Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

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

8. Lease Name and Well No.

[333789]

2. Name of Operator

[215099]

9. API Well No. **30-025-51102**

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory **[98177]**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

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

25. Signature	Name *(Printed/Typed)*	Date

Title

Approved by *(Signature)*	Name *(Printed/Typed)* KZ	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 02/14/2023

KZ
02/16/2023

SL

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 02/08/2023

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

[1] API Number	[2] Pool Code	[3] Pool Name
30-025-51102	98177	WC-025 G-09 S223332A;UPR WOLFCAMP

[4] Property Code	[5] Property Name	[6] Well Number
333789	CORIANDER 1-12 FEDERAL COM	11H

[7] OGRID No.	[8] Operator Name	[9] Elevation
215099	CIMAREX ENERGY CO.	3750.7'

[10] Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	1	23S	32E		370	NORTH	2517	EAST	LEA

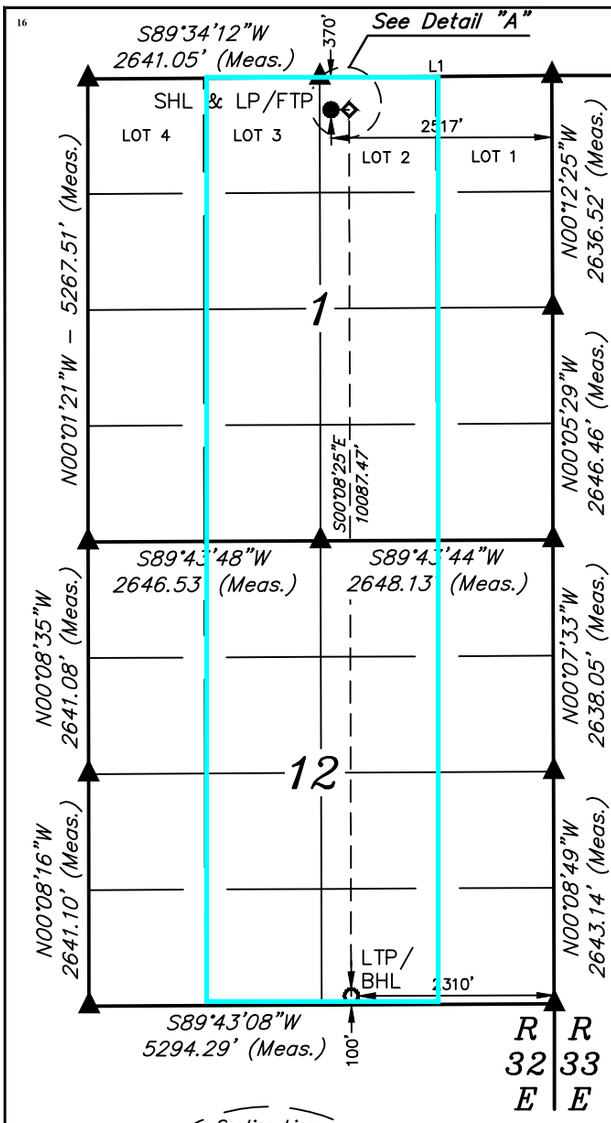
[11] Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	12	23S	32E		100	SOUTH	2310	EAST	LEA

[12] Dedicated Acres	[13] Joint or Infill	[14] Consolidation Code	[15] Order No.
639.6			

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

[16]



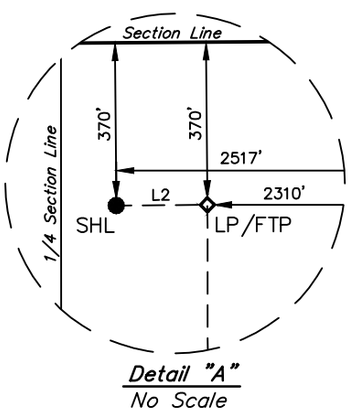
LINE TABLE		
LINE	DIRECTION	LENGTH
L1	S89°33'10"W	2642.03'
L2	N89°33'10"E	207.27'

NAD 83 (SURFACE HOLE LOCATION)
LATITUDE = 32°20'24.07" (32.340019°)
LONGITUDE = 103°37'40.52" (103.627922°)
NAD 27 (SURFACE HOLE LOCATION)
LATITUDE = 32°20'23.63" (32.339896°)
LONGITUDE = 103°37'38.78" (103.627438°)
STATE PLANE NAD 83 (N.M. EAST)
N: 488148.47' E: 759198.01'
STATE PLANE NAD 27 (N.M. EAST)
N: 488088.47' E: 718015.05'

NAD 83 (LP/FTP)
LATITUDE = 32°20'24.08" (32.340022°)
LONGITUDE = 103°37'38.11" (103.627251°)
NAD 27 (LP/FTP)
LATITUDE = 32°20'23.64" (32.339899°)
LONGITUDE = 103°37'36.36" (103.626767°)
STATE PLANE NAD 83 (N.M. EAST)
N: 488150.96' E: 759405.24'
STATE PLANE NAD 27 (N.M. EAST)
N: 488090.96' E: 718222.28'

NAD 83 (LTP/BHL)
LATITUDE = 32°18'44.28" (32.312300°)
LONGITUDE = 103°37'38.10" (103.627250°)
NAD 27 (LTP/BHL)
LATITUDE = 32°18'43.83" (32.312176°)
LONGITUDE = 103°37'36.36" (103.626766°)
STATE PLANE NAD 83 (N.M. EAST)
N: 478065.48' E: 759472.29'
STATE PLANE NAD 27 (N.M. EAST)
N: 478005.76' E: 718289.07'

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



Detail "A"
No Scale

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

2000' 1000' 0' 2000'

DRAWN BY: D.J.S. 08-09-21
REV: 1 M.D. 10-24-21 (SHL NAME CHANGE)

[17] OPERATOR CERTIFICATION

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

Amithy Crawford 12/9/21
Signature Date

Amithy Crawford
Printed Name

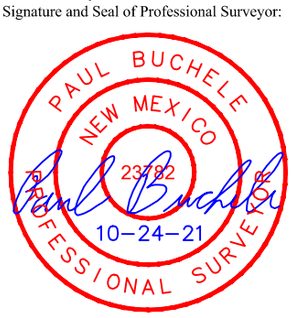
acrawford@cimarex.com
E-mail Address

[18] SURVEYOR CERTIFICATION

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

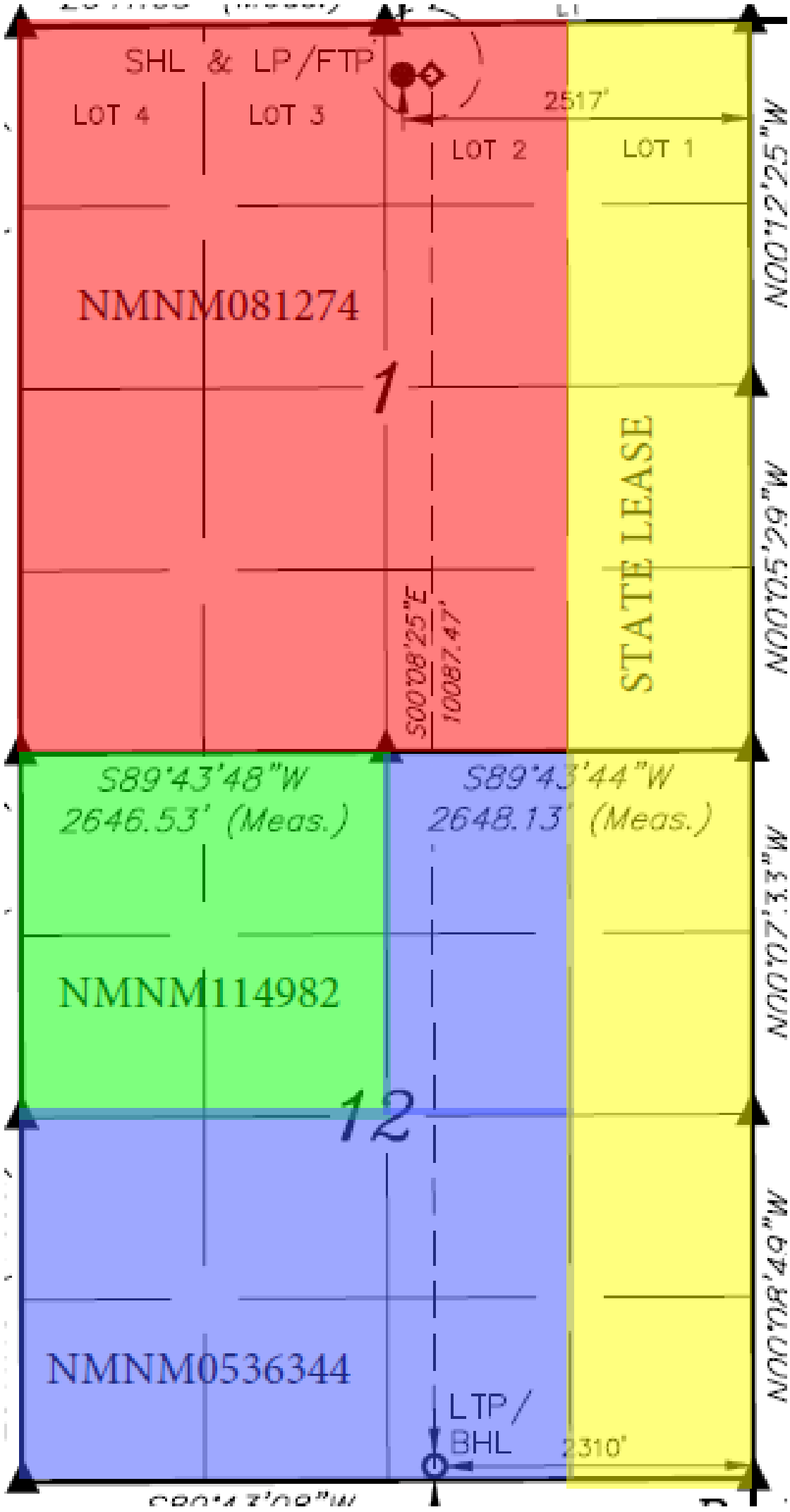
August 3, 2021
Date of Survey

Signature and Seal of Professional Surveyor:



Certificate Number:

CORIANDER LEASE MAP



Intent ☐ As Drilled ☐

API # 30-025-51102		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

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

First Take Point (FTP)

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

Last Take Point (LTP)

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

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

Is this well an infill well? ☐

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

API #		
Operator Name:	Property Name:	Well Number

Estimated Formation Tops

Formation:	Top:	Formation:	Top:

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description
Effective May 25, 2021

I. Operator: Cimarex Energy Company **OGRID:** 215099 **Date:** 2/14/2023

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Coriander 1-12 Federal Com 11H		2, Sec 1 T23S, R32E	370 FNL/2517 FEL	2300	4600	4600
	30-025-51102					

IV. Central Delivery Point Name: _Coriander CTB _____ [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
Coriander 1-12 Federal Com 11H		7/25/23	10/4/23	1/1/2024	3/1/2024	3/1/2024
	30-025-51102					

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

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

Signature:	Sarah Jordan
Printed Name:	Sarah Jordan
Title:	Regulatory Analyst
E-mail Address:	sarah.jordan@coterra.com
Date:	2/14/23
Phone:	432/620-1909

OIL CONSERVATION DIVISION

(Only applicable when submitted as a standalone form)

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

From State of New Mexico, Natural Gas Management Plan

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

XEC Standard Response

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

Cimarex
VII. Operational Practices

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

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

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

i. Venting or flaring occurs as a result of bradenhead testing.
j. Venting or flaring occurs as a result of normal compressor operations, including general compressor operations, compressor engines and turbines.
k. Venting or flaring occurs as a result of a packer leakage test.
l. Venting or flaring occurs as a result of a production test lasting less than 24 hours unless otherwise approved by the division.
m. Venting or flaring occurs as a result of new equipment commissioning and is necessary to purge impurities from the pipeline or production equipment.

