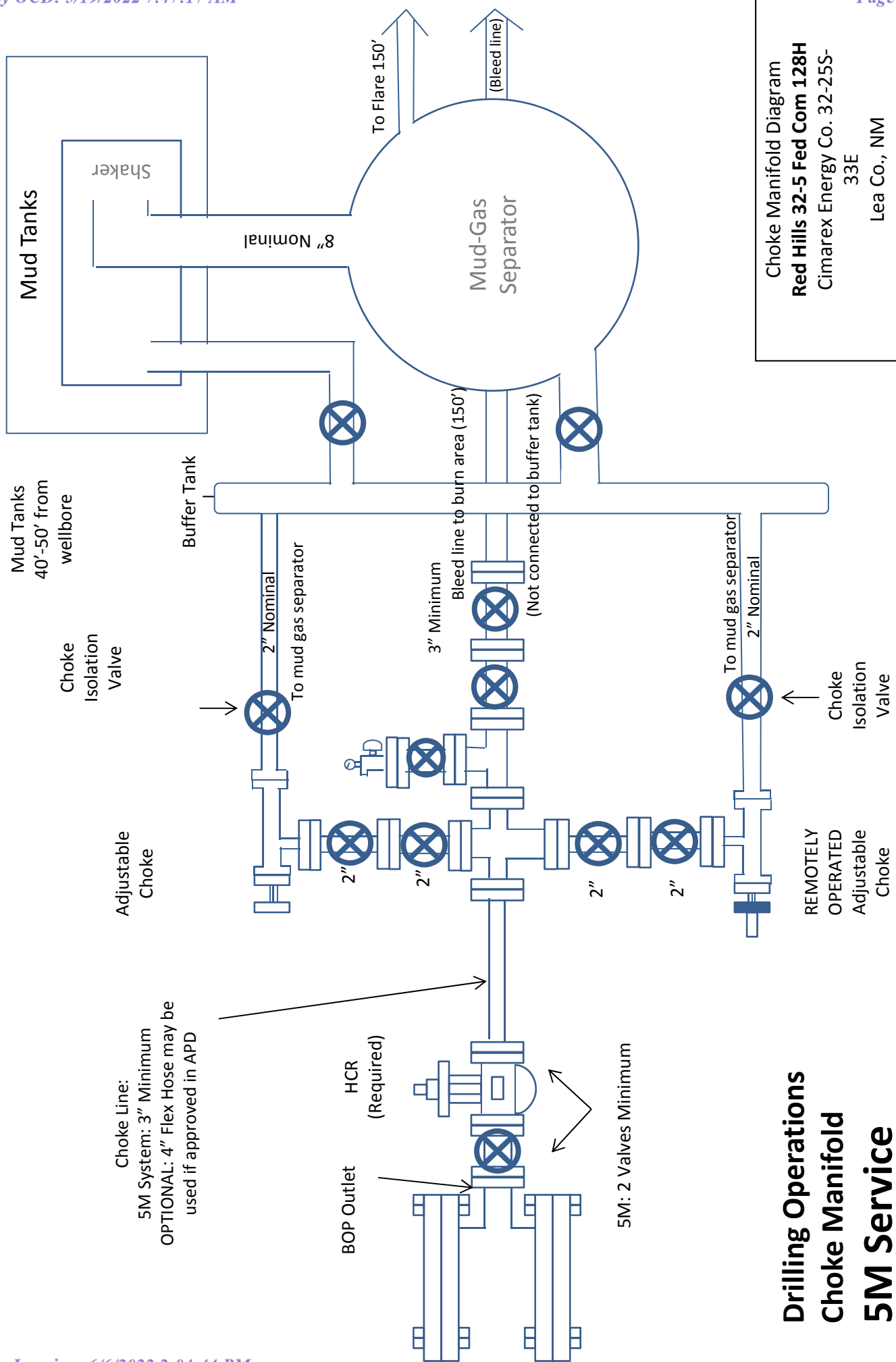
Red_Hills_32_5_Fed_Com_128H_Drilling_Plan_20191230152151.pdf

Red_Hills_32_5_Fed_Com_128H_Flex_Hose_20191230152215.pdf

Red_Hills_32_5_Fed_Com_128H_Gas_Capture_Plan_20191230152216.pdf

Other Variance attachment:

Red_Hills_32_5_Fed_Com_128H_Multibowl_Wellhead_REV_01_20200304055716.pdf





Drilling 6" hole below 7"
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

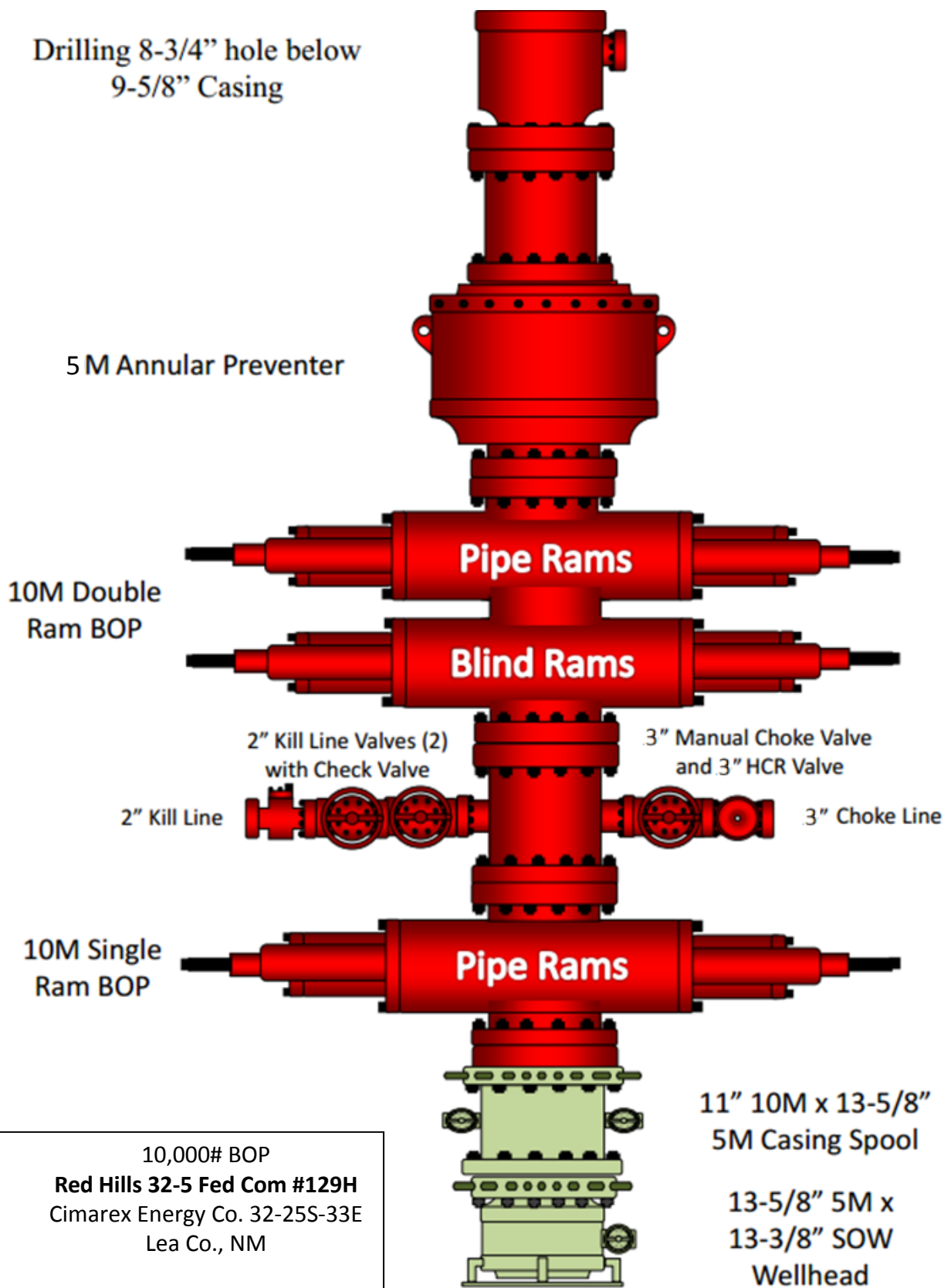
13-5/8" 3000# psi x 13-3/8" SOW Casing Head

5000# BOP

Red Hills 32-5 Fed Com #128H

Cimarex Energy Co. 32-25S-33E

Lea Co., NM



PERFORMANCE DATA

TMK UP ULTRA™ FJ Technical Data Sheet

7.625 in

29.70 lbs/ft

L80 HC

Tubular Parameters

Size	7.625	in	Minimum Yield	80,000	psi
Nominal Weight	29.70	lbs/ft	Minimum Tensile	95,000	psi
Grade	L80 HC		Yield Load	683,000	lbs
PE Weight	29.04	lbs/ft	Tensile Load	811,000	lbs
Wall Thickness	0.375	in	Min. Internal Yield Pressure	6,890	psi
Nominal ID	6.875	in	Collapse Pressure	5,510	psi
Drift Diameter	6.750	in			
Nom. Pipe Body Area	8.541	in ²			

Connection Parameters

Connection OD	7.625	in
Connection ID	6.881	in
Make-Up Loss	4.022	in
Critical Section Area	5.316	in ²
Tension Efficiency	62.2	%
Compression Efficiency	62.2	%
Yield Load In Tension	425,000	lbs
Min. Internal Yield Pressure	6,890	psi
Collapse Pressure	5,510	psi
Uniaxial Bending	30	°/ 100 ft

Make-Up Torques

Min. Make-Up Torque	13,200	ft-lbs
Opt. Make-Up Torque	14,700	ft-lbs
Max. Make-Up Torque	16,200	ft-lbs
Operating Torque	13,200	ft-lbs
Yield Torque	23,500	ft-lbs



Printed on: August-27-2018

NOTE:

The content of this Technical Data Sheet is for general information only and does not guarantee performance or imply fitness for a particular purpose, which only a competent drilling professional can determine considering the specific installation and operation parameters. Information that is printed or downloaded is no longer controlled by TMK IPSCO and might not be the latest information. Anyone using the information herein does so at their own risk. To verify that you have the latest TMK IPSCO technical information, please contact TMK IPSCO Technical Sales toll-free at 1-888-258-2000.



Red Hills 32-5 Fed Com 128H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
14 3/4	0	984	984	10-3/4"	40.50	J-55	BT&C	3.51	6.95	15.78
9 7/8	0	11021	10851	7-5/8"	29.70	L-80	BT&C	2.82	1.36	2.06
6 3/4	0	10296	10296	5-1/2"	20.00	L-80	LT&C	1.32	1.37	2.12
6 3/4	11787	20708	10900	5"	18.00	P-110	BT&C	1.90	1.92	53.35
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

Request Variance for 5-1/2" x 7-5/8" annular clearance. The portion that does not meet clearance will not be cemented

Red Hills 32-5 Fed Com 128H

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Red Hills 32-5 Fed Com #128H

Cimarex Energy Co.

UL: D, Sec. 32, 25S, 33E

Lea Co., NM

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

H₂S Detection and Alarm Systems:

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

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

H₂S Contingency Plan
Red Hills 32-5 Fed Com #128H
Cimarex Energy Co. UL: D, Sec. 32,
25S, 33E Lea Co., NM

Emergency Procedures

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

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

Ignition of Gas Source

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

Characteristics of H₂S and SO₂

Please see attached International Chemical Safety Cards.

Contacting Authorities

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

H₂S Contingency Plan Emergency Contacts**Red Hills 32-5 Fed Com #128H**

Cimarex Energy Co.

