

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

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

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No.  6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No.  <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[326056]</div>
2. Name of Operator <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[215099]</div>		9. API Well No. <div style="text-align: center; font-weight: bold; font-size: 1.2em;">30-025-50135</div>
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[98309]</div>
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.<br>2. A Drilling Plan.<br>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).<br>5. Operator certification.<br>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 05/02/2022**

**SL**

(Continued on page 2)



**Approval Date: 09/09/2021**

**KZ**  
**05/12/2022**

\*(Instructions on page 2)

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

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

☐ AMENDED REPORT

## WELL LOCATION AND ACREAGE DEDICATION PLAT

<sup>1</sup> API Number <b>30-025-50135</b>		<sup>2</sup> Pool Code <b>98309</b>	<sup>3</sup> Pool Name <b>WC-025-G-08 S243213C;WOLFCAMP</b>	
<sup>4</sup> Property Code <b>326056</b>	<sup>5</sup> Property Name <b>DOS EQUIS 12-13 FEDERAL COM</b>			<sup>6</sup> Well Number <b>9H</b>
<sup>7</sup> OGRID No. <b>215099</b>	<sup>8</sup> Operator Name <b>CIMAREX ENERGY CO.</b>			<sup>9</sup> Elevation <b>3607.5'</b>

<sup>10</sup>Surface Location

UL or lot no. D	Section 12	Township 24S	Range 32E	Lot Idn	Feet from the 330	North/South line NORTH	Feet from the 330	East/West line WEST	County LEA
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<sup>11</sup> Bottom Hole Location If Different From Surface

UL or lot no. M	Section 13	Township 24S	Range 32E	Lot Idn	Feet from the 100	North/South line SOUTH	Feet from the 330	East/West line WEST	County LEA
<sup>12</sup> Dedicated Acres 320		<sup>13</sup> Joint or Infill		<sup>14</sup> Consolidation Code		<sup>15</sup> Order No.			

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

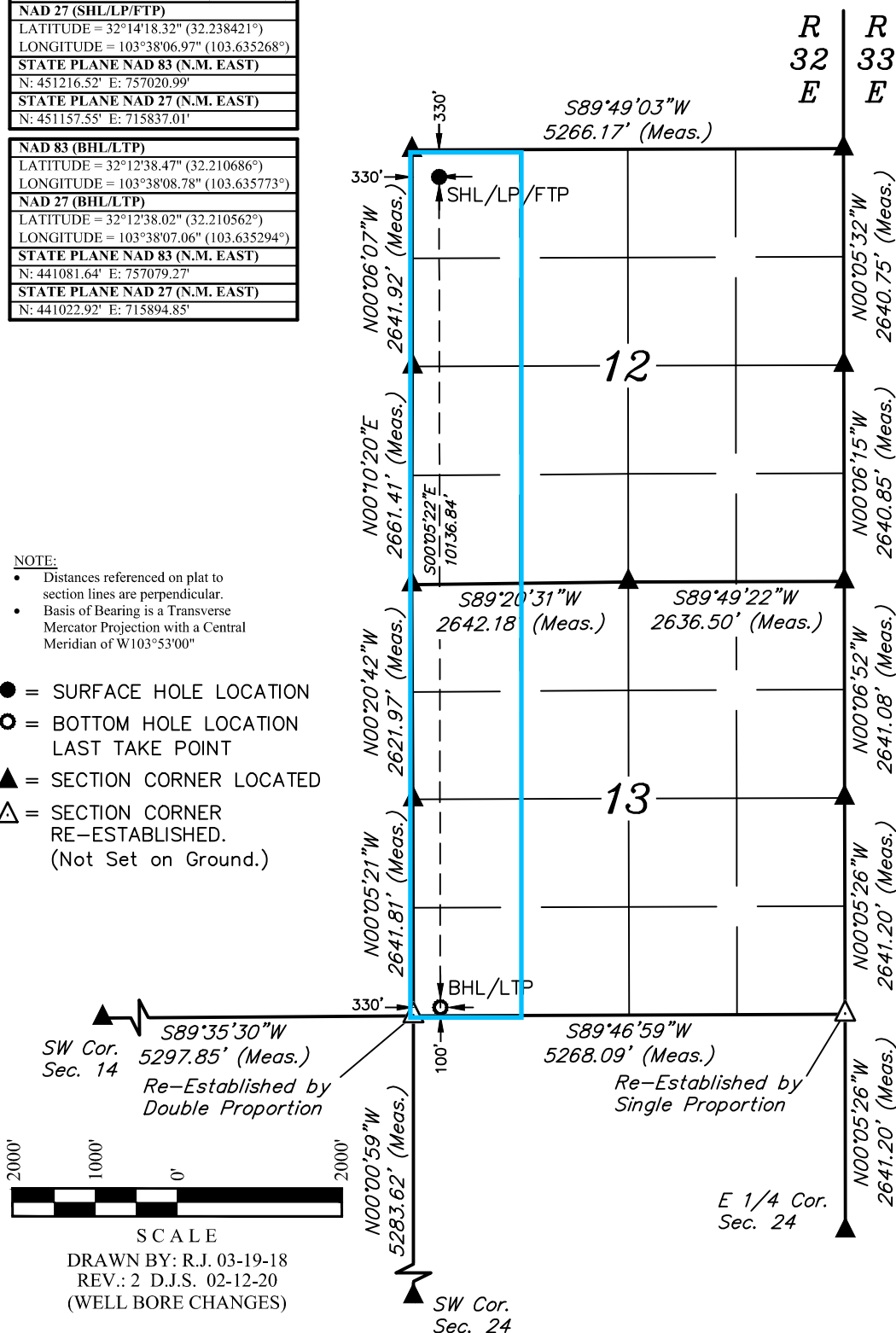
<b>NAD 83 (SHL/LP/FTP)</b>
<b>LATITUDE = 32°14'18.76" (32.238545°)</b>
<b>LONGITUDE = 103°38'08.70" (103.635749°)</b>
<b>NAD 27 (SHL/LP/FTP)</b>
<b>LATITUDE = 32°14'18.32" (32.238421°)</b>
<b>LONGITUDE = 103°38'06.97" (103.635268°)</b>
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
<b>N: 451216.52' E: 757020.99'</b>
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
<b>N: 451157.55' E: 715837.01'</b>

<b>NAD 83 (BHL/LTP)</b>
LATITUDE = 32°12'38.47" (32.210686°)
LONGITUDE = 103°38'08.78" (103.635773°)
<b>NAD 27 (BHL/LTP)</b>
LATITUDE = 32°12'38.02" (32.210562°)
LONGITUDE = 103°38'07.06" (103.635294°)
<b>STATE PLANE NAD 83 (N.M. EAST)</b>
N: 441081.64' E: 757079.27'
<b>STATE PLANE NAD 27 (N.M. EAST)</b>
N: 441022.92' E: 715894.85'

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"

● = SURFACE HOLE LOCATION  
 ○ = BOTTOM HOLE LOCATION  
 LAST TAKE POINT  
 ▲ = SECTION CORNER LOCATED  
 △ = SECTION CORNER  
 RE-ESTABLISHED.  
 (Not Set on Ground.)



## **<sup>17</sup> 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.*


 3-26-2020  
 Signature Date

## Hope Knauls

Printed Name

## hknauls@cimarex.com

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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.*

October 18, 2017

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Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number:

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>Cimarex</b>
<b>LEASE NO.:</b>	<b>NMNM001917</b>
<b>LOCATION:</b>	Section 12, T.24 S., R.32 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Dos Equis 12-13 Fed Com 9H
<b>SURFACE HOLE FOOTAGE:</b>	330'/N & 330'/W
<b>BOTTOM HOLE FOOTAGE:</b>	100'/S & 330'/W

COA

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

### A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware Group** 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 1520 feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface. **Excess calculates to 18%. Additional cement maybe required.**
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8**

**hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

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

**Intermediate casing must be kept 1/3<sup>rd</sup> fluid filled to meet BLM minimum collapse requirement.**

2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is: Operator has proposed a DV tool, the depth may be adjusted as long as the cement is changed proportionally. The DV tool may be cancelled if cement circulates to surface on the first stage.

- a. First stage to DV tool: Cement to circulate. If cement does not circulate off the DV tool, contact the appropriate BLM office before proceeding with second stage cement job.
- b. Second stage above DV tool:
  - Cement to surface. If cement does not circulate, contact the appropriate BLM office.  
**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 x 5** inch production casing is:

- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

### C. PRESSURE CONTROL

1. **Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).**
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.



- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
- c. Manufacturer representative shall install the test plug for the initial BOP test.
- d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

#### **D. SPECIAL REQUIREMENT (S)**

##### **Communitization Agreement**

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

## **GENERAL REQUIREMENTS**

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

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

☒ Eddy County

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

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)  
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 2<sup>nd</sup> Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
    - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

#### A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

#### B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
  - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
  - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
  - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for

the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### C. DRILLING MUD

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

#### D. WASTE MATERIAL AND FLUIDS

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

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

**ZS 081721**

**1. Geological Formations**

TVD of target 12,300

Pilot Hole TD N/A

MD at TD 22,201

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1185	Useable	
Salado (Top Salt)	1400	N/A	
Base of Salt	4650	N/A	
Bell Canyon	4947	N/A	
Cherry Canyon	5874	Hydrocarbons	
Brushy Canyon	7222	Hydrocarbons	
Bone Spring	8780	Hydrocarbons	
Avalon	9219	Hydrocarbons	
1st Bone Spring Sand	9943	Hydrocarbons	
2nd Bone Spring Sand	10478	Hydrocarbons	
3rd Bone Spring Sand	11845	Hydrocarbons	
Wolfcamp (Target)	12327	Hydrocarbons	

**2. Casing Program**

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
14 3/4	0	1235	1235	10-3/4"	40.50	J-55	BT&C	2.95	5.85	12.58
9 7/8	0	12415	12251	7-5/8"	29.70	L-80	BT&C	2.50	1.20	1.82
6 3/4	0	11690	11690	5-1/2"	20.00	HCL-80	LT&C	1.25	1.21	1.88
6 3/4	11690	22200	12300	5"	18.00	P-110	BT&C	1.68	1.70	52.82
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., Dos Equis 12-13 Federal Com 9H

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

**3. Cementing Program**

Casing	# Sk	Wt. lb/gal	Yld ft <sup>3</sup> /sack	H <sub>2</sub> O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	480	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	128	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate Stage 1	577	10.30	3.64	22.18		Lead: Tuned Light + LCM
	200	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate Stage 2	782	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
Production	1004	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 +/- 4,900'.

Casing String	TOC	% Excess
Surface	0	45
Intermediate Stage 1	4900	47
Intermediate Stage 2	0	37
Production	12215	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	5M
			Blind Ram		
			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 1235'	Fresh Water	7.83 - 8.33	28	N/C
1235' to 12415'	Brine Diesel Emulsion	8.50 - 9.00	30-35	N/C
12415' to 22200'	OBM	12.00 - 12.50	50-70	N/C
				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	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.

	H2S is present
	H2S 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.

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



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: 1 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: 2 file(s)
- SUPO Report
- SUPO Attachments
  - Existing Road Map: 1 file(s)
  - Attach Well map: 1 file(s)
  - Production Facilities map: 3 file(s)
  - Water source and transportation map: 1 file(s)
  - Well Site Layout Diagram: 2 file(s)
  - Recontouring attachment: 1 file(s)
  - Other SUPO Attachment: 2 file(s)
- PWD Report
- PWD Attachments
  - None



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

## Operator Certification Data Report

05/08/2020

### Operator Certification

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

**NAME:** Fatima Vasquez

**Signed on:** 04/29/2020

**Title:** Regulatory Analyst

**Street Address:** 600 N Marienfeld Ste 600

**City:** Midland

**State:** TX

**Zip:** 79701

**Phone:** (432)620-1933

**Email address:** fvasquez@cimarex.com

### Field Representative

**Representative Name:**

**Street Address:**

**City:**

**State:**

**Zip:**

**Phone:**

**Email address:**





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

# Application Data Report

05/08/2020

APD ID: 10400053047

Submission Date: 05/07/2020

Highlighted data  
reflects the most  
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: DOS EQUIS 12-13 FEDERAL COM

Well Number: 9H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - General

APD ID: 10400053047

Tie to previous NOS? Y

Submission Date: 05/07/2020

BLM Office: CARLSBAD

User: Fatima Vasquez

Title: Regulatory Analyst

Federal/Indian APD: FED

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

Lease number: NMNM0001917

Lease Acres: 800

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO

APD Operator: CIMAREX ENERGY COMPANY

Operator letter of 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: DOS EQUIS 12-13 FEDERAL COM

Well Number: 9H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: BONESPRING

Pool Name: TRISTE DRAW  
BONE SPRING

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

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H**Is the proposed well in an area containing other mineral resources?** USEABLE WATER,NATURAL GAS,OIL**Is the proposed well in a Helium production area?** N**Use Existing Well Pad?** Y**New surface disturbance?** N**Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:** Dos**Number:** W2W2 PAD 1

Equis 12-13 Fed Com

**Well Class:** HORIZONTAL**Number of Legs:** 1**Well Work Type:** Drill**Well Type:** OIL WELL**Describe Well Type:****Well sub-Type:** INFILL**Describe sub-type:****Distance to town:** 26 Miles**Distance to nearest well:** 20 FT**Distance to lease line:** 330 FT**Reservoir well spacing assigned acres Measurement:** 320 Acres**Well plat:** Dos\_Equis\_12\_13\_Fed\_Com\_9H\_C102\_Plat\_20200507065758.pdf**Well work start Date:** 11/30/2020**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:** 23782**Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	330	FNL	330	FW L	24S	32E	12	Aliquot NWN W	32.210686	- 103.635773	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 0001917	3607	0	0	N
KOP Leg #1	330	FNL	331	FW L	24S	32E	12	Aliquot NWN W	32.238544	- 103.63575	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 0001917	- 8183	11790	11790	N
PPP Leg #1-1	264	FNL	336	FW L	24S	32E	12	Aliquot NWN W	32.215525	- 103.635756	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 0001917	- 8693	14375	12300	N

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H

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 #1-2	264 1	FSL	336	FW L	24S	32E	12	Aliquot SWN W	32.22488 3	- 103.6357 61	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 000288 9	- 869 3	170 35	123 00	N
PPP Leg #1-3	132 1	FSL	333	FW L	24S	32E	13	Aliquot NWN W	32.21404 2	- 103.6357 69	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 055354 8	- 869 3	196 59	123 00	N
PPP Leg #1-4	264 1	FNL	336	FW L	24S	32E	12	Aliquot NWS W	32.22488 3	- 103.6357 61	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 055364 2	- 869 3	209 80	123 00	N
EXIT Leg #1	100	FSL	330	FW L	24S	32E	13	Aliquot SWS W	32.21068 6	- 103.6357 73	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 116574	- 869 3	222 00	123 00	Y
BHL Leg #1	100	FSL	330	FW L	24S	32E	13	Aliquot SWS W	32.21068 6	- 103.6357 73	LEA	NEW MEXICO	FIRST PRIN	F	NMNM 116574	- 869 3	222 00	123 00	Y



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

# Drilling Plan Data Report

05/08/2020

APD ID: 10400053047

Submission Date: 05/07/2020

Highlighted data  
reflects the most  
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: DOS EQUIS 12-13 FEDERAL COM

Well Number: 9H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
701659	RUSTLER	3605	1185	1185	ANHYDRITE	USEABLE WATER	N
701834	SALADO	2205	1400	1400	SALT	OTHER : n/a	N
701961	BASE OF SALT	-1045	4650	4650	SALT	OTHER : Barren	N
702534	BELL CANYON	-1342	4947	4947	SANDSTONE	NONE	N
703575	CHERRY CANYON	-2269	5874	5874	SANDSTONE	NONE	N
703714	BRUSHY CANYON	-3617	7222	7222	SANDSTONE	NATURAL GAS, OIL	N
703715	BONE SPRING	-5175	8780	8780	LIMESTONE	NATURAL GAS, OIL	N
703716	AVALON SAND	-5614	9219	9219	SANDSTONE, SHALE	NATURAL GAS, OIL	N
703717	BONE SPRING 1ST	-6338	9943	9943	LIMESTONE	NATURAL GAS, OIL	N
703718	BONE SPRING 2ND	-6873	10478	10478	LIMESTONE	NATURAL GAS, OIL	N
703719	BONE SPRING 3RD	-8240	11845	11845	LIMESTONE	NATURAL GAS, OIL	Y
725634	WOLFCAMP	-8722	12327	12327	OTHER : n/a	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 22200

**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.

Page 1 of 7

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H

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 vendors representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder 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:**

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Choke\_10M\_20200417075807.pdf

**BOP Diagram Attachment:**

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_BOP\_10M\_20200417075818.pdf

---

**Pressure Rating (PSI):** 5M**Rating Depth:** 12415

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

**Requesting Variance?** YES

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

**Testing Procedure:** A multi-bowl wellhead system will be utilized. After running the 10-3/4" surface casing, a 13 5/8 BOP/BOPE system with a minimum working pressure of 5000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 5000 psi test. Annular will be tested to 50% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by vendors representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder, monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 5000 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:**

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Choke\_5M\_20200417072533.pdf

**BOP Diagram Attachment:**

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_BOP\_5M\_20200417072601.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: DOS EQUIS 12-13 FEDERAL COM

Well Number: 9H

## 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	10.75	NEW	API	N	0	1235	0	1235	3607	2372	1235	J-55	40.5	BUTT	2.95	5.85	BUOY	12.58	BUOY	12.58
2	PRODUCTION	6.75	5.5	NEW	API	N	0	11690	0	11690	3607	-8083	11690	HCL-80	20	LT&C	1.25	1.21	BUOY	1.88	BUOY	1.88
3	INTERMEDIATE	9.625	7.0	NEW	NON API	N	0	12415	0	12251	3607	-8644	12415	L-80	29	LT&C	1.22	1.42	BUOY	1.65	BUOY	1.65
4	PRODUCTION	6.75	5.0	NEW	API	N	11690	22200	11690	12300	-8083	-8693	10510	P-110	18	BUTT	1.68	1.7	BUOY	52.82	BUOY	52.8

## Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Casing\_Assumptions\_20200420151148.pdf



**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H**Casing Attachments**

---

**Casing ID:** 2      **String Type:** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Casing\_Assumptions\_20200420151735.pdf

---

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

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Int\_Csg\_Spec\_Sheet\_20200420145811.pdf

**Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Casing\_Assumptions\_20200420151021.pdf

---

**Casing ID:** 4      **String Type:** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Casing\_Assumptions\_20200420152248.pdf

---

**Section 4 - Cement**

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H

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

SURFACE	Lead		0	1235	480	1.72	13.5	824	50	Class C	Bentonite
SURFACE	Tail		0	1235	128	1.34	14.8	171	25	Class C	LCM
INTERMEDIATE	Lead	4900	0	4900	961	1.88	12.9	1806	37	35:65 (PozC)	Salt, Bentonite

INTERMEDIATE	Lead	4900	4900	1241 5	711	3.64	10.3	2586	47	Tuned light	LCM
INTERMEDIATE	Tail		4900	1241 5	247	1.34	14.8	330	47	Class C	LCM
PRODUCTION	Lead		0	2220 0	837	1.3	14.2	1088	25	50:50 (poz H)	Salt, Bentonite, Fluid Loss, Dispersant, SMS

### Section 5 - Circulating Medium

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

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

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

### Circulating Medium Table

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H

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	1231 5	SPUD MUD	7.83	8.33							
1235	1241 5	SALT SATURATED	8.5	9							
1241 5	2220 0	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:**

GAMMA RAY LOG,COMPENSATED NEUTRON LOG,DIRECTIONAL SURVEY,

**Coring operation description for the well:**

N/A

### Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 7995

**Anticipated Surface Pressure:** 5288

**Anticipated Bottom Hole Temperature(F):** 190

**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:**

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_H2S\_Plan\_20200421144805.pdf

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H

## Section 8 - Other Information

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

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_AC\_Report\_20200421144845.pdf

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Directional\_Survey\_20200421144845.pdf

**Other proposed operations facets description:**

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

**Other proposed operations facets attachment:**

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Gas\_Capture\_Plan\_20200421145019.pdf