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

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

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

- **Workovers:**
  - Always strive to kill well when performing downhole maintenance.
  - If vapors or trapped pressure is present and must be relieved then:
    - Initial blowdown to production facility:
      - Route vapors to LP flare if possible/applicable
    - Blowdown to portable gas buster tank:
      - Vent to existing or portable flare if applicable.

- **Stock tank servicing:**
  - Minimize time spent with thief hatches open.
  - When cleaning or servicing via manway, suck tank bottoms to ensure minimal volatiles exposed to atmosphere.
    - Connect vacuum truck to low pressure flare while cleaning bottoms to limit venting.
  - Isolate the vent lines and overflows on the tank being serviced from other tanks.

- **Pressure vessel/compressor servicing and associated blowdowns:**
  - Route to flare where possible.
  - Blow vessel down to minimum available pressure via pipeline, prior to venting vessel.
  - Preemptively changing anodes to reduce failures and extended corrosion related servicing.
  - When cleaning or servicing via manway, suck vessel bottoms to ensure minimal volatiles exposed to atmosphere.

- **Flare/combustor maintenance:**
  - Minimize downtime by coordinating with vendor and Cimarex staff travel logistics.
  - Utilizing preventative and predictive maintenance programs to replace high wear components before failure.
  - Because the flare/combustor is the primary equipment used to limit venting practices, ensure flare/combustor is properly maintained and fully operational at all times via routine maintenance, temperature telemetry, onsite visual inspections.

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

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Cimarex**
LEASE NO.:	**NMNM081274**
LOCATION:	Section 1, T.23 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Coriander 1-12 Fed Com 11H
SURFACE HOLE FOOTAGE:	370'/N & 2517'/E
BOTTOM HOLE FOOTAGE	100'/S & 2310'/E

COA

H2S	(•) Yes	( ) No	
Potash	(•) None	( ) Secretary	( ) R-111-P
Cave/Karst Potential	(•) Low	( ) Medium	( ) High
Cave/Karst Potential	( ) Critical		
Variance	( ) None	(•) Flex Hose	( ) Other
Wellhead	( ) Conventional	(•) Multibowl	( ) Both
Other	[ ] 4 String Area	[ ] Capitan Reef	[ ] WIPP
Other	[x] Fluid Filled	[ ] Cement Squeeze	[ ] Pilot Hole
Special Requirements	[ ] Water Disposal	[x] COM	[ ] Unit

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delware and Bone Springs** formations. 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 **1400** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

Approval Date: 02/08/2023

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

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

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

2. The minimum required fill of cement behind the **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 tail cement slurry due to cave/karst.

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) 689-5981

 Approval Date: 02/08/2023

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

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

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

A. CASING

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

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

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

 Approval Date: 02/08/2023

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

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

    c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any

Approval Date: 02/08/2023

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.
ZS12823

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BUREAU OF LAND MANAGEMENT

Operator Certification Data Report

02/10/2023

Operator

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

NAME: AMITHY CRAWFORD **Signed on:** 01/26/2022

Title: Regulatory Analyst

Street Address: 600 N MARIENFELD STE 600

City: MIDLAND **State:** TX **Zip:** 79701

Phone: (432)620-1909

Email address: AMITHY.CRAWFORD@COTERRA.COM

Field

Representative Name:

Street Address:

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

Phone:

Email address:

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

Application Data
02/10/2023

APD ID: 10400082180
Submission Date: 01/26/2022
Operator Name: CIMAREX ENERGY COMPANY
Well Name: CORIANDER 1-12 FEDERAL COM
Well Number: 11H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - General

APD ID: 10400082180
Tie to previous NOS? Y
Submission Date: 01/26/2022
BLM Office: Carlsbad
User: AMITHY CRAWFORD
Title: Regulatory Analyst
Federal/Indian APD: FED
Is the first lease penetrated for production Federal or Indian? FED
Lease number: NMNM81274
Lease Acres:
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? N
Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? Y
Permitting Agent? NO
APD Operator: CIMAREX ENERGY COMPANY
Operator letter of

Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY
Operator Address: 1700 LINCOLN STREET SUITE 1800
Zip: 80203
Operator PO Box:
Operator City: DENVER
State: CO
Operator Phone: (303)295-3995
Operator Internet Address: hknauls@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: CORIANDER 1-12 FEDERAL COM
Well Number: 11H
Well API Number:
Field/Pool or Exploratory? Field and Pool
Field Name: WC-025 G-09 S223332A; UPR WOLFCAMP
Pool Name: WC-025 G-09 S223332A; UPR WOLFCAMP

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

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

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

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Coriander 1-12 Federal **Number:** W2E2

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: 27 Miles **Distance to nearest well:** 20 FT **Distance to lease line:** 370 FT

Reservoir well spacing assigned acres Measurement: 639 Acres

Well plat: Coriander_1_12_Federal_Com_11H_C102_20211209073924.pdf

Coriander_Lease_Map_20211209073929.pdf

Well work start Date: 04/30/2021 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: 23782 **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	370	FNL	2517	FEL	23S	32E	1	Lot 2	32.340019	-103.627922	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 081274	3750	0	0	Y
KOP Leg #1	370	FNL	2517	FEL	23S	32E	1	Lot 2	32.340019	-103.627922	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 081274	-8182	11940	11932	Y

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
PPP Leg #1-1	370	FNL	2310	FEL	23S	32E	1	Lot 2	32.340022	-103.627251	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 081274	-8340	12100	12090	Y
EXIT Leg #1	100	FSL	2310	FEL	23S	32E	12	Aliquot SWSE	32.3123	-103.62725	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 053634	-8775	22355	12525	Y
BHL Leg #1	100	FSL	2310	FEL	23S	32E	12	Aliquot SWSE	32.3123	-103.62725	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 053634	-8775	22355	12525	Y

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

Drilling Plan Data Report
02/10/2023

APD ID: 10400082180
Submission Date: 01/26/2022
Operator Name: CIMAREX ENERGY COMPANY
Well Name: CORIANDER 1-12 FEDERAL COM
Well Number: 11H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

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Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
8068571	RUSTLER	0	1256	1256	ANHYDRITE, SANDSTONE	USEABLE WATER	N
8068572	TOP SALT	-3686	3686	3686	ANHYDRITE	NONE	N
8068573	BASE OF SALT	-4680	4680	4680	ANHYDRITE	NONE	N
8068574	LAMAR	-4963	4963	4963	SANDSTONE	NONE	N
8068575	BELL CANYON	-5017	5017	5017	SANDSTONE	NONE	N
8068576	CHERRY CANYON	-5870	5870	5870	SANDSTONE	NONE	N
8068577	BRUSHY CANYON	-7216	7216	7216	SANDSTONE	NATURAL GAS, OIL	N
8068578	BONE SPRING	-8827	8827	8827	LIMESTONE	NATURAL GAS, OIL	N
8068579	UPPER AVALON SHALE	-9361	9361	9361	SHALE	NATURAL GAS, OIL	N
8068580	BONE SPRING 2ND	-10340	10340	10340	SANDSTONE	NATURAL GAS, OIL	N
8068581	BONE SPRING 3RD	-11040	11040	11040	SANDSTONE	NATURAL GAS, OIL	N
8068582	WOLFCAMP	-12170	12170	12170	SHALE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M
Rating Depth: 22355

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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

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 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, 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:

Coriander_1_12_Fed_Com_11H_Choke_10M_20221104105700.pdf

BOP Diagram Attachment:

Coriander_1_12_Fed_Com_11H_BOP_10M_20221104105711.pdf

Pressure Rating (PSI): 2M **Rating Depth:** 1306

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 2000 psi will be installed on the wellhead system and will be pressure tested to 250 psi low followed by a 2000 psi test. Annular will be tested to 100% of working pressure. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2. The multi-bowl wellhead will be installed by vendors representative. A copy of the installation instructions has been sent to the BLM field office. The wellhead will be installed by a third-party welder, monitored by the wellhead vendor representative. All BOP equipment will be tested utilizing a conventional test plug. Not a cup or J-packer type. A solid steel body pack-off will be utilized after running and cementing the intermediate casing. After installation the pack-off and lower flange will be pressure tested to 2000 psi. The surface casing string will be tested as per Onshore Order No. 2 to at least 0.22 psi/ft or 1500 psi, whichever is greater. The casing strings utilizing steel body pack-off will be tested to 70% of casing burst. If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

Choke Diagram Attachment:

Coriander_1_12_Federal_Com_11H_Choke_2M_20220126090220.pdf

BOP Diagram Attachment:

Coriander_1_12_Federal_Com_11H_BOP_2M_20220126090227.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Pressure Rating (PSI): 5M **Rating Depth:** 12690

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

Coriander_1_12_Federal_Com_11H_Choke_5M_20220126090345.pdf

BOP Diagram Attachment:

Coriander_1_12_Federal_Com_11H_BOP_5M_10.75_20220126090352.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	1306	0	1306	3750	2444	1306	J-55	40.5	BUTT	2.8	5.55	BUOY	11.89	BUOY	11.89
2	PRODUCTION	6.75	5.5	NEW	API	Y	0	11940	0	11940	3750	-8190	11940	L-80	23	LT&C	1.5	1.33	BUOY	2.17	BUOY	2.17
3	INTERMEDIATE	9.875	7.625	NEW	API	N	0	12690	0	12486	3750	-8736	12690	L-80	29.7	LT&C	1.09	1.96	BUOY	4.6	BUOY	4.6