UL: D, Sec. 32, 25S, 33E

Lea Co., NM

Company Office

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

Key Personnel

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

Artesia

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

Carlsbad

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

Santa Fe

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

National

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

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

Other

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



Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19 Anti-Collision Summary Report

Analysis Date-24hr Time: November 19, 2019 - 15:49
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure: Cimarex Red Hills 32-5 Fed Com #128H
Slot: New Slot
Well: Red Hills 32-5 Fed Com #128H
Borehole: Red Hills 32-5 Fed Com #128H
Scan MD Range: 0.00ft ~ 20708.81ft

Analysis Method: 3D Least Distance
Reference Trajectory: Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19 (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: 2.10.782.0
Database \ Project: US1153APP452.dir.slb.com\drilling-NM Lea County 2.10

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

Offset Trajectories Summary

Offset Selection Criteria

Wellhead distance scan: Restricted within 61277.79 ft
 Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
 - All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

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

Results highlighted: Sep-Factor separation <= 1.50 ft

Cimarex Red Hills Unit #4
 (Offset) Gas Blind 0ft-17675ft
 (Def Survey)

Fail Major

4615.83	32.81	4613.85	4583.02	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
4615.72	32.81	4613.73	4582.91	401199.79	MAS = 10.00 (m)	20.00	20.00					MinPt-O-SF
4615.70	32.81	4613.71	4582.89	509882.52	MAS = 10.00 (m)	26.00	26.00					WRP
4615.69	761.36	4107.46	3854.33	9.11	OSF1.50	2500.00	2500.00					MinPt-CtCt
4748.28	1429.00	3794.96	3319.28	4.99	OSF1.50	4630.00	4623.94	OSF<5.00				Enter Alert
3402.43	3404.04	1131.69	-1.60	1.50	OSF1.50	12070.00	10900.00		OSF<1.50			Enter Minor
2272.04	3405.49	-0.15	-1133.46	1.00	OSF1.50	13300.00	10900.00			OSF<1.00		Enter Major
1091.87	3402.86	-1177.37	-2310.99	0.48	OSF1.50	15290.00	10900.00					MinPts
2267.69	3402.44	-1.26	-1134.75	1.00	OSF1.50	17280.00	10900.00			OSF>1.00		Exit Major
3397.74	3402.25	1128.91	-4.52	1.50	OSF1.50	18510.00	10900.00		OSF>1.50			Exit Minor
5525.29	3402.14	3256.54	2123.15	2.44	OSF1.50	20708.81	10900.00					TD

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

Fail Minor

20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	0.00	0.00	CtCt<=15m<15.00				Enter Alert
20.00	16.26	18.71	3.74	N/A	MAS = 4.96 (m)	26.00	26.00					WRP
20.00	20.02	6.23	-0.02	1.50	OSF1.50	2050.00	2050.00		OSF<1.50			Enter Minor
20.00	24.26	3.40	-4.26	1.22	OSF1.50	2500.00	2500.00					MinPt-CtCt
20.26	25.29	2.97	-5.03	1.19	OSF1.50	2610.00	2609.97					MINPT-O-EOU
20.33	25.39	2.98	-5.05	1.19	OSF1.50	2620.00	2619.96					MinPt-O-SF
20.42	25.48	3.01	-5.06	1.19	OSF1.50	2630.00	2629.96					MinPt-O-ADP
26.74	27.17	8.20	-0.43	1.48	OSF1.50	2810.00	2809.43		OSF>1.50			Exit Minor
122.89	37.77	97.28	85.12	5.00	OSF1.50	3930.00	3924.64	OSF>5.00				Exit 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		
	141.91	43.56	112.44	98.35	4.99	OSF1.50	4770.00	4763.94	OSF<5.00			Enter Alert	
	141.91	90.79	80.95	51.12	2.36	OSF1.50	9790.00	9783.94				MINPT-O-EOU	
	141.95	90.84	80.96	51.11	2.36	OSF1.50	9800.00	9793.94				MinPts	
	255.36	77.97	202.94	177.38	4.97	OSF1.50	10190.00	10183.94	OSF>5.00			Exit Alert	
	599.90	32.25	577.97	567.65	29.00	OSF1.50	11540.00	10900.00				MinPt-CtCt	
	599.90	181.11	478.73	418.79	4.99	OSF1.50	16630.00	10900.00	OSF<5.00			Enter Alert	
	599.90	306.01	395.47	293.89	2.95	OSF1.50	20708.81	10900.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com #160H Rev2 RM
19Nov19 (Def Plan)

Fail Minor

1834.75	32.81	1833.46	1801.94	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1834.75	32.81	1833.43	1801.94	64976.56	MAS = 10.00 (m)	26.00	26.00					WRP	
261.22	81.10	206.04	180.12	4.97	OSF1.50	8410.00	8403.94	OSF<5.00				Enter Alert	
89.08	90.29	27.93	-1.21	1.48	OSF1.50	9230.00	9223.94		OSF<1.50			Enter Minor	
68.65	91.49	7.23	-22.84	1.12	OSF1.50	10110.00	10103.94					MinPt-CtCt	
68.66	91.52	7.22	-22.85	1.12	OSF1.50	10120.00	10113.94					MinPts	
87.34	88.64	27.82	-1.30	1.48	OSF1.50	10260.00	10253.94		OSF>1.50			Exit Minor	
216.56	67.42	171.18	149.14	4.88	OSF1.50	10600.00	10587.80	OSF>5.00				Exit Alert	
312.70	94.93	248.98	217.77	4.99	OSF1.50	13460.00	10900.00	OSF<5.00				Enter Alert	
312.70	312.76	103.76	-0.06	1.50	OSF1.50	20620.00	10900.00		OSF<1.50			Enter Minor	
312.70	315.48	101.95	-2.78	1.49	OSF1.50	20708.81	10900.00					MinPts	

Cimarex Red Hills 32-5 Fed
Com #131H Rev1 RM 11Oct19
(Def Plan)

Warning Alert

72.11	32.81	70.82	39.30	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
72.11	32.81	70.82	39.30	159373.07	MAS = 10.00 (m)	26.00	26.00					WRP	
72.11	32.81	56.64	39.30	4.99	MAS = 10.00 (m)	2320.00	2320.00	OSF<5.00				Enter Alert	
72.11	32.81	55.50	39.30	4.62	MAS = 10.00 (m)	2500.00	2500.00					MinPts	
72.25	32.81	55.37	39.45	4.55	MAS = 10.00 (m)	2560.00	2560.00					MINPT-O-EOU	
72.90	32.81	55.73	40.10	4.51	MAS = 10.00 (m)	2630.00	2629.96					MinPt-O-SF	
84.92	32.81	66.86	52.11	4.99	MAS = 10.00 (m)	2880.00	2879.13	OSF>5.00				Exit Alert	
227.05	69.04	180.60	158.02	5.00	OSF1.50	8420.00	8413.94	OSF<5.00				Enter Alert	
109.92	86.34	51.93	23.58	1.92	OSF1.50	10850.00	10778.58					MinPts	
283.58	87.09	225.09	196.49	4.94	OSF1.50	11130.00	10875.36	OSF>5.00				Exit Alert	
1603.57	305.35	1399.58	1298.23	7.90	OSF1.50	20708.81	10900.00					MinPts	

Cimarex Red Hills 32-5 Fed
Com #159H Rev2 RM
19Nov19 (Def Plan)

Warning Alert

1854.74	32.81	1853.45	1821.93	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1854.74	32.81	1853.42	1821.93	65171.87	MAS = 10.00 (m)	26.00	26.00					WRP	
841.58	82.72	785.49	758.86	15.75	OSF1.50	10110.00	10103.94					MinPt-CtCt	
841.61	82.82	785.44	758.79	15.73	OSF1.50	10130.00	10123.94					MinPts	
843.38	83.20	786.97	760.18	15.69	OSF1.50	10230.00	10223.94					MinPt-O-SF	
883.96	73.22	834.31	810.74	18.70	OSF1.50	11120.00	10873.48					MinPt-O-ADP	
883.85	73.09	834.28	810.76	18.73	OSF1.50	11140.00	10877.17					MINPT-O-EOU	
883.82	72.96	834.34	810.87	18.77	OSF1.50	11160.00	10880.59					MinPt-CtCt	
886.94	267.96	707.47	618.99	5.00	OSF1.50	19460.00	10900.00	OSF<5.00				Enter Alert	
886.94	307.02	681.43	579.92	4.36	OSF1.50	20708.81	10900.00					MinPts	

Cimarex Red Hills Unit #3H
(Offset) Gas Inc Only Off-
17597ft (Def Survey)

Warning Alert

8426.52	32.81	8424.54	8393.71	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
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Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
8426.45	32.81	8424.46	8393.64	N/A		MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
8426.43	32.81	8424.45	8393.63	N/A		MAS = 10.00 (m)	26.00	26.00				WRP	
8426.42	32.81	8422.71	8393.62	4852.30		MAS = 10.00 (m)	170.00	170.00				MinPts	
8425.05	35.49	8400.73	8389.56	377.05		OSF1.50	750.00	750.00				MinPt-CtCt	
8427.13	45.82	8395.92	8381.31	288.27		OSF1.50	1040.00	1040.00				MINPT-O-EOU	
8420.75	80.18	8366.64	8340.57	161.48		OSF1.50	1560.00	1560.00				MinPt-CtCt	
8421.69	85.75	8363.87	8335.95	150.77		OSF1.50	1740.00	1740.00				MINPT-O-EOU	
8422.68	86.92	8364.07	8335.76	148.70		OSF1.50	1810.00	1810.00				MinPt-O-ADP	
8422.77	134.49	8332.45	8288.28	95.32		OSF1.50	2540.00	2540.00				MinPt-CtCt	
8423.23	135.79	8332.04	8287.44	94.40		OSF1.50	2590.00	2589.99				MINPT-O-EOU	
8423.69	136.30	8332.16	8287.39	94.05		OSF1.50	2610.00	2609.97				MinPt-O-ADP	
8499.59	186.44	8374.64	8313.15	69.10		OSF1.50	3450.00	3446.69				MinPts	
8550.24	265.76	8372.40	8284.48	48.61		OSF1.50	5180.00	5173.94				MinPt-CtCt	
8554.06	275.85	8369.50	8278.21	46.84		OSF1.50	5540.00	5533.94				MINPT-O-EOU	
8546.98	358.13	8307.57	8188.85	35.99		OSF1.50	6940.00	6933.94				MinPt-CtCt	
8551.18	371.74	8302.70	8179.44	34.68		OSF1.50	7380.00	7373.94				MINPT-O-EOU	
8542.99	446.67	8244.55	8096.32	28.81		OSF1.50	8620.00	8613.94				MinPt-CtCt	
8545.01	454.57	8241.30	8090.43	28.31		OSF1.50	8910.00	8903.94				MINPT-O-EOU	
8547.00	456.96	8241.70	8090.03	28.17		OSF1.50	9020.00	9013.94				MinPt-O-ADP	
8544.70	533.33	8188.49	8011.37	24.12		OSF1.50	10290.00	10283.94				MinPt-CtCt	
1941.54	588.20	1547.14	1353.34	4.99		OSF1.50	18220.00	10900.00	OSF<5.00			Enter Alert	
1757.68	591.88	1362.41	1165.80	4.46		OSF1.50	19040.00	10900.00				MinPts	
1757.74	591.96	1362.45	1165.79	4.46		OSF1.50	19060.00	10900.00				MinPt-O-ADP	
1758.03	592.08	1362.65	1165.95	4.46		OSF1.50	19080.00	10900.00				MinPt-O-SF	
1968.04	591.98	1572.72	1376.06	5.00		OSF1.50	19930.00	10900.00	OSF>5.00			Exit Alert	
2420.47	587.08	2028.42	1833.39	6.20		OSF1.50	20708.81	10900.00				TD	

Cimarex Red Hills 32-5 Fed
Com #130H Rev2 RM
14Nov19 (Def Plan)

Pass

84.84	32.81	83.56	52.03	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
84.84	32.81	83.56	52.03	125357.10		MAS = 10.00 (m)	26.00	26.00				WRP	
84.84	32.81	68.24	52.03	5.46		MAS = 10.00 (m)	2500.00	2500.00				MinPts	
84.95	32.81	68.16	52.14	5.40		MAS = 10.00 (m)	2530.00	2530.00				MINPT-O-EOU	
87.13	32.81	69.64	54.32	5.30		MAS = 10.00 (m)	2640.00	2639.94				MinPt-O-SF	
476.58	82.89	420.88	393.68	8.74		OSF1.50	10400.00	10393.94				MinPt-O-SF	
433.07	81.69	378.18	351.38	8.06		OSF1.50	10840.00	10772.68				MinPt-O-SF	
433.01	81.66	378.14	351.35	8.06		OSF1.50	10850.00	10778.58				MinPts	
1417.46	303.02	1215.02	1114.44	7.04		OSF1.50	20708.81	10900.00				MinPts	

Cimarex Red Hills 32-5 Fed
Com #127H Rev2 RM
14Nov19 (Def Plan)

Pass

99.99	32.81	98.70	67.18	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
99.99	32.81	98.70	67.18	74037.11		MAS = 10.00 (m)	26.00	26.00				WRP	
99.99	32.81	83.38	67.18	6.44		MAS = 10.00 (m)	2500.00	2500.00				MinPts	
100.07	32.81	83.28	67.26	6.37		MAS = 10.00 (m)	2530.00	2530.00				MINPT-O-EOU	
103.54	32.81	85.75	70.73	6.19		MAS = 10.00 (m)	2690.00	2689.86				MinPt-O-SF	
996.12	82.93	940.40	913.19	18.28		OSF1.50	10400.00	10393.94				MinPt-O-SF	
977.81	81.64	922.95	896.17	18.23		OSF1.50	10770.00	10726.87				MinPt-O-SF	
975.97	81.39	921.28	894.58	18.25		OSF1.50	10840.00	10772.68				MinPt-O-ADP	
975.94	81.36	921.27	894.58	18.26		OSF1.50	10850.00	10778.58				MinPts	
1873.64	299.45	1673.58	1574.19	9.42		OSF1.50	20708.81	10900.00				MinPts	