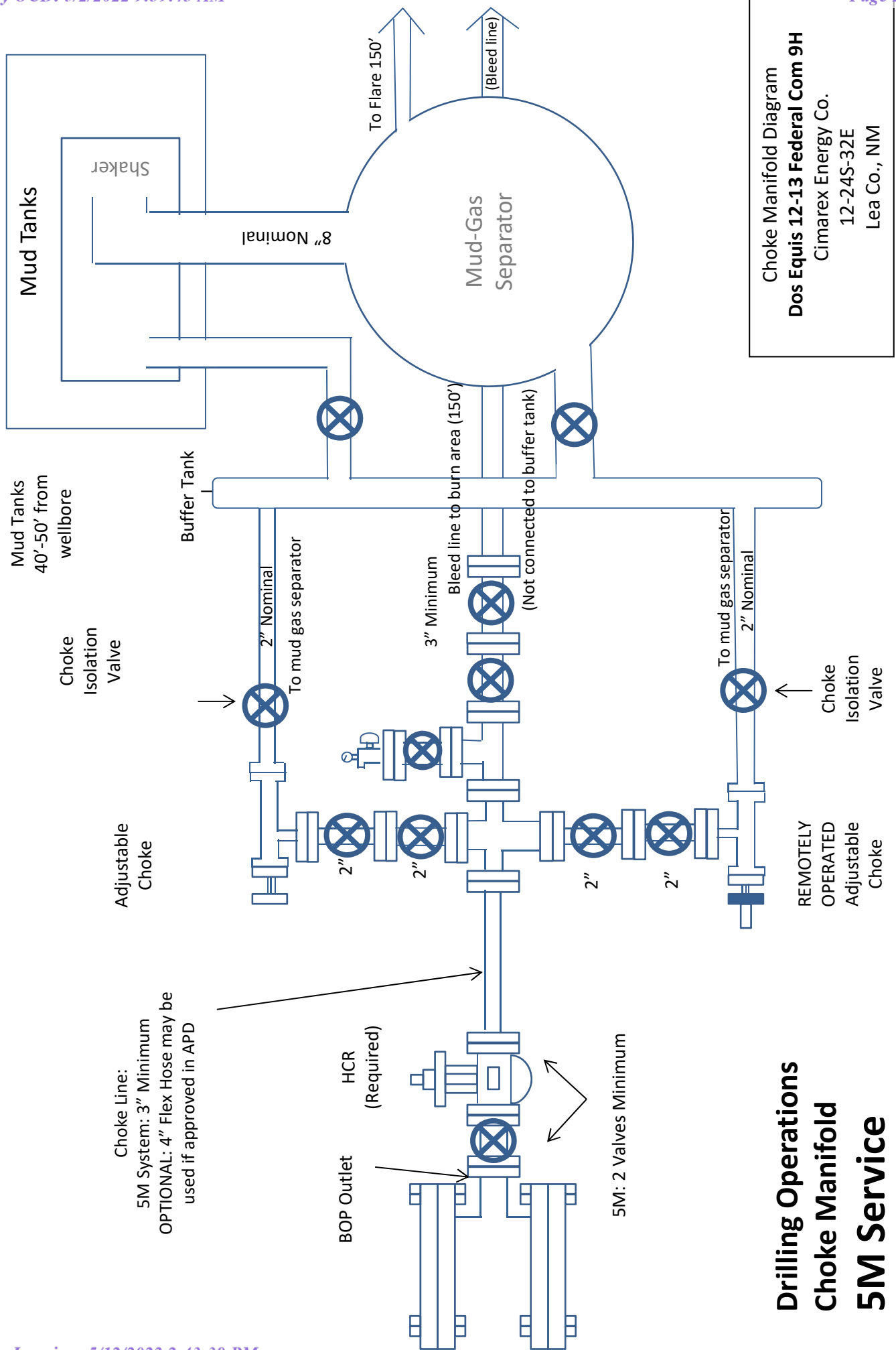
Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Flex\_Hose\_20200421145024.pdf

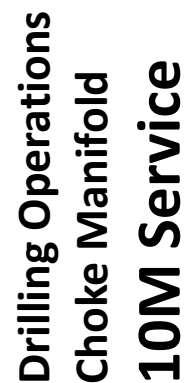
Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Drilling\_Plan\_20200427134915.pdf

**Other Variance attachment:**

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Well\_Control\_10M\_w\_5M\_annular\_Plan\_BLM\_Approved\_20200421150548.pdf

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Multibowl\_Wellhead\_20200427135854.pdf







Drilling 9-7/8" hole below  
10-3/4" 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

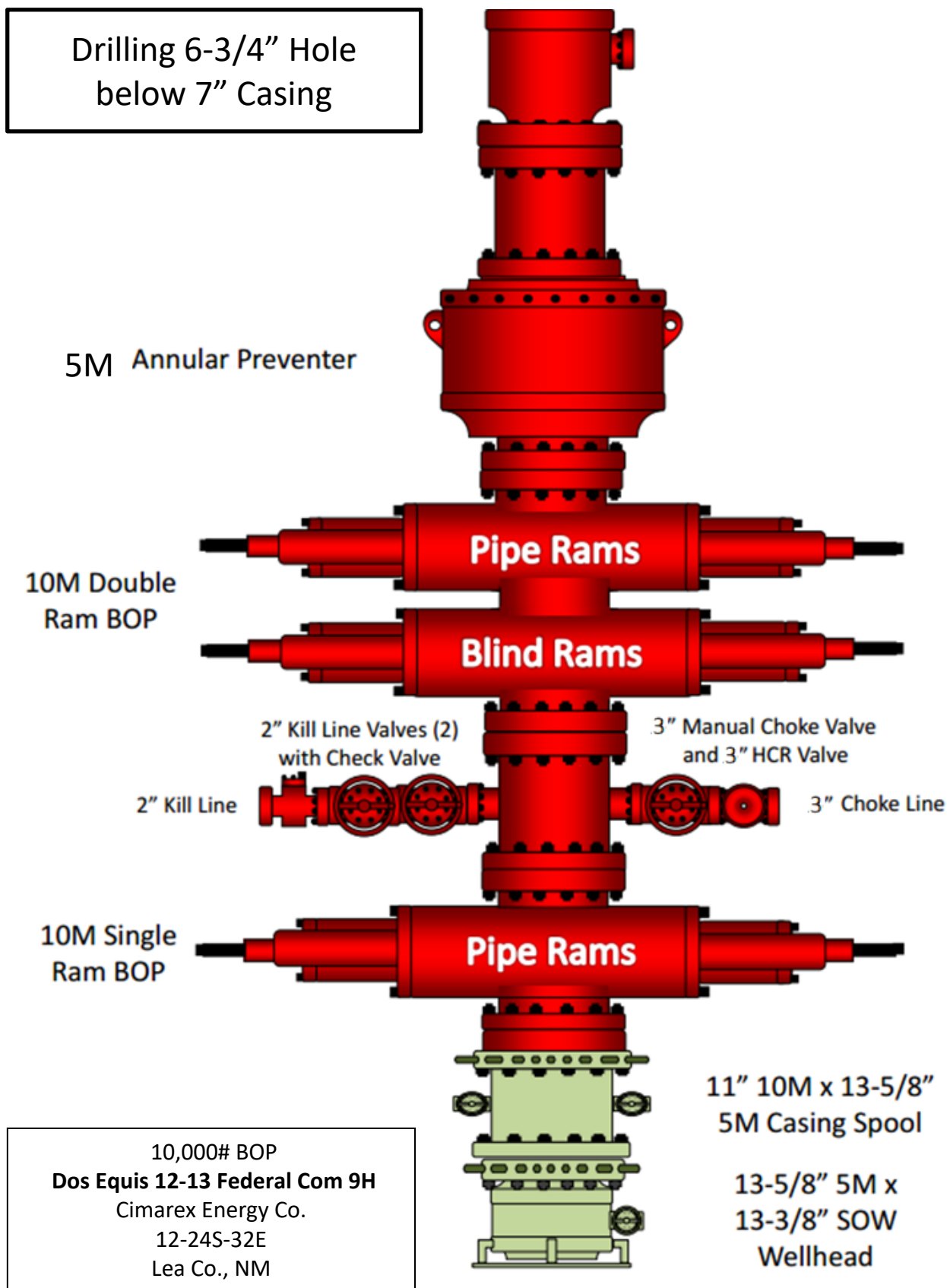
11" 5000 psi x 7-1/16" 10,000 psi  
Wellhead Assembly

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  
Dos Equis 12-13 Federal Com 9H  
Cimarex Energy Co.  
12-24S-32E  
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 <sup>2</sup>			

### Connection Parameters

Connection OD	7.625	in
Connection ID	6.881	in
Make-Up Loss	4.022	in
Critical Section Area	5.316	in <sup>2</sup>
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.



## Dos Equis 12-13 Fed Com 9H

### 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	1235	1235	10-3/4"	40.50	J-55	BT&C	2.95	5.85	12.58
9 7/8	0	12415	12251	7"	29.00	L-80	LT&C	1.22	1.42	1.65
6 3/4	0	11690	11690	5-1/2"	20.00	HCL-80	LT&C	1.25	1.21	1.88
6 3/4	11690	22200	12300	5"	18.00	P-110	BT&C	1.68	1.70	52.82
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

## Dos Equis 12-13 Fed Com 9H

### Casing Assumptions

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**Dos Equis 12-13 Federal Com 9H**

Cimarex Energy Co.  
UL: D, Sec. 12, 24S, 32E  
Lea Co., NM

- 1 All Company and Contract personnel admitted on location must be trained by a qualified H<sub>2</sub>S safety instructor to the following:
  - A. Characteristics of H<sub>2</sub>S
  - B. Physical effects and hazards
  - C. Principal and operation of H<sub>2</sub>S detectors, warning system and briefing areas.
  - D. Evacuation procedure, routes and first aid.
  - E. Proper use of safety equipment & life support systems
  - F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.

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

  - A. H<sub>2</sub>S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H<sub>2</sub>S detectors may be placed as deemed necessary.
  - B. An audio alarm system will be installed on the derrick floor and in the top doghouse.
- 3 Windsock and/or wind streamers:
  - A. Windsock at mudpit area should be high enough to be visible.
  - B. Windsock on the rig floor and / or top doghouse should be high enough to be visible.
- 4 Condition Flags and Signs
  - A. Warning sign on access road to location.
  - B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H<sub>2</sub>S present in dangerous concentration). Only H<sub>2</sub>S trained and certified personnel admitted to location.
- 5 Well control equipment:
  - A. See exhibit "E-1"
- 6 Communication:
  - A. While working under masks chalkboards will be used for communication.
  - B. Hand signals will be used where chalk board is inappropriate.
  - C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.
- 7 Drillstem Testing:

No DSTs or cores are planned at this time.
- 8 Drilling contractor supervisor will be required to be familiar with the effects H<sub>2</sub>S has on tubular goods and other mechanical equipment.
- 9 If H<sub>2</sub>S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H<sub>2</sub>S scavengers if necessary.



H<sub>2</sub>S Contingency Plan  
**Dos Equis 12-13 Federal Com 9H**  
Cimarex Energy Co.  
UL: D, Sec. 12, 24S, 32E  
Lea Co., NM

**Emergency Procedures**

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

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

**Ignition of Gas Source**

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO<sub>2</sub>). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

**Characteristics of H<sub>2</sub>S and SO<sub>2</sub>**

Please see attached International Chemical Safety Cards.

**Contacting Authorities**

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

H<sub>2</sub>S Contingency Plan Emergency Contacts  
**Dos Equis 12-13 Federal Com 9H** Cimarex  
 Energy Co.  
 UL: D, Sec. 12, 24S, 32E  
 Lea Co., NM

<b><u>Company Office</u></b>			
Cimarex Energy Co. of Colorado		800-969-4789	
Co. Office and After-Hours Menu			
<b><u>Key Personnel</u></b>			
<b>Name</b>	<b>Title</b>	<b>Office</b>	<b>Mobile</b>
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
<b><u>Artesia</u></b>			
Ambulance		911	
State Police		575-746-2703	
City Police		575-746-2703	
Sheriff's Office		575-746-9888	
<b>Fire Department</b>		<b>575-746-2701</b>	
Local Emergency Planning Committee		575-746-2122	
New Mexico Oil Conservation Division		575-748-1283	
<b><u>Carlsbad</u></b>			
Ambulance		911	
State Police		575-885-3137	
City Police		575-885-2111	
Sheriff's Office		575-887-7551	
<b>Fire Department</b>		<b>575-887-3798</b>	
Local Emergency Planning Committee		575-887-6544	
US Bureau of Land Management		575-887-6544	
<b><u>Santa Fe</u></b>			
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	
<b><u>National</u></b>			
National Emergency Response Center (Washington, D.C.)		800-424-8802	
<b><u>Medical</u></b>			
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	
<b><u>Other</u></b>			
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 Dos Equis 12-13 Federal Com #9H Rev1 RM 18Feb20 Anti-Collision Summary Report

**Analysis Date-24hr Time:** February 18, 2020 - 16:26  
**Client:** Cimarex Energy  
**Field:** NM Lea County (NAD 83)  
**Structure:** Cimarex Dos Equis 12-13 Federal Com #9H  
**Slot:** New Slot  
**Well:** Dos Equis 12-13 Federal Com #9H  
**Borehole:** Dos Equis 12-13 Federal Com #9H  
**Scan MD Range:** 0.00ft ~ 22200.83ft

**Analysis Method:** 3D Least Distance  
**Reference Trajectory:** Cimarex Dos Equis 12-13 Federal Com #9H Rev1 RM 18Feb20 (Def Plan)  
**Depth Interval:** Every 10.00 Measured Depth (ft)  
**Rule Set:** NAL Procedure: D&M AntiCollision Standard S002  
**Min Pts:** All local minima indicated.  
**Version / Patch:** 2.10.787.0  
**Database \ Project:** us1153APP452.DIR.SLB.COMDRILLING-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: Not performed!  
 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 Dos Equis 12-13  
 Federal Com #10H Rev1 RM  
 18Feb20 (Def Plan)

Warning Alert

72.19	32.81	70.90	39.38	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
72.19	32.81	70.90	39.38	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
66.74	32.81	52.28	33.93	4.97	MAS = 10.00 (m)	2250.00	2250.00	OSF<5.00				Enter Alert
60.17	32.81	44.80	27.36	4.18	MAS = 10.00 (m)	2480.00	2480.00					MinPts
60.21	32.81	44.80	27.40	4.17	MAS = 10.00 (m)	2490.00	2490.00					MINPT-O-EOU
60.44	32.81	44.94	27.63	4.16	MAS = 10.00 (m)	2510.00	2510.00					MinPt-O-SF
77.25	32.81	60.74	44.44	4.99	MAS = 10.00 (m)	2750.00	2750.00	OSF>5.00				Exit Alert
901.90	96.72	836.99	805.17	14.15	OSF1.50	11790.00	11790.00					MinPts
899.80	90.84	838.81	808.96	15.05	OSF1.50	12770.00	12299.86					MinPt-CtCt
899.87	271.14	718.68	628.72	4.99	OSF1.50	20670.00	12300.00	OSF<5.00				Enter Alert
899.88	318.46	687.15	581.42	4.25	OSF1.50	22200.83	12300.00					MinPts

Cimarex Dos Equis 12-13  
 Federal Com #11H Rev1 RM  
 18Feb20 (Def Plan)

Warning Alert

84.97	32.81	83.69	52.16	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
84.97	32.81	83.68	52.16	N/A	MAS = 10.00 (m)	26.00	26.00					WRP
81.02	32.81	63.69	48.22	4.97	MAS = 10.00 (m)	2680.00	2680.00	OSF<5.00				Enter Alert
60.22	32.81	41.16	27.41	3.32	MAS = 10.00 (m)	3120.00	3120.00					MinPts
60.24	32.81	41.14	27.43	3.31	MAS = 10.00 (m)	3130.00	3130.00					MINPT-O-EOU
60.50	32.81	41.27	27.69	3.30	MAS = 10.00 (m)	3160.00	3160.00					MinPt-O-SF
101.98	32.81	80.44	69.17	4.97	MAS = 10.00 (m)	3690.00	3690.00	OSF>5.00				Exit Alert
453.98	98.14	388.13	355.84	7.01	OSF1.50	11800.00	11800.00					MinPts
750.32	60.32	709.68	690.00	19.03	OSF1.50	12790.00	12300.00					MinPt-CtCt

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
	750.35	226.29	599.06	524.06	4.99	OSF1.50	19510.00	12300.00	OSF<5.00			Enter Alert	MinPts
	750.37	308.48	544.28	441.89	3.66	OSF1.50	22200.83	12300.00				MinPts	

Gulf Oil Hanagan D Federal #2  
(Offset) Plugged Oil Blind Off-  
5100ft (Def Survey)

Warning Alert

5196.83	32.81	5195.55	5164.03	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
5196.55	32.81	5195.23	5163.74	137025.65	MAS = 10.00 (m)	26.00	26.00					MinPt-O-SF
5196.37	1560.99	4155.28	3635.38	5.00	OSF1.50	5080.00	5080.00	OSF<5.00				Enter Alert
5196.37	1586.14	4138.52	3610.23	4.92	OSF1.50	5160.00	5160.00					MinPt-CtCt
5196.37	1589.09	4136.55	3607.28	4.91	OSF1.50	5170.00	5170.00					MinPts
5244.73	1574.56	4194.60	3670.17	5.00	OSF1.50	5880.00	5880.00	OSF>5.00				Exit Alert
8314.89	820.90	7767.20	7493.99	15.22	OSF1.50	15020.00	12300.00					MinPt-CtCt
8314.90	820.92	7767.19	7493.98	15.21	OSF1.50	15030.00	12300.00					MINPT-O-EOU
8314.92	820.94	7767.20	7493.98	15.21	OSF1.50	15040.00	12300.00					MinPt-O-ADP
10094.23	1137.44	9335.51	8956.79	13.33	OSF1.50	20740.00	12300.00					MinPt-O-SF
10988.59	1222.78	10172.97	9765.81	13.49	OSF1.50	22200.83	12300.00					TD

Cimarex Dos Equis 12 Federal  
Com #4H Gyro 0ft to 11189ft  
MD (Def Survey)

Pass

337.11	32.81	335.13	304.30	N/A	MAS = 10.00 (m)	0.00	0.00					MinPts
337.11	32.81	335.13	304.31	45550.39	MAS = 10.00 (m)	26.00	26.00					WRP
334.24	32.81	326.65	301.43	59.20	MAS = 10.00 (m)	1190.00	1190.00					MinPts
328.12	32.81	307.26	295.32	17.27	MAS = 10.00 (m)	4190.00	4190.00					MinPts
328.23	32.81	307.14	295.42	17.07	MAS = 10.00 (m)	4250.00	4250.00					MINPT-O-EOU
345.67	56.63	307.26	289.05	9.43	OSF1.50	8200.00	8200.00					MinPt-CtCt
299.62	76.90	247.67	222.72	5.96	OSF1.50	11180.00	11180.00					MinPts
1551.65	63.67	1508.54	1487.98	37.68	OSF1.50	13180.00	12300.00					MinPt-O-SF
10122.82	89.71	10062.35	10033.11	173.04	OSF1.50	22200.83	12300.00					TD

Cimarex Dos Equis 12 Fed 4H  
Gyro+MWD 10305ft to 15240ft  
MD (Def Survey)

Pass

337.11	32.81	335.13	304.30	N/A	MAS = 10.00 (m)	0.00	0.00					MinPts
337.11	32.81	335.13	304.31	45550.39	MAS = 10.00 (m)	26.00	26.00					WRP
334.24	32.81	326.65	301.43	59.20	MAS = 10.00 (m)	1190.00	1190.00					MinPts
328.12	32.81	307.26	295.32	17.27	MAS = 10.00 (m)	4190.00	4190.00					MinPts
328.23	32.81	307.14	295.42	17.07	MAS = 10.00 (m)	4250.00	4250.00					MINPT-O-EOU
345.67	56.63	307.26	289.05	9.43	OSF1.50	8200.00	8200.00					MinPt-CtCt
320.54	71.93	271.82	248.61	6.85	OSF1.50	10410.00	10410.00					MinPts
320.58	71.99	271.82	248.58	6.85	OSF1.50	10420.00	10420.00					MinPt-O-ADP
320.92	72.10	272.10	248.82	6.84	OSF1.50	10440.00	10440.00					MinPt-O-SF
1402.08	37.07	1376.71	1365.01	59.85	OSF1.50	12850.00	12300.00					MinPt-CtCt
1405.14	44.22	1375.00	1360.92	49.82	OSF1.50	13180.00	12300.00					MINPT-O-EOU
1406.59	55.04	1369.24	1351.55	39.71	OSF1.50	13590.00	12300.00					MinPt-CtCt
1404.36	77.49	1352.04	1326.87	27.86	OSF1.50	14410.00	12300.00					MinPt-CtCt
1409.56	95.41	1345.30	1314.15	22.60	OSF1.50	14990.00	12300.00					MINPT-O-EOU
1411.54	97.78	1345.69	1313.76	22.07	OSF1.50	15070.00	12300.00					MinPt-O-ADP
1420.81	122.51	1338.48	1298.30	17.66	OSF1.50	15810.00	12300.00					MinPt-CtCt
1422.51	135.93	1331.23	1286.58	15.91	OSF1.50	16220.00	12300.00					MinPt-CtCt
1419.70	156.81	1314.50	1262.89	13.74	OSF1.50	16690.00	12300.00					MinPt-CtCt
1419.81	157.12	1314.41	1262.69	13.71	OSF1.50	16710.00	12300.00					MinPts
1425.49	158.49	1319.17	1267.00	13.64	OSF1.50	16820.00	12300.00					MinPt-O-SF
5689.24	110.17	5615.13	5579.07	78.85	OSF1.50	22200.83	12300.00					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 Dos Equis 12-13  
Federal Com #48H Rev0 RM  
13Sept19 (Non-Def Plan)

Pass

1252.07	32.81	1250.78	1219.26	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1252.07	32.81	1250.78	1219.26	N/A	MAS = 10.00 (m)	26.00	26.00	WRP
1252.07	110.04	1178.28	1142.03	17.25	OSF1.50	11600.00	11600.00	MinPts
1060.99	106.75	989.22	954.24	15.14	OSF1.50	12360.00	12233.93	MinPt-O-SF
1060.31	106.63	988.62	953.68	15.15	OSF1.50	12400.00	12247.08	MinPts
1059.70	104.67	989.31	955.03	15.43	OSF1.50	12760.00	12299.69	MINPT-O-EOU
1056.65	314.62	846.29	742.03	5.06	OSF1.50	22200.00	12300.00	MinPt-CtCt
1056.65	314.63	846.29	742.02	5.06	OSF1.50	22200.83	12300.00	MinPts

Cimarex Dos Equis 12-13  
Federal Com #52H Rev1 RM  
17Feb20 (Def Plan)

Pass

1157.73	32.81	1156.45	1124.92	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1157.73	32.81	1156.44	1124.92	867487.55	MAS = 10.00 (m)	26.00	26.00	WRP
1157.73	32.81	1141.19	1124.92	75.81	MAS = 10.00 (m)	2490.00	2490.00	MinPts
1157.92	32.81	1140.96	1125.11	73.82	MAS = 10.00 (m)	2560.00	2560.00	MINPT-O-EOU
1187.89	34.17	1164.68	1153.72	54.13	OSF1.50	3620.00	3620.00	MinPt-O-SF
1188.81	84.73	1131.90	1104.08	21.35	OSF1.50	9180.00	9180.00	MinPt-O-SF
1183.44	84.68	1126.56	1098.76	21.26	OSF1.50	9470.00	9470.00	MinPts
1183.76	84.73	1126.85	1099.04	21.26	OSF1.50	9510.00	9510.00	MinPt-O-SF
2951.10	315.40	2740.40	2635.70	14.09	OSF1.50	22200.83	12300.00	MinPts