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

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
4	PRODUCTION	6.75	5.0	NEW	API	Y	11940	22355	11940	12525	-8190	-8775	10415	P-110	18	BUTT	1.72	1.74	BUOY	55.08	BUOY	55.08

Casing Attachments

Casing ID: 1 **String** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Coriander_1_12_Federal_Com_11H_Casing_Assumptions_20221104110207.pdf

Casing ID: 2 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Coriander_1_12_Federal_Tapered_Specs_20220126143922.pdf

Casing Design Assumptions and Worksheet(s):

Coriander_1_12_Federal_Com_11H_Casing_Assumptions_20221104110648.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Casing Attachments

Casing ID: 3 **String** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Coriander_1_12_Federal_Com_11H_Casing_Assumptions_20221104110515.pdf

Casing ID: 4 **String** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

Coriander_1_12_Federal_Tapered_Specs_20220126144022.pdf

Casing Design Assumptions and Worksheet(s):

Coriander_1_12_Federal_Com_11H_Casing_Assumptions_20221104110720.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		0	0	0	0	0	0	0	0	0
SURFACE	Lead		0	1306	507	1.72	13.5	872	45	Class C	Bentonite
SURFACE	Tail		0	1306	136	1.34	14.8	182	47	Class C	LCM
INTERMEDIATE	Lead	5100	0	12690	584	3.64	10.3	2126	37	Tuned Light	LCM

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
INTERMEDIATE	Tail		0	12690	198	1.36	14.8	269	37	Class C	Retarder
INTERMEDIATE	Lead	5100	5100	12690	813	1.88	12.9	1528	47	35:65 (POZ:C)	Salt + Bentonite
PRODUCTION	Lead		12490	22355	1349	1.3	14.2	1753	25	50:50 (Poz:H)	Salt, Bentonite, Fluid Loss, Dispersant, SMS

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

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

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

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
0	1306	OTHER : Fresh Water Spud mud	7.83	8.33							
1306	12690	OTHER : Brine Diesel Emulsion	8.5	9							

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

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
12690	22355	OIL-BASED MUD	11.5	12							

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:

COMPENSATED NEUTRON LOG,DIRECTIONAL SURVEY,GAMMA RAY LOG,

Coring operation description for the well:

N/A

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7815 **Anticipated Surface Pressure:** 5059

Anticipated Bottom Hole Temperature(F): 192

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 geoharzards description:

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

Contingency Plans geohazards

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations

Coriander_1_12_Federal_Com_11H_H2S_Plan_20220126145318.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Corainder_1_12_Federal_Com_11H_Directional___AC_Report_20220126145336.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

Coriander_1_12_Fed_Com_11H_Drilling_Plan_11.3.22_20221104112356.pdf

Other Variance attachment:

Coriander_1_12_Federal_Com_11H_Flex_Hose_20220126145411.pdf
Offline_Cement_Procedure_20220126145421.pdf
Coriander_1_12_Fed_Com_11H_Multibowl_10.75_20221104112818.pdf

Hydrogen Sulfide Drilling Operations Plan
Coriander 1-12 Federal Com 11H
Cimarex Energy Co.
Sec. 1, 23S, 32E
Lea Co., NM

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

A. Characteristics of H_2S
B. Physical effects and hazards
C. Principal and operation of H2S detectors, warning system and briefing areas.
D. Evacuation procedure, routes and first aid.
E. Proper use of safety equipment & life support systems
F. Essential personnel meeting Medical Evaluation criteria will receive additional training on the proper use of 30 minute pressure demand air packs.

H_2S Detection and Alarm Systems:

A. H2S sensors/detectors to be located on the drilling rig floor, in the base of the sub structure/cellar area, on the mud pits in the shale shaker area. Additional H2S detectors may play placed as deemed necessary.

B. An audio alarm system will be installed on the derrick floor and in the top doghouse.

3 Windsock and/or wind streamers:

A. Windsock at mudpit area should be high enough to be visible.
B. Windsock on the rig floor and / or top doghouse should be high enough to be visible.

4 Condition Flags and Signs

A. Warning sign on access road to location.
B. Flags to be displayed on sign at entrance to location. Green flag indicates normal safe condition. Yellow flag indicates potential pressure and danger. Red flag indicates danger (H_2S present in dangerous concentration). Only H2S trained and certified personnel admitted to location.

5 Well control equipment:

A. See exhibit "E-1"

6 Communication:

A. While working under masks chalkboards will be used for communication.
B. Hand signals will be used where chalk board is inappropriate.
C. Two way radio will be used to communicate off location in case of emergency help is required. In most cases cellular telephones will be available at most drilling foreman's trailer or living quarters.

7 Drillstem Testing:
No DSTs r cores are planned at this time.

8 Drilling contractor supervisor will be required to be familiar with the effects H_2S has on tubular goods and other mechanical equipment.

9 If H2S is encountered, mud system will be altered if necessary to maintain control of formation. A mud gas separator will be brought into service along with H2S scavengers if necessary.

H_2S Contingency Plan
Coriander 1-12 Federal Com 11H
Cimarex Energy Co. Sec. 1, 23S, 32E Lea Co., NM

Emergency Procedures

In the event of a release of gas containing H_2S, the first responder(s) must:

« Isolate the area and prevent entry by other persons into the 100 ppm ROE.
« Evacuate any public places encompassed by the 100 ppm ROE.
« Be equipped with H_2S monitors and air packs in order to control the release.
« Use the "buddy system" to ensure no injuries occur during the 432-620-1975
« Take precautions to avoid personal injury during this operation.
« Contact operator and/or local officials to aid in operation. See list of phone numbers attached.
« Have received training in the:
  · Detection of H_2S, and
  · Measures for protection against the gas,
  · Equipment used for protection and emergency response.

Ignition of Gas Source

Should control of the well be considered lost and ignition considered, take care to protect against exposure to Sulfur Dioxide (SO_2). Intentional ignition must be coordinated with the NMOCD and local officials. Additionally, the NM State Police may become involved. NM State Police shall be the Incident Command on scene of any major release. Take care to protect downwind whenever there is an ignition of the gas.

Characteristics of H_2S and SO_2

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_2S Contingency Plan Emergency Contacts
Coriander 1-12 Federal Com 11H
Cimarex Energy Co.
Sec. 1, 23S, 32E
Lea Co., NM

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

Key Personnel

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

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

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

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

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

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

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

Schlumberger

Cimarex Coriander 1-12 Federal Com 11H Rev0 IC 07Dec21 Proposal
Geodetic Report
(Def Plan)