Offset Trajectory	Separation			Allow	Sep.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.		MD (ft)	TVD (ft)	Alert	Minor	Major		
Cimarex Red Hills 32-5 Fed Com #158H Rev1 RM 14Oct19 (Def Plan)													
												Pass	
	1874.74	32.81	1873.45	1841.93	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1874.74	32.81	1873.42	1841.93	65364.49	MAS = 10.00 (m)	26.00	26.00				WRP	
	1140.49	83.12	1084.31	1057.37	21.13	OSF1.50	10400.00	10393.94				MinPts	
	1131.94	82.03	1076.48	1049.91	21.26	OSF1.50	10760.00	10719.71				MinPts	
	1131.92	82.00	1076.48	1049.92	21.27	OSF1.50	10770.00	10726.87				MinPt-CtCt	
	1751.87	315.96	1540.80	1435.91	8.34	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #156H Rev3 RM 14Nov19 (Def Plan)													
												Pass	
	1935.66	32.81	1934.38	1902.85	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1935.66	32.81	1934.35	1902.85	64490.54	MAS = 10.00 (m)	26.00	26.00				WRP	
	1468.74	86.46	1410.48	1382.28	26.01	OSF1.50	10400.00	10393.94				MinPts	
	1466.87	80.80	1412.39	1386.07	27.84	OSF1.50	11080.00	10865.27				MinPt-CtCt	
	1466.87	80.15	1412.82	1386.72	28.07	OSF1.50	11190.00	10885.20				MinPt-CtCt	
	1466.92	308.49	1260.64	1158.43	7.17	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #157H Rev2 RM 14Nov19 (Def Plan)													
												Pass	
	1894.73	32.81	1893.44	1861.92	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1894.73	32.81	1893.42	1861.92	65553.81	MAS = 10.00 (m)	26.00	26.00				WRP	
	1825.17	36.57	1800.35	1788.60	77.65	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	1473.51	78.60	1420.49	1394.91	28.78	OSF1.50	9810.00	9803.94				MinPt-CtCt	
	1473.56	78.77	1420.41	1394.79	28.71	OSF1.50	9840.00	9833.94				MINPT-O-EOU	
	1473.60	78.82	1420.43	1394.78	28.69	OSF1.50	9850.00	9843.94				MinPt-O-ADP	
	1477.39	79.32	1423.88	1398.06	28.58	OSF1.50	10030.00	10023.94				MinPt-O-SF	
	1589.79	305.81	1385.49	1283.98	7.82	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #155H Rev3 RM 14Nov19 (Def Plan)													
												Pass	
	1955.64	32.81	1954.36	1922.84	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1955.64	32.81	1954.33	1922.84	64677.61	MAS = 10.00 (m)	26.00	26.00				WRP	
	1954.14	33.31	1931.51	1920.83	91.47	OSF1.50	3460.00	3456.65				MinPt-CtCt	
	1902.00	36.59	1877.16	1865.41	80.85	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	1653.64	84.38	1596.81	1569.25	29.97	OSF1.50	10400.00	10393.94				MinPt-O-SF	
	1641.52	83.38	1585.36	1558.14	30.12	OSF1.50	10840.00	10772.68				MinPts	
	1641.50	83.35	1585.36	1558.15	30.13	OSF1.50	10850.00	10778.58				MinPt-CtCt	
	2023.08	310.52	1815.64	1712.57	9.81	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #171H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	2574.72	32.81	2572.74	2541.91	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2574.72	32.81	2572.71	2541.91	86413.14	MAS = 10.00 (m)	26.00	26.00				WRP	
	2571.93	38.42	2545.66	2533.51	105.77	OSF1.50	3930.00	3924.64				MinPt-CtCt	
	2571.97	39.59	2544.92	2532.38	102.49	OSF1.50	4100.00	4094.04				MinPts	
	2566.16	97.09	2500.76	2469.06	40.44	OSF1.50	10710.00	10681.80				MinPt-O-SF	
	2564.17	96.93	2498.89	2467.24	40.48	OSF1.50	10840.00	10772.68				MinPt-O-ADP	
	2564.16	96.91	2498.88	2467.24	40.49	OSF1.50	10850.00	10778.58				MinPts	
	2750.61	306.40	2545.69	2444.21	13.54	OSF1.50	20708.81	10900.00				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 #1 (Offset) Gas Inc Only Off- 21321ft (Def Survey)													
												Pass	
	5279.88	32.81	5277.90	5247.07	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	5279.87	32.81	5277.89	5247.07	N/A	MAS = 10.00 (m)	10.00	10.00				MinPts	
	5279.88	32.81	5277.90	5247.07	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	5279.65	32.81	5265.51	5246.84	434.15	MAS = 10.00 (m)	410.00	410.00				MinPts	
	5278.77	33.39	5255.85	5245.39	252.02	OSF1.50	660.00	660.00				MinPt-CtCt	
	5279.03	34.17	5255.59	5244.86	245.89	OSF1.50	720.00	720.00				MINPT-O-EOU	
	5279.02	40.65	5251.26	5238.37	204.70	OSF1.50	800.00	800.00				MinPt-CtCt	
	5279.15	41.01	5251.15	5238.14	202.81	OSF1.50	840.00	840.00				MINPT-O-EOU	
	5279.32	41.19	5251.20	5238.12	201.88	OSF1.50	860.00	860.00				MinPt-O-ADP	
	5279.93	55.16	5242.50	5224.77	148.87	OSF1.50	1080.00	1080.00				MinPt-CtCt	
	5280.42	69.42	5233.48	5211.00	117.41	OSF1.50	1350.00	1350.00				MinPt-CtCt	
	5280.31	90.81	5219.10	5189.49	89.13	OSF1.50	1760.00	1760.00				MinPt-CtCt	
	5280.11	114.75	5202.95	5165.36	70.20	OSF1.50	2220.00	2220.00				MinPt-CtCt	
	5281.99	135.82	5190.79	5146.17	59.18	OSF1.50	2550.00	2550.00				MinPt-CtCt	
	5282.79	138.73	5189.65	5144.07	57.93	OSF1.50	2620.00	2619.96				MINPT-O-EOU	
	5283.66	139.80	5189.80	5143.86	57.48	OSF1.50	2650.00	2649.93				MinPt-O-ADP	
	5313.63	162.57	5204.58	5151.05	49.61	OSF1.50	3060.00	3058.36				MinPts	
	5332.91	174.45	5215.94	5158.45	46.36	OSF1.50	3310.00	3307.29				MinPts	
	5359.24	192.49	5230.26	5166.75	42.18	OSF1.50	3620.00	3615.97				MINPT-O-EOU	
	5359.83	193.21	5230.36	5166.62	42.03	OSF1.50	3630.00	3625.92				MinPt-O-ADP	
	5377.72	206.65	5239.30	5171.08	39.40	OSF1.50	3870.00	3864.90				MinPts	
	5396.33	220.36	5248.77	5175.97	37.05	OSF1.50	4160.00	4153.97				MINPT-O-EOU	
	5396.88	222.65	5247.79	5174.23	36.67	OSF1.50	4300.00	4293.94				MinPt-CtCt	
	5397.38	224.21	5247.24	5173.16	36.42	OSF1.50	4390.00	4383.94				MINPT-O-EOU	
	5394.38	243.06	5231.68	5151.32	33.55	OSF1.50	4690.00	4683.94				MinPt-CtCt	
	5393.30	275.36	5209.06	5117.94	29.58	OSF1.50	5310.00	5303.94				MinPt-CtCt	
	5393.75	331.15	5172.32	5062.60	24.57	OSF1.50	6380.00	6373.94				MinPt-CtCt	
	5392.55	372.91	5143.28	5019.64	21.80	OSF1.50	7180.00	7173.94				MinPt-CtCt	
	5394.53	453.85	5091.30	4940.68	17.90	OSF1.50	8730.00	8723.94				MinPt-CtCt	
	5396.76	511.30	5055.23	4885.46	15.89	OSF1.50	9830.00	9823.94				MinPt-CtCt	
	2573.21	573.98	2189.90	1999.23	6.74	OSF1.50	15420.00	10900.00				MinPt-CtCt	
	2573.23	574.01	2189.89	1999.22	6.74	OSF1.50	15430.00	10900.00				MinPts	
	2573.52	574.10	2190.12	1999.41	6.74	OSF1.50	15460.00	10900.00				MinPt-O-SF	
	5881.26	573.65	5498.17	5307.61	15.43	OSF1.50	20708.81	10900.00				TD	
Cimarex Red Hills 32-5 Fed Com #170H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	2594.71	32.81	2593.43	2561.91	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2594.71	32.81	2593.40	2561.91	85827.03	MAS = 10.00 (m)	26.00	26.00				WRP	
	2594.05	32.81	2575.52	2561.24	150.40	MAS = 10.00 (m)	2810.00	2809.43				MinPts	
	2594.10	32.81	2575.49	2561.29	149.72	MAS = 10.00 (m)	2830.00	2829.34				MINPT-O-EOU	
	2690.17	34.07	2667.03	2656.10	123.02	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	2825.63	43.01	2796.53	2782.62	101.53	OSF1.50	5550.00	5543.94				MinPt-O-SF	
	2826.44	85.68	2768.89	2740.76	50.22	OSF1.50	10400.00	10393.94				MinPts	
	2819.29	84.84	2762.30	2734.45	50.59	OSF1.50	10840.00	10772.68				MinPts	
	2819.28	84.81	2762.31	2734.47	50.61	OSF1.50	10850.00	10778.58				MinPt-CtCt	
	3127.57	303.42	2924.86	2824.14	15.52	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #169H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	2614.70	32.81	2613.41	2581.89	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	

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		
2614.70		32.81	2613.38	2581.89	85857.14	MAS = 10.00 (m)	26.00	26.00				WRP	
2614.70		32.81	2598.81	2581.89	178.95	MAS = 10.00 (m)	2380.00	2380.00				MinPts	
2614.75		32.81	2598.73	2581.94	177.33	MAS = 10.00 (m)	2410.00	2410.00				MINPT-O-EOU	
2784.02		33.15	2761.49	2750.87	130.99	OSF1.50	4100.00	4094.04				MinPt-O-SF	
3250.41		62.96	3208.01	3187.45	79.02	OSF1.50	7780.00	7773.94				MinPt-O-SF	
3250.47		82.15	3195.27	3168.31	60.27	OSF1.50	10400.00	10393.94				MinPts	
3244.25		80.77	3189.98	3163.48	61.20	OSF1.50	10830.00	10766.62				MinPt-O-ADP	
3244.22		80.74	3189.97	3163.48	61.23	OSF1.50	10840.00	10772.68				MINPT-O-EOU	
3244.21		80.70	3189.98	3163.50	61.25	OSF1.50	10850.00	10778.58				MinPt-CtCt	
3515.52		303.08	3313.04	3212.44	17.47	OSF1.50	20708.81	10900.00				MinPts	

Cimarex Red Hills Unit #2H
(Offset) Gas Inc Only Off-
15005ft (Def Survey)

Pass

6756.55	32.81	6754.58	6723.75	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
6756.45	32.81	6754.46	6723.64	515314.71	MAS = 10.00 (m)	20.00	20.00	MinPt-O-SF
6756.43	32.81	6754.44	6723.62	519242.86	MAS = 10.00 (m)	26.00	26.00	WRP
6756.40	32.81	6754.34	6723.59	76579.70	MAS = 10.00 (m)	50.00	50.00	MinPts
6756.91	32.81	6739.42	6724.10	435.48	MAS = 10.00 (m)	560.00	560.00	MinPts
6756.38	36.53	6731.36	6719.85	293.23	OSF1.50	780.00	780.00	MinPt-CtCt
6753.30	62.43	6711.02	6690.87	167.53	OSF1.50	1260.00	1260.00	MinPt-CtCt
6751.67	108.69	6678.55	6642.98	94.88	OSF1.50	2140.00	2140.00	MinPt-CtCt
6752.94	112.62	6677.20	6640.32	91.53	OSF1.50	2310.00	2310.00	MINPT-O-EOU
6756.10	118.02	6676.76	6638.08	87.31	OSF1.50	2470.00	2470.00	MINPT-O-EOU
6757.73	120.14	6676.98	6637.59	85.76	OSF1.50	2530.00	2530.00	MinPt-O-ADP
6758.14	138.84	6664.92	6619.30	74.05	OSF1.50	2580.00	2579.99	MinPt-CtCt
6758.61	140.22	6664.47	6618.39	73.31	OSF1.50	2630.00	2629.96	MINPT-O-EOU
6759.05	140.77	6664.55	6618.28	73.03	OSF1.50	2650.00	2649.93	MinPt-O-ADP
6799.20	168.00	6686.54	6631.20	61.41	OSF1.50	3180.00	3177.85	MinPts
6821.47	180.32	6700.60	6641.15	57.36	OSF1.50	3460.00	3456.65	MinPts
6855.07	205.01	6717.73	6650.05	50.63	OSF1.50	3840.00	3835.03	MinPts
6876.13	226.06	6724.76	6650.07	46.02	OSF1.50	4400.00	4393.94	MinPt-CtCt
6877.42	229.98	6723.44	6647.44	45.23	OSF1.50	4570.00	4563.94	MINPT-O-EOU
6878.69	231.57	6723.65	6647.12	44.93	OSF1.50	4640.00	4633.94	MinPt-O-ADP
6878.36	245.83	6713.82	6632.53	42.30	OSF1.50	4770.00	4763.94	MinPt-CtCt
6878.51	246.28	6713.66	6632.23	42.22	OSF1.50	4820.00	4813.94	MINPT-O-EOU
6877.88	255.52	6706.88	6622.36	40.68	OSF1.50	4960.00	4953.94	MinPt-CtCt
6875.69	266.51	6697.35	6609.18	38.98	OSF1.50	5170.00	5163.94	MinPt-CtCt
6875.79	266.83	6697.24	6608.96	38.93	OSF1.50	5210.00	5203.94	MINPT-O-EOU
6875.92	266.98	6697.27	6608.93	38.91	OSF1.50	5230.00	5223.94	MinPt-O-ADP
6873.91	282.65	6684.82	6591.27	36.73	OSF1.50	5480.00	5473.94	MinPt-CtCt
6874.33	357.25	6635.51	6517.08	29.02	OSF1.50	6920.00	6913.94	MinPt-CtCt
6885.64	387.78	6626.46	6497.86	26.76	OSF1.50	7670.00	7663.94	MINPT-O-EOU
6874.96	429.57	6587.92	6445.39	24.11	OSF1.50	8300.00	8293.94	MinPt-CtCt
6880.76	444.12	6584.02	6436.64	23.34	OSF1.50	8730.00	8723.94	MINPT-O-EOU
6879.93	472.44	6564.30	6407.48	21.93	OSF1.50	9110.00	9103.94	MinPt-CtCt
6880.34	473.71	6563.88	6406.64	21.87	OSF1.50	9200.00	9193.94	MINPT-O-EOU
6880.82	474.25	6563.99	6406.56	21.85	OSF1.50	9240.00	9233.94	MinPt-O-ADP
6883.75	477.19	6564.97	6406.57	21.72	OSF1.50	9380.00	9373.94	MinPt-O-ADP
6882.55	512.99	6539.90	6369.56	20.20	OSF1.50	9910.00	9903.94	MinPt-CtCt
3239.94	582.36	2851.04	2657.59	8.37	OSF1.50	16760.00	10900.00	MinPt-CtCt
3239.96	582.41	2851.03	2657.56	8.37	OSF1.50	16770.00	10900.00	MinPts
3241.23	582.80	2852.04	2658.43	8.37	OSF1.50	16850.00	10900.00	MinPt-O-SF
5108.84	587.35	4716.61	4521.49	13.09	OSF1.50	20708.81	10900.00	TD