Cimarex Dos Equis 12-13  
Federal Com #51H Rev1 RM  
17Feb20 (Def Plan)

Pass

1177.59	32.81	1176.30	1144.78	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1177.59	32.81	1176.30	1144.78	756328.60	MAS = 10.00 (m)	26.00	26.00	WRP
1177.59	86.57	1119.45	1091.02	20.69	OSF1.50	9110.00	9110.00	MinPt-CtCt
1177.64	86.80	1119.34	1090.84	20.63	OSF1.50	9150.00	9150.00	MINPT-O-EOU
1177.68	86.85	1119.35	1090.83	20.62	OSF1.50	9160.00	9160.00	MinPt-O-ADP
1178.16	87.09	1119.67	1091.07	20.57	OSF1.50	9220.00	9220.00	MinPt-O-SF
2959.31	313.95	2749.58	2645.36	14.19	OSF1.50	22200.83	12300.00	MinPts

Cimarex Dos Equis 12-13  
Federal Com #50H Rev1 RM  
17Feb20 (Def Plan)

Pass

1197.46	32.81	1196.17	1164.65	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1197.46	32.81	1196.17	1164.65	769105.68	MAS = 10.00 (m)	26.00	26.00	WRP
1197.46	32.81	1184.06	1164.65	98.76	MAS = 10.00 (m)	1990.00	1990.00	MinPts
1197.59	32.81	1183.91	1164.78	96.50	MAS = 10.00 (m)	2040.00	2040.00	MINPT-O-EOU
1246.99	32.81	1227.02	1214.18	66.66	MAS = 10.00 (m)	3140.00	3140.00	MinPt-O-SF
1248.94	109.35	1175.61	1139.59	17.32	OSF1.50	11800.00	11800.00	MinPts
1368.25	94.54	1304.79	1273.70	21.99	OSF1.50	12750.00	12299.44	MinPt-O-SF
1368.00	94.50	1304.57	1273.50	21.99	OSF1.50	12790.00	12300.00	MinPts
1368.00	94.50	1304.57	1273.50	21.99	OSF1.50	12790.00	12300.00	MinPt-CtCt
1368.09	314.71	1157.85	1053.38	6.54	OSF1.50	22200.83	12300.00	MinPts

Cimarex Dos Equis 12-13  
Federal Com #49H Rev1 RM  
17Feb20 (Def Plan)

Pass

1217.33	32.81	1216.04	1184.52	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1217.33	32.81	1216.04	1184.52	781878.34	MAS = 10.00 (m)	26.00	26.00	WRP

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		
1217.33		32.81	1203.93	1184.52	100.40	MAS = 10.00 (m)	1990.00	1990.00				MinPts	
1217.38		32.81	1203.83	1184.57	99.20	MAS = 10.00 (m)	2020.00	2020.00				MINPT-O-EOU	
1797.35		53.51	1761.24	1743.83	51.58	OSF1.50	6290.00	6290.00				MinPt-O-SF	
1804.94		97.34	1739.62	1707.61	28.17	OSF1.50	11790.00	11790.00				MinPts	
1804.94		97.33	1739.62	1707.61	28.17	OSF1.50	11800.00	11800.00				MinPts	
1800.26		92.64	1738.07	1707.62	29.54	OSF1.50	12310.00	12213.13				MinPt-O-ADP	
1800.07		92.41	1738.03	1707.65	29.61	OSF1.50	12350.00	12230.16				MINPT-O-EOU	
1799.67		91.03	1738.56	1708.64	30.06	OSF1.50	12730.00	12298.74				MinPt-CtCt	
1799.77		317.76	1587.50	1482.01	8.52	OSF1.50	22200.83	12300.00				MinPts	

Cimarex Dos Equis 12 Federal  
Com #3H Gyro+MWD 0ft to  
15227ft MD (Def Survey)

Pass

1656.67	32.81	1654.69	1623.86	N/A	MAS = 10.00 (m)	0.00	0.00	MinPts
1656.70	32.81	1654.71	1623.89	131259.29	MAS = 10.00 (m)	26.00	26.00	WRP
1650.93	32.81	1642.36	1618.12	250.25	MAS = 10.00 (m)	1410.00	1410.00	MinPts
1652.03	32.81	1640.46	1619.22	172.03	MAS = 10.00 (m)	2210.00	2210.00	MINPT-O-EOU
1650.12	32.81	1634.49	1617.31	120.79	MAS = 10.00 (m)	3080.00	3080.00	MinPts
1649.95	32.81	1632.29	1617.14	105.09	MAS = 10.00 (m)	3520.00	3520.00	MinPts
1650.07	32.81	1632.15	1617.26	103.39	MAS = 10.00 (m)	3580.00	3580.00	MINPT-O-EOU
1649.81	32.81	1630.42	1617.00	94.62	MAS = 10.00 (m)	3910.00	3910.00	MinPts
1649.87	32.81	1630.34	1617.06	93.92	MAS = 10.00 (m)	3940.00	3940.00	MINPT-O-EOU
1650.73	32.81	1629.04	1617.92	83.67	MAS = 10.00 (m)	4420.00	4420.00	MinPts
1650.79	32.81	1628.98	1617.98	83.16	MAS = 10.00 (m)	4450.00	4450.00	MINPT-O-EOU
1592.55	65.19	1548.39	1527.36	37.83	OSF1.50	9450.00	9450.00	MinPt-CtCt
1592.61	65.38	1548.32	1527.24	37.71	OSF1.50	9480.00	9480.00	MINPT-O-EOU
1592.66	65.44	1548.33	1527.22	37.68	OSF1.50	9490.00	9490.00	MinPt-O-ADP
1579.98	73.18	1530.47	1506.79	33.32	OSF1.50	10590.00	10590.00	MinPt-CtCt
1580.00	73.26	1530.45	1506.74	33.28	OSF1.50	10600.00	10600.00	MINPT-O-EOU
1580.06	73.33	1530.46	1506.74	33.25	OSF1.50	10610.00	10610.00	MinPt-O-ADP
1621.78	76.34	1570.23	1545.44	32.67	OSF1.50	11050.00	11050.00	MinPt-O-SF
2043.96	70.45	1996.33	1973.51	44.73	OSF1.50	12840.00	12300.00	MinPt-CtCt
2044.10	70.95	1996.14	1973.15	44.41	OSF1.50	12880.00	12300.00	MINPT-O-EOU
2044.60	71.50	1996.27	1973.09	44.07	OSF1.50	12920.00	12300.00	MinPt-O-ADP
2064.29	88.76	2004.46	1975.53	35.65	OSF1.50	13520.00	12300.00	MINPT-O-EOU
2064.21	112.04	1988.86	1952.17	28.11	OSF1.50	14130.00	12300.00	MinPt-CtCt
2064.78	124.59	1981.06	1940.18	25.24	OSF1.50	14440.00	12300.00	MinPt-CtCt
2071.12	153.71	1967.98	1917.40	20.45	OSF1.50	15120.00	12300.00	MinPt-CtCt
2073.46	159.34	1966.58	1914.13	19.75	OSF1.50	15290.00	12300.00	MINPT-O-EOU
2072.60	172.14	1957.18	1900.46	18.25	OSF1.50	15540.00	12300.00	MinPt-CtCt
2075.93	193.00	1946.60	1882.93	16.29	OSF1.50	16000.00	12300.00	MinPt-CtCt
2077.05	196.95	1945.09	1880.10	15.96	OSF1.50	16120.00	12300.00	MINPT-O-EOU
2079.72	203.04	1943.70	1876.68	15.50	OSF1.50	16250.00	12300.00	MINPT-O-EOU
2080.57	204.06	1943.87	1876.51	15.43	OSF1.50	16290.00	12300.00	MinPt-O-ADP
2094.40	239.60	1934.01	1854.80	13.21	OSF1.50	16720.00	12300.00	MinPts
2096.09	240.04	1935.40	1856.05	13.19	OSF1.50	16770.00	12300.00	MinPt-O-SF
5910.02	139.49	5816.37	5770.53	64.45	OSF1.50	22200.83	12300.00	TD

Curtis Hankamer Gulf  
Hanagan Federal #3 (Offset)  
Plugged Oil Inc Only 0ft-5049ft  
(Def Survey)

Pass

1668.08	32.81	1666.80	1635.27	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
1667.56	32.81	1666.21	1634.75	29425.97	MAS = 10.00 (m)	26.00	26.00	MinPt-O-SF
1667.43	32.81	1666.06	1634.62	21561.72	MAS = 10.00 (m)	50.00	50.00	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		
1667.59		92.77	1605.32	1574.82	27.32	OSF1.50	1810.00	1810.00				MinPt-CtCt	
1663.76		173.34	1547.77	1490.42	14.49	OSF1.50	3340.00	3340.00				MinPt-CtCt	
1670.02		229.88	1516.34	1440.14	10.95	OSF1.50	4420.00	4420.00				MinPt-CtCt	
1672.68		244.56	1509.21	1428.11	10.31	OSF1.50	4720.00	4720.00				MINPT-O-EOU	
1675.35		247.79	1509.72	1427.56	10.19	OSF1.50	4800.00	4800.00				MinPt-O-ADP	
1681.02		265.74	1503.43	1415.28	9.53	OSF1.50	5100.00	5100.00				MinPts	
7213.29		43.29	7184.00	7170.00	257.56	OSF1.50	13710.00	12300.00				MinPt-CtCt	
7214.13		45.56	7183.32	7168.56	244.35	OSF1.50	13820.00	12300.00				MINPT-O-EOU	
7215.53		47.22	7183.62	7168.31	235.58	OSF1.50	13890.00	12300.00				MinPt-O-ADP	
9872.05		236.14	9714.20	9635.92	63.05	OSF1.50	20450.00	12300.00				MinPt-O-SF	
11141.07		259.90	10967.38	10881.18	64.61	OSF1.50	22200.83	12300.00				TD	

Final Surveys - Cimarex Dos  
Equis 13 Federal Com #9H  
MWD 0ft-15788ft (Surcon  
Corrected) (Def Survey)

Pass

5296.74	32.81	5295.45	5263.93	N/A	MAS = 10.00 (m)	0.00	0.00					MinPts	
5296.75	32.81	5295.43	5263.94	181343.85	MAS = 10.00 (m)	26.00	26.00					WRP	
5297.92	32.81	5294.37	5265.11	2333.14	MAS = 10.00 (m)	490.00	490.00					MINPT-O-EOU	
5298.73	32.81	5294.10	5265.92	1582.35	MAS = 10.00 (m)	750.00	750.00					MinPts	
5298.82	32.81	5293.02	5266.01	1172.30	MAS = 10.00 (m)	1040.00	1040.00					MinPts	
5298.90	32.81	5292.41	5266.09	1017.26	MAS = 10.00 (m)	1180.00	1180.00					MINPT-O-EOU	
5294.78	32.81	5282.84	5261.98	489.39	MAS = 10.00 (m)	2470.00	2470.00					MinPts	
5295.06	32.81	5282.28	5262.25	454.39	MAS = 10.00 (m)	2660.00	2660.00					MinPts	
5295.36	32.81	5282.01	5262.56	433.07	MAS = 10.00 (m)	2790.00	2790.00					MINPT-O-EOU	
5311.41	32.81	5291.89	5278.60	288.73	MAS = 10.00 (m)	4180.00	4180.00					MinPts	
5311.55	32.81	5291.76	5278.74	284.57	MAS = 10.00 (m)	4240.00	4240.00					MINPT-O-EOU	
5327.19	37.95	5301.55	5289.24	216.36	OSF1.50	5550.00	5550.00					MinPt-CtCt	
5327.29	38.22	5301.47	5289.07	214.78	OSF1.50	5590.00	5590.00					MINPT-O-EOU	
5327.41	38.36	5301.50	5289.06	214.00	OSF1.50	5610.00	5610.00					MinPt-O-ADP	
5441.34	63.07	5398.95	5378.27	131.51	OSF1.50	9140.00	9140.00					MINPT-O-EOU	
5441.57	63.35	5399.00	5378.22	130.93	OSF1.50	9180.00	9180.00					MinPt-O-ADP	
5442.71	64.37	5399.45	5378.34	128.85	OSF1.50	9320.00	9320.00					MinPt-O-ADP	
5442.45	67.39	5397.19	5375.07	122.99	OSF1.50	9740.00	9740.00					MinPt-CtCt	
5442.56	67.71	5397.08	5374.85	122.38	OSF1.50	9790.00	9790.00					MINPT-O-EOU	
5442.67	67.85	5397.10	5374.83	122.15	OSF1.50	9810.00	9810.00					MinPt-O-ADP	
5588.79	79.59	5535.39	5509.20	106.68	OSF1.50	11790.00	11790.00					MinPt-O-SF	
2080.02	138.90	1987.08	1941.12	22.62	OSF1.50	18150.00	12300.00					MinPt-CtCt	
2081.18	141.76	1986.34	1939.43	22.17	OSF1.50	18270.00	12300.00					MINPT-O-EOU	
2083.19	144.13	1986.76	1939.06	21.82	OSF1.50	18370.00	12300.00					MinPt-O-ADP	
2084.00	148.68	1984.54	1935.32	21.16	OSF1.50	18560.00	12300.00					MinPt-CtCt	
2085.94	158.38	1980.01	1927.56	19.87	OSF1.50	18950.00	12300.00					MinPt-CtCt	
2055.88	192.38	1927.29	1863.50	16.11	OSF1.50	20250.00	12300.00					MinPt-CtCt	
2057.44	197.11	1925.70	1860.34	15.73	OSF1.50	20430.00	12300.00					MINPT-O-EOU	
2059.93	200.02	1926.24	1859.91	15.52	OSF1.50	20540.00	12300.00					MinPt-O-ADP	
2065.03	227.82	1912.81	1837.21	13.65	OSF1.50	21530.00	12300.00					MinPt-CtCt	
2058.07	246.55	1893.37	1811.52	12.57	OSF1.50	22200.00	12300.00					MinPt-CtCt	
2058.07	246.57	1893.35	1811.50	12.57	OSF1.50	22200.83	12300.00					MinPts	

Cimarex Dos Equis 12-13  
Federal Com #77H Rev1 RM  
17Feb20 (Def Plan)

Pass

2485.94	32.81	2484.65	2453.13	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2485.94	32.81	2484.65	2453.13	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
2485.94	32.81	2467.46	2453.13	144.54	MAS = 10.00 (m)	2800.00	2800.00					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		
2486.00	32.81		2467.39	2453.20	143.41	MAS = 10.00 (m)	2830.00	2830.00				MINPT-O-EOU	
2809.60	50.23		2775.69	2759.38	86.07	OSF1.50	5850.00	5850.00				MinPt-O-SF	
2810.07	103.32		2740.76	2706.75	41.29	OSF1.50	11800.00	11800.00				MinPts	
2870.07	95.89		2805.71	2774.18	45.49	OSF1.50	12770.00	12299.86				MinPt-O-ADP	
2870.05	95.86		2805.71	2774.19	45.50	OSF1.50	12780.00	12299.97				MINPT-O-EOU	
2870.04	95.83		2805.72	2774.21	45.51	OSF1.50	12790.00	12300.00				MinPt-CtCt	
2871.74	312.96		2662.67	2558.78	13.81	OSF1.50	22200.83	12300.00				MinPts	

Cimarex Dos Equis 12-13  
Federal Com #76H Rev1 RM  
17Feb20 (Def Plan)

Pass

2505.94	32.81		2504.65	2473.13	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
2505.94	32.81		2504.65	2473.13	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
2505.94	32.81		2489.35	2473.13	163.66	MAS = 10.00 (m)	2500.00	2500.00				MinPts	
2506.00	32.81		2489.28	2473.20	162.25	MAS = 10.00 (m)	2530.00	2530.00				MINPT-O-EOU	
2837.47	45.43		2806.75	2792.04	96.36	OSF1.50	5380.00	5380.00				MinPt-O-SF	
2835.82	78.19		2783.26	2757.63	55.29	OSF1.50	9430.00	9430.00				MinPt-CtCt	
2835.83	78.22		2783.26	2757.61	55.27	OSF1.50	9440.00	9440.00				MINPT-O-EOU	
2835.86	78.24		2783.26	2757.61	55.25	OSF1.50	9450.00	9450.00				MinPt-O-ADP	
2854.58	79.49		2801.16	2775.09	54.73	OSF1.50	9840.00	9840.00				MinPt-O-SF	
3914.68	318.88		3701.66	3595.80	18.48	OSF1.50	22200.83	12300.00				MinPts	

Cimarex Dos Equis 12-13  
Federal Com #75H Rev1 RM  
17Feb20 (Def Plan)

Pass

2525.93	32.81		2524.64	2493.12	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
2525.93	32.81		2524.64	2493.12	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
2525.93	32.81		2509.34	2493.12	164.96	MAS = 10.00 (m)	2500.00	2500.00				MinPts	
2525.95	32.81		2509.28	2493.15	164.05	MAS = 10.00 (m)	2520.00	2520.00				MINPT-O-EOU	
2936.09	47.23		2904.18	2888.86	95.82	OSF1.50	5900.00	5900.00				MinPt-O-SF	
2936.16	73.83		2886.51	2862.33	60.69	OSF1.50	9190.00	9190.00				MINPT-O-EOU	
2936.20	73.88		2886.52	2862.32	60.64	OSF1.50	9210.00	9210.00				MinPt-O-ADP	
2970.75	76.34		2919.42	2894.41	59.34	OSF1.50	9900.00	9900.00				MinPt-O-SF	
3987.68	319.25		3774.42	3668.43	18.81	OSF1.50	22200.83	12300.00				MinPts	

Cimarex Dos Equis 12-13  
Federal Com #73H Rev5 RM  
19Dec19 (Def Plan)

Pass

2585.92	32.81		2584.63	2553.11	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
2585.92	32.81		2584.63	2553.11	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
2585.92	47.81		2553.61	2538.11	83.34	OSF1.50	5000.00	5000.00				MinPt-CtCt	
2585.98	48.01		2553.54	2537.97	82.98	OSF1.50	5030.00	5030.00				MINPT-O-EOU	
2586.03	48.08		2553.55	2537.96	82.86	OSF1.50	5040.00	5040.00				MinPt-O-ADP	
2746.33	60.52		2705.55	2685.81	69.51	OSF1.50	6890.00	6890.00				MinPt-O-SF	
2746.90	105.47		2676.16	2641.43	39.53	OSF1.50	11800.00	11800.00				MinPts	
2808.02	98.12		2742.17	2709.89	43.48	OSF1.50	12780.00	12299.97				MinPt-CtCt	
2809.76	313.00		2600.66	2496.76	13.51	OSF1.50	22200.83	12300.00				MinPts	

Cimarex Dos Equis 12-13  
Federal Com #5H Rev5 RM  
19Dec19 (Def Plan)

Pass

2605.92	32.81		2604.63	2573.11	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
2605.92	32.81		2604.63	2573.11	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
2605.92	32.81		2587.75	2573.11	154.35	MAS = 10.00 (m)	2750.00	2750.00				MinPts	
2605.98	32.81		2587.68	2573.17	153.14	MAS = 10.00 (m)	2780.00	2780.00				MINPT-O-EOU	
3094.12	44.39		3064.10	3049.73	107.63	OSF1.50	5430.00	5430.00				MinPt-O-SF	

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		
3706.69	97.85	3641.03	3608.84	57.56		OSF1.50	11800.00	11800.00				MinPts	
3707.94	91.40	3646.58	3616.54	61.70		OSF1.50	12720.00	12298.29				MINPT-O-EOU	
3707.90	91.28	3646.62	3616.62	61.78		OSF1.50	12780.00	12299.97				MinPt-CtCt	
3709.98	315.33	3499.33	3394.65	17.71		OSF1.50	22200.83	12300.00				MinPts	

Cimarex Dos Equis 12-13  
Federal Com #91H Rev1 RM  
14Feb20 (Def Plan)

Pass

3385.78	32.81	3384.49	3352.97	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
3385.77	32.81	3384.48	3352.96	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
2625.86	76.24	2574.28	2549.61	53.18	OSF1.50	9380.00	9380.00					MinPt-CtCt	
2625.88	76.30	2574.26	2549.58	53.14	OSF1.50	9400.00	9400.00					MinPts	
2639.19	77.30	2586.94	2561.89	52.64	OSF1.50	9750.00	9750.00					MinPt-O-SF	
3762.68	309.24	3556.09	3453.44	18.32	OSF1.50	22200.83	12300.00					MinPts	

Cimarex Dos Equis 12 Federal  
Com #2H ST02 Gyro+MWD  
13330ft to 15399ft MD (Def  
Survey)