CIMAREX

Report Date:	December 08, 2021 - 08:44 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	179.620 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Coriander 1-12 Federal Com Pad / New Slot	**TVD Reference Datum:**	RKB
Well:	Coriander 1-12 Federal Com 11H	**TVD Reference Elevation:**	3773.700 ft above MSL
Borehole:	Coriander 1-12 Federal Com 11H	**Seabed / Ground Elevation:**	3750.700 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.412 °
Survey Name:	Cimarex Coriander 1-12 Federal Com 11H Rev0 IC 07Dec21	**Total Gravity Field Strength:**	998.4397mgn (9.80665 Based)
Survey Date:	December 07, 2021	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	98.734 ° / 10293.345 ft / 6.259 / 0.822	**Total Magnetic Field Strength:**	47731.031 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.986 °
Location Lat / Long:	N 32° 20' 24.06952", W 103° 37' 40.52081"	**Declination Date:**	December 07, 2021
Location Grid N/E Y/X:	N 488148.470 ftUS, E 759198.010 ftUS	**Magnetic Declination Model:**	HDGM 2021
CRS Grid Convergence Angle:	0.3774 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99996345	**Grid Convergence Used:**	0.3774 °
Version / Patch:	2.10.826.8	**Total Corr Mag North->Grid North:**	6.0350 °
		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 [370' FNL, 2517' FEL]	0.00	0.00	89.31	0.00	0.00	0.00	0.00	N/A	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	100.00	0.00	89.31	100.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	200.00	0.00	89.31	200.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	300.00	0.00	89.31	300.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	400.00	0.00	89.31	400.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	500.00	0.00	89.31	500.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	600.00	0.00	89.31	600.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	700.00	0.00	89.31	700.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	800.00	0.00	89.31	800.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	900.00	0.00	89.31	900.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1000.00	0.00	89.31	1000.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1100.00	0.00	89.31	1100.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1200.00	0.00	89.31	1200.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1300.00	0.00	89.31	1300.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1400.00	0.00	89.31	1400.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1500.00	0.00	89.31	1500.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1600.00	0.00	89.31	1600.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1700.00	0.00	89.31	1700.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1800.00	0.00	89.31	1800.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	1900.00	0.00	89.31	1900.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
Nudge 2° DLS	2000.00	0.00	89.31	2000.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
	2100.00	2.00	89.31	2099.98	-0.01	0.02	1.75	2.00	488148.49	759199.75	N 32 20 24.07	W 103 37 40.50
	2200.00	4.00	89.31	2199.84	-0.04	0.08	6.98	2.00	488148.55	759204.99	N 32 20 24.07	W 103 37 40.44
Hold	2218.34	4.37	89.31	2218.13	-0.04	0.10	8.32	2.00	488148.57	759206.33	N 32 20 24.07	W 103 37 40.42
	2300.00	4.37	89.31	2299.55	-0.08	0.17	14.53	0.00	488148.64	759212.54	N 32 20 24.07	W 103 37 40.35
	2400.00	4.37	89.31	2399.26	-0.12	0.27	22.15	0.00	488148.74	759220.16	N 32 20 24.07	W 103 37 40.26
	2500.00	4.37	89.31	2498.97	-0.16	0.36	29.76	0.00	488148.83	759227.77	N 32 20 24.07	W 103 37 40.17
	2600.00	4.37	89.31	2598.68	-0.20	0.45	37.37	0.00	488148.92	759235.38	N 32 20 24.07	W 103 37 40.09
	2700.00	4.37	89.31	2698.39	-0.24	0.54	44.99	0.00	488149.01	759243.00	N 32 20 24.07	W 103 37 40.00
	2800.00	4.37	89.31	2798.10	-0.28	0.63	52.60	0.00	488149.10	759250.61	N 32 20 24.07	W 103 37 39.91
	2900.00	4.37	89.31	2897.81	-0.32	0.72	60.21	0.00	488149.19	759258.22	N 32 20 24.07	W 103 37 39.82
	3000.00	4.37	89.31	2997.52	-0.37	0.81	67.83	0.00	488149.28	759265.83	N 32 20 24.07	W 103 37 39.73
	3100.00	4.37	89.31	3097.23	-0.41	0.91	75.44	0.00	488149.38	759273.45	N 32 20 24.07	W 103 37 39.64
	3200.00	4.37	89.31	3196.94	-0.45	1.00	83.05	0.00	488149.47	759281.06	N 32 20 24.07	W 103 37 39.55
	3300.00	4.37	89.31	3296.65	-0.49	1.09	90.67	0.00	488149.56	759288.67	N 32 20 24.07	W 103 37 39.46
	3400.00	4.37	89.31	3396.36	-0.53	1.18	98.28	0.00	488149.65	759296.29	N 32 20 24.07	W 103 37 39.38
	3500.00	4.37	89.31	3496.07	-0.57	1.27	105.90	0.00	488149.74	759303.90	N 32 20 24.08	W 103 37 39.29
	3600.00	4.37	89.31	3595.78	-0.61	1.36	113.51	0.00	488149.83	759311.51	N 32 20 24.08	W 103 37 39.20
	3700.00	4.37	89.31	3695.49	-0.65	1.46	121.12	0.00	488149.93	759319.13	N 32 20 24.08	W 103 37 39.11
	3800.00	4.37	89.31	3795.20	-0.69	1.55	128.74	0.00	488150.02	759326.74	N 32 20 24.08	W 103 37 39.02
	3900.00	4.37	89.31	3894.91	-0.73	1.64	136.35	0.00	488150.11	759334.35	N 32 20 24.08	W 103 37 38.93
	4000.00	4.37	89.31	3994.62	-0.77	1.73	143.96	0.00	488150.20	759341.97	N 32 20 24.08	W 103 37 38.84
	4100.00	4.37	89.31	4094.33	-0.82	1.82	151.58	0.00	488150.29	759349.58	N 32 20 24.08	W 103 37 38.75
	4200.00	4.37	89.31	4194.04	-0.86	1.91	159.19	0.00	488150.38	759357.19	N 32 20 24.08	W 103 37 38.67
	4300.00	4.37	89.31	4293.75	-0.90	2.00	166.80	0.00	488150.47	759364.81	N 32 20 24.08	W 103 37 38.58
	4400.00	4.37	89.31	4393.46	-0.94	2.10	174.42	0.00	488150.57	759372.42	N 32 20 24.08	W 103 37 38.49
	4500.00	4.37	89.31	4493.17	-0.98	2.19	182.03	0.00	488150.66	759380.03	N 32 20 24.08	W 103 37 38.40
	4600.00	4.37	89.31	4592.87	-1.02	2.28	189.64	0.00	488150.75	759387.65	N 32 20 24.08	W 103 37 38.31
	4700.00	4.37	89.31	4692.58	-1.06	2.37	197.26	0.00	488150.84	759395.26	N 32 20 24.08	W 103 37 38.22
Drop 2° DLS	4721.87	4.37	89.31	4714.39	-1.07	2.39	198.92	0.00	488150.86	759396.92	N 32 20 24.08	W 103 37 38.20
	4800.00	2.80	89.31	4792.37	-1.10	2.45	203.81	2.00	488150.92	759401.81	N 32 20 24.08	W 103 37 38.15
	4900.00	0.80	89.31	4892.31	-1.11	2.49	206.96	2.00	488150.96	759404.96	N 32 20 24.08	W 103 37 38.11
Hold	4940.21	0.00	89.31	4932.52	-1.12	2.49	207.24	2.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5000.00	0.00	89.31	4992.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5100.00	0.00	89.31	5092.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5200.00	0.00	89.31	5192.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5300.00	0.00	89.31	5292.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5400.00	0.00	89.31	5392.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5500.00	0.00	89.31	5492.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5600.00	0.00	89.31	5592.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5700.00	0.00	89.31	5692.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5800.00	0.00	89.31	5792.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	5900.00	0.00	89.31	5892.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6000.00	0.00	89.31	5992.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6100.00	0.00	89.31	6092.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6200.00	0.00	89.31	6192.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6300.00	0.00	89.31	6292.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6400.00	0.00	89.31	6392.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6500.00	0.00	89.31	6492.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6600.00	0.00	89.31	6592.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6700.00	0.00	89.31	6692.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6800.00	0.00	89.31	6792.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	6900.00	0.00	89.31	6892.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	7000.00	0.00	89.31	6992.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	7100.00	0.00	89.31	7092.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	7200.00	0.00	89.31	7192.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	7300.00	0.00	89.31	7292.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11

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 ° ' ")
	7400.00	0.00	89.31	7392.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	7500.00	0.00	89.31	7492.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	7600.00	0.00	89.31	7592.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	7700.00	0.00	89.31	7692.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	7800.00	0.00	89.31	7792.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	7900.00	0.00	89.31	7892.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8000.00	0.00	89.31	7992.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8100.00	0.00	89.31	8092.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8200.00	0.00	89.31	8192.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8300.00	0.00	89.31	8292.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8400.00	0.00	89.31	8392.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8500.00	0.00	89.31	8492.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8600.00	0.00	89.31	8592.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8700.00	0.00	89.31	8692.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8800.00	0.00	89.31	8792.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	8900.00	0.00	89.31	8892.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9000.00	0.00	89.31	8992.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9100.00	0.00	89.31	9092.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9200.00	0.00	89.31	9192.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9300.00	0.00	89.31	9292.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9400.00	0.00	89.31	9392.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9500.00	0.00	89.31	9492.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9600.00	0.00	89.31	9592.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9700.00	0.00	89.31	9692.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9800.00	0.00	89.31	9792.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	9900.00	0.00	89.31	9892.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10000.00	0.00	89.31	9992.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10100.00	0.00	89.31	10092.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10200.00	0.00	89.31	10192.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10300.00	0.00	89.31	10292.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10400.00	0.00	89.31	10392.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10500.00	0.00	89.31	10492.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10600.00	0.00	89.31	10592.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10700.00	0.00	89.31	10692.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10800.00	0.00	89.31	10792.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	10900.00	0.00	89.31	10892.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11000.00	0.00	89.31	10992.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11100.00	0.00	89.31	11092.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11200.00	0.00	89.31	11192.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11300.00	0.00	89.31	11292.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11400.00	0.00	89.31	11392.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11500.00	0.00	89.31	11492.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11600.00	0.00	89.31	11592.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11700.00	0.00	89.31	11692.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11800.00	0.00	89.31	11792.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	11900.00	0.00	89.31	11892.31	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
KOP, Build 10° DLS	11940.21	0.00	89.31	11932.52	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
	12000.00	5.98	179.62	11992.20	2.00	-0.63	207.26	10.00	488147.84	759405.26	N 32 20 24.05	W 103 37 38.11
	12100.00	15.98	179.62	12090.25	21.02	-19.65	207.39	10.00	488128.82	759405.39	N 32 20 23.86	W 103 37 38.11
	12200.00	25.98	179.62	12183.50	56.78	-55.40	207.62	10.00	488093.07	759405.62	N 32 20 23.51	W 103 37 38.11
	12300.00	35.98	179.62	12269.13	108.19	-106.81	207.96	10.00	488041.66	759405.97	N 32 20 23.00	W 103 37 38.11
	12400.00	45.98	179.62	12344.53	173.68	-172.30	208.40	10.00	487976.17	759406.40	N 32 20 22.35	W 103 37 38.11
	12500.00	55.98	179.62	12407.41	251.27	-249.89	208.92	10.00	487898.59	759406.92	N 32 20 21.58	W 103 37 38.11
	12600.00	65.98	179.62	12455.86	338.61	-337.23	209.50	10.00	487811.26	759407.50	N 32 20 20.72	W 103 37 38.10
Build 5° DLS	12690.21	75.00	179.62	12485.95	423.55	-422.17	210.06	10.00	487726.32	759408.06	N 32 20 19.88	W 103 37 38.10
	12700.00	75.49	179.62	12488.45	433.02	-431.63	210.12	5.00	487716.85	759408.13	N 32 20 19.78	W 103 37 38.10
	12800.00	80.49	179.62	12509.25	530.80	-529.41	210.77	5.00	487619.08	759408.78	N 32 20 18.82	W 103 37 38.10
	12900.00	85.49	179.62	12521.45	630.02	-628.63	211.43	5.00	487519.87	759409.44	N 32 20 17.84	W 103 37 38.10
Landing Point	12990.21	90.00	179.62	12525.00	720.13	-718.74	212.03	5.00	487429.75	759410.03	N 32 20 16.94	W 103 37 38.10
	13000.00	90.00	179.62	12525.00	729.92	-728.53	212.10	0.00	487419.96	759410.10	N 32 20 16.85	W 103 37 38.10
	13100.00	90.00	179.62	12525.00	829.92	-828.53	212.76	0.00	487319.97	759410.76	N 32 20 15.86	W 103 37 38.10
	13200.00	90.00	179.62	12525.00	929.92	-928.53	213.43	0.00	487219.98	759411.43	N 32 20 14.87	W 103 37 38.10
	13300.00	90.00	179.62	12525.00	1029.92	-1028.53	214.09	0.00	487119.98	759412.09	N 32 20 13.88	W 103 37 38.10
	13400.00	90.00	179.62	12525.00	1129.92	-1128.52	214.76	0.00	487019.99	759412.76	N 32 20 12.89	W 103 37 38.10
	13500.00	90.00	179.62	12525.00	1229.92	-1228.52	215.42	0.00	486919.99	759413.42	N 32 20 11.90	W 103 37 38.10
	13600.00	90.00	179.62	12525.00	1329.92	-1328.52	216.09	0.00	486820.00	759414.09	N 32 20 10.91	W 103 37 38.10
	13700.00	90.00	179.62	12525.00	1429.92	-1428.52	216.75	0.00	486720.01	759414.75	N 32 20 9.92	W 103 37 38.10
	13800.00	90.00	179.62	12525.00	1529.92	-1528.52	217.42	0.00	486620.01	759415.42	N 32 20 8.93	W 103 37 38.10
	13900.00	90.00	179.62	12525.00	1629.92	-1628.51	218.08	0.00	486520.02	759416.08	N 32 20 7.94	W 103 37 38.10
	14000.00	90.00	179.62	12525.00	1729.92	-1728.51	218.75	0.00	486420.02	759416.75	N 32 20 6.95	W 103 37 38.10
	14100.00	90.00	179.62	12525.00	1829.92	-1828.51	219.41	0.00	486320.03	759417.41	N 32 20 5.96	W 103 37 38.10
	14200.00	90.00	179.62	12525.00	1929.92	-1928.51	220.08	0.00	486220.04	759418.08	N 32 20 4.97	W 103 37 38.10
	14300.00	90.00	179.62	12525.00	2029.92	-2028.51	220.74	0.00	486120.04	759418.74	N 32 20 3.98	W 103 37 38.10
	14400.00	90.00	179.62	12525.00	2129.92	-2128.50	221.41	0.00	486020.05	759419.41	N 32 20 2.99	W 103 37 38.10
	14500.00	90.00	179.62	12525.00	2229.92	-2228.50	222.07	0.00	485920.06	759420.07	N 32 20 2.00	W 103 37 38.10
	14600.00	90.00	179.62	12525.00	2329.92	-2328.50	222.73	0.00	485820.06	759420.74	N 32 20 1.02	W 103 37 38.10
	14700.00	90.00	179.62	12525.00	2429.92	-2428.50	223.40	0.00	485720.07	759421.40	N 32 20 0.03	W 103 37 38.10
	14800.00	90.00	179.62	12525.00	2529.92	-2528.49	224.06	0.00	485620.07	759422.07	N 32 19 59.04	W 103 37 38.10
	14900.00	90.00	179.62	12525.00	2629.92	-2628.49	224.73	0.00	485520.08	759422.73	N 32 19 58.05	W 103 37 38.10
	15000.00	90.00	179.62	12525.00	2729.92	-2728.49	225.39	0.00	485420.09	759423.40	N 32 19 57.06	W 103 37 38.10
	15100.00	90.00	179.62	12525.00	2829.92	-2828.49	226.06	0.00	485320.09	759424.06	N 32 19 56.07	W 103 37 38.10
	15200.00	90.00	179.62	12525.00	2929.92	-2928.49	226.72	0.00	485220.10	759424.72	N 32 19 55.08	W 103 37 38.10
	15300.00	90.00	179.62	12525.00	3029.92	-3028.48	227.39	0.00	485120.10	759425.39	N 32 19 54.09	W 103 37 38.10
	15400.00	90.00	179.62	12525.00	3129.92	-3128.48	228.05	0.00	485020.11	759426.05	N 32 19 53.10	W 103 37 38.10
	15500.00	90.00	179.62	12525.00	3229.92	-3228.48	228.72	0.00	484920.12	759426.72	N 32 19 52.11	W 103 37 38.10
	15600.00	90.00	179.62	12525.00	3329.92	-3328.48	229.38	0.00	484820.12	759427.38	N 32 19 51.12	W 103 37 38.10
	15700.00	90.00	179.62	12525.00	3429.92	-3428.47	230.05	0.00	484720.13	759428.05	N 32 19 50.13	W 103 37 38.10
	15800.00	90.00	179.62	12525.00	3529.92	-3528.47	230.71	0.00	484620.13	759428.71	N 32 19 49.14	W 103 37 38.10
	15900.00	90.00	179.62	12525.00	3629.92	-3628.47	231.38	0.00	484520.14	759429.38	N 32 19 48.15	W 103 37 38.10
	16000.00	90.00	179.62	12525.00	3729.92	-3728.47	232.04	0.00	484420.15	759430.04	N 32 19 47.16	W 103 37 38.10
	16100.00	90.00	179.62	12525.00	3829.92	-3828.47	232.71	0.00	484320.15	759430.71	N 32 19 46.17	W 103 37 38.10
	16200.00	90.00	179.62	12525.00	3929.92	-3928.46	233.37	0.00	484220.16	759431.37	N 32 19 45.18	W 103 37 38.10
	16300.00	90.00	179.62	12525.00	4029.92	-4028.46	234.04	0.00	484120.16	759432.04	N 32 19 44.19	W 103 37 38.10
	16400.00	90.00	179.62	12525.00	4129.92	-4128.46	234.70	0.00	484020.17	759432.70	N 32 19 43.20	W 103 37 38.10
	16500.00	90.00	179.62	12525.00	4229.92	-4228.46	235.37	0.00	483920.18	759433.37	N 32 19 42.21	W 103 37 38.10
	16600.00	90.00	179.62	12525.00	4329.92	-4328.45	236.03	0.00	483820.18	759434.03	N 32 19 41.23	W 103 37 38.10
	16700.00	90.00	179.62	12525.00	4429.92	-4428.45	236.70	0.00	483720.19	759434.70	N 32 19 40.24	W 103 37 38.10
	16800.00	90.00	179.62	12525.00	4529.92	-4528.45	237.36	0.00	483620.19	759435.36	N 32 19 39.25	W 103 37 38.10
	16900.00	90.00	179.62	12525.00	4629.92	-4628.45	238.03	0.00	483520.20	759436.03	N 32 19 38.26	W 103 37 38.10
	17000.00	90.00	179.62	12525.00	4729.92	-4728.45	238.69	0.00	483420.21	759436.69	N 32 19 37.27	W 103 37 38.10
	17100.00	90.00	179.62	12525.00	4829.92	-4828.44	239.35	0.00	483320.21	759437.36	N 32 19 36.28	W 103 37 38.10
Section 1-12 Line NMNM0536344 Leaseline Crossing	*17173.56*	*90.00*	*179.62*	*12525.00*	*4903.48*	*-4902.00*	*239.84*	*0.00*	*483246.66*	*759437.84*	*N 32 19 35.55*	*W 103 37 38.10*
	17200.00	90.00	179.62	12525.00	4929.92	-4928.44	240.02	0.00	483220.22	759438.02	N 32 19 35.29	W 103 37 38.10
	17300.00	90.00	179.62	12525.00	5029.92	-5028.44	240.68	0.00	483120.23	759438.69	N 32 19 34.30	W 103 37 38.10