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
Cimarex Red Hills 32-5 Fed Com #199H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	4450.88	32.81	4448.90	4418.07	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4450.87	32.81	4448.89	4418.06	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	4212.90	36.53	4187.82	4176.36	183.72	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	3679.82	84.28	3622.60	3595.54	67.94	OSF1.50	10400.00	10393.94				MinPts	
	3669.18	82.37	3613.23	3586.81	69.38	OSF1.50	10930.00	10819.41				MinPts	
	3669.16	82.33	3613.24	3586.83	69.41	OSF1.50	10940.00	10823.68				MinPt-CtCt	
	3918.31	314.30	3708.12	3604.01	18.81	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills 32-5 Fed Com #198H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	4470.87	32.81	4468.89	4438.06	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4470.86	32.81	4468.89	4438.06	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	4311.85	36.28	4286.96	4275.56	189.13	OSF1.50	4100.00	4094.04				MinPt-O-SF	
	4103.66	84.74	4046.36	4018.93	74.74	OSF1.50	10400.00	10393.94				MinPts	
	4094.11	83.44	4037.67	4010.67	75.77	OSF1.50	10930.00	10819.41				MinPts	
	4094.09	83.41	4037.68	4010.68	75.79	OSF1.50	10940.00	10823.68				MinPt-CtCt	
	4318.83	308.59	4112.45	4010.24	21.12	OSF1.50	20708.81	10900.00				MinPts	
Cimarex Red Hills SWD #1 (Offset) Inc Only 0ft-19000ft (Def Survey)													
												Pass	
	7827.98	32.81	7826.00	7795.17	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	7827.82	32.81	7825.82	7795.01	376927.04	MAS = 10.00 (m)	26.00	26.00				MinPt-O-SF	
	7827.74	32.81	7825.68	7794.93	103584.52	MAS = 10.00 (m)	60.00	60.00				MinPts	
	7831.18	85.28	7773.67	7745.90	140.98	OSF1.50	1700.00	1700.00				MinPt-CtCt	
	7842.83	143.41	7746.56	7699.42	83.16	OSF1.50	2700.00	2699.84				MINPT-O-EQU	
	7854.18	156.69	7749.06	7697.49	76.13	OSF1.50	2910.00	2909.00				MinPt-O-ADP	
	7917.01	265.58	7739.30	7651.43	45.04	OSF1.50	5110.00	5103.94				MinPt-CtCt	
	7917.90	268.34	7738.35	7649.56	44.58	OSF1.50	5260.00	5253.94				MINPT-O-EQU	
	7918.95	269.61	7738.55	7649.34	44.37	OSF1.50	5330.00	5323.94				MinPt-O-ADP	
	7926.89	346.10	7695.50	7580.79	34.54	OSF1.50	6700.00	6693.94				MinPt-CtCt	
	7930.23	431.59	7641.85	7498.64	27.68	OSF1.50	8350.00	8343.94				MinPt-CtCt	
	7928.74	513.52	7585.74	7415.23	23.24	OSF1.50	9920.00	9913.94				MinPt-CtCt	
	4415.41	584.47	4025.09	3830.94	11.37	OSF1.50	17260.00	10900.00				MinPt-CtCt	
	4415.41	584.50	4025.09	3830.92	11.36	OSF1.50	17270.00	10900.00				MINPT-O-EQU	
	4415.44	584.54	4025.09	3830.90	11.36	OSF1.50	17280.00	10900.00				MinPt-O-ADP	
	4417.82	585.13	4027.08	3832.69	11.36	OSF1.50	17410.00	10900.00				MinPt-O-SF	
	5600.05	592.19	5204.60	5007.87	14.23	OSF1.50	20708.81	10900.00				TD	
Cimarex Red Hills 32-5 Fed Com #197H Rev0 RM 04Sept19 (Non-Def Plan)													
												Pass	
	4490.85	32.81	4488.87	4458.04	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4490.85	32.81	4488.87	4458.04	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	4485.09	97.08	4419.71	4388.02	70.72	OSF1.50	10600.00	10587.80				MinPt-O-SF	
	4478.81	96.68	4413.69	4382.13	70.91	OSF1.50	10930.00	10819.41				MinPt-O-ADP	
	4478.80	96.67	4413.69	4382.13	70.93	OSF1.50	10940.00	10823.68				MinPts	
	4723.29	304.69	4519.50	4418.59	23.39	OSF1.50	20708.81	10900.00				MinPts	
Neil H Wills Continental State #1 (Offset) Plugged Blind 0ft- 5020ft (Def Survey)													
												Pass	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
5161.03		32.81	5159.05	5128.22	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
5160.94		32.81	5158.95	5128.13	577602.50	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
5160.93		32.81	5158.94	5128.12	814563.89	MAS = 10.00 (m)	26.00	26.00				WRP	
5160.92		761.99	4652.27	4398.93	10.18	OSF1.50	2500.00	2500.00				MinPt-CtCt	
5233.90		1567.71	4188.10	3666.19	5.01	OSF1.50	5070.00	5063.94				MinPts	
7200.17		921.41	6585.24	6278.77	11.74	OSF1.50	13770.00	10900.00				MinPt-CtCt	
7200.17		921.42	6585.23	6278.75	11.74	OSF1.50	13780.00	10900.00				MINPT-O-EOU	
7200.19		921.44	6585.24	6278.75	11.74	OSF1.50	13790.00	10900.00				MinPt-O-ADP	
8269.41		1120.34	7521.86	7149.08	11.09	OSF1.50	17840.00	10900.00				MinPt-O-SF	
9997.42		1284.41	9140.49	8713.01	11.69	OSF1.50	20708.81	10900.00				TD	

Rector Oil Maechtel Permit #1
(Offset) Plugged Oil Blind Off-
5006ft (Def Survey)

Pass

9883.19		32.81	9881.91	9850.39	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
9882.89		32.81	9881.56	9850.08	210488.89	MAS = 10.00 (m)	26.00	26.00				MinPt-O-SF	
9882.36		731.45	9394.30	9150.92	20.30	OSF1.50	2500.00	2500.00				MinPt-CtCt	
10021.19		1559.49	8981.10	8461.70	9.65	OSF1.50	5150.00	5143.94				MinPts	
8123.77		1101.01	7389.34	7022.76	11.08	OSF1.50	14970.00	10900.00				MinPt-O-SF	
5890.38		369.45	5643.65	5520.92	23.99	OSF1.50	19490.00	10900.00				MinPt-O-ADP	
5766.37		219.41	5619.67	5546.96	39.65	OSF1.50	20690.00	10900.00				MinPt-CtCt	
5766.39		219.91	5619.36	5546.49	39.56	OSF1.50	20708.81	10900.00				MinPts	



Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19 Proposal

Geodetic Report

(Non-Def Plan)



Report Date: November 19, 2019 - 03:45 PM
Client: Cimarex Energy
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Red Hills 32-5 Fed Com #128H / New Slot
Well: Red Hills 32-5 Fed Com #128H
Borehole: Red Hills 32-5 Fed Com #128H
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19
Survey Date: August 29, 2019
Tort / AHD / DDI / ERD Ratio: 100.600 ° / 10176.471 ft / 6.289 / 0.934
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 5' 36.28674", W 103° 36' 5.27970"
Location Grid N/E Y/X: N 398489.530 ftUS, E 767979.850 ftUS
CRS Grid Convergence Angle: 0.3889 °
Grid Scale Factor: 0.99996792
Version / Patch: 2.10.782.0

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.604 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3422.200 ft above MSL
Seabed / Ground Elevation: 3396.200 ft above MSL
Magnetic Declination: 6.601 °
Total Gravity Field Strength: 998.4291mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47706.472 nT
Magnetic Dip Angle: 59.681 °
Declination Date: November 19, 2019
Magnetic Declination Model: HDGM 2019
North Reference: Grid North
Grid Convergence Used: 0.3889 °
Total Corr Mag North->Grid North: 6.2120 °
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, 430' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	100.00	0.00	3.65	100.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	200.00	0.00	3.65	200.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	300.00	0.00	3.65	300.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	400.00	0.00	3.65	400.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	500.00	0.00	3.65	500.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	600.00	0.00	3.65	600.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	700.00	0.00	3.65	700.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	800.00	0.00	3.65	800.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	900.00	0.00	3.65	900.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
Rustler	934.00	0.00	3.65	934.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1000.00	0.00	3.65	1000.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1100.00	0.00	3.65	1100.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1200.00	0.00	3.65	1200.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1300.00	0.00	3.65	1300.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
Top of Salt	1349.00	0.00	3.65	1349.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1400.00	0.00	3.65	1400.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1500.00	0.00	3.65	1500.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1600.00	0.00	3.65	1600.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1700.00	0.00	3.65	1700.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1800.00	0.00	3.65	1800.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	1900.00	0.00	3.65	1900.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2000.00	0.00	3.65	2000.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2100.00	0.00	3.65	2100.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2200.00	0.00	3.65	2200.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2300.00	0.00	3.65	2300.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	
	2400.00	0.00	3.65	2400.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32 5 36.29 W 103 36 5.28	

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 ° ' ")
Nudge 2°/100'	2500.00	0.00	3.65	2500.00	0.00	0.00	0.00	0.00	398489.53	767979.85	N 32	5 36.29 W 103 36 5.28
DLS	2600.00	2.00	3.65	2599.98	-1.74	1.74	0.11	2.00	398491.27	767979.96	N 32	5 36.30 W 103 36 5.28
	2700.00	4.00	3.65	2699.84	-6.96	6.96	0.44	2.00	398496.49	767980.29	N 32	5 36.36 W 103 36 5.27
Hold Nudge	2765.00	5.30	3.65	2764.62	-12.22	12.22	0.78	2.00	398501.75	767980.63	N 32	5 36.41 W 103 36 5.27
	2800.00	5.30	3.65	2799.47	-15.44	15.45	0.99	0.00	398504.98	767980.84	N 32	5 36.44 W 103 36 5.27
	2900.00	5.30	3.65	2899.05	-24.66	24.67	1.57	0.00	398514.20	767981.42	N 32	5 36.53 W 103 36 5.26
	3000.00	5.30	3.65	2998.62	-33.87	33.89	2.16	0.00	398523.41	767982.01	N 32	5 36.62 W 103 36 5.25
	3100.00	5.30	3.65	3098.19	-43.08	43.10	2.75	0.00	398532.63	767982.60	N 32	5 36.71 W 103 36 5.24
	3200.00	5.30	3.65	3197.76	-52.30	52.32	3.34	0.00	398541.85	767983.19	N 32	5 36.80 W 103 36 5.24
	3300.00	5.30	3.65	3297.33	-61.51	61.54	3.93	0.00	398551.07	767983.78	N 32	5 36.90 W 103 36 5.23
	3400.00	5.30	3.65	3396.91	-70.73	70.76	4.51	0.00	398560.29	767984.36	N 32	5 36.99 W 103 36 5.22
	3500.00	5.30	3.65	3496.48	-79.94	79.98	5.10	0.00	398569.50	767984.95	N 32	5 37.08 W 103 36 5.21
	3600.00	5.30	3.65	3596.05	-89.15	89.20	5.69	0.00	398578.72	767985.54	N 32	5 37.17 W 103 36 5.21
	3700.00	5.30	3.65	3695.62	-98.37	98.41	6.28	0.00	398587.94	767986.13	N 32	5 37.26 W 103 36 5.20
	3800.00	5.30	3.65	3795.20	-107.58	107.63	6.87	0.00	398597.16	767986.72	N 32	5 37.35 W 103 36 5.19
	3900.00	5.30	3.65	3894.77	-116.80	116.85	7.45	0.00	398606.38	767987.30	N 32	5 37.44 W 103 36 5.18
	4000.00	5.30	3.65	3994.34	-126.01	126.07	8.04	0.00	398615.59	767987.89	N 32	5 37.53 W 103 36 5.18
Drop to Vertical	4005.68	5.30	3.65	4000.00	-126.53	126.59	8.08	0.00	398616.12	767987.93	N 32	5 37.54 W 103 36 5.18
	4100.00	3.41	3.65	4094.04	-133.68	133.74	8.53	2.00	398623.27	767988.38	N 32	5 37.61 W 103 36 5.17
	4200.00	1.41	3.65	4193.95	-137.88	137.95	8.80	2.00	398627.47	767988.65	N 32	5 37.65 W 103 36 5.17
Hold Vertical	4270.68	0.00	3.65	4264.62	-138.75	138.82	8.86	2.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4300.00	0.00	3.65	4293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4400.00	0.00	3.65	4393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4500.00	0.00	3.65	4493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4600.00	0.00	3.65	4593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
Base of Salt	4657.06	0.00	3.65	4651.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4700.00	0.00	3.65	4693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4800.00	0.00	3.65	4793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
Lamar	4898.06	0.00	3.65	4892.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	4900.00	0.00	3.65	4893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
Bell Canyon	4935.06	0.00	3.65	4929.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5000.00	0.00	3.65	4993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5100.00	0.00	3.65	5093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5200.00	0.00	3.65	5193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5300.00	0.00	3.65	5293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5400.00	0.00	3.65	5393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5500.00	0.00	3.65	5493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5600.00	0.00	3.65	5593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5700.00	0.00	3.65	5693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5800.00	0.00	3.65	5793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	5900.00	0.00	3.65	5893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6000.00	0.00	3.65	5993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
Cherry Canyon	6007.06	0.00	3.65	6001.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6100.00	0.00	3.65	6093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6200.00	0.00	3.65	6193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6300.00	0.00	3.65	6293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6400.00	0.00	3.65	6393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6500.00	0.00	3.65	6493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6600.00	0.00	3.65	6593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6700.00	0.00	3.65	6693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6800.00	0.00	3.65	6793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	6900.00	0.00	3.65	6893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7000.00	0.00	3.65	6993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7100.00	0.00	3.65	7093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7200.00	0.00	3.65	7193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7300.00	0.00	3.65	7293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7400.00	0.00	3.65	7393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17
	7500.00	0.00	3.65	7493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32	5 37.66 W 103 36 5.17