Pass

2962.55	32.81	2960.57	2929.74	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
2962.53	32.81	2960.55	2929.72	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
2954.61	32.81	2943.66	2921.80	329.02	MAS = 10.00 (m)	1640.00	1640.00					MinPts	
2954.67	32.81	2943.58	2921.86	324.08	MAS = 10.00 (m)	1690.00	1690.00					MINPT-O-EOU	
2954.60	32.81	2942.76	2921.79	299.38	MAS = 10.00 (m)	1950.00	1950.00					MinPts	
2953.90	32.81	2940.14	2921.10	250.54	MAS = 10.00 (m)	2360.00	2360.00					MinPts	
2954.00	32.81	2940.05	2921.19	246.65	MAS = 10.00 (m)	2420.00	2420.00					MINPT-O-EOU	
2949.99	32.81	2931.99	2917.18	184.00	MAS = 10.00 (m)	3330.00	3330.00					MinPts	
2950.11	32.81	2931.87	2917.30	181.27	MAS = 10.00 (m)	3400.00	3400.00					MINPT-O-EOU	
2953.85	32.81	2933.33	2921.04	159.20	MAS = 10.00 (m)	4080.00	4080.00					MINPT-O-EOU	
2950.71	49.78	2916.86	2900.93	92.59	OSF1.50	7180.00	7180.00					MinPt-CtCt	
2950.79	50.04	2916.76	2900.75	92.07	OSF1.50	7220.00	7220.00					MINPT-O-EOU	
2950.90	50.18	2916.78	2900.72	91.82	OSF1.50	7240.00	7240.00					MinPt-O-ADP	
2952.88	51.91	2917.60	2900.97	88.69	OSF1.50	7500.00	7500.00					MinPt-O-ADP	
2954.71	53.67	2918.27	2901.04	85.71	OSF1.50	7750.00	7750.00					MinPt-O-ADP	
2911.60	70.44	2863.95	2841.17	63.87	OSF1.50	10260.00	10260.00					MinPt-O-SF	
2849.00	75.70	2797.78	2773.30	58.14	OSF1.50	10890.00	10890.00					MinPt-CtCt	
2849.02	75.77	2797.75	2773.25	58.09	OSF1.50	10900.00	10900.00					MINPT-O-EOU	
2849.08	75.84	2797.76	2773.23	58.03	OSF1.50	10910.00	10910.00					MinPt-O-ADP	
2876.56	80.32	2822.33	2796.24	55.10	OSF1.50	11320.00	11320.00					MinPt-O-ADP	
2907.32	81.75	2852.16	2825.57	54.63	OSF1.50	11540.00	11540.00					MinPt-O-SF	
3082.29	81.22	3027.49	3001.07	58.31	OSF1.50	12890.00	12300.00					MinPt-CtCt	
3083.86	86.38	3025.61	2997.48	54.77	OSF1.50	13130.00	12300.00					MINPT-O-EOU	
3084.58	87.27	3025.74	2997.31	54.21	OSF1.50	13180.00	12300.00					MinPt-O-ADP	
3090.25	104.58	3019.88	2985.68	45.15	OSF1.50	13690.00	12300.00					MINPT-O-EOU	
3091.10	105.62	3020.03	2985.48	44.71	OSF1.50	13740.00	12300.00					MinPt-O-ADP	
3167.72	143.97	3071.08	3023.75	33.44	OSF1.50	14780.00	12300.00					MinPts	
3170.70	148.24	3071.21	3022.46	32.50	OSF1.50	14820.00	12300.00					MinPts	
3250.23	308.83	3043.69	2941.41	15.88	OSF1.50	16720.00	12300.00					MinPts	
3252.44	309.17	3045.66	2943.27	15.87	OSF1.50	16790.00	12300.00					MinPt-O-SF	
6429.75	202.70	6293.96	6227.06	48.04	OSF1.50	22200.83	12300.00					TD	

Cimarex Dos Equis 12 Federal  
Com #2H ST01 Gyro+MWD  
10486ft to 13433ft MD (Def  
Survey)

Pass

2962.55	32.81	2960.57	2929.74	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		
2962.53		32.81	2960.55	2929.72	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
2954.61		32.81	2943.66	2921.80	329.02	MAS = 10.00 (m)	1640.00	1640.00				MinPts	
2954.67		32.81	2943.58	2921.86	324.08	MAS = 10.00 (m)	1690.00	1690.00				MINPT-O-EOU	
2954.60		32.81	2942.76	2921.79	299.38	MAS = 10.00 (m)	1950.00	1950.00				MinPts	
2953.90		32.81	2940.14	2921.10	250.54	MAS = 10.00 (m)	2360.00	2360.00				MinPts	
2954.00		32.81	2940.05	2921.19	246.65	MAS = 10.00 (m)	2420.00	2420.00				MINPT-O-EOU	
2949.99		32.81	2931.99	2917.18	184.00	MAS = 10.00 (m)	3330.00	3330.00				MinPts	
2950.11		32.81	2931.87	2917.30	181.27	MAS = 10.00 (m)	3400.00	3400.00				MINPT-O-EOU	
2953.85		32.81	2933.33	2921.04	159.20	MAS = 10.00 (m)	4080.00	4080.00				MINPT-O-EOU	
2950.71		49.78	2916.86	2900.93	92.59	OSF1.50	7180.00	7180.00				MinPt-CtCt	
2950.79		50.04	2916.76	2900.75	92.07	OSF1.50	7220.00	7220.00				MINPT-O-EOU	
2950.90		50.18	2916.78	2900.72	91.82	OSF1.50	7240.00	7240.00				MinPt-O-ADP	
2952.88		51.91	2917.60	2900.97	88.69	OSF1.50	7500.00	7500.00				MinPt-O-ADP	
2954.71		53.67	2918.27	2901.04	85.71	OSF1.50	7750.00	7750.00				MinPt-O-ADP	
2911.60		70.44	2863.95	2841.17	63.87	OSF1.50	10260.00	10260.00				MinPt-O-SF	
2849.00		75.70	2797.78	2773.30	58.14	OSF1.50	10890.00	10890.00				MinPt-CtCt	
2849.02		75.77	2797.75	2773.25	58.09	OSF1.50	10900.00	10900.00				MINPT-O-EOU	
2849.08		75.84	2797.76	2773.23	58.03	OSF1.50	10910.00	10910.00				MinPt-O-ADP	
2876.56		80.32	2822.33	2796.24	55.10	OSF1.50	11320.00	11320.00				MinPt-O-ADP	
2907.32		81.75	2852.16	2825.57	54.63	OSF1.50	11540.00	11540.00				MinPt-O-SF	
3082.29		81.22	3027.49	3001.07	58.31	OSF1.50	12890.00	12300.00				MinPt-CtCt	
3083.86		86.38	3025.61	2997.48	54.77	OSF1.50	13130.00	12300.00				MINPT-O-EOU	
3084.58		87.27	3025.74	2997.31	54.21	OSF1.50	13180.00	12300.00				MinPt-O-ADP	
3090.25		104.58	3019.88	2985.68	45.15	OSF1.50	13690.00	12300.00				MINPT-O-EOU	
3091.10		105.62	3020.03	2985.48	44.71	OSF1.50	13740.00	12300.00				MinPt-O-ADP	
3167.72		143.97	3071.08	3023.75	33.44	OSF1.50	14780.00	12300.00				MinPts	
3174.65		231.17	3019.88	2943.48	20.76	OSF1.50	14890.00	12300.00				MinPts	
8142.70		149.36	8042.47	7993.35	82.86	OSF1.50	22200.83	12300.00				TD	

Cimarex Dos Equis 12 Federal  
Com #2H Pilot Gyro+MWD 0ft  
to 12650ft (Def Survey)

Pass

2962.55	32.81	2960.57	2929.74	N/A	MAS = 10.00 (m)	0.00	0.00	Surface
2962.53	32.81	2960.55	2929.72	N/A	MAS = 10.00 (m)	26.00	26.00	WRP
2954.61	32.81	2943.66	2921.80	329.02	MAS = 10.00 (m)	1640.00	1640.00	MinPts
2954.67	32.81	2943.58	2921.86	324.08	MAS = 10.00 (m)	1690.00	1690.00	MINPT-O-EOU
2954.60	32.81	2942.76	2921.79	299.38	MAS = 10.00 (m)	1950.00	1950.00	MinPts
2953.90	32.81	2940.14	2921.10	250.54	MAS = 10.00 (m)	2360.00	2360.00	MinPts
2954.00	32.81	2940.05	2921.19	246.65	MAS = 10.00 (m)	2420.00	2420.00	MINPT-O-EOU
2949.99	32.81	2931.99	2917.18	184.00	MAS = 10.00 (m)	3330.00	3330.00	MinPts
2950.11	32.81	2931.87	2917.30	181.27	MAS = 10.00 (m)	3400.00	3400.00	MINPT-O-EOU
2953.85	32.81	2933.33	2921.04	159.20	MAS = 10.00 (m)	4080.00	4080.00	MINPT-O-EOU
2950.71	49.78	2916.86	2900.93	92.59	OSF1.50	7180.00	7180.00	MinPt-CtCt
2950.79	50.04	2916.76	2900.75	92.07	OSF1.50	7220.00	7220.00	MINPT-O-EOU
2950.90	50.18	2916.78	2900.72	91.82	OSF1.50	7240.00	7240.00	MinPt-O-ADP
2952.88	51.91	2917.60	2900.97	88.69	OSF1.50	7500.00	7500.00	MinPt-O-ADP
2954.71	53.67	2918.27	2901.04	85.71	OSF1.50	7750.00	7750.00	MinPt-O-ADP
2873.49	80.67	2818.97	2792.82	54.90	OSF1.50	11800.00	11800.00	MinPt-O-SF
2861.91	78.39	2808.90	2783.52	56.33	OSF1.50	12140.00	12109.49	MinPt-O-ADP
2861.86	78.32	2808.89	2783.53	56.38	OSF1.50	12150.00	12116.85	MINPT-O-EOU
2861.83	78.25	2808.91	2783.57	56.43	OSF1.50	12160.00	12124.06	MinPt-CtCt
10511.45	96.88	10446.20	10414.57	166.11	OSF1.50	22200.83	12300.00	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 Dos Equis 13 Federal #2H XEM + MWD 0ft to 15311 (Def Survey)													
												Pass	
	5949.64	32.81	5947.66	5916.83	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	5949.62	32.81	5947.64	5916.81	N/A	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	5949.62	32.81	5947.64	5916.81	N/A	MAS = 10.00 (m)	20.00	20.00				MinPts	
	5949.62	32.81	5947.64	5916.81	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	5953.26	32.81	5942.97	5920.46	715.35	MAS = 10.00 (m)	1460.00	1460.00				MINPT-O-EOU	
	5955.22	32.81	5943.32	5922.42	599.68	MAS = 10.00 (m)	1880.00	1880.00				MINPT-O-EOU	
	6054.96	72.75	6005.80	5982.21	128.29	OSF1.50	10520.00	10520.00				MinPt-CtCt	
	6055.03	72.95	6005.74	5982.08	127.94	OSF1.50	10550.00	10550.00				MINPT-O-EOU	
	6055.14	73.08	6005.76	5982.06	127.71	OSF1.50	10570.00	10570.00				MinPt-O-ADP	
	6175.21	79.84	6121.33	6095.37	118.93	OSF1.50	11790.00	11790.00				MinPt-O-SF	
	3211.71	132.27	3122.87	3079.44	36.95	OSF1.50	17740.00	12300.00				MinPt-CtCt	
	3212.10	133.61	3122.37	3078.50	36.58	OSF1.50	17800.00	12300.00				MINPT-O-EOU	
	3212.65	134.27	3122.47	3078.38	36.40	OSF1.50	17830.00	12300.00				MinPt-O-ADP	
	3238.99	246.15	3074.23	2992.84	19.89	OSF1.50	20610.00	12300.00				MinPt-CtCt	
	3255.64	288.23	3062.82	2967.40	17.05	OSF1.50	21550.00	12300.00				MINPT-O-EOU	
	3260.67	294.27	3063.83	2966.40	16.72	OSF1.50	21700.00	12300.00				MinPt-O-ADP	
	3269.42	304.21	3065.95	2965.21	16.22	OSF1.50	21910.00	12300.00				MinPt-O-ADP	
	3280.75	333.77	3057.58	2946.99	14.82	OSF1.50	22130.00	12300.00				MinPts	
	3285.64	334.51	3061.97	2951.13	14.81	OSF1.50	22200.83	12300.00				MinPt-O-SF	
Cimarex Dos Equis 12-13 Federal Com #90H Rev1 RM 14Feb20 (Def Plan)													
												Pass	
	3405.78	32.81	3404.49	3372.97	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3405.77	32.81	3404.48	3372.96	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	3405.77	83.14	3349.92	3322.63	62.39	OSF1.50	8750.00	8750.00				MinPts	
	3307.49	86.83	3249.12	3220.67	58.09	OSF1.50	9590.00	9590.00				MinPt-CtCt	
	3307.51	86.87	3249.11	3220.64	58.06	OSF1.50	9600.00	9600.00				MinPts	
	3323.77	87.94	3264.70	3235.83	57.56	OSF1.50	9920.00	9920.00				MinPt-O-SF	
	4249.74	312.79	4040.78	3936.94	20.46	OSF1.50	22200.83	12300.00				MinPts	
Continental Wimberly #8 (Offset) Plugged Oil Inc Only 0ft-5070ft (Def Survey)													
												Pass	
	3387.59	32.81	3386.31	3354.79	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3387.42	32.81	3386.11	3354.61	167156.06	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	3387.39	32.81	3386.08	3354.58	185097.74	MAS = 10.00 (m)	26.00	26.00				WRP	
	3387.36	32.81	3386.04	3354.55	106858.57	MAS = 10.00 (m)	40.00	40.00				MinPts	
	3390.24	53.17	3354.37	3337.07	97.98	OSF1.50	1140.00	1140.00				MinPt-CtCt	
	3389.71	112.71	3314.14	3277.00	45.62	OSF1.50	2290.00	2290.00				MinPt-CtCt	
	3383.73	171.65	3268.87	3212.09	29.78	OSF1.50	3420.00	3420.00				MinPt-CtCt	
	3386.52	227.39	3234.50	3159.13	22.46	OSF1.50	4490.00	4490.00				MinPt-CtCt	
	3390.65	242.71	3228.42	3147.94	21.06	OSF1.50	4860.00	4860.00				MINPT-O-EOU	
	3395.35	248.39	3229.33	3146.96	20.60	OSF1.50	5010.00	5010.00				MinPt-O-ADP	
	3398.02	260.30	3224.06	3137.72	19.67	OSF1.50	5110.00	5110.00				MinPts	
	3398.09	260.32	3224.11	3137.77	19.67	OSF1.50	5130.00	5130.00				MinPt-O-SF	
	7379.19	89.90	7318.83	7289.29	124.89	OSF1.50	15030.00	12300.00				MinPt-CtCt	
	7379.71	91.44	7318.32	7288.26	122.76	OSF1.50	15120.00	12300.00				MINPT-O-EOU	
	7380.47	92.35	7318.47	7288.11	121.54	OSF1.50	15170.00	12300.00				MinPt-O-ADP	
	9642.91	241.62	9481.41	9401.30	60.18	OSF1.50	21240.00	12300.00				MinPt-O-SF	
	10287.75	255.60	10116.92	10032.15	60.67	OSF1.50	22200.83	12300.00				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 Dos Equis 12-13 Federal Com #89H Rev1 RM 14Feb20 (Def Plan)													
												Pass	
	3425.77	32.81	3424.48	3392.96	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3425.76	32.81	3424.48	3392.95	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	3425.76	32.81	3412.33	3392.95	281.84	MAS = 10.00 (m)	2000.00	2000.00				MinPts	
	3425.80	32.81	3412.23	3393.00	278.78	MAS = 10.00 (m)	2030.00	2030.00				MINPT-O-EOU	
	3944.61	49.50	3911.18	3895.10	122.68	OSF1.50	6000.00	6000.00				MinPt-O-SF	
	3945.68	75.17	3895.14	3870.51	80.08	OSF1.50	9310.00	9310.00				MinPt-CtCt	
	3945.71	75.28	3895.10	3870.43	79.96	OSF1.50	9350.00	9350.00				MINPT-O-EOU	
	3945.76	75.34	3895.10	3870.42	79.90	OSF1.50	9370.00	9370.00				MinPt-O-ADP	
	4010.39	78.83	3957.41	3931.57	77.56	OSF1.50	10240.00	10240.00				MinPt-O-SF	
	4778.58	321.58	4563.77	4457.01	22.37	OSF1.50	22200.83	12300.00				MinPts	
Cimarex Dos Equis 12-13 Federal Com #88H Rev1 RM 14Feb20 (Def Plan)													
												Pass	
	3445.77	32.81	3444.48	3412.96	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3445.76	32.81	3444.48	3412.95	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	3445.76	32.81	3434.21	3412.95	335.57	MAS = 10.00 (m)	1700.00	1700.00				MinPts	
	3445.80	32.81	3434.12	3412.99	331.23	MAS = 10.00 (m)	1730.00	1730.00				MINPT-O-EOU	
	4605.20	80.31	4551.23	4524.89	87.39	OSF1.50	9130.00	9130.00				MinPt-O-SF	
	4605.59	81.20	4551.02	4524.38	86.42	OSF1.50	9410.00	9410.00				MinPt-CtCt	
	4605.66	81.40	4550.96	4524.26	86.21	OSF1.50	9450.00	9450.00				MINPT-O-EOU	
	4605.75	81.50	4550.99	4524.25	86.10	OSF1.50	9470.00	9470.00				MinPt-O-ADP	
	4705.80	86.76	4647.53	4619.04	82.56	OSF1.50	10520.00	10520.00				MinPt-O-SF	
	5336.60	332.72	5114.36	5003.88	24.15	OSF1.50	22200.83	12300.00				MinPts	
Cimarex Dos Equis 12-13 Federal Com #87H Rev0 RM 13Sept19 (Non-Def Plan)													
												Pass	
	3485.76	32.81	3484.47	3452.95	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3485.75	32.81	3484.46	3452.94	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	3485.75	111.84	3410.76	3373.91	47.28	OSF1.50	11800.00	11800.00				MinPt-O-SF	
	3485.71	111.83	3410.73	3373.88	47.28	OSF1.50	11870.00	11869.63				MinPts	
	3485.71	111.80	3410.74	3373.90	47.29	OSF1.50	11880.00	11879.47				MinPt-CtCt	
	3551.92	312.74	3343.00	3239.18	17.10	OSF1.50	22200.83	12300.00				MinPts	
Cimarex Dos Equis 12-13 Federal Com #86H Rev1 RM 03Dec19 (Def Plan)													
												Pass	
	3505.76	32.81	3504.47	3472.95	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3505.75	32.81	3504.46	3472.94	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	3505.75	32.81	3495.46	3472.94	389.03	MAS = 10.00 (m)	1500.00	1500.00				MinPts	
	3505.79	32.81	3495.36	3472.98	383.19	MAS = 10.00 (m)	1530.00	1530.00				MINPT-O-EOU	
	4610.38	81.52	4555.61	4528.86	86.17	OSF1.50	9090.00	9090.00				MinPt-O-SF	
	4611.66	100.90	4543.97	4510.77	69.42	OSF1.50	11800.00	11800.00				MinPts	
	4607.15	95.98	4542.73	4511.17	72.96	OSF1.50	12370.00	12237.52				MinPt-O-ADP	
	4606.47	95.20	4542.58	4511.28	73.56	OSF1.50	12560.00	12281.57				MinPt-O-ADP	
	4606.28	94.97	4542.53	4511.31	73.73	OSF1.50	12660.00	12294.11				MINPT-O-EOU	
	4606.21	94.83	4542.56	4511.38	73.84	OSF1.50	12770.00	12299.86				MinPt-CtCt	
	4607.95	319.32	4394.64	4288.63	21.73	OSF1.50	22200.83	12300.00				MinPts	
Cimarex Dos Equis 12-13 Federal Com #6H - Rev2 RM 03Dec19 (Def Plan)													
												Pass	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
3525.75		32.81	3524.46	3492.94	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
3525.74		32.81	3524.46	3492.93	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
3525.74		32.81	3515.45	3492.93	391.25	MAS = 10.00 (m)	1500.00	1500.00				MinPts	
3525.78		32.81	3515.35	3492.97	385.54	MAS = 10.00 (m)	1530.00	1530.00				MINPT-O-EOU	
3995.36		45.67	3964.49	3949.69	134.99	OSF1.50	5460.00	5460.00				MinPt-O-SF	
3995.95		98.08	3930.13	3897.87	61.90	OSF1.50	11800.00	11800.00				MinPts	
3995.88		97.80	3930.25	3898.07	62.08	OSF1.50	11940.00	11937.54				MinPt-CtCt	
4201.61		312.35	3992.95	3889.26	20.25	OSF1.50	22200.83	12300.00				MinPts	

Continental Wimberly #4  
(Offset) Plugged Oil Inc Only  
0ft-5030ft (Def Survey)

Pass

3670.09		32.81	3668.81	3637.28	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
3669.94		32.81	3668.63	3637.13	208403.52	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
3669.91		32.81	3668.61	3637.10	237256.12	MAS = 10.00 (m)	26.00	26.00				WRP	
3669.89		32.81	3668.56	3637.08	93047.55	MAS = 10.00 (m)	40.00	40.00				MinPts	
3670.84		63.61	3628.01	3607.24	88.32	OSF1.50	1280.00	1280.00				MinPt-CtCt	
3669.40		106.33	3598.08	3563.07	52.38	OSF1.50	2100.00	2100.00				MinPt-CtCt	
3668.86		158.50	3562.77	3510.37	34.99	OSF1.50	3100.00	3100.00				MinPt-CtCt	
3670.31		205.84	3532.66	3464.47	26.91	OSF1.50	4000.00	4000.00				MinPt-CtCt	
3669.73		261.20	3495.17	3408.53	21.17	OSF1.50	5070.00	5070.00				MinPts	
3669.80		261.21	3495.22	3408.58	21.17	OSF1.50	5090.00	5090.00				MinPt-O-SF	
7944.48		117.71	7865.57	7826.77	102.34	OSF1.50	13690.00	12300.00				MinPt-CtCt	
7944.55		117.97	7865.48	7826.59	102.12	OSF1.50	13730.00	12300.00				MINPT-O-EOU	
7944.67		118.10	7865.51	7826.57	102.00	OSF1.50	13750.00	12300.00				MinPt-O-ADP	
10306.36		240.81	10145.39	10065.55	64.54	OSF1.50	20260.00	12300.00				MinPt-O-SF	
11639.28		265.06	11462.15	11374.22	66.18	OSF1.50	22200.83	12300.00				TD	

Cimarex Dos Equis 12 Federal  
Com #1H ST01 Gyro+MWD  
10506ft to 15399ft MD (Def  
Survey)