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 ° ' ")
	17400.00	90.00	179.62	12525.00	5129.92	-5128.44	241.35	0.00	483020.23	759439.35	N 32 19 33.31	W 103 37 38.10
	17500.00	90.00	179.62	12525.00	5229.92	-5228.43	242.01	0.00	482920.24	759440.01	N 32 19 32.32	W 103 37 38.10
	17600.00	90.00	179.62	12525.00	5329.92	-5328.43	242.68	0.00	482820.24	759440.68	N 32 19 31.33	W 103 37 38.10
	17700.00	90.00	179.62	12525.00	5429.92	-5428.43	243.34	0.00	482720.25	759441.34	N 32 19 30.34	W 103 37 38.10
	17800.00	90.00	179.62	12525.00	5529.92	-5528.43	244.01	0.00	482620.26	759442.01	N 32 19 29.35	W 103 37 38.10
	17900.00	90.00	179.62	12525.00	5629.92	-5628.43	244.67	0.00	482520.26	759442.67	N 32 19 28.36	W 103 37 38.10
	18000.00	90.00	179.62	12525.00	5729.92	-5728.42	245.34	0.00	482420.27	759443.34	N 32 19 27.37	W 103 37 38.10
	18100.00	90.00	179.62	12525.00	5829.92	-5828.42	246.00	0.00	482320.27	759444.00	N 32 19 26.38	W 103 37 38.10
	18200.00	90.00	179.62	12525.00	5929.92	-5928.42	246.67	0.00	482220.28	759444.67	N 32 19 25.39	W 103 37 38.10
	18300.00	90.00	179.62	12525.00	6029.92	-6028.42	247.33	0.00	482120.29	759445.33	N 32 19 24.40	W 103 37 38.10
	18400.00	90.00	179.62	12525.00	6129.92	-6128.41	248.00	0.00	482020.29	759446.00	N 32 19 23.41	W 103 37 38.10
	18500.00	90.00	179.62	12525.00	6229.92	-6228.41	248.66	0.00	481920.30	759446.66	N 32 19 22.42	W 103 37 38.10
	18600.00	90.00	179.62	12525.00	6329.92	-6328.41	249.33	0.00	481820.30	759447.33	N 32 19 21.44	W 103 37 38.10
	18700.00	90.00	179.62	12525.00	6429.92	-6428.41	249.99	0.00	481720.31	759447.99	N 32 19 20.45	W 103 37 38.10
	18800.00	90.00	179.62	12525.00	6529.92	-6528.41	250.66	0.00	481620.32	759448.66	N 32 19 19.46	W 103 37 38.10
	18900.00	90.00	179.62	12525.00	6629.92	-6628.40	251.32	0.00	481520.32	759449.32	N 32 19 18.47	W 103 37 38.10
	19000.00	90.00	179.62	12525.00	6729.92	-6728.40	251.99	0.00	481420.33	759449.99	N 32 19 17.48	W 103 37 38.10
	19100.00	90.00	179.62	12525.00	6829.92	-6828.40	252.65	0.00	481320.33	759450.65	N 32 19 16.49	W 103 37 38.10
	19200.00	90.00	179.62	12525.00	6929.92	-6928.40	253.32	0.00	481220.34	759451.32	N 32 19 15.50	W 103 37 38.10
	19300.00	90.00	179.62	12525.00	7029.92	-7028.39	253.98	0.00	481120.35	759451.98	N 32 19 14.51	W 103 37 38.10
	19400.00	90.00	179.62	12525.00	7129.92	-7128.39	254.65	0.00	481020.35	759452.65	N 32 19 13.52	W 103 37 38.10
	19500.00	90.00	179.62	12525.00	7229.92	-7228.39	255.31	0.00	480920.36	759453.31	N 32 19 12.53	W 103 37 38.10
	19600.00	90.00	179.62	12525.00	7329.92	-7328.39	255.97	0.00	480820.36	759453.98	N 32 19 11.54	W 103 37 38.10
	19700.00	90.00	179.62	12525.00	7429.92	-7428.39	256.64	0.00	480720.37	759454.64	N 32 19 10.55	W 103 37 38.10
	19800.00	90.00	179.62	12525.00	7529.92	-7528.38	257.30	0.00	480620.38	759455.30	N 32 19 9.56	W 103 37 38.10
	19900.00	90.00	179.62	12525.00	7629.92	-7628.38	257.97	0.00	480520.38	759455.97	N 32 19 8.57	W 103 37 38.10
	20000.00	90.00	179.62	12525.00	7729.92	-7728.38	258.63	0.00	480420.39	759456.63	N 32 19 7.58	W 103 37 38.10
	20100.00	90.00	179.62	12525.00	7829.92	-7828.38	259.30	0.00	480320.39	759457.30	N 32 19 6.59	W 103 37 38.10
	20200.00	90.00	179.62	12525.00	7929.92	-7928.37	259.96	0.00	480220.40	759457.96	N 32 19 5.60	W 103 37 38.10
	20300.00	90.00	179.62	12525.00	8029.92	-8028.37	260.63	0.00	480120.41	759458.63	N 32 19 4.61	W 103 37 38.10
	20400.00	90.00	179.62	12525.00	8129.92	-8128.37	261.29	0.00	480020.41	759459.29	N 32 19 3.62	W 103 37 38.10
	20500.00	90.00	179.62	12525.00	8229.92	-8228.37	261.96	0.00	479920.42	759459.96	N 32 19 2.63	W 103 37 38.10
	20600.00	90.00	179.62	12525.00	8329.92	-8328.37	262.62	0.00	479820.43	759460.62	N 32 19 1.65	W 103 37 38.10
	20700.00	90.00	179.62	12525.00	8429.92	-8428.36	263.29	0.00	479720.43	759461.29	N 32 19 0.66	W 103 37 38.10
	20800.00	90.00	179.62	12525.00	8529.92	-8528.36	263.95	0.00	479620.44	759461.95	N 32 18 59.67	W 103 37 38.10
	20900.00	90.00	179.62	12525.00	8629.92	-8628.36	264.62	0.00	479520.44	759462.62	N 32 18 58.68	W 103 37 38.10
	21000.00	90.00	179.62	12525.00	8729.92	-8728.36	265.28	0.00	479420.45	759463.28	N 32 18 57.69	W 103 37 38.10
	21100.00	90.00	179.62	12525.00	8829.92	-8828.35	265.95	0.00	479320.46	759463.95	N 32 18 56.70	W 103 37 38.10
	21200.00	90.00	179.62	12525.00	8929.92	-8928.35	266.61	0.00	479220.46	759464.61	N 32 18 55.71	W 103 37 38.10
	21300.00	90.00	179.62	12525.00	9029.92	-9028.35	267.28	0.00	479120.47	759465.28	N 32 18 54.72	W 103 37 38.10
	21400.00	90.00	179.62	12525.00	9129.92	-9128.35	267.94	0.00	479020.47	759465.94	N 32 18 53.73	W 103 37 38.10
	21500.00	90.00	179.62	12525.00	9229.92	-9228.35	268.61	0.00	478920.48	759466.61	N 32 18 52.74	W 103 37 38.10
	21600.00	90.00	179.62	12525.00	9329.92	-9328.34	269.27	0.00	478820.49	759467.27	N 32 18 51.75	W 103 37 38.10
	21700.00	90.00	179.62	12525.00	9429.92	-9428.34	269.94	0.00	478720.49	759467.94	N 32 18 50.76	W 103 37 38.10
	21800.00	90.00	179.62	12525.00	9529.92	-9528.34	270.60	0.00	478620.50	759468.60	N 32 18 49.77	W 103 37 38.10
	21900.00	90.00	179.62	12525.00	9629.92	-9628.34	271.27	0.00	478520.50	759469.26	N 32 18 48.78	W 103 37 38.10
	22000.00	90.00	179.62	12525.00	9729.92	-9728.33	271.93	0.00	478420.51	759469.93	N 32 18 47.79	W 103 37 38.10
	22100.00	90.00	179.62	12525.00	9829.92	-9828.33	272.59	0.00	478320.52	759470.59	N 32 18 46.80	W 103 37 38.10
	22200.00	90.00	179.62	12525.00	9929.92	-9928.33	273.26	0.00	478220.52	759471.26	N 32 18 45.81	W 103 37 38.10
	22300.00	90.00	179.62	12525.00	10029.92	-10028.33	273.92	0.00	478120.53	759471.92	N 32 18 44.82	W 103 37 38.10
Coriander 1-12 Federal Com 11H - PBHL [100' FSL, 2310' FEL]	22355.05	90.00	179.62	12525.00	10084.98	-10083.38	274.29	0.00	478065.48	759472.29	N 32 18 44.28	W 103 37 38.10