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 ° ' ")
Brusy Canyon	7543.06	0.00	3.65	7537.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	7600.00	0.00	3.65	7593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	7700.00	0.00	3.65	7693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	7800.00	0.00	3.65	7793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	7900.00	0.00	3.65	7893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8000.00	0.00	3.65	7993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8100.00	0.00	3.65	8093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8200.00	0.00	3.65	8193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8300.00	0.00	3.65	8293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8400.00	0.00	3.65	8393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8500.00	0.00	3.65	8493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8600.00	0.00	3.65	8593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8700.00	0.00	3.65	8693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8800.00	0.00	3.65	8793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	8900.00	0.00	3.65	8893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9000.00	0.00	3.65	8993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
Bone Spring	9045.06	0.00	3.65	9039.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9100.00	0.00	3.65	9093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
Leonard Shale	9100.06	0.00	3.65	9094.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9200.00	0.00	3.65	9193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9300.00	0.00	3.65	9293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
Avalon Shale	9362.06	0.00	3.65	9356.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9400.00	0.00	3.65	9393.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9500.00	0.00	3.65	9493.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9600.00	0.00	3.65	9593.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9700.00	0.00	3.65	9693.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
Lower Avalon Shale	9737.06	0.00	3.65	9731.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9800.00	0.00	3.65	9793.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	9900.00	0.00	3.65	9893.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10000.00	0.00	3.65	9993.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
1st Bone Spring Sand	10042.06	0.00	3.65	10036.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10100.00	0.00	3.65	10093.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10200.00	0.00	3.65	10193.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
2nd Bone Spring Carb	10229.06	0.00	3.65	10223.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10300.00	0.00	3.65	10293.94	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
KOP - Build 12°/100' DLS	10396.06	0.00	3.65	10390.00	-138.75	138.82	8.86	0.00	398628.34	767988.70	N 32 5 37.66 W 103 36	5.17
	10400.00	0.47	179.60	10393.94	-138.74	138.80	8.86	12.00	398628.33	767988.71	N 32 5 37.66 W 103 36	5.17
	10500.00	12.47	179.60	10493.12	-127.48	127.55	8.93	12.00	398617.07	767988.78	N 32 5 37.55 W 103 36	5.17
2nd Bone Spring Sand	10574.16	21.37	179.60	10564.00	-105.92	105.98	9.08	12.00	398595.51	767988.93	N 32 5 37.33 W 103 36	5.17
	10600.00	24.47	179.60	10587.80	-95.85	95.92	9.15	12.00	398585.45	767989.00	N 32 5 37.24 W 103 36	5.17
	10700.00	36.47	179.60	10673.82	-45.23	45.30	9.50	12.00	398534.83	767989.35	N 32 5 36.73 W 103 36	5.17
	10800.00	48.47	179.60	10747.45	22.17	-22.10	9.97	12.00	398467.43	767989.82	N 32 5 36.07 W 103 36	5.17
	10900.00	60.47	179.60	10805.45	103.40	-103.33	10.53	12.00	398386.20	767990.38	N 32 5 35.26 W 103 36	5.17
	11000.00	72.47	179.60	10845.30	194.92	-194.85	11.16	12.00	398294.69	767991.01	N 32 5 34.36 W 103 36	5.17
Build 4°/100' DLS	11021.06	75.00	179.60	10851.19	215.14	-215.06	11.30	12.00	398274.47	767991.15	N 32 5 34.16 W 103 36	5.17
	11100.00	78.16	179.60	10869.51	291.91	-291.84	11.83	4.00	398197.70	767991.68	N 32 5 33.40 W 103 36	5.17
	11200.00	82.16	179.60	10886.60	390.42	-390.35	12.51	4.00	398099.20	767992.36	N 32 5 32.42 W 103 36	5.17
	11300.00	86.16	179.60	10896.78	489.88	-489.80	13.20	4.00	397999.74	767993.05	N 32 5 31.44 W 103 36	5.16
Landing Point	11396.06	90.00	179.60	10900.00	585.87	-585.79	13.86	4.00	397903.76	767993.71	N 32 5 30.49 W 103 36	5.16
	11400.00	90.00	179.60	10900.00	589.81	-589.73	13.89	0.00	397899.82	767993.74	N 32 5 30.45 W 103 36	5.16
	11500.00	90.00	179.60	10900.00	689.81	-689.73	14.58	0.00	397799.83	767994.43	N 32 5 29.46 W 103 36	5.16
	11600.00	90.00	179.60	10900.00	789.81	-789.72	15.27	0.00	397699.83	767995.12	N 32 5 28.47 W 103 36	5.16
	11700.00	90.00	179.60	10900.00	889.81	-889.72	15.96	0.00	397599.84	767995.81	N 32 5 27.48 W 103 36	5.16

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 ° ' ")
	11800.00	90.00	179.60	10900.00	989.81	-989.72	16.66	0.00	397499.84	767996.50	N 32 5 26.49 W 103 36 5.16	
	11900.00	90.00	179.60	10900.00	1089.81	-1089.72	17.35	0.00	397399.85	767997.20	N 32 5 25.50 W 103 36 5.16	
	12000.00	90.00	179.60	10900.00	1189.81	-1189.71	18.04	0.00	397299.86	767997.89	N 32 5 24.51 W 103 36 5.16	
	12100.00	90.00	179.60	10900.00	1289.81	-1289.71	18.73	0.00	397199.86	767998.58	N 32 5 23.52 W 103 36 5.16	
	12200.00	90.00	179.60	10900.00	1389.81	-1389.71	19.42	0.00	397099.87	767999.27	N 32 5 22.53 W 103 36 5.16	
	12300.00	90.00	179.60	10900.00	1489.81	-1489.71	20.11	0.00	396999.87	767999.96	N 32 5 21.54 W 103 36 5.16	
	12400.00	90.00	179.60	10900.00	1589.81	-1589.70	20.80	0.00	396899.88	768000.65	N 32 5 20.56 W 103 36 5.16	
	12500.00	90.00	179.60	10900.00	1689.81	-1689.70	21.49	0.00	396799.89	768001.34	N 32 5 19.57 W 103 36 5.16	
	12600.00	90.00	179.60	10900.00	1789.81	-1789.70	22.19	0.00	396699.89	768002.03	N 32 5 18.58 W 103 36 5.16	
	12700.00	90.00	179.60	10900.00	1889.81	-1889.70	22.88	0.00	396599.90	768002.73	N 32 5 17.59 W 103 36 5.16	
	12800.00	90.00	179.60	10900.00	1989.81	-1989.70	23.57	0.00	396499.90	768003.42	N 32 5 16.60 W 103 36 5.16	
	12900.00	90.00	179.60	10900.00	2089.81	-2089.69	24.26	0.00	396399.91	768004.11	N 32 5 15.61 W 103 36 5.16	
	13000.00	90.00	179.60	10900.00	2189.81	-2189.69	24.95	0.00	396299.91	768004.80	N 32 5 14.62 W 103 36 5.16	
	13100.00	90.00	179.60	10900.00	2289.81	-2289.69	25.64	0.00	396199.92	768005.49	N 32 5 13.63 W 103 36 5.16	
	13200.00	90.00	179.60	10900.00	2389.81	-2389.69	26.33	0.00	396099.93	768006.18	N 32 5 12.64 W 103 36 5.16	
	13300.00	90.00	179.60	10900.00	2489.81	-2489.68	27.02	0.00	395999.93	768006.87	N 32 5 11.65 W 103 36 5.16	
	13400.00	90.00	179.60	10900.00	2589.81	-2589.68	27.71	0.00	395899.94	768007.56	N 32 5 10.66 W 103 36 5.16	
	13500.00	90.00	179.60	10900.00	2689.81	-2689.68	28.41	0.00	395799.94	768008.25	N 32 5 9.67 W 103 36 5.16	
	13600.00	90.00	179.60	10900.00	2789.81	-2789.68	29.10	0.00	395699.95	768008.95	N 32 5 8.68 W 103 36 5.16	
	13700.00	90.00	179.60	10900.00	2889.81	-2889.67	29.79	0.00	395599.95	768009.64	N 32 5 7.69 W 103 36 5.16	
	13800.00	90.00	179.60	10900.00	2989.81	-2989.67	30.48	0.00	395499.96	768010.33	N 32 5 6.70 W 103 36 5.16	
	13900.00	90.00	179.60	10900.00	3089.81	-3089.67	31.17	0.00	395399.97	768011.02	N 32 5 5.71 W 103 36 5.16	
	14000.00	90.00	179.60	10900.00	3189.81	-3189.67	31.86	0.00	395299.97	768011.71	N 32 5 4.72 W 103 36 5.16	
	14100.00	90.00	179.60	10900.00	3289.81	-3289.66	32.55	0.00	395199.98	768012.40	N 32 5 3.73 W 103 36 5.16	
	14200.00	90.00	179.60	10900.00	3389.81	-3389.66	33.24	0.00	395099.98	768013.09	N 32 5 2.74 W 103 36 5.16	
	14300.00	90.00	179.60	10900.00	3489.81	-3489.66	33.94	0.00	394999.99	768013.78	N 32 5 1.75 W 103 36 5.16	
	14400.00	90.00	179.60	10900.00	3589.81	-3589.66	34.63	0.00	394900.00	768014.48	N 32 5 0.76 W 103 36 5.16	
	14500.00	90.00	179.60	10900.00	3689.81	-3689.65	35.32	0.00	394800.00	768015.17	N 32 4 59.77 W 103 36 5.16	
	14600.00	90.00	179.60	10900.00	3789.81	-3789.65	36.01	0.00	394700.01	768015.86	N 32 4 58.79 W 103 36 5.16	
	14700.00	90.00	179.60	10900.00	3889.81	-3889.65	36.70	0.00	394600.01	768016.55	N 32 4 57.80 W 103 36 5.16	
	14800.00	90.00	179.60	10900.00	3989.81	-3989.65	37.39	0.00	394500.02	768017.24	N 32 4 56.81 W 103 36 5.16	
	14900.00	90.00	179.60	10900.00	4089.81	-4089.65	38.08	0.00	394400.02	768017.93	N 32 4 55.82 W 103 36 5.16	
	15000.00	90.00	179.60	10900.00	4189.81	-4189.64	38.77	0.00	394300.03	768018.62	N 32 4 54.83 W 103 36 5.16	
	15100.00	90.00	179.60	10900.00	4289.81	-4289.64	39.46	0.00	394200.04	768019.31	N 32 4 53.84 W 103 36 5.16	
	15200.00	90.00	179.60	10900.00	4389.81	-4389.64	40.16	0.00	394100.04	768020.00	N 32 4 52.85 W 103 36 5.16	
	15300.00	90.00	179.60	10900.00	4489.81	-4489.64	40.85	0.00	394000.05	768020.70	N 32 4 51.86 W 103 36 5.16	
	15400.00	90.00	179.60	10900.00	4589.81	-4589.63	41.54	0.00	393900.05	768021.39	N 32 4 50.87 W 103 36 5.16	
	15500.00	90.00	179.60	10900.00	4689.81	-4689.63	42.23	0.00	393800.06	768022.08	N 32 4 49.88 W 103 36 5.16	
	15600.00	90.00	179.60	10900.00	4789.81	-4789.63	42.92	0.00	393700.06	768022.77	N 32 4 48.89 W 103 36 5.16	
	15700.00	90.00	179.60	10900.00	4889.81	-4889.63	43.61	0.00	393600.07	768023.46	N 32 4 47.90 W 103 36 5.16	
Private Leaseline Crossing	15763.90	90.00	179.60	10900.00	4953.71	-4953.52	44.05	0.00	393536.17	768023.90	N 32 4 47.27 W 103 36 5.16	
	15800.00	90.00	179.60	10900.00	4989.81	-4989.62	44.30	0.00	393500.08	768024.15	N 32 4 46.91 W 103 36 5.16	
	15900.00	90.00	179.60	10900.00	5089.81	-5089.62	44.99	0.00	393400.08	768024.84	N 32 4 45.92 W 103 36 5.16	
	16000.00	90.00	179.60	10900.00	5189.81	-5189.62	45.69	0.00	393300.09	768025.53	N 32 4 44.93 W 103 36 5.16	
	16100.00	90.00	179.60	10900.00	5289.81	-5289.62	46.38	0.00	393200.09	768026.23	N 32 4 43.94 W 103 36 5.16	
	16200.00	90.00	179.60	10900.00	5389.81	-5389.61	47.07	0.00	393100.10	768026.92	N 32 4 42.95 W 103 36 5.16	
	16300.00	90.00	179.60	10900.00	5489.81	-5489.61	47.76	0.00	393000.11	768027.61	N 32 4 41.96 W 103 36 5.16	
	16400.00	90.00	179.60	10900.00	5589.81	-5589.61	48.45	0.00	392900.11	768028.30	N 32 4 40.97 W 103 36 5.16	
	16500.00	90.00	179.60	10900.00	5689.81	-5689.61	49.14	0.00	392800.12	768028.99	N 32 4 39.98 W 103 36 5.16	
	16600.00	90.00	179.60	10900.00	5789.81	-5789.60	49.83	0.00	392700.12	768029.68	N 32 4 38.99 W 103 36 5.16	
	16700.00	90.00	179.60	10900.00	5889.81	-5889.60	50.52	0.00	392600.13	768030.37	N 32 4 38.00 W 103 36 5.16	
	16800.00	90.00	179.60	10900.00	5989.81	-5989.60	51.22	0.00	392500.13	768031.06	N 32 4 37.02 W 103 36 5.16	
	16900.00	90.00	179.60	10900.00	6089.81	-6089.60	51.91	0.00	392400.14	768031.75	N 32 4 36.03 W 103 36 5.16	
	17000.00	90.00	179.60	10900.00	6189.81	-6189.60	52.60	0.00	392300.15	768032.45	N 32 4 35.04 W 103 36 5.16	
Private - NMNM0106040 4 Crossing	17086.40	90.00	179.60	10900.00	6276.21	-6275.99	53.19	0.00	392213.75	768033.04	N 32 4 34.18 W 103 36 5.16	