Pass

4132.50		32.81	4130.52	4099.69	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
4132.49		32.81	4130.51	4099.68	N/A	MAS = 10.00 (m)	10.00	10.00				MinPts	
4132.49		32.81	4130.51	4099.69	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
4132.58		32.81	4130.47	4099.77	32061.15	MAS = 10.00 (m)	70.00	70.00				MINPT-O-EOU	
4132.74		32.81	4130.49	4099.93	15345.36	MAS = 10.00 (m)	110.00	110.00				MINPT-O-EOU	
4137.66		32.81	4127.27	4104.85	491.48	MAS = 10.00 (m)	1810.00	1810.00				MinPts	
4122.95		32.81	4101.99	4090.15	217.15	MAS = 10.00 (m)	4170.00	4170.00				MinPts	
4123.01		32.81	4101.94	4090.20	215.85	MAS = 10.00 (m)	4200.00	4200.00				MINPT-O-EOU	
4180.93		40.05	4153.58	4140.89	164.66	OSF1.50	5630.00	5630.00				MinPt-O-ADP	
4205.68		55.38	4168.10	4150.30	118.09	OSF1.50	7720.00	7720.00				MinPt-O-ADP	
4206.82		56.50	4168.49	4150.32	115.68	OSF1.50	7890.00	7890.00				MinPt-O-ADP	
4178.49		68.17	4132.24	4110.32	95.25	OSF1.50	9650.00	9650.00				MinPt-O-SF	
4146.31		72.67	4097.20	4073.64	87.96	OSF1.50	10460.00	10460.00				MinPt-CtCt	
4146.39		72.90	4097.13	4073.49	87.66	OSF1.50	10500.00	10500.00				MINPT-O-EOU	
4146.49		73.02	4097.15	4073.47	87.51	OSF1.50	10520.00	10520.00				MinPt-O-ADP	
4266.20		80.74	4211.72	4185.46	81.22	OSF1.50	11790.00	11790.00				MinPt-O-SF	
4295.87		80.19	4241.75	4215.68	82.36	OSF1.50	11940.00	11937.54				MinPt-O-SF	
4308.42		80.12	4254.35	4228.30	82.67	OSF1.50	12010.00	12002.30				MinPt-O-SF	
4392.15		83.64	4335.73	4308.52	80.64	OSF1.50	13090.00	12300.00				MinPts	
4421.81		104.20	4351.68	4317.61	64.86	OSF1.50	13640.00	12300.00				MINPT-O-EOU	
4423.55		106.10	4352.16	4317.45	63.70	OSF1.50	13710.00	12300.00				MinPt-O-ADP	
4426.25		116.81	4347.72	4309.44	57.79	OSF1.50	13870.00	12300.00				MinPt-CtCt	
4437.02		157.63	4331.27	4279.39	42.74	OSF1.50	14860.00	12300.00				MINPT-O-EOU	
4438.57		168.06	4325.87	4270.51	40.07	OSF1.50	14990.00	12300.00				MinPt-CtCt	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
	4445.28	206.29	4307.09	4238.99	32.62	OSF1.50	15760.00	12300.00				MinPt-CtCt	
	4433.86	275.73	4249.38	4158.14	24.28	OSF1.50	16670.00	12300.00				MinPt-CtCt	
	4433.93	275.88	4249.35	4158.05	24.27	OSF1.50	16690.00	12300.00				MINPT-O-EOU	
	4434.00	275.96	4249.37	4158.04	24.26	OSF1.50	16700.00	12300.00				MinPt-O-ADP	
	4445.02	277.63	4259.27	4167.39	24.18	OSF1.50	16980.00	12300.00				MinPt-O-SF	
	7092.38	224.69	6941.93	6867.69	47.76	OSF1.50	22200.83	12300.00				TD	
Cimarex Dos Equis 12 Federal Com #1H Gyro 0ft to 11268ft MD (Def Survey)													Pass
	4132.50	32.81	4130.52	4099.69	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4132.49	32.81	4130.51	4099.68	N/A	MAS = 10.00 (m)	10.00	10.00				MinPts	
	4132.49	32.81	4130.51	4099.69	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	4132.58	32.81	4130.47	4099.77	32061.15	MAS = 10.00 (m)	70.00	70.00				MINPT-O-EOU	
	4132.74	32.81	4130.49	4099.93	15345.36	MAS = 10.00 (m)	110.00	110.00				MINPT-O-EOU	
	4137.66	32.81	4127.27	4104.85	491.48	MAS = 10.00 (m)	1810.00	1810.00				MinPts	
	4122.95	32.81	4101.99	4090.15	217.15	MAS = 10.00 (m)	4170.00	4170.00				MinPts	
	4123.01	32.81	4101.94	4090.20	215.85	MAS = 10.00 (m)	4200.00	4200.00				MINPT-O-EOU	
	4180.93	40.05	4153.58	4140.89	164.66	OSF1.50	5630.00	5630.00				MinPt-O-ADP	
	4205.68	55.38	4168.10	4150.30	118.09	OSF1.50	7720.00	7720.00				MinPt-O-ADP	
	4206.82	56.50	4168.49	4150.32	115.68	OSF1.50	7890.00	7890.00				MinPt-O-ADP	
	4178.49	68.17	4132.24	4110.32	95.25	OSF1.50	9650.00	9650.00				MinPt-O-SF	
	4146.31	72.67	4097.20	4073.64	87.96	OSF1.50	10460.00	10460.00				MinPt-CtCt	
	4146.39	72.90	4097.13	4073.49	87.66	OSF1.50	10500.00	10500.00				MINPT-O-EOU	
	4146.49	73.02	4097.15	4073.47	87.51	OSF1.50	10520.00	10520.00				MinPt-O-ADP	
	4197.65	81.52	4142.64	4116.13	79.12	OSF1.50	11790.00	11790.00				MinPt-O-SF	
	10963.68	117.05	10884.99	10846.64	142.90	OSF1.50	22200.83	12300.00				TD	
Continental Wimberly #2 (Offset) Plugged Oil Inc Only 0ft-5038ft (Def Survey)													Pass
	4292.66	32.81	4291.38	4259.86	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	4292.54	32.81	4291.24	4259.73	319688.19	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	4292.52	32.81	4291.22	4259.71	386432.88	MAS = 10.00 (m)	26.00	26.00				WRP	
	4292.51	32.81	4291.16	4259.70	66063.19	MAS = 10.00 (m)	40.00	40.00				MinPts	
	4286.69	70.30	4239.39	4216.39	93.14	OSF1.50	1460.00	1460.00				MinPt-CtCt	
	4286.05	128.41	4200.02	4157.65	50.56	OSF1.50	2580.00	2580.00				MinPt-CtCt	
	4294.96	221.20	4147.06	4073.76	29.29	OSF1.50	4360.00	4360.00				MinPt-CtCt	
	4298.36	231.20	4143.80	4067.16	28.03	OSF1.50	4640.00	4640.00				MINPT-O-EOU	
	4291.90	257.69	4119.68	4034.22	25.10	OSF1.50	5070.00	5070.00				MinPt-CtCt	
	4291.91	257.69	4119.68	4034.21	25.10	OSF1.50	5080.00	5080.00				MinPts	
	4291.98	257.71	4119.75	4034.28	25.10	OSF1.50	5100.00	5100.00				MinPt-O-SF	
	10839.51	235.63	10681.99	10603.88	69.37	OSF1.50	19220.00	12300.00				MinPt-O-SF	
	12931.69	268.26	12752.42	12663.43	72.65	OSF1.50	22200.83	12300.00				TD	
Cimarex Dos Equis 13 Federal #1H Pilot Hole Extreme 0ft to 11400ft (Def Survey)													Pass
	6785.79	32.81	6783.81	6752.98	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	6785.72	32.81	6783.74	6752.92	N/A	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	6785.72	32.81	6783.73	6752.91	N/A	MAS = 10.00 (m)	26.00	26.00				WRP	
	6785.71	32.81	6783.70	6752.90	218072.21	MAS = 10.00 (m)	40.00	40.00				MinPts	
	6786.93	32.81	6783.01	6754.12	3500.51	MAS = 10.00 (m)	490.00	490.00				MINPT-O-EOU	
	6787.35	32.81	6782.70	6754.55	2534.16	MAS = 10.00 (m)	660.00	660.00				MinPts	
	6789.21	32.81	6781.67	6756.41	1220.15	MAS = 10.00 (m)	1300.00	1300.00				MINPT-O-EOU	

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		
6796.62	32.81	6777.94	6763.81	406.81	MAS = 10.00 (m)	3820.00	3820.00					MinPts	
6796.29	32.81	6775.75	6763.48	366.08	MAS = 10.00 (m)	4230.00	4230.00					MinPts	
6796.49	32.81	6775.55	6763.68	358.37	MAS = 10.00 (m)	4320.00	4320.00					MINPT-O-EOU	
6876.06	60.81	6834.87	6815.26	175.28	OSF1.50	8860.00	8860.00					MinPt-CtCt	
6866.66	69.85	6819.43	6796.81	151.72	OSF1.50	10210.00	10210.00					MinPt-CtCt	
6866.96	70.81	6819.10	6796.15	149.61	OSF1.50	10360.00	10360.00					MINPT-O-EOU	
6867.34	71.27	6819.17	6796.07	148.62	OSF1.50	10430.00	10430.00					MinPt-O-ADP	
6865.72	77.04	6813.70	6788.68	137.17	OSF1.50	11310.00	11310.00					MinPt-CtCt	
6865.89	77.57	6813.52	6788.32	136.20	OSF1.50	11390.00	11390.00					MINPT-O-EOU	
6866.36	78.63	6813.28	6787.73	134.33	OSF1.50	11470.00	11470.00					MINPT-O-EOU	
6866.43	78.72	6813.29	6787.71	134.17	OSF1.50	11480.00	11480.00					MinPt-O-ADP	
6875.67	80.67	6821.23	6795.00	131.02	OSF1.50	11790.00	11790.00					MinPt-O-SF	
4379.61	124.58	4295.90	4255.04	53.56	OSF1.50	17420.00	12300.00					MinPt-CtCt	
4379.96	125.73	4295.48	4254.23	53.07	OSF1.50	17480.00	12300.00					MINPT-O-EOU	
4380.44	126.30	4295.58	4254.14	52.83	OSF1.50	17510.00	12300.00					MinPt-O-ADP	
4678.50	150.54	4577.48	4527.96	47.22	OSF1.50	19070.00	12300.00					MinPt-O-SF	
6480.23	164.09	6370.18	6316.15	59.94	OSF1.50	22200.83	12300.00					TD	

Cimarex Dos Equis 13 Federal  
#1H ST01 Xem+MWD 0ft to  
15250ft (Def Survey)

Pass

6785.79	32.81	6783.81	6752.98	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
6785.72	32.81	6783.74	6752.92	N/A	MAS = 10.00 (m)	20.00	20.00					MinPt-O-SF	
6785.72	32.81	6783.73	6752.91	N/A	MAS = 10.00 (m)	26.00	26.00					WRP	
6785.71	32.81	6783.70	6752.90	218072.21	MAS = 10.00 (m)	40.00	40.00					MinPts	
6786.93	32.81	6783.01	6754.12	3500.51	MAS = 10.00 (m)	490.00	490.00					MINPT-O-EOU	
6787.35	32.81	6782.70	6754.55	2534.16	MAS = 10.00 (m)	660.00	660.00					MinPts	
6789.21	32.81	6781.67	6756.41	1220.15	MAS = 10.00 (m)	1300.00	1300.00					MINPT-O-EOU	
6796.62	32.81	6777.94	6763.81	406.81	MAS = 10.00 (m)	3820.00	3820.00					MinPts	
6796.29	32.81	6775.75	6763.48	366.08	MAS = 10.00 (m)	4230.00	4230.00					MinPts	
6796.49	32.81	6775.55	6763.68	358.37	MAS = 10.00 (m)	4320.00	4320.00					MINPT-O-EOU	
6876.06	60.81	6834.87	6815.26	175.28	OSF1.50	8860.00	8860.00					MinPt-CtCt	
6866.66	69.85	6819.43	6796.81	151.72	OSF1.50	10210.00	10210.00					MinPt-CtCt	
6866.96	70.81	6819.10	6796.15	149.61	OSF1.50	10360.00	10360.00					MINPT-O-EOU	
6867.34	71.27	6819.17	6796.07	148.62	OSF1.50	10430.00	10430.00					MinPt-O-ADP	
6978.26	79.28	6924.74	6898.98	135.36	OSF1.50	11790.00	11790.00					MinPt-O-SF	
4471.32	146.77	4372.81	4324.55	46.30	OSF1.50	18230.00	12300.00					MinPt-CtCt	
4472.47	150.10	4371.74	4322.37	45.27	OSF1.50	18360.00	12300.00					MINPT-O-EOU	
4473.98	151.91	4372.05	4322.07	44.74	OSF1.50	18430.00	12300.00					MinPt-O-ADP	
4475.56	190.46	4347.93	4285.10	35.60	OSF1.50	19360.00	12300.00					MinPt-CtCt	
4480.00	203.37	4343.76	4276.62	33.35	OSF1.50	19720.00	12300.00					MINPT-O-EOU	
4485.32	210.58	4344.27	4274.74	32.24	OSF1.50	19900.00	12300.00					MinPt-O-ADP	
4498.80	231.70	4343.67	4267.10	29.36	OSF1.50	20270.00	12300.00					MinPt-CtCt	
4505.27	278.60	4318.88	4226.67	24.42	OSF1.50	21250.00	12300.00					MinPt-CtCt	
4494.26	350.97	4259.62	4143.28	19.31	OSF1.50	21920.00	12300.00					MinPt-CtCt	
4494.44	351.51	4259.44	4142.93	19.28	OSF1.50	21960.00	12300.00					MINPT-O-EOU	
4494.67	351.78	4259.49	4142.89	19.27	OSF1.50	21980.00	12300.00					MinPt-O-ADP	
4503.07	354.26	4266.24	4148.81	19.17	OSF1.50	22200.83	12300.00					MinPt-O-SF	

Continental Wimberly #3  
(Offset) Plugged Oil Inc Only  
0ft-3570ft (Def Survey)

Pass

4576.64	32.81	4575.35	4543.83	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
4576.35	32.81	4575.03	4543.55	122985.66	MAS = 10.00 (m)	26.00	26.00					MinPt-O-SF	
4576.20	32.81	4574.77	4543.39	32167.15	MAS = 10.00 (m)	70.00	70.00					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		
4573.60	60.84	4532.61	4512.76	115.16		OSF1.50	1320.00	1320.00				MinPt-CtCt	
4573.37	118.99	4493.62	4454.38	58.27		OSF1.50	2440.00	2440.00				MinPt-CtCt	
4575.93	126.51	4491.16	4449.42	54.80		OSF1.50	2680.00	2680.00				MINPT-O-EOU	
4592.04	200.59	4457.89	4391.45	34.55		OSF1.50	3950.00	3950.00				MinPt-CtCt	
4592.30	201.40	4457.61	4390.90	34.41		OSF1.50	4010.00	4010.00				MINPT-O-EOU	
4592.52	201.66	4457.65	4390.86	34.37		OSF1.50	4030.00	4030.00				MinPt-O-ADP	
4588.88	240.34	4428.23	4348.54	28.79		OSF1.50	4730.00	4730.00				MinPt-CtCt	
4589.62	242.77	4427.35	4346.85	28.50		OSF1.50	4840.00	4840.00				MINPT-O-EOU	
4590.70	244.08	4427.55	4346.62	28.35		OSF1.50	4900.00	4900.00				MinPt-O-ADP	
4597.45	263.22	4421.54	4334.23	26.32		OSF1.50	5140.00	5140.00				MinPts	
4597.80	263.26	4421.86	4334.54	26.32		OSF1.50	5190.00	5190.00				MinPt-O-SF	
8356.49	145.55	8259.03	8210.94	86.88		OSF1.50	13700.00	12300.00				MinPt-CtCt	
8356.53	145.69	8258.98	8210.85	86.79		OSF1.50	13730.00	12300.00				MINPT-O-EOU	
8356.57	145.73	8258.99	8210.84	86.76		OSF1.50	13740.00	12300.00				MinPt-O-ADP	
10512.35	245.69	10348.13	10266.66	64.51		OSF1.50	20080.00	12300.00				MinPt-O-SF	
11918.92	271.11	11737.75	11647.81	66.25		OSF1.50	22200.83	12300.00				TD	

Continental Wimberly #7  
(Offset) Plugged Oil Inc Only  
0ft-5100ft (Def Survey)

Pass

4585.16	32.81	4583.88	4552.35	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
4585.12	32.81	4583.82	4552.31	729519.05	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF	
4585.09	32.81	4583.80	4552.28	N/A	MAS = 10.00 (m)	26.00	26.00					MinPts	
4585.19	38.80	4558.90	4546.39	183.30	OSF1.50	860.00	860.00					MinPt-CtCt	
4584.97	74.29	4535.01	4510.68	94.18	OSF1.50	1540.00	1540.00					MinPt-CtCt	
4584.04	127.00	4498.95	4457.04	54.68	OSF1.50	2550.00	2550.00					MinPt-CtCt	
4581.20	175.60	4463.71	4405.60	39.41	OSF1.50	3480.00	3480.00					MinPt-CtCt	
4587.06	235.47	4429.65	4351.59	29.37	OSF1.50	4630.00	4630.00					MinPt-CtCt	
4592.50	261.74	4417.57	4330.76	26.44	OSF1.50	5130.00	5130.00					MinPts	
4592.71	261.77	4417.77	4330.94	26.44	OSF1.50	5170.00	5170.00					MinPt-O-SF	
7361.58	111.83	7286.60	7249.75	99.87	OSF1.50	16350.00	12300.00					MinPt-CtCt	
7362.25	113.83	7285.93	7248.42	98.11	OSF1.50	16450.00	12300.00					MINPT-O-EOU	
7363.30	115.08	7286.15	7248.22	97.04	OSF1.50	16510.00	12300.00					MinPt-O-ADP	
9328.13	250.12	9160.95	9078.01	56.22	OSF1.50	22080.00	12300.00					MinPt-O-SF	
9402.82	252.07	9234.34	9150.75	56.23	OSF1.50	22200.83	12300.00					TD	

Jubilee Energy Gulf Federal #1  
(Offset) Plugged Oil Inc Only  
0ft-5020ft (Def Survey)

Pass

4737.81	32.81	4736.53	4705.00	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
4737.63	32.81	4736.32	4704.82	242293.96	MAS = 10.00 (m)	26.00	26.00					MinPt-O-SF	
4737.59	32.81	4736.22	4704.78	60849.22	MAS = 10.00 (m)	50.00	50.00					MinPts	
4736.35	97.25	4671.09	4639.10	74.02	OSF1.50	1930.00	1930.00					MinPt-CtCt	
4730.76	201.33	4596.10	4529.43	35.46	OSF1.50	3900.00	3900.00					MinPt-CtCt	
4739.24	262.45	4563.85	4476.79	27.21	OSF1.50	5070.00	5070.00					MinPts	
4739.37	262.47	4563.96	4476.90	27.21	OSF1.50	5100.00	5100.00					MinPt-O-SF	
8237.58	140.59	8143.42	8096.99	88.69	OSF1.50	14700.00	12300.00					MinPt-CtCt	
8237.73	141.03	8143.28	8096.70	88.41	OSF1.50	14750.00	12300.00					MINPT-O-EOU	
8237.97	141.30	8143.34	8096.67	88.24	OSF1.50	14780.00	12300.00					MinPt-O-ADP	
10316.11	250.23	10148.85	10065.87	62.15	OSF1.50	20910.00	12300.00					MinPt-O-SF	
11140.93	267.09	10962.44	10873.84	62.86	OSF1.50	22200.83	12300.00					TD	

Stanolind Wimberly A Unit B  
#1 Inc Only (Def Survey)

Pass

6339.00	32.81	6337.02	6306.19	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		
6338.91		32.81	6336.92	6306.10	621775.04	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
6338.89		32.81	6336.90	6306.08	707863.69	MAS = 10.00 (m)	26.00	26.00				WRP	
6220.00		554.31	5849.76	5665.69	16.89	OSF1.50	5010.00	5010.00				MinPt-O-SF	
6219.55		554.23	5849.37	5665.32	16.89	OSF1.50	5070.00	5070.00				MinPt-O-ADP	
6219.53		554.21	5849.37	5665.32	16.89	OSF1.50	5080.00	5080.00				MINPT-O-EOU	
6219.53		554.19	5849.38	5665.34	16.89	OSF1.50	5090.00	5090.00				MinPt-CtCt	
7765.27		230.12	7611.20	7535.15	51.04	OSF1.50	17580.00	12300.00				MinPt-CtCt	
7765.79		231.60	7610.73	7534.19	50.72	OSF1.50	17670.00	12300.00				MINPT-O-EOU	
7766.53		232.49	7610.88	7534.04	50.53	OSF1.50	17720.00	12300.00				MinPt-O-ADP	
9035.92		392.46	8773.62	8643.46	34.70	OSF1.50	22200.83	12300.00				MinPt-O-SF	

Westates Petroleum Wolley #1  
(Offset) Plugged Oil Blind Off-  
5063ft (Def Survey)

Pass

10467.52		32.81	10466.23	10434.71	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
10467.42		32.81	10466.12	10434.61	846738.53	MAS = 10.00 (m)	26.00	26.00				WRP	
10467.38		1575.10	9416.88	8892.27	9.98	OSF1.50	5110.00	5110.00				MinPt-CtCt	
10467.38		1577.46	9415.31	8889.92	9.96	OSF1.50	5120.00	5120.00				MinPts	
10104.63		1112.41	9362.60	8992.23	13.64	OSF1.50	15940.00	12300.00				MinPt-O-SF	
8355.15		832.61	7799.65	7522.54	15.07	OSF1.50	21620.00	12300.00				MinPt-CtCt	
8355.24		832.86	7799.57	7522.37	15.07	OSF1.50	21660.00	12300.00				MINPT-O-EOU	
8355.42		833.09	7799.60	7522.34	15.07	OSF1.50	21690.00	12300.00				MinPt-O-ADP	
8375.12		841.18	7813.90	7533.94	14.96	OSF1.50	22200.83	12300.00				MinPt-O-SF	



# Cimarex Dos Equis 12-13 Federal Com #9H Rev1 RM 18Feb20 Proposal

## Geodetic Report

(Def Plan)