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 3 *** 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	23.000	1/100.000	30.000	30.000		A001Mb_MWD-Depth Only	Coriander 1-12 Federal Com 11H / Cimarex Coriander 1-12 Federal
	1	23.000	22355.052	1/100.000	30.000	30.000		A001Mb_MWD	Coriander 1-12 Federal Com 11H / Cimarex Coriander 1-12 Federal

Schlumberger

Cimarex

Rev 0

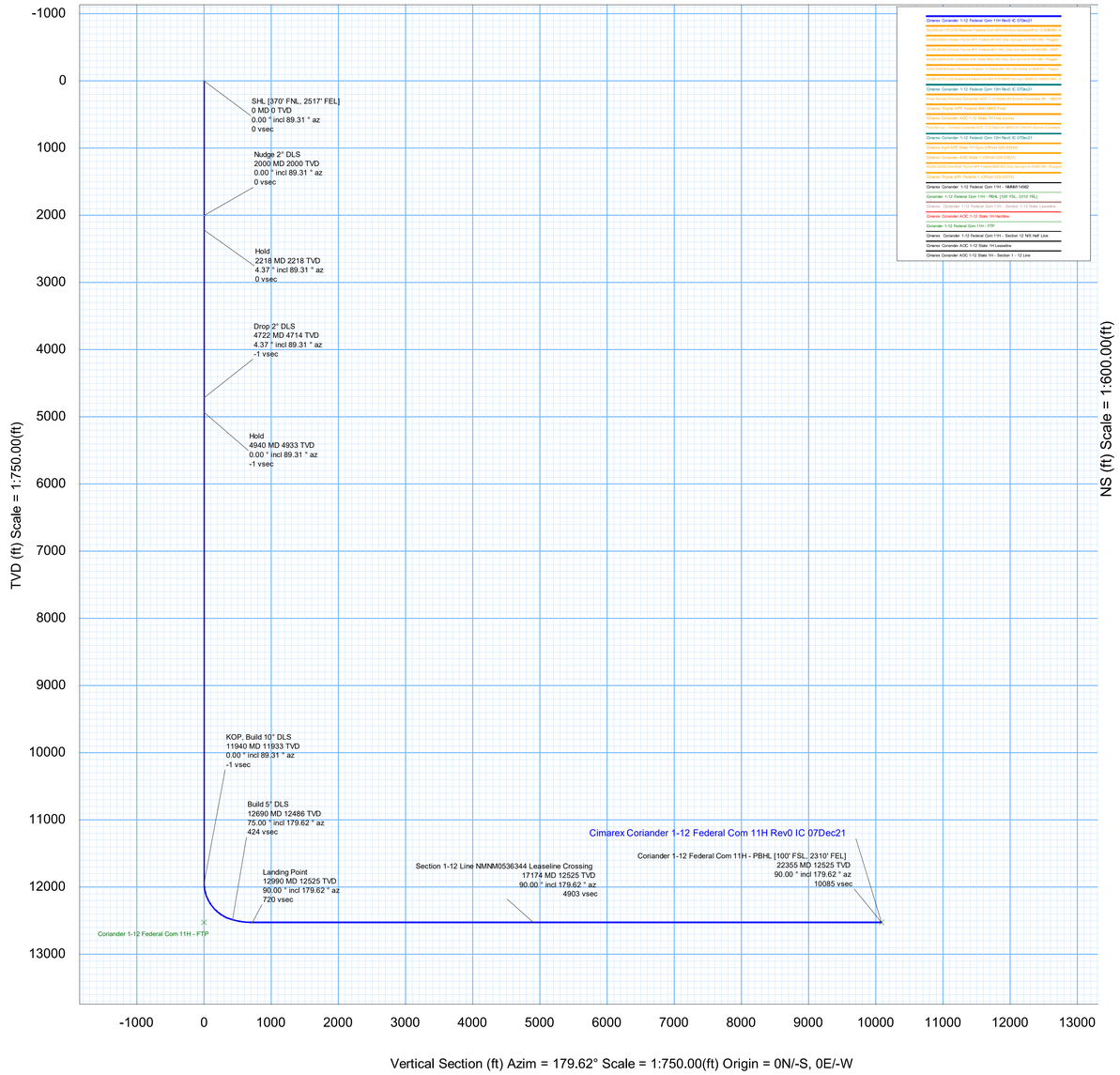
CIMAREX

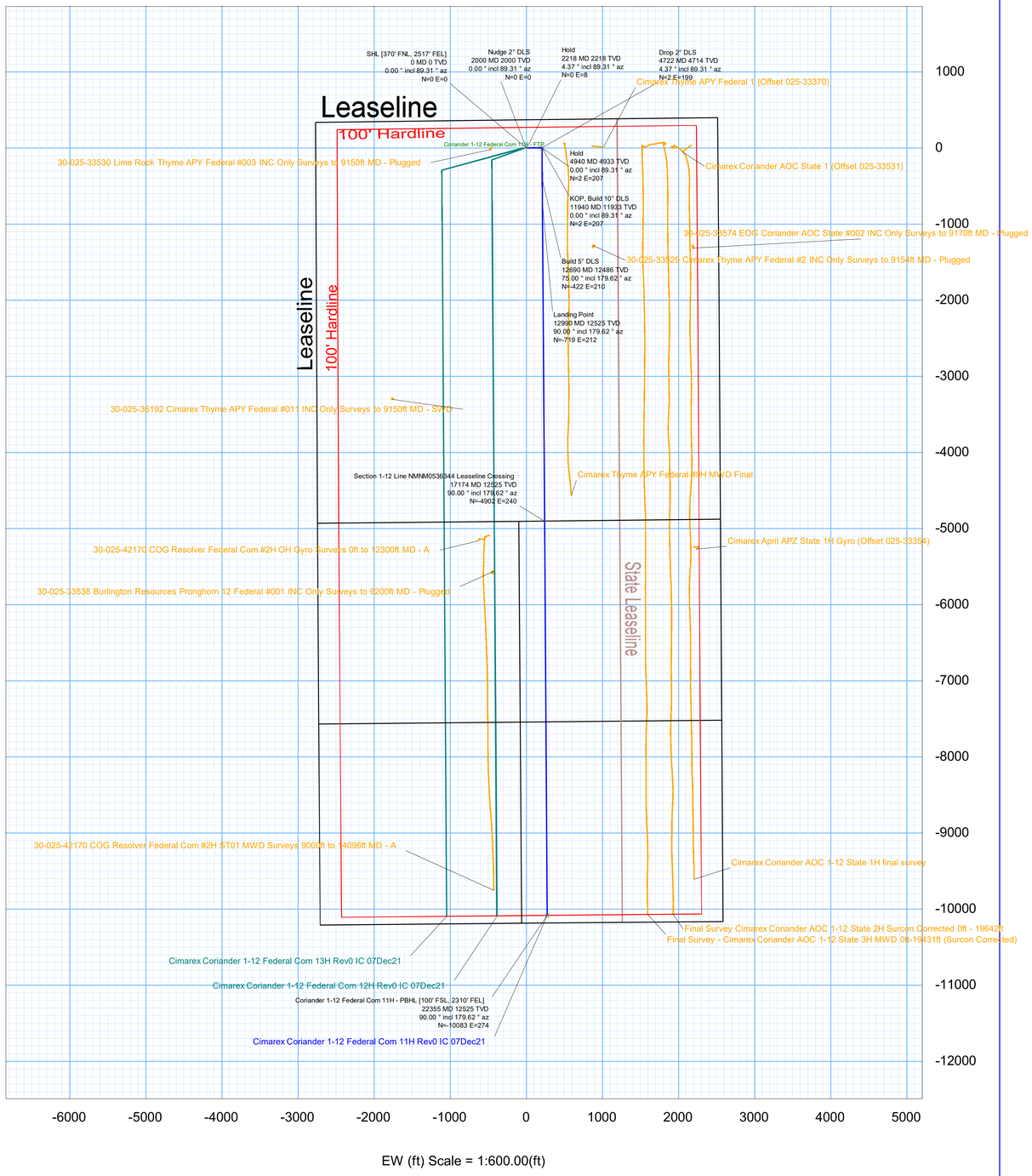
Borehole:	Well:	Field:	Structure:
Coriander 1-12 Federal Com 11H	Coriander 1-12 Federal Com 11H	NM Lea County (NAD 83)	Cimarex Coriander 1-12 Federal Com Pad