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 ° ' ")
	17100.00	90.00	179.60	10900.00	6289.81	-6289.59	53.29	0.00	392200.15	768033.14	N 32 4 34.05 W	103 36 5.16
	17200.00	90.00	179.60	10900.00	6389.81	-6389.59	53.98	0.00	392100.16	768033.83	N 32 4 33.06 W	103 36 5.16
	17300.00	90.00	179.60	10900.00	6489.81	-6489.59	54.67	0.00	392000.16	768034.52	N 32 4 32.07 W	103 36 5.16
	17400.00	90.00	179.60	10900.00	6589.81	-6589.59	55.36	0.00	391900.17	768035.21	N 32 4 31.08 W	103 36 5.16
	17500.00	90.00	179.60	10900.00	6689.81	-6689.58	56.05	0.00	391800.17	768035.90	N 32 4 30.09 W	103 36 5.16
	17600.00	90.00	179.60	10900.00	6789.81	-6789.58	56.74	0.00	391700.18	768036.59	N 32 4 29.10 W	103 36 5.16
	17700.00	90.00	179.60	10900.00	6889.81	-6889.58	57.44	0.00	391600.19	768037.28	N 32 4 28.11 W	103 36 5.16
	17800.00	90.00	179.60	10900.00	6989.81	-6989.58	58.13	0.00	391500.19	768037.98	N 32 4 27.12 W	103 36 5.16
	17900.00	90.00	179.60	10900.00	7089.81	-7089.57	58.82	0.00	391400.20	768038.67	N 32 4 26.13 W	103 36 5.16
	18000.00	90.00	179.60	10900.00	7189.81	-7189.57	59.51	0.00	391300.20	768039.36	N 32 4 25.14 W	103 36 5.16
	18100.00	90.00	179.60	10900.00	7289.81	-7289.57	60.20	0.00	391200.21	768040.05	N 32 4 24.15 W	103 36 5.15
	18200.00	90.00	179.60	10900.00	7389.81	-7389.57	60.89	0.00	391100.22	768040.74	N 32 4 23.16 W	103 36 5.15
	18300.00	90.00	179.60	10900.00	7489.81	-7489.56	61.58	0.00	391000.22	768041.43	N 32 4 22.17 W	103 36 5.15
	18400.00	90.00	179.60	10900.00	7589.81	-7589.56	62.27	0.00	390900.23	768042.12	N 32 4 21.18 W	103 36 5.15
NMNM0106040 4 - NMNM0160973 Crossing	18408.90	90.00	179.60	10900.00	7598.71	-7598.46	62.34	0.00	390891.33	768042.18	N 32 4 21.09 W	103 36 5.15
	18500.00	90.00	179.60	10900.00	7689.81	-7689.56	62.97	0.00	390800.23	768042.81	N 32 4 20.19 W	103 36 5.15
	18600.00	90.00	179.60	10900.00	7789.81	-7789.56	63.66	0.00	390700.24	768043.50	N 32 4 19.20 W	103 36 5.15
	18700.00	90.00	179.60	10900.00	7889.81	-7889.55	64.35	0.00	390600.24	768044.20	N 32 4 18.21 W	103 36 5.15
	18800.00	90.00	179.60	10900.00	7989.81	-7989.55	65.04	0.00	390500.25	768044.89	N 32 4 17.22 W	103 36 5.15
	18900.00	90.00	179.60	10900.00	8089.81	-8089.55	65.73	0.00	390400.26	768045.58	N 32 4 16.24 W	103 36 5.15
	19000.00	90.00	179.60	10900.00	8189.81	-8189.55	66.42	0.00	390300.26	768046.27	N 32 4 15.25 W	103 36 5.15
	19100.00	90.00	179.60	10900.00	8289.81	-8289.54	67.11	0.00	390200.27	768046.96	N 32 4 14.26 W	103 36 5.15
	19200.00	90.00	179.60	10900.00	8389.81	-8389.54	67.80	0.00	390100.27	768047.65	N 32 4 13.27 W	103 36 5.15
	19300.00	90.00	179.60	10900.00	8489.81	-8489.54	68.50	0.00	390000.28	768048.34	N 32 4 12.28 W	103 36 5.15
	19400.00	90.00	179.60	10900.00	8589.81	-8589.54	69.19	0.00	389900.28	768049.03	N 32 4 11.29 W	103 36 5.15
	19500.00	90.00	179.60	10900.00	8689.81	-8689.54	69.88	0.00	389800.29	768049.73	N 32 4 10.30 W	103 36 5.15
	19600.00	90.00	179.60	10900.00	8789.81	-8789.53	70.57	0.00	389700.30	768050.42	N 32 4 9.31 W	103 36 5.15
	19700.00	90.00	179.60	10900.00	8889.81	-8889.53	71.26	0.00	389600.30	768051.11	N 32 4 8.32 W	103 36 5.15
	19800.00	90.00	179.60	10900.00	8989.81	-8989.53	71.95	0.00	389500.31	768051.80	N 32 4 7.33 W	103 36 5.15
	19900.00	90.00	179.60	10900.00	9089.81	-9089.53	72.64	0.00	389400.31	768052.49	N 32 4 6.34 W	103 36 5.15
	20000.00	90.00	179.60	10900.00	9189.81	-9189.52	73.33	0.00	389300.32	768053.18	N 32 4 5.35 W	103 36 5.15
	20100.00	90.00	179.60	10900.00	9289.81	-9289.52	74.02	0.00	389200.33	768053.87	N 32 4 4.36 W	103 36 5.15
	20200.00	90.00	179.60	10900.00	9389.81	-9389.52	74.72	0.00	389100.33	768054.56	N 32 4 3.37 W	103 36 5.15
	20300.00	90.00	179.60	10900.00	9489.81	-9489.52	75.41	0.00	389000.34	768055.25	N 32 4 2.38 W	103 36 5.15
	20400.00	90.00	179.60	10900.00	9589.81	-9589.51	76.10	0.00	388900.34	768055.95	N 32 4 1.39 W	103 36 5.15
	20500.00	90.00	179.60	10900.00	9689.81	-9689.51	76.79	0.00	388800.35	768056.64	N 32 4 0.40 W	103 36 5.15
	20600.00	90.00	179.60	10900.00	9789.81	-9789.51	77.48	0.00	388700.35	768057.33	N 32 3 59.41 W	103 36 5.15
	20700.00	90.00	179.60	10900.00	9889.81	-9889.51	78.17	0.00	388600.36	768058.02	N 32 3 58.42 W	103 36 5.15
Cimarex Red Hills 32-5 Fed Com #128H - PBHL 330' FSL, 440' FWL]	20708.81	90.00	179.60	10900.00	9898.62	-9898.32	78.23	0.00	388591.55	768058.08	N 32 3 58.34 W	103 36 5.15

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
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Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
		1	0.000	26.000	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS-Depth Only		Red Hills 32-5 Fed Com #128H /	
		1	26.000	20708.811	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS		Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19	
											Red Hills 32-5 Fed Com #128H /	
											Cimarex Red Hills 32-5 Fed Com	



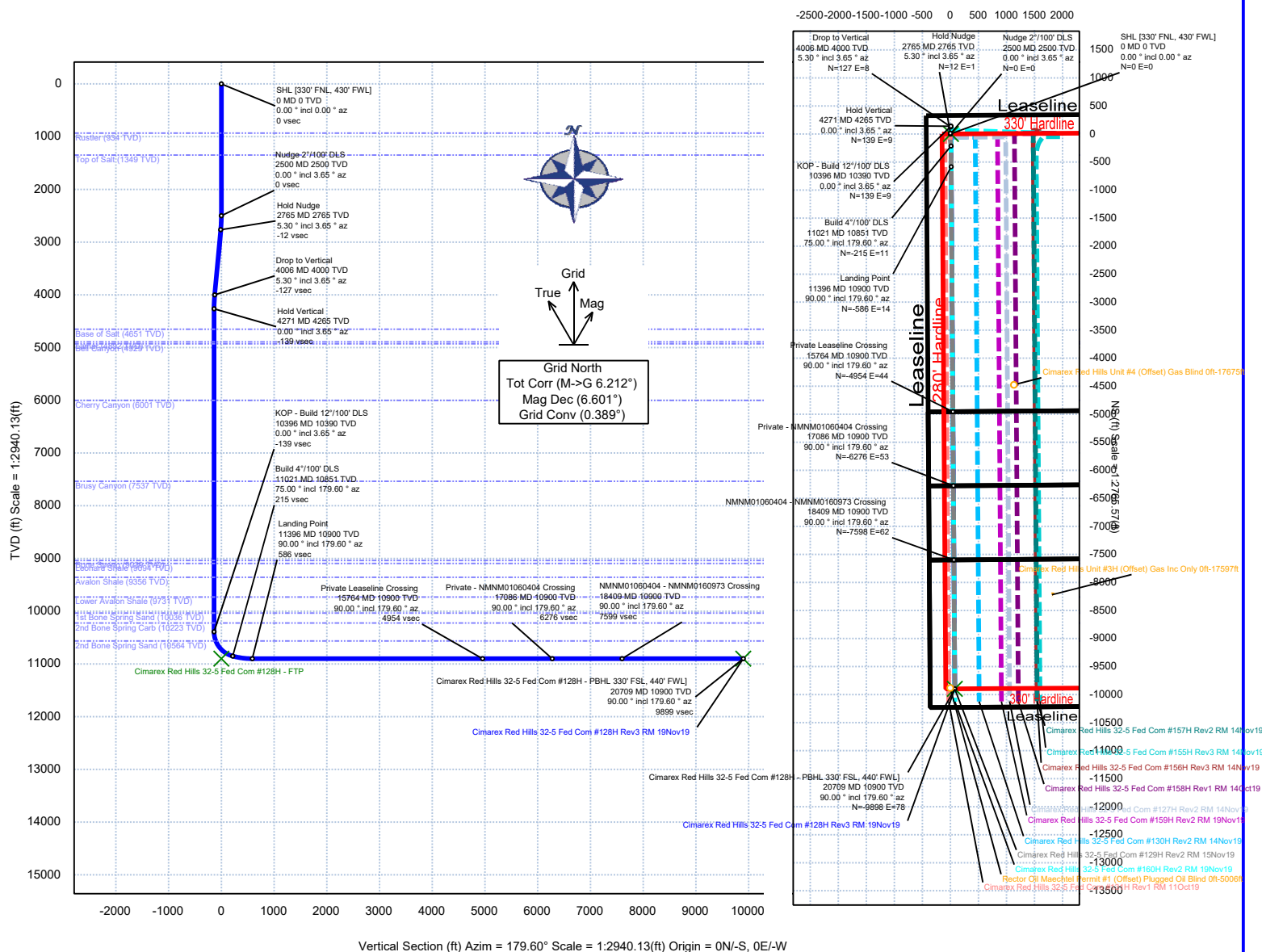
Cimarex Energy

Rev 3



Borehole: Red Hills 32-5 Fed Com #128H			Well: Red Hills 32-5 Fed Com #128H			Field: NM Lea County (NAD 83)			Structure: Cimarex Red Hills 32-5 Fed Com #128H				
Gravity & Magnetic Parameters						Surface Location NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model: HDGM 2019		Dip: 59.681°		Date: 19-Nov-2019		Lat: N 32 5 36.29		Northing: 398489.531US		Grid Conv: 0.3889°		Slot: New Slot	
MagDec: 6.601°		FS: 47706.472nT		Gravity FS: 998.422mgm (9.80665 Based)		Lon: W 103 36 5.28		Easting: 767979.85ftUS		Scale Fact: 0.9996792		TVD Ref: RKB(3422.2ft above MSL)	
												Plan: Cimarex Red Hills 32-5 Fed Com #128H Rev3 RM 19Nov19	

EW (ft) Scale = 1:2765.57(ft)