**Report Date:** February 18, 2020 - 04:25 PM  
**Client:** Cimarex Energy  
**Field:** NM Lea County (NAD 83)  
**Structure / Slot:** Cimarex Dos Equis 12-13 Federal Com #9H / New Slot  
**Well:** Dos Equis 12-13 Federal Com #9H  
**Borehole:** Dos Equis 12-13 Federal Com #9H  
**UWI / API#:** Unknown / Unknown  
**Survey Name:** Cimarex Dos Equis 12-13 Federal Com #9H Rev1 RM 18Feb20  
**Survey Date:** December 26, 2019  
**Tort / AHD / DDI / ERD Ratio:** 90.000 ° / 10135.449 ft / 6.217 / 0.824  
**Coordinate Reference System:** NAD83 New Mexico State Plane, Eastern Zone, US Feet  
**Location Lat / Long:** N 32° 14' 18.76071", W 103° 38' 8.69536"  
**Location Grid N/E Y/X:** N 451216.520 ftUS, E 757020.990 ftUS  
**CRS Grid Convergence Angle:** 0.3721 °  
**Grid Scale Factor:** 0.99996237  
**Version / Patch:** 2.10.787.0

**Survey / DLS Computation:** Minimum Curvature / Lubinski  
**Vertical Section Azimuth:** 179.670 ° (Grid North)  
**Vertical Section Origin:** 0.000 ft, 0.000 ft  
**TVD Reference Datum:** RKB  
**TVD Reference Elevation:** 3633.500 ft above MSL  
**Seabed / Ground Elevation:** 3607.500 ft above MSL  
**Magnetic Declination:** 6.618 °  
**Total Gravity Field Strength:** 998.4378mgn (9.80665 Based)  
**Gravity Model:** GARM  
**Total Magnetic Field Strength:** 47841.814 nT  
**Magnetic Dip Angle:** 59.879 °  
**Declination Date:** February 18, 2020  
**Magnetic Declination Model:** HDGM 2019  
**North Reference:** Grid North  
**Grid Convergence Used:** 0.3721 °  
**Total Corr Mag North->Grid North:** 6.2462 °  
**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, 330' FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	100.00	0.00	179.67	100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	200.00	0.00	179.67	200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	300.00	0.00	179.67	300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	400.00	0.00	179.67	400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	500.00	0.00	179.67	500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	600.00	0.00	179.67	600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	700.00	0.00	179.67	700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	800.00	0.00	179.67	800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	900.00	0.00	179.67	900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	1000.00	0.00	179.67	1000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	1100.00	0.00	179.67	1100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
Rustler	1185.00	0.00	179.67	1185.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	1200.00	0.00	179.67	1200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	1300.00	0.00	179.67	1300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	1400.00	0.00	179.67	1400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
Salado (Top Salt)	1500.00	0.00	179.67	1500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	1600.00	0.00	179.67	1600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	1700.00	0.00	179.67	1700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	1800.00	0.00	179.67	1800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	1900.00	0.00	179.67	1900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	2000.00	0.00	179.67	2000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	2100.00	0.00	179.67	2100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	2200.00	0.00	179.67	2200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	2300.00	0.00	179.67	2300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	2400.00	0.00	179.67	2400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	2500.00	0.00	179.67	2500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70

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 ° ' ")
	2600.00	0.00	179.67	2600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	2700.00	0.00	179.67	2700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	2800.00	0.00	179.67	2800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	2900.00	0.00	179.67	2900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3000.00	0.00	179.67	3000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3100.00	0.00	179.67	3100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3200.00	0.00	179.67	3200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3300.00	0.00	179.67	3300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3400.00	0.00	179.67	3400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3500.00	0.00	179.67	3500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3600.00	0.00	179.67	3600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3700.00	0.00	179.67	3700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3800.00	0.00	179.67	3800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	3900.00	0.00	179.67	3900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4000.00	0.00	179.67	4000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4100.00	0.00	179.67	4100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4200.00	0.00	179.67	4200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4300.00	0.00	179.67	4300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4400.00	0.00	179.67	4400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4500.00	0.00	179.67	4500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4600.00	0.00	179.67	4600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
Base fo Salt	4650.00	0.00	179.67	4650.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4700.00	0.00	179.67	4700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4800.00	0.00	179.67	4800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	4900.00	0.00	179.67	4900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
Bell Canyon	4947.00	0.00	179.67	4947.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5000.00	0.00	179.67	5000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5100.00	0.00	179.67	5100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5200.00	0.00	179.67	5200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5300.00	0.00	179.67	5300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5400.00	0.00	179.67	5400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5500.00	0.00	179.67	5500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5600.00	0.00	179.67	5600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5700.00	0.00	179.67	5700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5800.00	0.00	179.67	5800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
Cherry Canyon	5874.00	0.00	179.67	5874.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	5900.00	0.00	179.67	5900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6000.00	0.00	179.67	6000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6100.00	0.00	179.67	6100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6200.00	0.00	179.67	6200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6300.00	0.00	179.67	6300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6400.00	0.00	179.67	6400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6500.00	0.00	179.67	6500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6600.00	0.00	179.67	6600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6700.00	0.00	179.67	6700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6800.00	0.00	179.67	6800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	6900.00	0.00	179.67	6900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7000.00	0.00	179.67	7000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7100.00	0.00	179.67	7100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7200.00	0.00	179.67	7200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7300.00	0.00	179.67	7300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
Brushy Canyon	7311.00	0.00	179.67	7311.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7400.00	0.00	179.67	7400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7500.00	0.00	179.67	7500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7600.00	0.00	179.67	7600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7700.00	0.00	179.67	7700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7800.00	0.00	179.67	7800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	7900.00	0.00	179.67	7900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	8000.00	0.00	179.67	8000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70

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 ° ' ")
	8100.00	0.00	179.67	8100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	8200.00	0.00	179.67	8200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	8300.00	0.00	179.67	8300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	8400.00	0.00	179.67	8400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	8500.00	0.00	179.67	8500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	8600.00	0.00	179.67	8600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	8700.00	0.00	179.67	8700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	8800.00	0.00	179.67	8800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
Bone Spring	8845.00	0.00	179.67	8845.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	8900.00	0.00	179.67	8900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9000.00	0.00	179.67	9000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9100.00	0.00	179.67	9100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9200.00	0.00	179.67	9200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
Avalon	9283.00	0.00	179.67	9283.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9300.00	0.00	179.67	9300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9400.00	0.00	179.67	9400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9500.00	0.00	179.67	9500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9600.00	0.00	179.67	9600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9700.00	0.00	179.67	9700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9800.00	0.00	179.67	9800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	9900.00	0.00	179.67	9900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
1st Bone Spring Sand	9980.00	0.00	179.67	9980.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10000.00	0.00	179.67	10000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10100.00	0.00	179.67	10100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10200.00	0.00	179.67	10200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10300.00	0.00	179.67	10300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10400.00	0.00	179.67	10400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10500.00	0.00	179.67	10500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10600.00	0.00	179.67	10600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
2nd Bone Spring Sand	10640.00	0.00	179.67	10640.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10700.00	0.00	179.67	10700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10800.00	0.00	179.67	10800.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	10900.00	0.00	179.67	10900.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	11000.00	0.00	179.67	11000.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
3rd Bone Spring Carb	11090.00	0.00	179.67	11090.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	11100.00	0.00	179.67	11100.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	11200.00	0.00	179.67	11200.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	11300.00	0.00	179.67	11300.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	11400.00	0.00	179.67	11400.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	11500.00	0.00	179.67	11500.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	11600.00	0.00	179.67	11600.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	11700.00	0.00	179.67	11700.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
KOP - Build 12°/100' DLS	11790.00	0.00	179.67	11790.00	0.00	0.00	0.00	0.00	451216.52	757020.99	N 32 14 18.76 W 103 38	8.70
	11800.00	1.20	179.67	11800.00	0.10	-0.10	0.00	12.00	451216.42	757020.99	N 32 14 18.76 W 103 38	8.70
3rd Bone Spring Sand	11825.03	4.20	179.67	11825.00	1.28	-1.28	0.01	12.00	451215.24	757021.00	N 32 14 18.75 W 103 38	8.70
	11900.00	13.20	179.67	11899.03	12.62	-12.62	0.07	12.00	451203.90	757021.06	N 32 14 18.64 W 103 38	8.70
	12000.00	25.20	179.67	11993.29	45.44	-45.44	0.26	12.00	451171.08	757021.25	N 32 14 18.31 W 103 38	8.70
	12100.00	37.20	179.67	12078.67	97.15	-97.15	0.56	12.00	451119.37	757021.55	N 32 14 17.80 W 103 38	8.70
	12200.00	49.20	179.67	12151.44	165.48	-165.48	0.95	12.00	451051.05	757021.94	N 32 14 17.12 W 103 38	8.70
	12300.00	61.20	179.67	12208.40	247.45	-247.44	1.42	12.00	450969.09	757022.41	N 32 14 16.31 W 103 38	8.70
Wolfcamp	12362.92	68.75	179.67	12235.00	304.42	-304.41	1.75	12.00	450912.12	757022.74	N 32 14 15.75 W 103 38	8.70
	12400.00	73.20	179.67	12247.08	339.47	-339.46	1.95	12.00	450877.07	757022.94	N 32 14 15.40 W 103 38	8.70
Build 4°/100' DLS	12415.00	75.00	179.67	12251.19	353.89	-353.88	2.04	12.00	450862.65	757023.03	N 32 14 15.26 W 103 38	8.70

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 ° ' ")	
Landing Point	12500.00	78.40	179.67	12270.74	436.60	-436.59	2.51	4.00	450779.95	757023.50	N	32 14 14.44	W 103 38	8.70
	12600.00	82.40	179.67	12287.42	535.18	-535.17	3.08	4.00	450681.37	757024.07	N	32 14 13.47	W 103 38	8.70
	12700.00	86.40	179.67	12297.17	634.68	-634.67	3.65	4.00	450581.87	757024.64	N	32 14 12.48	W 103 38	8.70
	12790.00	90.00	179.67	12300.00	724.62	-724.61	4.17	4.00	450491.94	757025.16	N	32 14 11.59	W 103 38	8.70
	12800.00	90.00	179.67	12300.00	734.62	-734.61	4.22	0.00	450481.94	757025.21	N	32 14 11.49	W 103 38	8.70
	12900.00	90.00	179.67	12300.00	834.62	-834.61	4.80	0.00	450381.94	757025.79	N	32 14 10.50	W 103 38	8.70
	13000.00	90.00	179.67	12300.00	934.62	-934.61	5.37	0.00	450281.95	757026.36	N	32 14 9.51	W 103 38	8.70
	13100.00	90.00	179.67	12300.00	1034.62	-1034.61	5.95	0.00	450181.96	757026.94	N	32 14 8.52	W 103 38	8.70
	13200.00	90.00	179.67	12300.00	1134.62	-1134.60	6.52	0.00	450081.96	757027.51	N	32 14 7.53	W 103 38	8.71
	13300.00	90.00	179.67	12300.00	1234.62	-1234.60	7.10	0.00	449981.97	757028.09	N	32 14 6.54	W 103 38	8.71
	13400.00	90.00	179.67	12300.00	1334.62	-1334.60	7.67	0.00	449881.97	757028.66	N	32 14 5.55	W 103 38	8.71
	13500.00	90.00	179.67	12300.00	1434.62	-1434.60	8.25	0.00	449781.98	757029.24	N	32 14 4.56	W 103 38	8.71
	13600.00	90.00	179.67	12300.00	1534.62	-1534.60	8.82	0.00	449681.98	757029.81	N	32 14 3.58	W 103 38	8.71
	13700.00	90.00	179.67	12300.00	1634.62	-1634.60	9.40	0.00	449581.99	757030.39	N	32 14 2.59	W 103 38	8.71
	13800.00	90.00	179.67	12300.00	1734.62	-1734.59	9.97	0.00	449482.00	757030.96	N	32 14 1.60	W 103 38	8.71
	13900.00	90.00	179.67	12300.00	1834.62	-1834.59	10.55	0.00	449382.00	757031.54	N	32 14 0.61	W 103 38	8.71
Lease NMNM0001917 - NMNM0002889 Crossing	14000.00	90.00	179.67	12300.00	1934.62	-1934.59	11.12	0.00	449282.01	757032.11	N	32 13 59.62	W 103 38	8.71
	14100.00	90.00	179.67	12300.00	2034.62	-2034.59	11.70	0.00	449182.01	757032.69	N	32 13 58.63	W 103 38	8.71
	14200.00	90.00	179.67	12300.00	2134.62	-2134.59	12.28	0.00	449082.02	757033.26	N	32 13 57.64	W 103 38	8.71
	14300.00	90.00	179.67	12300.00	2234.62	-2234.59	12.85	0.00	448982.02	757033.84	N	32 13 56.65	W 103 38	8.71
	14376.90	90.00	179.67	12300.00	2311.52	-2311.48	13.29	0.00	448905.13	757034.28	N	32 13 55.89	W 103 38	8.72
	14400.00	90.00	179.67	12300.00	2334.62	-2334.58	13.43	0.00	448882.03	757034.41	N	32 13 55.66	W 103 38	8.72
	14500.00	90.00	179.67	12300.00	2434.62	-2434.58	14.00	0.00	448782.03	757034.99	N	32 13 54.67	W 103 38	8.72
	14600.00	90.00	179.67	12300.00	2534.62	-2534.58	14.58	0.00	448682.04	757035.56	N	32 13 53.68	W 103 38	8.72
	14700.00	90.00	179.67	12300.00	2634.62	-2634.58	15.15	0.00	448582.05	757036.14	N	32 13 52.69	W 103 38	8.72
	14800.00	90.00	179.67	12300.00	2734.62	-2734.58	15.73	0.00	448482.05	757036.71	N	32 13 51.70	W 103 38	8.72
	14900.00	90.00	179.67	12300.00	2834.62	-2834.58	16.30	0.00	448382.06	757037.29	N	32 13 50.71	W 103 38	8.72
	15000.00	90.00	179.67	12300.00	2934.62	-2934.57	16.88	0.00	448282.06	757037.86	N	32 13 49.72	W 103 38	8.72
	15100.00	90.00	179.67	12300.00	3034.62	-3034.57	17.45	0.00	448182.07	757038.44	N	32 13 48.73	W 103 38	8.72
	15200.00	90.00	179.67	12300.00	3134.62	-3134.57	18.03	0.00	448082.07	757039.01	N	32 13 47.74	W 103 38	8.72
	15300.00	90.00	179.67	12300.00	3234.62	-3234.57	18.60	0.00	447982.08	757039.59	N	32 13 46.75	W 103 38	8.72
	15400.00	90.00	179.67	12300.00	3334.62	-3334.57	19.18	0.00	447882.09	757040.16	N	32 13 45.76	W 103 38	8.72
Lease NMNM0002889 - NMNM0553548 Crossing	15500.00	90.00	179.67	12300.00	3434.62	-3434.57	19.75	0.00	447782.09	757040.74	N	32 13 44.77	W 103 38	8.73
	15600.00	90.00	179.67	12300.00	3534.62	-3534.56	20.33	0.00	447682.10	757041.31	N	32 13 43.79	W 103 38	8.73
	15700.00	90.00	179.67	12300.00	3634.62	-3634.56	20.90	0.00	447582.10	757041.89	N	32 13 42.80	W 103 38	8.73
	15800.00	90.00	179.67	12300.00	3734.62	-3734.56	21.48	0.00	447482.11	757042.46	N	32 13 41.81	W 103 38	8.73
	15900.00	90.00	179.67	12300.00	3834.62	-3834.56	22.05	0.00	447382.11	757043.04	N	32 13 40.82	W 103 38	8.73
	16000.00	90.00	179.67	12300.00	3934.62	-3934.56	22.63	0.00	447282.12	757043.61	N	32 13 39.83	W 103 38	8.73
	16100.00	90.00	179.67	12300.00	4034.62	-4034.56	23.20	0.00	447182.12	757044.19	N	32 13 38.84	W 103 38	8.73
	16200.00	90.00	179.67	12300.00	4134.62	-4134.55	23.78	0.00	447082.13	757044.76	N	32 13 37.85	W 103 38	8.73
	16300.00	90.00	179.67	12300.00	4234.62	-4234.55	24.35	0.00	446982.14	757045.34	N	32 13 36.86	W 103 38	8.73
	16400.00	90.00	179.67	12300.00	4334.62	-4334.55	24.93	0.00	446882.14	757045.91	N	32 13 35.87	W 103 38	8.73
	16500.00	90.00	179.67	12300.00	4434.62	-4434.55	25.50	0.00	446782.15	757046.49	N	32 13 34.88	W 103 38	8.73
	16600.00	90.00	179.67	12300.00	4534.62	-4534.55	26.08	0.00	446682.15	757047.06	N	32 13 33.89	W 103 38	8.73
	16700.00	90.00	179.67	12300.00	4634.62	-4634.55	26.65	0.00	446582.16	757047.64	N	32 13 32.90	W 103 38	8.74
	16800.00	90.00	179.67	12300.00	4734.62	-4734.54	27.23	0.00	446482.16	757048.21	N	32 13 31.91	W 103 38	8.74
	16900.00	90.00	179.67	12300.00	4834.62	-4834.54	27.80	0.00	446382.17	757048.79	N	32 13 30.92	W 103 38	8.74
	17000.00	90.00	179.67	12300.00	4934.62	-4934.54	28.38	0.00	446282.18	757049.36	N	32 13 29.93	W 103 38	8.74
Lease NMNM0002889 - NMNM0553548 Crossing	17035.10	90.00	179.67	12300.00	4969.72	-4969.64	28.58	0.00	446247.08	757049.57	N	32 13 29.58	W 103 38	8.74
	17100.00	90.00	179.67	12300.00	5034.62	-5034.54	28.95	0.00	446182.18	757049.94	N	32 13 28.94	W 103 38	8.74
	17200.00	90.00	179.67	12300.00	5134.62	-5134.54	29.53	0.00	446082.19	757050.51	N	32 13 27.95	W 103 38	8.74

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 ° ' ")
	17300.00	90.00	179.67	12300.00	5234.62	-5234.54	30.10	0.00	445982.19	757051.09	N 32 13 26.96 W 103 38	8.74
	17400.00	90.00	179.67	12300.00	5334.62	-5334.53	30.68	0.00	445882.20	757051.66	N 32 13 25.97 W 103 38	8.74
	17500.00	90.00	179.67	12300.00	5434.62	-5434.53	31.25	0.00	445782.20	757052.24	N 32 13 24.98 W 103 38	8.74
	17600.00	90.00	179.67	12300.00	5534.62	-5534.53	31.83	0.00	445682.21	757052.81	N 32 13 23.99 W 103 38	8.74
	17700.00	90.00	179.67	12300.00	5634.62	-5634.53	32.40	0.00	445582.21	757053.39	N 32 13 23.01 W 103 38	8.74
	17800.00	90.00	179.67	12300.00	5734.62	-5734.53	32.98	0.00	445482.22	757053.96	N 32 13 22.02 W 103 38	8.74
	17900.00	90.00	179.67	12300.00	5834.62	-5834.53	33.55	0.00	445382.23	757054.54	N 32 13 21.03 W 103 38	8.75
	18000.00	90.00	179.67	12300.00	5934.62	-5934.52	34.13	0.00	445282.23	757055.11	N 32 13 20.04 W 103 38	8.75
	18100.00	90.00	179.67	12300.00	6034.62	-6034.52	34.70	0.00	445182.24	757055.69	N 32 13 19.05 W 103 38	8.75
	18200.00	90.00	179.67	12300.00	6134.62	-6134.52	35.28	0.00	445082.24	757056.26	N 32 13 18.06 W 103 38	8.75
	18300.00	90.00	179.67	12300.00	6234.62	-6234.52	35.85	0.00	444982.25	757056.84	N 32 13 17.07 W 103 38	8.75
	18400.00	90.00	179.67	12300.00	6334.62	-6334.52	36.43	0.00	444882.25	757057.41	N 32 13 16.08 W 103 38	8.75
	18500.00	90.00	179.67	12300.00	6434.62	-6434.52	37.00	0.00	444782.26	757057.99	N 32 13 15.09 W 103 38	8.75
	18600.00	90.00	179.67	12300.00	6534.62	-6534.51	37.58	0.00	444682.26	757058.56	N 32 13 14.10 W 103 38	8.75
	18700.00	90.00	179.67	12300.00	6634.62	-6634.51	38.15	0.00	444582.27	757059.14	N 32 13 13.11 W 103 38	8.75
	18800.00	90.00	179.67	12300.00	6734.62	-6734.51	38.73	0.00	444482.28	757059.71	N 32 13 12.12 W 103 38	8.75
	18900.00	90.00	179.67	12300.00	6834.62	-6834.51	39.30	0.00	444382.28	757060.29	N 32 13 11.13 W 103 38	8.75
	19000.00	90.00	179.67	12300.00	6934.62	-6934.51	39.88	0.00	444282.29	757060.86	N 32 13 10.14 W 103 38	8.76
	19100.00	90.00	179.67	12300.00	7034.62	-7034.51	40.45	0.00	444182.29	757061.44	N 32 13 9.15 W 103 38	8.76
	19200.00	90.00	179.67	12300.00	7134.62	-7134.50	41.03	0.00	444082.30	757062.01	N 32 13 8.16 W 103 38	8.76
	19300.00	90.00	179.67	12300.00	7234.62	-7234.50	41.60	0.00	443982.30	757062.59	N 32 13 7.17 W 103 38	8.76
	19400.00	90.00	179.67	12300.00	7334.62	-7334.50	42.18	0.00	443882.31	757063.16	N 32 13 6.18 W 103 38	8.76
	19500.00	90.00	179.67	12300.00	7434.62	-7434.50	42.75	0.00	443782.32	757063.74	N 32 13 5.19 W 103 38	8.76
	19600.00	90.00	179.67	12300.00	7534.62	-7534.50	43.33	0.00	443682.32	757064.32	N 32 13 4.20 W 103 38	8.76
Lease												
NMNM0553548												
-	19659.40	90.00	179.67	12300.00	7594.02	-7593.90	43.67	0.00	443622.92	757064.66	N 32 13 3.62 W 103 38	8.76
NMNM0553642												
Crossing												
	19700.00	90.00	179.67	12300.00	7634.62	-7634.50	43.90	0.00	443582.33	757064.89	N 32 13 3.22 W 103 38	8.76
	19800.00	90.00	179.67	12300.00	7734.62	-7734.49	44.48	0.00	443482.33	757065.47	N 32 13 2.23 W 103 38	8.76
	19900.00	90.00	179.67	12300.00	7834.62	-7834.49	45.05	0.00	443382.34	757066.04	N 32 13 1.24 W 103 38	8.76
	20000.00	90.00	179.67	12300.00	7934.62	-7934.49	45.63	0.00	443282.34	757066.62	N 32 13 0.25 W 103 38	8.76
	20100.00	90.00	179.67	12300.00	8034.62	-8034.49	46.20	0.00	443182.35	757067.19	N 32 12 59.26 W 103 38	8.76
	20200.00	90.00	179.67	12300.00	8134.62	-8134.49	46.78	0.00	443082.35	757067.77	N 32 12 58.27 W 103 38	8.77
	20300.00	90.00	179.67	12300.00	8234.62	-8234.49	47.35	0.00	442982.36	757068.34	N 32 12 57.28 W 103 38	8.77
	20400.00	90.00	179.67	12300.00	8334.62	-8334.48	47.93	0.00	442882.37	757068.92	N 32 12 56.29 W 103 38	8.77
	20500.00	90.00	179.67	12300.00	8434.62	-8434.48	48.50	0.00	442782.37	757069.49	N 32 12 55.30 W 103 38	8.77
	20600.00	90.00	179.67	12300.00	8534.62	-8534.48	49.08	0.00	442682.38	757070.07	N 32 12 54.31 W 103 38	8.77
	20700.00	90.00	179.67	12300.00	8634.62	-8634.48	49.65	0.00	442582.38	757070.64	N 32 12 53.32 W 103 38	8.77
	20800.00	90.00	179.67	12300.00	8734.62	-8734.48	50.23	0.00	442482.39	757071.22	N 32 12 52.33 W 103 38	8.77
	20900.00	90.00	179.67	12300.00	8834.62	-8834.48	50.80	0.00	442382.39	757071.79	N 32 12 51.34 W 103 38	8.77
	21000.00	90.00	179.67	12300.00	8934.62	-8934.47	51.38	0.00	442282.40	757072.37	N 32 12 50.35 W 103 38	8.77
	21100.00	90.00	179.67	12300.00	9034.62	-9034.47	51.95	0.00	442182.41	757072.94	N 32 12 49.36 W 103 38	8.77
	21200.00	90.00	179.67	12300.00	9134.62	-9134.47	52.53	0.00	442082.41	757073.52	N 32 12 48.37 W 103 38	8.77
	21300.00	90.00	179.67	12300.00	9234.62	-9234.47	53.10	0.00	441982.42	757074.09	N 32 12 47.38 W 103 38	8.78
	21400.00	90.00	179.67	12300.00	9334.62	-9334.47	53.68	0.00	441882.42	757074.67	N 32 12 46.39 W 103 38	8.78
	21500.00	90.00	179.67	12300.00	9434.62	-9434.47	54.25	0.00	441782.43	757075.24	N 32 12 45.40 W 103 38	8.78
	21600.00	90.00	179.67	12300.00	9534.62	-9534.46	54.83	0.00	441682.43	757075.82	N 32 12 44.41 W 103 38	8.78
	21700.00	90.00	179.67	12300.00	9634.62	-9634.46	55.40	0.00	441582.44	757076.39	N 32 12 43.42 W 103 38	8.78
	21800.00	90.00	179.67	12300.00	9734.62	-9734.46	55.98	0.00	441482.44	757076.97	N 32 12 42.44 W 103 38	8.78
	21900.00	90.00	179.67	12300.00	9834.62	-9834.46	56.55	0.00	441382.45	757077.54	N 32 12 41.45 W 103 38	8.78
	22000.00	90.00	179.67	12300.00	9934.62	-9934.46	57.13	0.00	441282.46	757078.12	N 32 12 40.46 W 103 38	8.78
	22100.00	90.00	179.67	12300.00	10034.62	-10034.46	57.70	0.00	441182.46	757078.69	N 32 12 39.47 W 103 38	8.78
	22200.00	90.00	179.67	12300.00	10134.62	-10134.45	58.28	0.00	441082.47	757079.27	N 32 12 38.48 W 103 38	8.78



Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
Cimarex Dos Equis 12-13 Federal Com #9H - PBHL [100' FSL, 330' FWL]	22200.83	90.00	179.67	12300.00	10135.45	-10135.28	58.28	0.00	441081.64	757079.27	N 32 12 38.47 W 103 38 8.78	

Survey Type: Def Plan

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

Description	Part	MD From (ft)	MD To (ft)	EOU Freq (ft)	Hole Size (in)	Casing Diameter (in)	Expected Max Inclination (deg)	Survey Tool Type	Borehole / Survey
	1	0.000	26.000	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS-Depth Only	Dos Equis 12-13 Federal Com #9H / Cimarex Dos Equis 12-13 Federal Com #9H Rev1 RM
	1	26.000	22200.827	1/100.000	17.500	13.375		NAL_MWD_IFR1+MS	Dos Equis 12-13 Federal Com #9H / Cimarex Dos Equis 12-13





Cimarex Energy

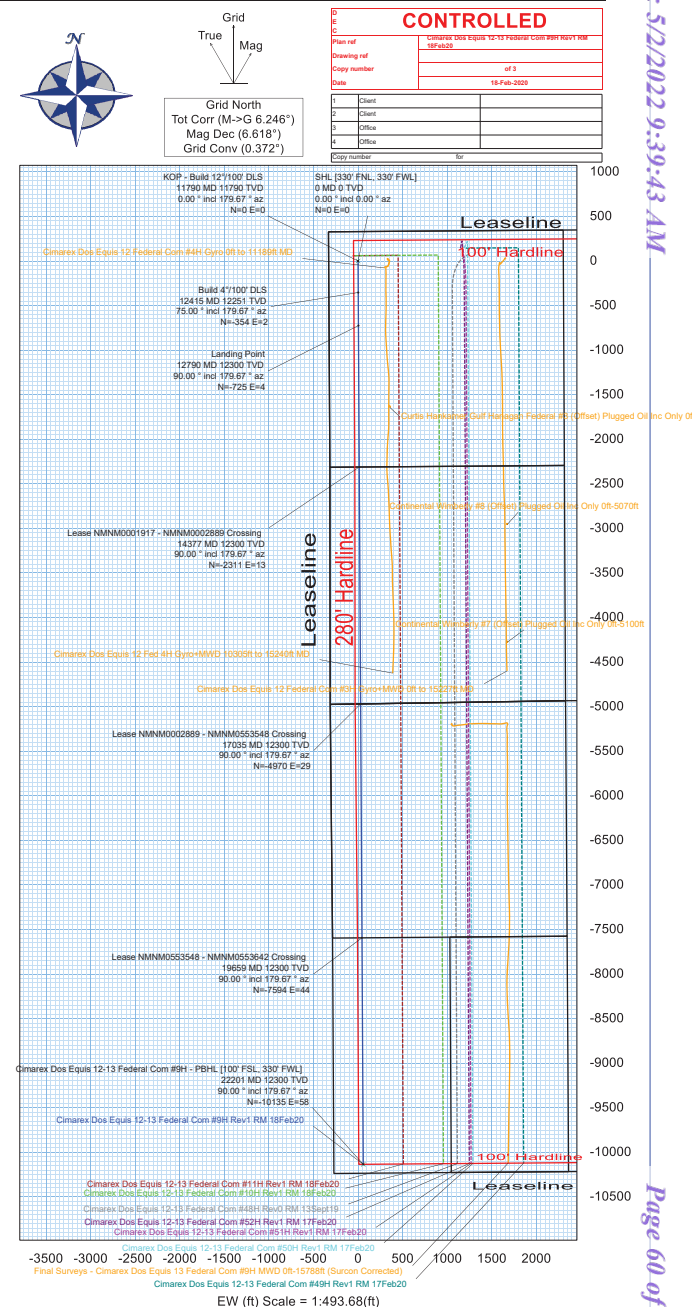
Rev 1



Borehole:	Dos Equis 12-13 Federal Com #9H	Well:	Dos Equis 12-13 Federal Com #9H	Field:	NM Lea County (NAD 83)	Structure:	Cimarex Dos Equis 12-13 Federal Com #9H
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Gravity & Magnetic Parameters	Dip: 59.879°	Date: 18-Feb-2020	Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Grid Conv: 0.3721°	Miscellaneous
Model: HDGM 2019	FS: 47841.814nT	Gravity FS: 998.438mgN (9.80665 Based)	Lat: N 32 14 18.76	Northing: 451216.52HUS	Scale Fact: 0.99996237	Slot: New Slot
MagDec: 6.618°			Long: W 103 38 8.70	Easting: 757020.99HUS		Plan: Cimarex Dos Equis 12-13 Federal Com #9H Rev1 RM 18Feb20

Critical Point	MD	INCL	AZIM	Critical Points	VSEC	N(+)S(-)	E(+)W(-)	DLS
SHL [330° FNL, 330° FWL]	0.00	0.00	0.00	TVD	0.00	0.00	0.00	0.00
Rustler	1185.00	0.00	179.67	1185.00	0.00	0.00	0.00	0.00
Salado (Top Salt)	1500.00	0.00	179.67	1500.00	0.00	0.00	0.00	0.00
Base to Salt	4650.00	0.00	179.67	4650.00	0.00	0.00	0.00	0.00
Bell Canyon	4947.00	0.00	179.67	4947.00	0.00	0.00	0.00	0.00
Cherry Canyon	5874.00	0.00	179.67	5874.00	0.00	0.00	0.00	0.00
Brushy Canyon	7311.00	0.00	179.67	7311.00	0.00	0.00	0.00	0.00
Bone Spring	8845.00	0.00	179.67	8845.00	0.00	0.00	0.00	0.00
Avalon	9283.00	0.00	179.67	9283.00	0.00	0.00	0.00	0.00
1st Bone Spring Sand	9980.00	0.00	179.67	9980.00	0.00	0.00	0.00	0.00
2nd Bone Spring Sand	10640.00	0.00	179.67	10640.00	0.00	0.00	0.00	0.00
3rd Bone Spring Carb	11090.00	0.00	179.67	11090.00	0.00	0.00	0.00	0.00
KOP - Build 12°/100' DLS	11790.00	0.00	179.67	11790.00	0.00	0.00	0.00	0.00
3rd Bone Spring Sand	11825.03	4.20	179.67	11825.00	1.28	-1.28	0.01	12.00
Wolfcamp	12362.02	68.75	179.67	12362.00	304.42	-304.41	1.75	12.00
Build 4°/100' DLS	12415.00	75.00	179.67	12415.00	353.89	-353.88	2.04	12.00
Landing Point	12790.00	90.00	179.67	12790.00	724.62	-724.61	4.17	4.00
Lease NMNM0001917 - NMNM0002889 Crossing	14376.90	90.00	179.67	12300.00	2311.52	-2311.48	13.29	0.00
Lease NMNM0002889 - NMNM0553548 Crossing	17035.10	90.00	179.67	12300.00	4969.72	-4969.64	28.58	0.00
Lease NMNM0553548 - NMNM0553642 Crossing	19659.40	90.00	179.67	12300.00	7594.02	-7593.90	43.67	0.00
Cimarex Dos Equis 12-13 Federal Com #9H - PBHL [100° FSL, 330° FWL]	22200.83	90.00	179.67	12300.00	10135.45	-10135.28	58.28	0.00
Wolfcamp A1	NaN			12417.00				
Wolfcamp Y Target	NaN			12390.00				



Vertical Section (ft) Azim = 179.67° Scale = 1:766.89(ft) Origin = 0N/-S, 0E/-W

EW (ft) Scale = 1:493.68(ft)

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

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

Submit Original  
to Appropriate  
District Office

### GAS CAPTURE PLAN

Date: 3-26-2020

☒ Original Operator & OGRID No.: Cimarex Energy Co- 215099  
☐ Amended - Reason for Amendment: \_\_\_\_\_

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

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

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

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

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Dos Equis 12-13 Fed Com 9H	Pending	12-24S-32E	330' FNL & 370' FWL	5000		

### Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to Gas Transporter and will be connected to Gas Transporter low/high pressure gathering system located in Lea County, New Mexico. It will require 500 ' of pipeline to connect the facility to low/high pressure gathering system. Operator provides (periodically) to Gas Transporter a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, Operator and Gas Transporter have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Gas Transporter Processing Plant located in Sec 13-24S-33E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

### Flowback Strategy

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

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

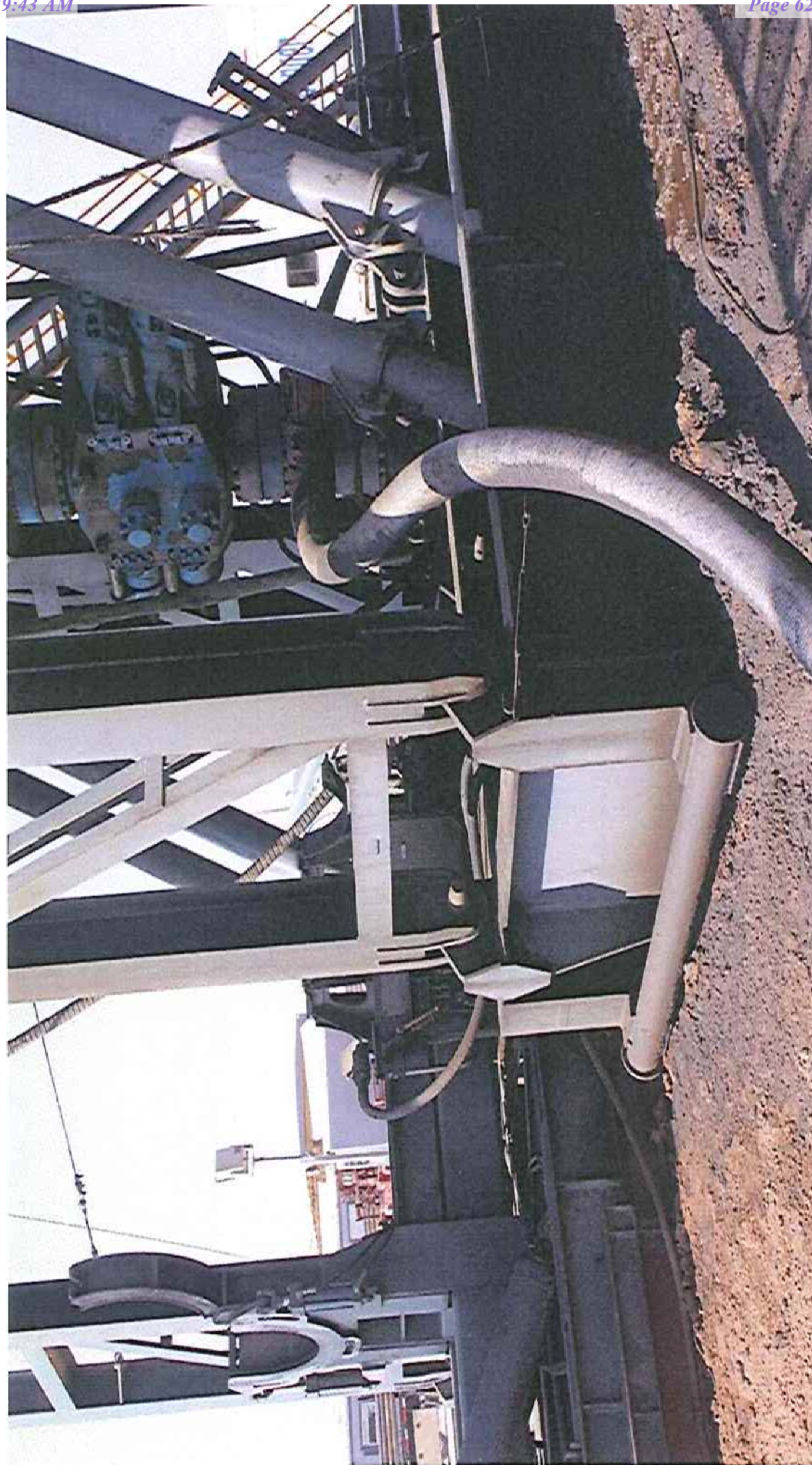
### Alternatives to Reduce Flaring

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

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



Co-Flex Hose  
**Dos Equis 12-13 Federal Com 9H**  
Cimarex Energy Co.  
12-245-32E  
Lea Co., NM



Co-Flex Hose Hydrostatic Test  
 Dos Equis 12-13 Federal Com 9H  
 Cimarex Energy Co.  
 12-24S-32E  
 Lea Co., NM



## Midwest Hose & Specialty, Inc.

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



Co-Flex Hose Hydrostatic Test  
**Dos Equis 12-13 Federal Com 9H**  
 Cimarex Energy Co.  
 12-245-32E  
 Lea Co., NM

March 3, 2011

# Internal Hydrostatic Test Graph

Customer: Houston

Pick Ticket #: 94260



Midwest Hose  
& Specialty, Inc.

## Hose Specifications

Hose Type

C &amp; K

Length

45'

I.D.

4"

O.D.

6.09"

## Verification

Type of Fitting

4 1/16 10K

Coupling Method

Swage

Die Size

6.38"

Final O.D.

6.25"

Hose Serial #

5544

Hose Assembly Serial #

79793

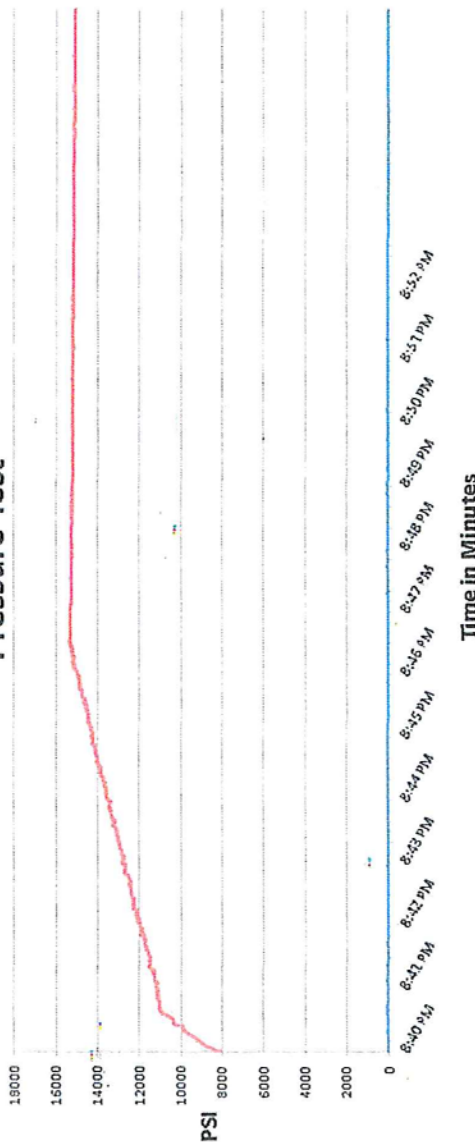
Working Pressure

10000 PSI

Burst Pressure

Standard Safety Multiplier Applies

## Pressure Test



Test Pressure

15000 PSI

Time Held at Test Pressure

11 Minutes

Actual Burst Pressure

15483 PSI

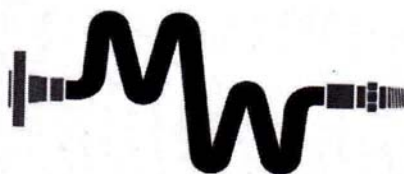
Peak Pressure

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

Tested By: Zac McConnell

Approved By: Kim Thomas

Co-Flex Hose  
Dos Equis 12-13 Federal Com 9H  
Cimarex Energy Co.  
12-24S-32E  
Lea Co., NM



## Midwest Hose & Specialty, Inc.

### Certificate of Conformity

Customer:

DEM

PO

ODYD-271

### SPECIFICATIONS

Sales Order

79793

Dated:

3/8/2011

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

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

Comments:

Approved:

*Samuel Garcia*

Date:

3/8/2011



Co-Flex Hose  
Dos Equis 12-13 Federal Com 9H  
Cimarex Energy Co.  
12-24S-32E  
Lea Co., NM

## Specification Sheet Choke & Kill Hose

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

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

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

**1. Geological Formations**

TVD of target 12,300

Pilot Hole TD N/A

MD at TD 22,201

Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1185	N/A	
Salado (Top Salt)	1400	N/A	
Base of Salt	4650	N/A	
Bell Canyon	4947	N/A	
Cherry Canyon	5874	Hydrocarbons	
Brushy Canyon	7222	Hydrocarbons	
Bone Spring	8780	Hydrocarbons	
Avalon	9219	Hydrocarbons	
1st Bone Spring Sand	9943	Hydrocarbons	
2nd Bone Spring Sand	10478	Hydrocarbons	
3rd Bone Spring Sand	11845	Hydrocarbons	
Wolfcamp (Target)	12327	Hydrocarbons	

**2. Casing Program**

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
14 3/4	0	1235	1235	10-3/4"	40.50	J-55	BT&C	2.95	5.85	12.58
9 7/8	0	12415	12251	7"	29.00	L-80	LT&C	1.22	1.42	1.65
6 3/4	0	11690	11690	5-1/2"	20.00	HCL-80	LT&C	1.25	1.21	1.88
6 3/4	11690	22200	12300	5"	18.00	P-110	BT&C	1.68	1.70	52.82
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., Dos Equis 12-13 Federal Com 9H

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

**3. Cementing Program**

Casing	# Sk	Wt. lb/gal	Yld ft <sup>3</sup> /sack	H <sub>2</sub> O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	480	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	128	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate Stage 1	711	10.30	3.64	22.18		Lead: Tuned Light + LCM
	247	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate Stage 2	961	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
Production	837	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 +/- 4,900'.