Gravity & Magnetic Parameters						Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet				Miscellaneous			
Model:	HDGM 2021	Dip:	59.986°	Date:	07-Dec-2021	Lat:	N 32 20 24.07	Northing:	488148.47ftUS	Grid Conv:	0.3774°	Slot:	New Slot	TVD Ref:	RKB(3773.7ft above MSL)
MagDec:	6.412°	FS:	47731.031nT	Gravity FS:	998.44mgn (9.80665 Based)	Lon:	W 103 37 40.52	Easting:	759198.01ftUS	Scale Fact:	0.99996345	Plan:	Cimarex Coriander 1-12 Federal Com 11H Rev0 IC 07Dec21		

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [370' FNL, 2517' FEL]	0.00	0.00	89.31	0.00	0.00	0.00	0.00	
Nudge 2° DLS	2000.00	0.00	89.31	2000.00	0.00	0.00	0.00	0.00
Hold	2218.34	4.37	89.31	2218.13	-0.04	0.10	8.32	2.00
Drop 2° DLS	4721.87	4.37	89.31	4714.39	-1.07	2.39	198.92	0.00
Hold	4940.21	0.00	89.31	4932.52	-1.12	2.49	207.24	2.00
KOP, Build 10° DLS	11940.21	0.00	89.31	11932.52	-1.12	2.49	207.24	0.00
Build 5° DLS	12690.21	75.00	179.62	12485.95	423.55	-422.17	210.06	10.00
Landing Point	12990.21	90.00	179.62	12525.00	720.13	-718.74	212.03	5.00
Section 1-12 Line NMNM0536344 Leaseline Crossing	17173.56	90.00	179.62	12525.00	4903.48	-4902.00	239.84	0.00
Coriander 1-12 Federal Com 11H - PBHL [100' FSL, 2310' FEL]	22355.05	90.00	179.62	12525.00	10084.98	-10083.38	274.29	0.00





Grid
True
Mag

Grid North
Tot Corr (M->G 6.035°)
Mag Dec (6.412°)
Grid Conv (0.377°)

D	CONTROLLED	
E		
C		
Plan ref	Cimarex Coriander 1-12 Federal Com 11H Rev0 IC 07Dec21	
Drawing ref		
Copy number	of 3	
Date	08-Dec-2021	

1	Client	
2	Client	
3	Office	
4	Office	

Copy number for

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Cimarex Coriander 1-12 Federal Com 11H Rev0 IC 07Dec21 Proposal
Geodetic Report
(Def Plan)

CIMAREX

Report Date:	December 08, 2021 - 08:45 AM	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	Cimarex	**Vertical Section Azimuth:**	179.620 ° (Grid North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Cimarex Coriander 1-12 Federal Com Pad / New Slot	**TVD Reference Datum:**	RKB
Well:	Coriander 1-12 Federal Com 11H	**TVD Reference Elevation:**	3773.700 ft above MSL
Borehole:	Coriander 1-12 Federal Com 11H	**Seabed / Ground Elevation:**	3750.700 ft above MSL
UWI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.412 °
Survey Name:	Cimarex Coriander 1-12 Federal Com 11H Rev0 IC 07Dec21	**Total Gravity Field Strength:**	998.4397mgn (9.80665 Based)
Survey Date:	December 07, 2021	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	98.734 ° / 10293.345 ft / 6.259 / 0.822	**Total Magnetic Field Strength:**	47731.031 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	59.986 °
Location Lat / Long:	N 32° 20' 24.06952", W 103° 37' 40.52081"	**Declination Date:**	December 07, 2021
Location Grid N/E Y/X:	N 488148.470 ftUS, E 759198.010 ftUS	**Magnetic Declination Model:**	HDGM 2021
CRS Grid Convergence Angle:	0.3774 °	**North Reference:**	Grid North
Grid Scale Factor:	0.99996345	**Grid Convergence Used:**	0.3774 °
Version / Patch:	2.10.826.8	**Total Corr Mag North->Grid North:**	6.0350 °
		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 [370' FNL, 2517' FEL]	0.00	0.00	89.31	0.00	0.00	0.00	0.00	N/A	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
Nudge 2° DLS	2000.00	0.00	89.31	2000.00	0.00	0.00	0.00	0.00	488148.47	759198.01	N 32 20 24.07	W 103 37 40.52
Hold	2218.34	4.37	89.31	2218.13	-0.04	0.10	8.32	2.00	488148.57	759206.33	N 32 20 24.07	W 103 37 40.42
Drop 2° DLS	4721.87	4.37	89.31	4714.39	-1.07	2.39	198.92	0.00	488150.86	759396.92	N 32 20 24.08	W 103 37 38.20
Hold	4940.21	0.00	89.31	4932.52	-1.12	2.49	207.24	2.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
KOP, Build 10° DLS	11940.21	0.00	89.31	11932.52	-1.12	2.49	207.24	0.00	488150.96	759405.24	N 32 20 24.08	W 103 37 38.11
Build 5° DLS	12690.21	75.00	179.62	12485.95	423.55	-422.17	210.06	10.00	487726.32	759408.06	N 32 20 19.88	W 103 37 38.10
Landing Point	12990.21	90.00	179.62	12525.00	720.13	-718.74	212.03	5.00	487429.75	759410.03	N 32 20 16.94	W 103 37 38.10
Coriander 1-12 Federal Com 11H - PBHL [100' FSL, 2310' FEL]	22355.05	90.00	179.62	12525.00	10084.98	-10083.38	274.29	0.00	478065.48	759472.29	N 32 18 44.28	W 103 37 38.10

Survey Type: Def Plan

Survey Error Model: ISCWSA Rev 3 *** 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	23.000	1/100.000	30.000	30.000		A001Mb_MWD-Depth Only	Coriander 1-12 Federal Com 11H / Cimarex Coriander 1-12 Federal
	1	23.000	22355.052	1/100.000	30.000	30.000		A001Mb_MWD	Coriander 1-12 Federal Com 11H / Cimarex Coriander 1-12 Federal

Schlumberger CIMAREX

Cimarex Coriander 1-12 Federal Com 11H Rev0 IC 07Dec21 Anti-Collision Summary Report

Analysis Date-24hr Time:	December 08, 2021 - 11:59	**Analysis Method:**	3D Least Distance
Client:	Cimarex	**Reference Trajectory:**	Cimarex Coriander 1-12 Federal Com 11H Rev0 IC 07Dec21 (Def Plan)
Field:	NM Lea County (NAD 83)	**Depth Interval:**	Every 10.00 Measured Depth (ft)
Structure:	Cimarex Coriander 1-12 Federal Com Pad	**Rule Set:**	NAL Procedure: D&M AntiCollision Standard S002
Slot:	New Slot	**Min Pts:**	All local minima indicated.
Well:	Coriander 1-12 Federal Com 11H	**Version / Patch:**	2.10.826.8
Borehole:	Coriander 1-12 Federal Com 11H	**Database \ Project:**	localhost\drilling-project1
Scan MD Range:	0.00ft ~ 22355.05ft		