Vertical Section (ft) Azim = 179.60° Scale = 1:2940.13(ft) Origin = 0N/-S, 0E/-W

Critical Point	MD	INCL	AZIM	Critical Points	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL (330° FNL, 430° FWL)	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00
Rustler	934.00	0.00	3.65		934.00	0.00	0.00	0.00	0.00
Top of Salt	1349.00	0.00	3.65		1349.00	0.00	0.00	0.00	0.00
Nudge 27°100' DLS	2500.00	0.00	3.65		2500.00	0.00	0.00	0.00	0.00
Hold Nudge	2765.00	5.30	3.65		2764.62	-12.22	12.22	0.78	2.00
Drop to Vertical	4006.00	5.30	3.65		4000.00	-126.53	126.59	8.08	0.00
Hold Vertical	4270.68	0.00	3.65		4264.62	-138.75	138.82	8.86	2.00
Base of Salt	4657.00	0.00	3.65		4651.00	-138.75	138.82	8.86	0.00
Lamar	4898.00	0.00	3.65		4892.00	-138.75	138.82	8.86	0.00
Bell Canyon	4935.00	0.00	3.65		4929.00	-138.75	138.82	8.86	0.00
Cherry Canyon	6007.00	0.00	3.65		6001.00	-138.75	138.82	8.86	0.00
Brusy Canyon	7543.00	0.00	3.65		7537.00	-138.75	138.82	8.86	0.00
Bone Spring	9045.00	0.00	3.65		9039.00	-138.75	138.82	8.86	0.00
Leonard Shale	9100.00	0.00	3.65		9094.00	-138.75	138.82	8.86	0.00
Avalon Shale	9362.00	0.00	3.65		9356.00	-138.75	138.82	8.86	0.00
Lower Avalon Shale	9737.00	0.00	3.65		9731.00	-138.75	138.82	8.86	0.00
1st Bone Spring Sand	10042.00	0.00	3.65		10036.00	-138.75	138.82	8.86	0.00
2nd Bone Spring Carb	10229.00	0.00	3.65		10223.00	-138.75	138.82	8.86	0.00
KOP - Build 12°100' DLS	10396.00	0.00	3.65		10390.00	-138.75	138.82	8.86	0.00
2nd Bone Spring Sand	10574.16	21.37	179.60		10564.00	-105.92	105.98	9.08	12.00
Build 4°100' DLS	11021.00	75.00	179.60		10851.19	215.14	-215.06	11.30	12.00
Landing Point	11396.00	90.00	179.60		10900.00	585.87	-585.79	13.86	4.00
Private Leaseline Crossing	15763.90	90.00	179.60		10900.00	4953.71	-4953.52	44.05	0.00
Private - NMNM01060404 Crossing	17086.40	90.00	179.60		10900.00	6276.21	-6275.99	53.19	0.00
NMNM01060404 - NMNM01060973 Crossing	18408.90	90.00	179.60		10900.00	7598.71	-7598.46	62.34	0.00
Cimarex Red Hills 32-5 Fed Com #128H - PBHL 330° FSL, 440° FWL	20708.81	90.00	179.60		10900.00	9896.62	-9896.32	78.23	0.00
Wolfcamp A2	NaN	NaN	NaN		12848.00	NaN	NaN	NaN	NaN
Wolfcamp Y SS Target	NaN	NaN	NaN		12285.00	NaN	NaN	NaN	NaN
3rd Bone Spring Sand	NaN	NaN	NaN		11682.00	NaN	NaN	NaN	NaN
3rd Bone Spring Carb	NaN	NaN	NaN		11017.00	NaN	NaN	NaN	NaN
Wolfcamp	NaN	NaN	NaN		12125.00	NaN	NaN	NaN	NaN
Wolfcamp A1	NaN	NaN	NaN		12301.00	NaN	NaN	NaN	NaN
Wolfcamp Y Sand	NaN	NaN	NaN		12255.00	NaN	NaN	NaN	NaN

1. Geological Formations

TVD of target 10,900

Pilot Hole TD N/A

MD at TD 20,708

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	934	N/A	
Top Salt	1349	N/A	
Base Salt	4651	N/A	
Lamar	4892	N/A	
Bell Canyon	4929	N/A	
Cherry Canyon	6001	N/A	
Brushy Canyon	7537	N/A	
Bone Spring	9039	N/A	
Leonard Shale	9094	N/A	
Avalon shale	9356	N/A	
1st Bone Spring Sand	10036	N/A	
2nd BSPG Carb	10223	N/A	
2nd BSPG Sand	10564	N/A	
3rd BSPG Carb	11017	N/A	
3rd BSPG Sand	11682	N/A	
Top Wolfcamp	12125	N/A	
Wolfcamp Y Sand	12225	N/A	
Wolfcamp A1	12301	N/A	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
14 3/4	0	984	984	10-3/4"	40.50	J-55	BT&C	3.51	6.95	15.78
9 7/8	0	11021	10851	7-5/8"	29.70	L-80	BT&C	2.82	1.36	2.06
6 3/4	0	10296	10296	5-1/2"	20.00	L-80	LT&C	1.32	1.37	2.12
6 3/4	11787	20708	10900	5"	18.00	P-110	BT&C	1.90	1.92	53.35
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

Request Variance for 5-1/2" x 7-5/8" annular clearance. The portion that does not meet clearance will not be cemented

Cimarex Energy Co., Red Hills 32-5 Fed Com #128H

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

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	332	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	156	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate Stage 1	455	10.30	3.64	22.18		Lead: Tuned Light + LCM
	198	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Intermediate Stage 2	793	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
Production	829	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

DV tool with possible annular casing packer as needed is proposed at a depth of +/- 4,892'.

Casing String	TOC	% Excess
Surface	0	42
Intermediate Stage 1	4892	46
Intermediate Stage 2	0	40
Production	10821	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
9 7/8	13 5/8	5M	Annular	X	50% of working pressure
			Blind Ram		5M
			Pipe Ram	X	
			Double Ram	X	
			Other		
6 3/4	13 5/8	10M	Annular	X	50% of working pressure
			Blind Ram		10M
			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 984'	FW Spud Mud	8.30 - 8.80	30-32	N/C
984' to 11021'	Brine Diesel Emulsion	8.50 - 9.00	30-35	N/C
11021' to 20708'	Oil Based Mud	12.00 - 12.50	50-70	N/C

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

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

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

Logging, Coring and Testing	
X	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
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7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	7085 psi
Abnormal Temperature	No

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

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

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

A multi-bowl wellhead system will be utilized.

After running the 10-3/4" surface casing, a 13 5/8" BOP/BOPE system with a minimum working pressure of 10000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 10000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2.

The multi-bowl wellhead will be installed by 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.

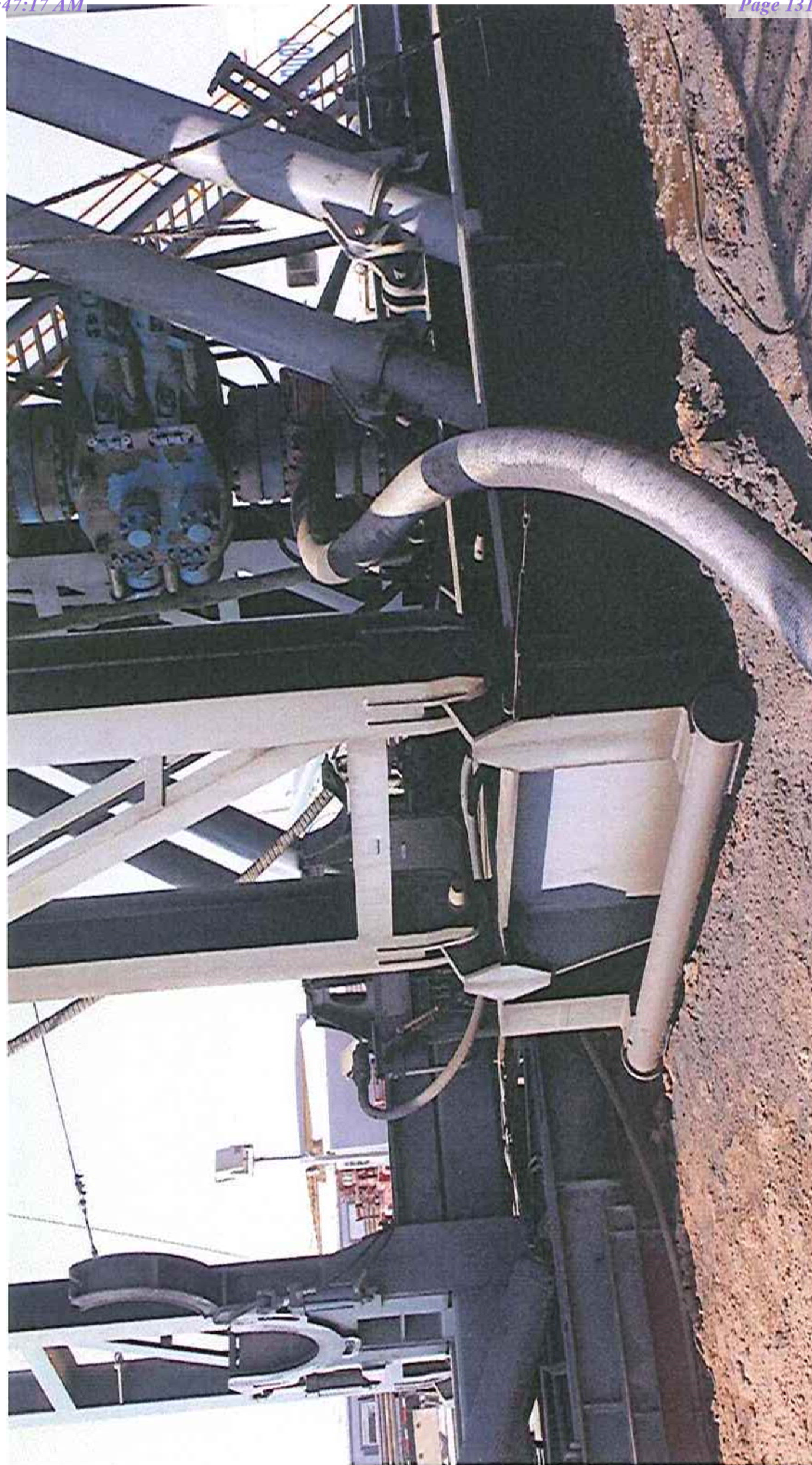
All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type.

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 10000 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.

Co-Flex Hose
Red Hills 32-5 Fed Com #128H
Cimarex Energy Co. 32-25S-33E
Lea Co., NM





Midwest Hose
& Specialty, Inc.

Co-Flex Hose Hydrostatic Test
Red Hills 32-5 Fed Com #128H
Cimarex Energy Co.
32-25S-33E
Lea Co., NM

INTERNAL HYDROSTATIC TEST REPORT

Customer:		Oderco Inc	P.O. Number:	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	PSI	TEST PRESSURE	PSI	BURST PRESSURE
10,000		15,000		0
COUPLINGS				
Stem Part No.	OKC OKC		Ferrule No.	OKC OKC
Type of Coupling:	Swage-It			
PROCEDURE				
<i>Hose assembly pressure tested with water at ambient temperature.</i>				
TIME HELD AT TEST PRESSURE	15	MIN.	ACTUAL BURST PRESSURE:	0 PSI
Hose Assembly Serial Number:	79793		Hose Serial Number:	OKC
Comments:				
Date:	3/8/2011	Tested:	O. John Sam.	
		Approved:		

March 3, 2011

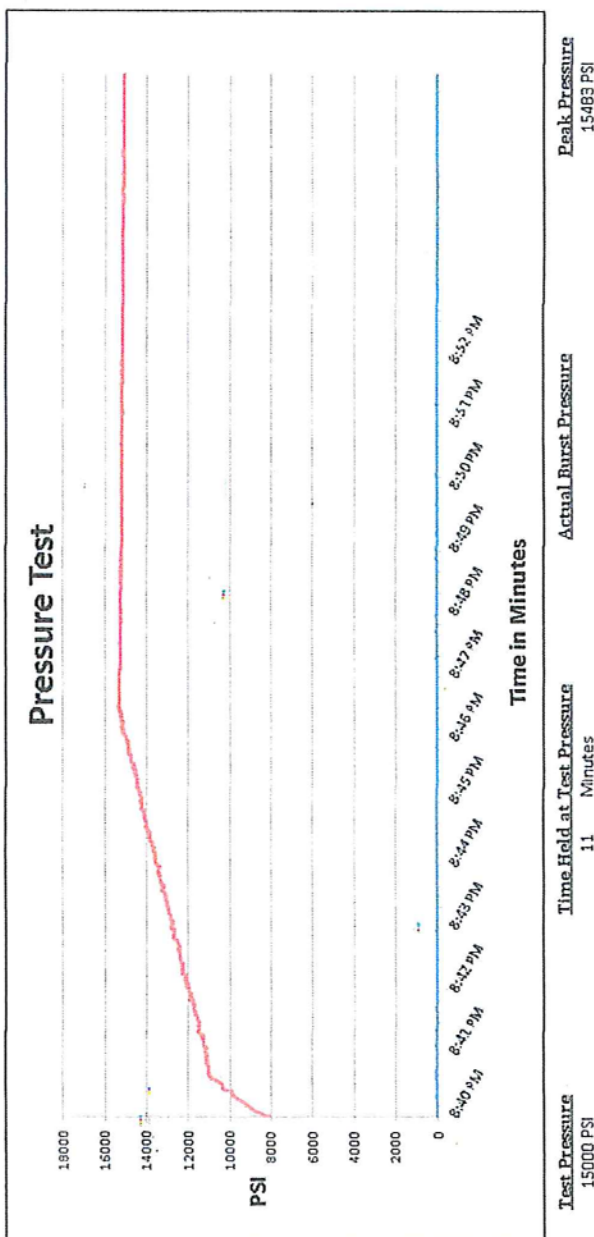
Internal Hydrostatic Test Graph

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 #
79793

Co-Flex Hose Hydrostatic Test
 Red Hills 32-5 Fed Com #128H
 Cimarex Energy Co.
 32-25S-33E
 Lea Co., NM



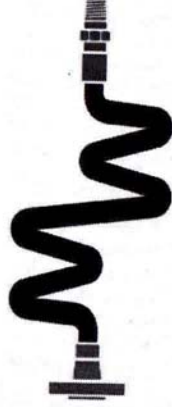
Test Pressure 15000 PSI
 Time Held at Test Pressure 11 Minutes
 Actual Burst Pressure
 Peak Pressure 15483 PSI

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 #128H
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:		<i>Samuel Garcia</i>	Date: 3/8/2011



Midwest Hose
& Specialty, Inc.