Casing String	TOC	% Excess
Surface	0	45
Intermediate Stage 1	4900	47
Intermediate Stage 2	0	37
Production	12215	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 1235'	Fresh Water	7.83 - 8.33	28	N/C
1235' to 12415'	Brine Diesel Emulsion	8.50 - 9.00	30-35	N/C
12415' to 22200'	OBM	12.00 - 12.50	50-70	N/C
				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	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.

	H2S is present
	H2S 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.

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





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# Cimarex 10M Well Control Plan

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Version 1.0

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## BOPE Preventer Utilization

The table below displays all BHA components, drill pipe, casing, or open hole that could be present during a required shut in and the associated preventer component that would provide a barrier to flow. It is specific to the hole section that requires a 10M system. The mud system being utilized in the hole will always assumed to be the first barrier to flow. The below table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the rating of the annular preventer.

Drill String Element	OD	Preventer	RWP
4" Drillpipe	4"	Lower Ram 3 1/2" - 5 1/2" VBR* Upper Ram 3 1/2" - 5 1/2" VBR*	10M
4.5" Drillpipe	4.5"	Lower Ram 3 1/2" - 5 1/2" VBR* Upper Ram 3 1/2" - 5 1/2" VBR*	10M
4" HWDP Drillpipe	4"	Lower Ram 3 1/2" - 5 1/2" VBR* Upper Ram 3 1/2" - 5 1/2" VBR*	10M
4.5" HWDP Drillpipe	4.5"	Lower Ram 3 1/2" - 5 1/2" VBR* Upper Ram 3 1/2" - 5 1/2" VBR*	10M
Drill Collars (including non-magnetic)	4.75-5.25"	Lower Ram 3 1/2" - 5 1/2" VBR* Upper Ram 3 1/2" - 5 1/2" VBR*	10M
Production Casing	5.5"	Lower Ram 3 1/2" - 5 1/2" VBR* Upper Ram 3 1/2" - 5 1/2" VBR*	10M
Production Casing	5"	Lower Ram 3 1/2" - 5 1/2" VBR* Upper Ram 3 1/2" - 5 1/2" VBR*	10M
Production Casing	4.5"	Lower Ram 3 1/2" - 5 1/2" VBR* Upper Ram 3 1/2" - 5 1/2" VBR*	10M
ALL	0-13 5/8"	Annular	5M
Open Hole		Blind Rams	10M

\*VBR – Variable Bore Ram

## Well Control Procedures

Proper well control response is highly specific to current well conditions and must be adapted based on environment as needed. The procedures below are given in “common” operating conditions to cover the basic and most necessary operations required during the wellbore construction. These include drilling ahead, tripping pipe, tripping BHA, running casing, and pipe out of the hole/open hole. In some of the procedures below, there will be a switch of control from the lesser RWP annular to the appropriate 10M RWP ram. The pressure at which this is done is variable based on overall well conditions that must be evaluated situationally. The pressure that control is switched may be equal to or less than the RWP but at no time will the pressure on the annular preventer exceed the RWP of the annular. The annular will be tested to 5,000 psi. This will be the RWP of the annular preventer.

### Shutting In While Drilling

1. Sound alarm to alert crew
2. Space out drill string
3. Shut down pumps
4. Shut in uppermost BOPE preventer (typically the annular preventer) and open HCR.
5. Verify well is shut-in and flow has stopped
6. Notify supervisory personnel
7. Record data (SIDP, SICP, Pit Gain, and Time)
8. Hold pre-job safety meeting and discuss kill procedure

9. If pressure is anticipated to climb to the RWP of the annular preventer during kill procedure, swap control of the well to the upper pipe ram

***Shutting In While Tripping***

1. Sound alarm and alert crew
2. Install open, full open safety valve and close valve
3. Shut in uppermost BOPE preventer (typically the annular preventer) and open HCR.
4. Verify well is shut-in and flow has stopped
5. Notify supervisory personnel
6. Record data (SIDP, SICP, Pit Gain, and Time)
7. Hold pre-job safety meeting and discuss kill procedure
8. If pressure is anticipated to climb to the RWP of the annular preventer during kill procedure, swap control of the well to the upper pipe ram

***Shutting In While Running Casing***

1. Sound alarm and alert crew
2. Install circulating swedge. Close high pressure, low torque valves.
3. Shut in uppermost BOPE preventer (typically the annular preventer) and open HCR.
4. Verify well is shut-in and flow has stopped
5. Notify supervisory personnel
6. Record data (SIDP, SICP, Pit Gain, and Time)
7. Hold Pre-job safety meeting and discuss kill procedure
8. If pressure is anticipated to climb to the RWP of the annular preventer during kill procedure, swap control of the well to the upper pipe ram

***Shutting in while out of hole***

1. Sound alarm
2. Shut-in well: close blind rams
3. Verify well is shut-in and monitor pressures
4. Notify supervisory personnel
5. Record data (SIDP, SICP, Pit Gain, and Time)
6. Hold Pre-job safety meeting and discuss kill procedure

***Shutting in prior to pulling BHA through stack***

1. Prior to pulling last joint of drill pipe thru the stack space out and check flow. If flowing see steps below.
2. Sound alarm and alert crew
3. Install open, full open safety valve and close valve
4. Shut in upper pipe ram and open HCR.



5. Verify well is shut-in and flow has stopped
6. Notify supervisory personnel
7. Record data (SIDP, SICP, Pit Gain, and Time)
8. Hold pre-job safety meeting and discuss kill procedure

***Shutting in while BHA is in the stack and ram preventer and combo immediately available***

1. Sound alarm and alert crew
2. Stab Crossover and install open, full open safety valve and close valve
3. Space out drill string with upset just beneath the compatible pipe ram.
4. Shut in upper compatible pipe ram and open HCR.
5. Verify well is shut-in and flow has stopped
6. Notify supervisory personnel
7. Record data (SIDP, SICP, Pit Gain, and Time)
8. Hold pre-job safety meeting and discuss kill procedure

***Shutting in while BHA is in the stack and no ram preventer or combo immediately available***

1. Sound alarm and alert crew
2. If possible pick up high enough, to pull string clear and follow "Open Hole" scenario
3. If not possible to pick up high enough:
  1. Stab Crossover, make up one joint/stand of drill pipe, and install open, full open safety valve and close valve
4. Space out drill string with upset just beneath the compatible pipe ram.
5. Shut in upper compatible pipe ram and open HCR.
6. Verify well is shut-in and flow has stopped
7. Notify supervisory personnel
8. Record data (SIDP, SICP, Pit Gain, and Time)
9. Hold pre-job safety meeting and discuss kill procedure

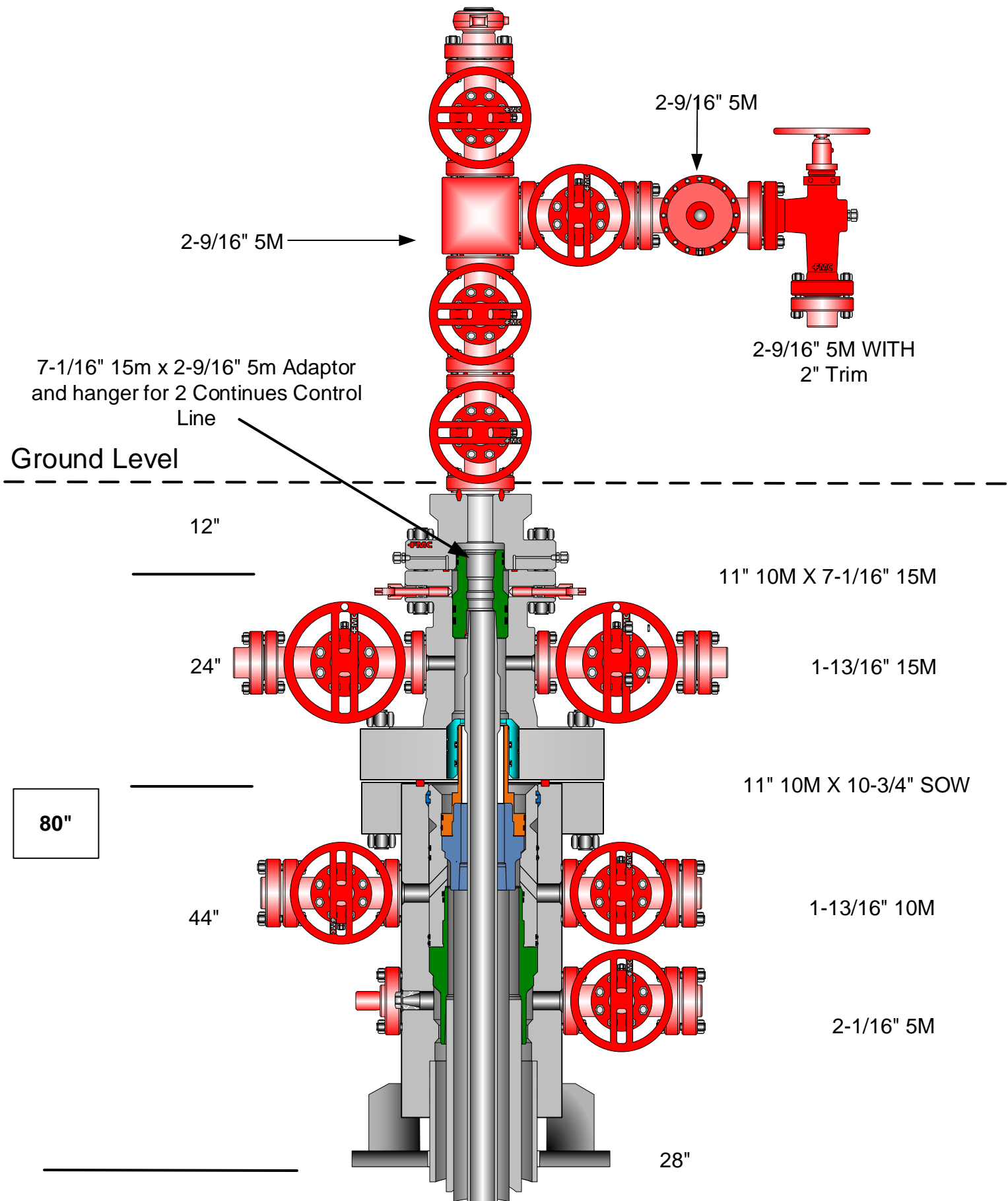


Dos Equis 12-13 Federal Com 9H

CACTUS FOR SERVICE  
WEARBUSHING  
IN CASING HEAD &  
CASING SPOOL

LEA CO., NM

Multi-bowl Wellhead Diagram



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	1235	1235	10-3/4"	40.50	J-55	BT&C	2.95	5.85	12.58
9 7/8	0	12415	12251	7"	29.00	L-80	LT&C	1.22	1.42	1.65
6 3/4	0	11690	11690	5-1/2"	20.00	HCL-80	LT&C	1.25	1.21	1.88
6 3/4	11690	22200	12300	5"	18.00	P-110	BT&C	1.68	1.70	52.82
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.5 Wet

TVD was used on all calculations.

Released to Imaging: 5/12/2022 2:43:39 PM

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



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

# SUPO Data Report

05/08/2020

APD ID: 10400053047

Submission Date: 05/07/2020

Highlighted data  
reflects the most  
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: DOS EQUIS 12-13 FEDERAL COM

Well Number: 9H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Dos\_Equis\_12\_13\_Fed\_Com\_W2W2\_Pad\_1\_Existing\_Access\_Road\_20200507072138.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? YES

### ROW ID(s)

ID: NM131744

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:

Dos\_Equis\_12\_13\_Fed\_Com\_W2W2\_Pad\_1\_Mile\_Radius\_Existing\_Wells\_20200421151527.pdf

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H

## 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 uses Dos Equis 12-13 Fed Com West Zone 1 CTB and Dos Equis 12-13 Fed Com West Zone 2 CTB will be utilized for this project. Existing Roads will be used. Bulkline: 4165 of 6 buried steel Bulk lines will be constructed along the proposed road buried in the same 60 trench. Please see Attachment M for route. Please note well pad, battery pads, exiting roads have been previously approved in the Dos Equis 12-13 Fed Com 8H apd. The Bulkline has been revised see attachment M for route.

**Production Facilities map:**

Dos\_Equis\_12\_13\_Fed\_Com\_West\_Zone\_1\_CTB\_Battery\_Layout\_20200331141807.pdf

Dos\_Equis\_12\_13\_Fed\_Com\_West\_Zone\_2\_CTB\_Battery\_Layout\_20200331141807.pdf

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Bulk\_Flowline\_20200331142402.pdf

## Section 5 - Location and Types of Water Supply

### Water Source Table

**Water source type:** MUNICIPAL

**Water source use type:** SURFACE CASING  
INTERMEDIATE/PRODUCTION  
CASING

**Source latitude:** **Source longitude:****Source datum:****Water source permit type:** WATER RIGHT**Permit Number:****Water source transport method:** TRUCKING**Source land ownership:** FEDERAL**Source transportation land ownership:** FEDERAL**Water source volume (barrels):** 5000**Source volume (acre-feet):** 0.64446548**Source volume (gal):** 210000**Water source and transportation map:**

Dos\_Equis\_12\_13\_Fed\_Com\_W2W2\_Pad\_1\_Drilling\_Water\_Route\_20200507072629.pdf

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

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H

### 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:** NO**Construction Materials description:****Construction Materials source location attachment:**

### Section 7 - Methods for Handling Waste

**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 to City of Toyah TX waste water facility.

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H**Waste type:** GARBAGE**Waste content description:** Garbage and trash produced during drilling and completion operations**Amount of waste:** 32500 pounds**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** A licensed 3rd party hauls trash to Lea County Landfill**Waste type:** DRILLING**Waste content description:** Fluids, drill cuttings, water and other waste produced from the well during drilling operations.**Amount of waste:** 15000 barrels**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY**Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Haul to R360 Environmental Solutions, 4507 Carlsbad Hwy, Hobbs NM 88240

### Reserve Pit

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

### Cuttings Area

**Cuttings Area being used?** NO**Are you storing cuttings on location?** N

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H**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?:** N**Ancillary Facilities attachment:****Comments:****Section 9 - Well Site Layout****Well Site Layout Diagram:**

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_Wellsite\_Layout\_20200331154651.pdf

Dos\_Equis\_12\_13\_Fed\_W2W2\_Pad\_1\_Well\_list\_20200507072849.docx

**Comments:****Section 10 - Plans for Surface Reclamation****Type of disturbance:** No New Surface Disturbance **Multiple Well Pad Name:** Dos Equis 12-13 Fed Com**Multiple Well Pad Number:** W2W2 PAD 1**Recontouring attachment:**

Dos\_Equis\_12\_13\_Fed\_Com\_W2W2\_Pad\_1\_Interim\_Reclaim\_20200401083044.pdf

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

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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: DOS EQUIS 12-13 FEDERAL COM

Well Number: 9H

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

**Disturbance Comments:**

**Reconstruction method:** After well plugging, all disturbed areas would be returned to the original contour or a contour that blends with the surrounding landform including roads unless the surface owner requests that they be left intact. In consultation with the surface owners it will be determined if any gravel or similar materials used to reinforce an area are to be removed, buried, or left in place during final reclamation. Salvaged topsoil, if any, would be re-spread evenly over the surfaces to be re-vegetated. As necessary, the soil surface would be prepared to provide a seedbed for re-establishment of desirable vegetation. Site preparation may include gouging, scarifying, dozer track-walking, mulching, or fertilizing.

**Reclamation, Re-vegetation, and Drainage:** All disturbed and re-contoured areas would be reseeded using techniques outlined under Phase I and II of this plan or as specified by the land owner. Approved seed mixtures would be certified weed free and consist of grasses, forbs, or shrubs similar to the surrounding area. Compacted soil areas may need to be obliterated and reclaimed to near natural conditions by re-contouring all slopes to facilitate and re-establish natural drainage.

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

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

**Existing Vegetation at the well pad:** n/a

**Existing Vegetation at the well pad attachment:**

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

**Existing Vegetation Community at the road attachment:**

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

**Existing Vegetation Community at the pipeline attachment:**

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

**Existing Vegetation Community at other disturbances attachment:**

**Non native seed used?** N

**Non native seed description:**

**Seedling transplant description:**

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

**Seedling transplant description attachment:**



**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H**Will seed be harvested for use in site reclamation?** N**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:****Last Name:****Phone:****Email:****Seedbed prep:****Seed BMP:****Seed method:****Existing invasive species?** N**Existing invasive species treatment description:****Existing invasive species treatment attachment:****Weed treatment plan description:** N/A**Weed treatment plan attachment:****Monitoring plan description:** N/A**Monitoring plan attachment:****Success standards:** N/A**Pit closure description:** N/A**Pit closure attachment:****Section 11 - Surface Ownership**

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H**Disturbance type:** WELL PAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:****Disturbance type:** EXISTING ACCESS ROAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:**

**Operator Name:** CIMAREX ENERGY COMPANY**Well Name:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H**Disturbance type:** PIPELINE**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:**

## Section 12 - Other Information

**Right of Way needed?** N**Use APD as ROW?****ROW Type(s):**

## ROW Applications

**SUPO Additional Information:****Use a previously conducted onsite?** Y

**Previous Onsite information:** Onsite with BLM Jesse Bassett and Cimarex Barry Hunt on August 29 2017. V-Door West. Top soil NE corner. Interim reclamation: All sides. Access road at SE corner on existing road. Pad size= 500' (E/W) x 560' (N/S). Flowlines from SE corner, south and east, to battery.

## Other SUPO Attachment

Dos\_Equis\_12\_13\_Fed\_Com\_W2W2\_Pad\_1\_Road\_Description\_20200401120809.pdf

Dos\_Equis\_12\_13\_Fed\_Com\_9H\_SUPO\_20200507073142.pdf



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

## PWD Data Report

05/08/2020

**APD ID:** 10400053047

**Submission Date:** 05/07/2020

**Operator Name:** CIMAREX ENERGY COMPANY

**Well Name:** DOS EQUIS 12-13 FEDERAL COM

**Well Number:** 9H

**Well Type:** OIL WELL

**Well Work Type:** Drill

### Section 1 - General

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

### Section 2 - Lined Pits

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

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

**PWD surface owner:**

**PWD disturbance (acres):**

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

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

**Lined pit 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:** DOS EQUIS 12-13 FEDERAL COM

**Well Number:** 9H

**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?** N

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

**PWD disturbance (acres):**

**PWD surface owner:**

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

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

**Unlined pit 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:** DOS EQUIS 12-13 FEDERAL COM**Well Number:** 9H**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?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Injection PWD discharge volume (bbl/day):****Injection well mineral owner:****Injection well type:****Injection well number:****Injection well name:****Assigned injection well API number?****Injection well API number:****Injection well new surface disturbance (acres):****Minerals protection information:****Mineral protection attachment:****Underground Injection Control (UIC) Permit?****UIC Permit attachment:**

#### Section 5 - Surface Discharge

**Would you like to utilize Surface Discharge PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Surface discharge PWD discharge volume (bbl/day):****Surface Discharge NPDES Permit?****Surface Discharge NPDES Permit attachment:****Surface Discharge site facilities information:****Surface discharge site facilities map:**

#### Section 6 - Other

**Would you like to utilize Other PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD discharge volume (bbl/day):**

**Operator Name:** CIMAREX ENERGY COMPANY

**Well Name:** DOS EQUIS 12-13 FEDERAL COM

**Well Number:** 9H

**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

05/08/2020

**APD ID:** 10400053047

**Submission Date:** 05/07/2020

Highlighted data  
reflects the most  
recent changes

**Operator Name:** CIMAREX ENERGY COMPANY

**Well Name:** DOS EQUIS 12-13 FEDERAL COM

**Well Number:** 9H

[Show Final Text](#)

**Well Type:** OIL WELL

**Well Work Type:** Drill

### Bond Information

**Federal/Indian APD:** FED

**BLM Bond number:** NMB001187

**BIA Bond number:**

**Do you have a reclamation bond?** NO

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

**Is the reclamation bond BLM or Forest Service?**

**BLM reclamation bond number:**

**Forest Service reclamation bond number:**

**Forest Service reclamation bond attachment:**

**Reclamation bond number:**

**Reclamation bond amount:**

**Reclamation bond rider amount:**

**Additional reclamation bond information attachment:**



State of New Mexico  
Energy, Minerals and Natural Resources Department

Submit Electronically  
Via E-permitting

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

## NATURAL GAS MANAGEMENT PLAN

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

### Section 1 – Plan Description

Effective May 25, 2021

**I. Operator:** Cimarex Energy Company **OGRID:** 215099 **Date:** 5 / 2 / 2022

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

If Other, please describe: \_\_\_\_\_

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Dos Equis 12-13 Fed Com 9H		D, Sec 12, T24S, R32E	330 FNL/ 330 FWL	1200	1800	1300
<b>30-025-50135</b>						

**IV. Central Delivery Point Name:** Dos Equis 12-13 CTB CDP Sales [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Dos Equis 12-13 Fed COM 9H		1/1/2023	3/1/2023	6/1/2023	8/1/2023	8/1/2023
<b>30-025-50135</b>						

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

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

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

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

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

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

**IX. Anticipated Natural Gas Production:**

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

**X. Natural Gas Gathering System (NGGS):**

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

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

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

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

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

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

### **Section 3 - Certifications**

**Effective May 25, 2021**

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

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

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

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

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

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

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

### **Section 4 - Notices**


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

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

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

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

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

Signature: 
Printed Name: Sarah Jordan
Title: Regulatory Analyst
E-mail Address: sarah.jordan@coterra.com
Date: 5/2/2022
Phone: 432/620-1909
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
Approved By:
Title:
Approval Date:
Conditions of Approval:

***From State of New Mexico, Natural Gas Management Plan***

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

**XEC Standard Response**

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

## **Cimarex**

### **VII. Operational Practices**

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

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

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

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

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

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

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

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



**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 103094

**CONDITIONS**

Operator: CIMAREX ENERGY CO. 600 N. Marienfeld Street Midland, TX 79701	OGRID: 215099
	Action Number: 103094
	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	5/12/2022
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	5/12/2022
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	5/12/2022
pkautz	Cement is required to circulate on both surface and production strings of casing	5/12/2022