Co-Flex Hose
Red Hills 32-5 Fed Com #128H
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.

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

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

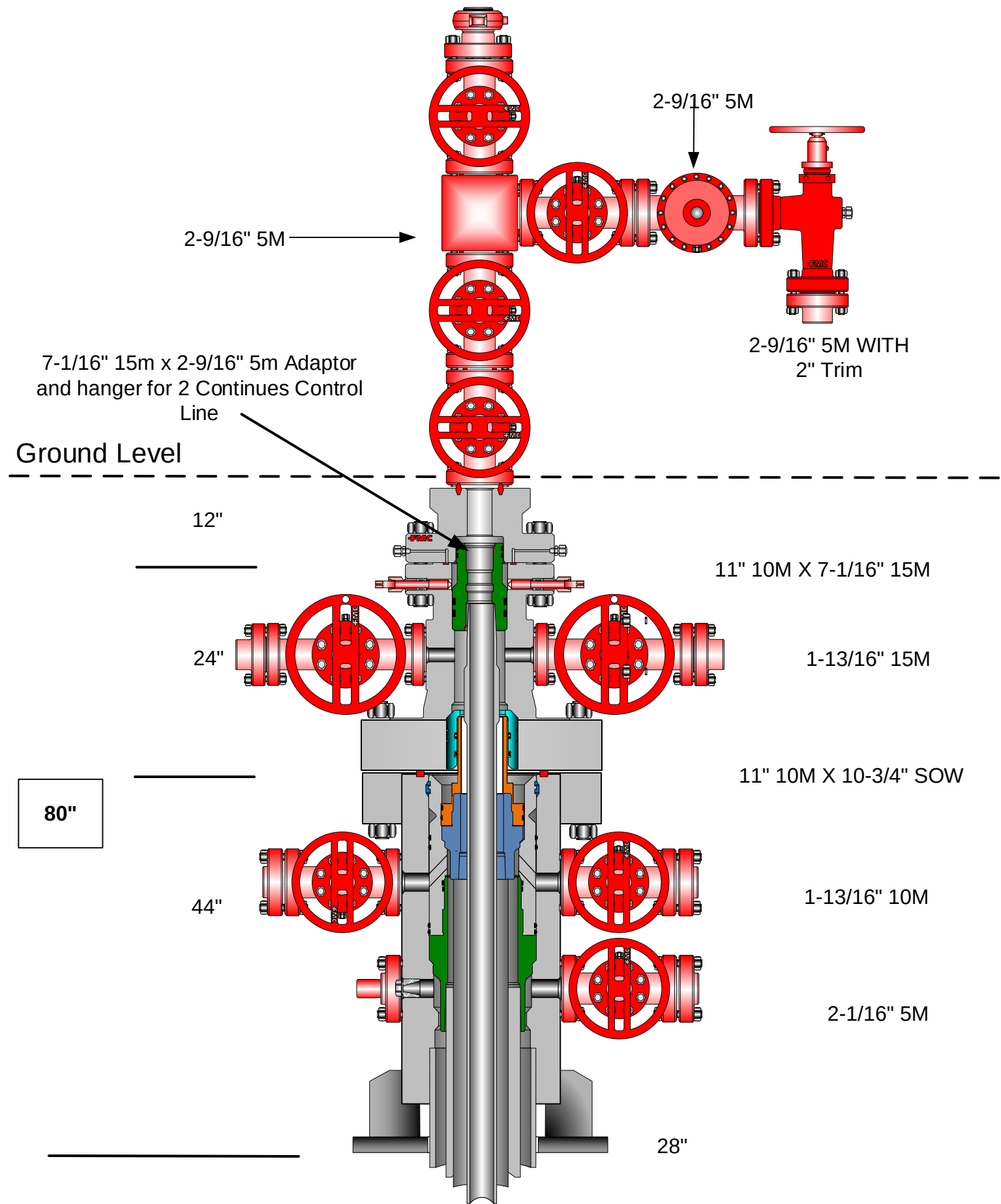


Red Hills 32-5 Fed Com 128H

CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL

LEA CO., NM

Multi-bowl Wellhead Diagram



Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.
14 3/4	0	984	984	10-3/4"	40.50	J-55	BT&C
9 7/8	0	11021	10851	7-5/8"	29.70	L-80	BT&C
6 3/4	0	10296	10296	5-1/2"	20.00	L-80	LT&C
6 3/4	11787	20708	10900	5"	18.00	P-110	BT&C



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

SUPO Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Red_Hills_32_5_Fed_Com_128H_Road_ROW_20191230152734.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

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Red_Hills_32_5_Fed_Com_128H_One_Mile_Radius___Existing_well_map_20191230153847.pdf

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: 500' x 560' pad was staked with the BLM for construction and will use 4 Central Tank Batteries: Red Hills Unit 32 West BS CTB 1 , Red Hills Unit West WC CTB 2, Red Hills Unit East BS CTB 3, Red Hills Unit WC CTB 4 will be utilized for this project. Bulkline: 6009' of 8- 12" Buried Steel Bulk lines will be constructed along the proposed road buried in the same 60' trench. Please see Attachment M for route.

Production Facilities map:

Red_Hills_Unit_32_East_BS__3_CTB_Battery_Layout_20191230153919.pdf

Red_Hills_Unit_32_East_WC__4_CTB_Battery_Layout_20191230153923.pdf

Red_Hills_Unit_32_West_BS__1_CTB_Battery_Layout_20191230153927.pdf

Red_Hills_Unit_32_West_WC__2_CTB_Battery_Layout_20191230153931.pdf

Red_Hills_32_5_Fed_Com_128H_SUPO_20200312141154.pdf

Red_Hills_32_5_Fed_Com_Bulk_Line_20200312141206.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
PIPELINE

Source land ownership: STATE

Source transportation land ownership: STATE

Water source volume (barrels): 5000

Source volume (acre-feet): 0.6444655

Source volume (gal): 210000

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Water source and transportation map:**

Red_Hills_32_5_Fed_Com_Drilling_Water_Route_20191230160738.pdf

Water source comments:**New water well?** NO**New Water Well Info****Well latitude:****Well Longitude:****Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):****Est thickness of aquifer:****Aquifer comments:****Aquifer documentation:****Well depth (ft):****Well casing type:****Well casing outside diameter (in.):****Well casing inside diameter (in.):****New water well casing?****Used casing source:****Drilling method:****Drill material:****Grout material:****Grout depth:****Casing length (ft.):****Casing top depth (ft.):****Well Production type:****Completion Method:****Water well additional information:****State appropriation permit:****Additional information attachment:****Section 6 - Construction Materials****Using any construction materials:** YES**Construction Materials description:** Caliche will be obtained from the actual well site if available. If not available onsite caliche will be obtained for a pit located in Sec.20-25S-33E Lea, NM.**Construction Materials source location attachment:****Section 7 - Methods for Handling Waste****Waste type:** DRILLING**Waste content description:** Drilling Fluids, drill cuttings, water and other waste produced from the well during drilling operations.**Amount of waste:** 15000 barrels**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containmant attachment:**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Haul to R360 commercial disposal**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 containment attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** A licensed 3rd party contractor will be used to haul and dispose human waste.**Waste type:** GARBAGE**Waste content description:** garbage & trash produced during drilling & completion operations**Amount of waste:** 32500 pounds**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containment attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Windmill Spraying Service hauls trash to Lea County Landfill

Reserve Pit

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H

Cuttings Area

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

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: NO**Ancillary Facilities attachment:****Comments:**

Section 9 - Well Site Layout

Well Site Layout Diagram:

Red_Hills_32_5_Federal_Com_128H_Wellsite_Layout_20200312140538.pdf

Comments:

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance**Multiple Well Pad Name:** RED HILLS 32-5 FED COM**Multiple Well Pad Number:** E2W2 PAD 4**Recontouring attachment:**

Red_Hills_32_5_Fed_Com_W2W2_Pad_1_Interim_Reclaim_20191231085447.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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

original condition to re-establish natural drainage.

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

Well pad proposed disturbance (acres): 6.9	Well pad interim reclamation (acres): 3.4	Well pad long term disturbance (acres): 3.55
Road proposed disturbance (acres): 6.22	Road interim reclamation (acres): 0	Road long term disturbance (acres): 6.22
Powerline proposed disturbance (acres): 0	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 8.25	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 0
Other proposed disturbance (acres): 25.13	Other interim reclamation (acres): 0	Other long term disturbance (acres): 25.13
Total proposed disturbance: 46.5	Total interim reclamation: 3.4	Total long term disturbance: 34.9

Disturbance Comments: Bulk line: 6009. Access Road: 9041' Temp fresh water line: 9641'. We have been working on engineering solutions to reduce our footprint in the section to lower cost, disturbance, and our economic hurdle for other marginal benches within the section to increase our total mineral recovery. It turns out that simply changing our flowline / well approach and moving our separation to our drilling pads significantly reduces our foot print and cost. By placing our separation on our drill pads we can use 6-12 Group lines to gather the separated oil gas and water from the entire section instead of using up to 90 flowlines to move production to the tank batteries for separation. The Group line ability to gather the entire section helps us eliminate 2 batteries per section by simply utilizing the group line approach.

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:

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road:

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline:

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Existing Vegetation Community at the pipeline attachment:****Existing Vegetation Community at other disturbances:****Existing Vegetation Community at other disturbances attachment:****Non native seed used?** NO**Non native seed description:****Seedling transplant description:****Will seedlings be transplanted for this project?** NO**Seedling transplant description attachment:****Will seed be harvested for use in site reclamation?** NO**Seed harvest description:****Seed harvest description attachment:****Seed Management****Seed Table****Seed Summary****Total pounds/Acre:****Seed Type****Pounds/Acre****Seed reclamation attachment:****Operator Contact/Responsible Official Contact Info****First Name:** Amithy**Last Name:** Crawford**Phone:** (432)620-1909**Email:** acrawford@cimarex.com**Seedbed prep:****Seed BMP:****Seed method:****Existing invasive species?** NO**Existing invasive species treatment description:****Existing invasive species treatment attachment:**

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Weed treatment plan description: na

Weed treatment plan attachment:

Monitoring plan description: na

Monitoring plan attachment:

Success standards: na

Pit closure description: na

Pit closure attachment:

Section 11 - Surface Ownership

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:

Disturbance type: PIPELINE

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**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:****Disturbance type:** OTHER**Describe:** Existing Battery**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:**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Disturbance type:** NEW ACCESS ROAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT, 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 Information

Right of Way needed? YES**Use APD as ROW?** YES**ROW Type(s):** 281001 ROW - ROADS, 287001 ROW – Water Facility, 288100 ROW – O&G Pipeline, 288101 ROW – O&G Facility Sites, 289001 ROW- O&G Well Pad

ROW Applications

SUPO Additional Information:**Use a previously conducted onsite?** YES**Previous Onsite information:** Onsite with BLM(Jeff Robertson) and Cimarex Barry Hunt on April 17, 2018

Other SUPO Attachment

Red_Hills_32_5_Fed_Com_W2W2_Pad_1_Public_Access_20191231091054.pdf

Red_Hills_32_5_Fed_Com_W2W2_Pad_1_Road_Description_20191231091049.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Red_Hills_32_5_Fed_Com_Temp_Water_Route_20191231091055.pdf

Red_Hills_32_5_Fed_Com_Flow_Gas_lift_Route_20191231091208.pdf

Red_Hills_32_5_Fed_Com_128H_SUPO_20200304064540.pdf

CONFIDENTIAL



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

PWD Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Section 1 - General

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

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? NO

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 specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Leak detection system description:

Leak detection system attachment:

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Lined pit Monitor description:

Lined pit Monitor attachment:

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 attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? NO

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 specifications:

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

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 evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** RED HILLS 32-5 FED COM**Well Number:** 128H**Is the reclamation bond a rider under the BLM bond?****Unlined pit bond number:****Unlined pit bond amount:****Additional bond information attachment:**

Section 4 - Injection

Would you like to utilize Injection PWD options? NO**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 attachment:****Underground Injection Control (UIC) Permit?****UIC Permit attachment:**

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? NO**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 - Other

Would you like to utilize Other PWD options? NO**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD discharge volume (bbl/day):**

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:



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

Bond Info Data Report

11/10/2020

APD ID: 10400038359

Submission Date: 01/28/2019

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: RED HILLS 32-5 FED COM

Well Number: 128H

[Show Final Text](#)

Well Type: CONVENTIONAL GAS WELL

Well Work Type: Drill

Bond Information

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 attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

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 108495

CONDITIONS

Operator: CIMAREX ENERGY CO. 600 N. Marienfeld Street Midland, TX 79701	OGRID: 215099
	Action Number: 108495
	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	6/6/2022
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	6/6/2022
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	6/6/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	6/6/2022