Trajectory Error Model: ISCWSA0 3-D 95.000% Confidence 2.7955 sigma

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	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
Cimarex Coriander 1-12 Federal Com 12H Rev0 IC 07Dec21 (Def Plan)													Fail Major
	19.99	16.49	17.49	3.50	N/A	MAS = 5.03 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
	19.99	16.49	17.49	3.50	N/A	MAS = 5.03 (m)	23.00	23.00				WRP	
	19.99	20.06	5.78	-0.07	1.49	OSF1.50	1230.00	1230.00		OSF<1.50		Enter Minor	
	19.99	28.78	-0.03	-8.79	1.00	OSF1.50	1810.00	1810.00			OSF<1.00	Enter Major	
	19.99	31.64	-1.93	-11.65	0.90	OSF1.50	2000.00	2000.00				MinPt-CtCt	
	20.03	31.78	-2.00	-11.76	0.90	OSF1.50	2010.00	2010.00				MinPts	
	20.13	31.93	-1.99	-11.80	0.90	OSF1.50	2020.00	2020.00				MinPt-O-ADP	
	22.73	32.94	-0.06	-10.21	1.00	OSF1.50	2090.00	2089.99			OSF>1.00	Exit Major	
	33.56	34.45	9.76	-0.89	1.46	OSF1.50	2200.00	2199.84		OSF>1.50		Exit Minor	
	141.67	44.28	111.32	97.40	5.00	OSF1.50	2890.00	2887.84	OSF>5.00			Exit Alert	
	678.58	174.77	561.23	503.81	5.89	OSF1.50	11670.00	11662.31				MINPT-O-EOU	
	678.80	175.04	561.27	503.76	5.88	OSF1.50	11690.00	11682.31				MinPt-O-ADP	
	681.39	176.15	563.13	505.24	5.86	OSF1.50	11780.00	11772.31				MinPt-O-SF	
	723.55	219.12	576.64	504.43	4.99	OSF1.50	14310.00	12525.00	OSF<5.00			Enter Alert	
	722.77	675.09	271.87	47.68	1.61	OSF1.50	22355.05	12525.00				MinPts	
Cimarex Coriander 1-12 Federal Com 13H Rev0 IC 07Dec21 (Def Plan)													Warning Alert
	40.00	32.50	37.50	7.50	N/A	MAS = 9.90 (m)	0.00	0.00	CtCt<=15m<15.00			Enter Alert	
	39.99	32.50	37.49	7.50	N/A	MAS = 9.90 (m)	23.00	23.00				WRP	
	39.99	32.50	23.08	7.50	2.60	MAS = 9.90 (m)	1500.00	1500.00				MinPts	
	40.14	32.50	22.93	7.64	2.56	MAS = 9.90 (m)	1530.00	1530.00				MINPT-O-EOU	
	40.80	32.50	23.21	8.31	2.54	MAS = 9.90 (m)	1570.00	1570.00				MinPt-O-SF	
	102.93	32.85	80.20	70.08	4.96	OSF1.50	2120.00	2119.96	OSF>5.00			Exit Alert	
	1319.69	199.07	1186.14	1120.61	10.05	OSF1.50	13230.00	12525.00				MinPt-CtCt	
	1319.75	397.84	1053.69	921.91	5.00	OSF1.50	17350.00	12525.00	OSF<5.00			Enter Alert	
	1319.82	722.36	837.41	597.46	2.74	OSF1.50	22355.05	12525.00				MinPts	
Cimarex Thyme APY Federal #9H MWD Final (Def Survey)													Warning Alert
	496.99	32.81	494.49	464.18	N/A	MAS = 10.00 (m)	0.00	0.00				MinPts	
	496.99	32.81	494.47	464.18	19130.54	MAS = 10.00 (m)	23.00	23.00				WRP	
	288.53	88.33	228.81	200.20	5.00	OSF1.50	5900.00	5892.31	OSF<5.00			Enter Alert	
	283.83	93.48	220.68	190.35	4.64	OSF1.50	6250.00	6242.31				MinPt-CtCt	
	284.07	94.21	220.43	189.86	4.61	OSF1.50	6300.00	6292.31				MINPT-O-EOU	
	289.38	100.85	221.31	188.53	4.38	OSF1.50	6750.00	6742.31				MINPT-O-EOU	
	291.96	105.28	220.94	186.68	4.22	OSF1.50	7050.00	7042.31				MINPT-O-EOU	
	296.99	115.63	219.07	181.36	3.90	OSF1.50	7750.00	7742.31				MINPT-O-EOU	
	297.96	136.32	206.25	161.64	3.31	OSF1.50	9150.00	9142.31				MinPt-CtCt	
	298.04	136.61	206.14	161.44	3.31	OSF1.50	9170.00	9162.31				MINPT-O-EOU	
	298.27	136.89	206.18	161.39	3.30	OSF1.50	9190.00	9182.31				MinPt-O-ADP	
	299.25	138.08	206.37	161.17	3.28	OSF1.50	9270.00	9262.31				MINPT-O-EOU	
	299.38	138.22	206.40	161.16	3.28	OSF1.50	9280.00	9272.31				MinPt-O-ADP	
	299.79	138.47	206.64	161.32	3.28	OSF1.50	9300.00	9292.31				MinPt-O-SF	
	414.96	128.43	328.51	286.53	4.91	OSF1.50	9730.00	9722.31	OSF>5.00			Exit Alert	
	2944.47	107.12	2872.23	2837.35	42.18	OSF1.50	13400.00	12525.00				MinPt-CtCt	
	2944.93	109.21	2871.29	2835.72	41.36	OSF1.50	13580.00	12525.00				MINPT-O-EOU	
	2945.32	109.68	2871.36	2835.64	41.18	OSF1.50	13620.00	12525.00				MinPt-O-ADP	
	2956.82	121.54	2874.96	2835.28	37.23	OSF1.50	14340.00	12525.00				MINPT-O-EOU	
	2957.34	122.18	2875.05	2835.15	37.03	OSF1.50	14380.00	12525.00				MinPt-O-ADP	
	2960.74	159.44	2853.62	2801.31	28.27	OSF1.50	15990.00	12525.00				MinPt-CtCt	
	2961.42	161.59	2852.86	2799.82	27.90	OSF1.50	16090.00	12525.00				MINPT-O-EOU	
	2959.57	183.22	2836.59	2776.35	24.54	OSF1.50	16840.00	12525.00				MinPt-CtCt	
	2959.82	183.95	2836.35	2775.87	24.45	OSF1.50	16880.00	12525.00				MINPT-O-EOU	
	2960.15	184.32	2836.44	2775.83	24.40	OSF1.50	16900.00	12525.00				MinPt-O-ADP	
	3052.74	196.18	2921.11	2856.55	23.62	OSF1.50	17590.00	12525.00				MinPt-O-SF	
	6257.58	216.84	6112.19	6040.74	43.77	OSF1.50	22355.05	12525.00				TD	
30-025-33530 Lime Rock Thyme APY Federal #003 INC Only Surveys to 9150ft MD - Plugged (Def Survey)													Warning Alert
	466.42	32.81	463.92	433.61	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	466.00	32.81	463.44	433.19	7443.76	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	465.79	32.81	463.25	432.98	11630.35	MAS = 10.00 (m)	20.00	20.00				MINPT-O-EOU	
	465.77	32.81	463.25	432.96	27957.95	MAS = 10.00 (m)	23.00	23.00				WRP	
	453.31	94.37	389.57	358.94	7.36	OSF1.50	1670.00	1670.00				MinPt-CtCt	
	458.44	111.69	383.15	346.75	6.26	OSF1.50	2030.00	2030.00				MINPT-O-EOU	
	459.84	113.36	383.44	346.48	6.19	OSF1.50	2070.00	2069.99				MinPt-O-ADP	
	537.81	163.20	428.18	374.61	5.00	OSF1.50	3100.00	3097.23	OSF<5.00			Enter Alert	
	640.38	234.95	482.92	405.43	4.12	OSF1.50	4380.00	4373.51				MinPts	
	650.97	244.12	487.39	406.85	4.03	OSF1.50	4580.00	4572.93				MINPT-O-EOU	
	651.75	245.03	487.56	406.72	4.02	OSF1.50	4600.00	4592.87				MinPt-O-ADP	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	660.52	250.07	492.98	410.45	3.99	OSF1.50	4721.87	4714.39				MinPt-O-SF	
	681.53	357.68	442.25	323.85	2.87	OSF1.50	6750.00	6742.31				MinPt-CtCt	
	674.45	486.25	349.45	188.20	2.08	OSF1.50	9180.00	9172.31				MinPts	
	674.51	486.29	349.48	188.22	2.08	OSF1.50	9190.00	9182.31				MinPt-O-SF	
	1060.96	321.81	845.59	739.15	4.97	OSF1.50	10000.00	9992.31	OSF>5.00			Exit Alert	
	4617.56	356.16	4379.29	4261.40	19.57	OSF1.50	15390.00	12525.00				MinPt-O-SF	
	10633.44	482.78	10310.75	10150.65	33.20	OSF1.50	22355.05	12525.00				TD	
Cimarex Thyme APY Federal 1 (Offset 025-33370) (Def Survey)													Warning Alert
	856.01	32.81	853.51	823.20	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	855.81	32.81	853.29	823.01	31621.24	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	855.74	32.81	853.21	822.93	37057.22	MAS = 10.00 (m)	23.00	23.00				MinPts	
	759.44	229.94	605.31	529.50	4.99	OSF1.50	4010.00	4004.59	OSF<5.00			Enter Alert	
	719.12	284.76	528.44	434.35	3.81	OSF1.50	4820.00	4812.35				MinPt-CtCt	
	807.79	631.34	386.06	176.45	1.92	OSF1.50	10300.00	10292.31				MinPts	
	808.15	631.68	386.19	176.47	1.92	OSF1.50	10310.00	10302.31				MinPt-O-SF	
	1334.22	404.98	1063.40	929.24	4.96	OSF1.50	11340.00	11332.31	OSF>5.00			Exit Alert	
	3110.23	454.16	2806.62	2656.07	10.32	OSF1.50	14250.00	12525.00				MinPt-O-SF	
	10369.70	630.03	9948.85	9739.67	24.78	OSF1.50	22355.05	12525.00				TD	
30-025-42170 COG Resolver Federal Com #2H OH Gyro Surveys 0ft to 12300ft MD - A (Def Survey)													Warning Alert
	5121.83	32.81	5119.31	5089.03	229547.15	MAS = 10.00 (m)	0.00	0.00				Surface	
	5121.78	32.81	5119.15	5088.97	38604.24	MAS = 10.00 (m)	23.00	23.00				WRP	
	5118.34	32.81	5107.94	5085.54	647.56	MAS = 10.00 (m)	850.00	850.00				MinPts	
	5113.34	32.81	5093.61	5080.53	296.72	MAS = 10.00 (m)	1790.00	1790.00				MinPts	
	5113.57	32.81	5093.33	5080.76	288.14	MAS = 10.00 (m)	1860.00	1860.00				MINPT-O-EOU	
	5119.97	34.35	5096.24	5085.62	241.01	OSF1.50	2218.34	2218.13				MinPts	
	5123.23	37.64	5097.31	5085.59	218.58	OSF1.50	2440.00	2439.15				MinPt-O-ADP	
	5127.07	41.64	5098.48	5085.43	196.41	OSF1.50	2710.00	2708.36				MinPt-O-ADP	
	5157.79	102.31	5088.75	5055.48	77.47	OSF1.50	6790.00	6782.31				MinPt-CtCt	
	5160.19	109.04	5086.66	5051.14	72.61	OSF1.50	7270.00	7262.31				MINPT-O-EOU	
	5161.50	110.64	5086.90	5050.85	71.56	OSF1.50	7390.00	7382.31				MinPt-O-ADP	
	5173.24	120.54	5092.05	5052.70	65.71	OSF1.50	8070.00	8062.31				MinPt-O-ADP	
	5176.35	123.54	5093.16	5052.81	64.12	OSF1.50	8270.00	8262.31				MinPt-O-ADP	
	5179.17	126.35	5094.10	5052.82	62.70	OSF1.50	8460.00	8452.31				MinPt-O-ADP	
	5201.17	147.61	5101.92	5053.55	53.74	OSF1.50	9860.00	9852.31				MinPt-CtCt	
	5201.86	156.95	5096.40	5044.92	50.50	OSF1.50	10490.00	10482.31				MinPt-CtCt	
	5203.23	160.62	5095.32	5042.61	49.34	OSF1.50	10760.00	10752.31				MINPT-O-EOU	
	5204.08	161.63	5095.50	5042.45	49.03	OSF1.50	10840.00	10832.31				MinPt-O-ADP	
	5219.03	172.33	5103.31	5046.71	46.08	OSF1.50	11550.00	11542.31				MINPT-O-EOU	
	5219.41	172.79	5103.38	5046.62	45.95	OSF1.50	11590.00	11582.31				MinPt-O-ADP	
	945.72	286.92	753.61	658.80	4.97	OSF1.50	17150.00	12525.00	OSF<5.00			Enter Alert	
	903.77	303.60	700.54	600.18	4.49	OSF1.50	17430.00	12525.00				MinPt-CtCt	
	904.03	304.19	700.40	599.83	4.48	OSF1.50	17450.00	12525.00				MinPts	
	905.24	304.91	701.13	600.33	4.48	OSF1.50	17480.00	12525.00				MinPt-O-SF	
	988.93	299.36	788.52	689.57	4.98	OSF1.50	17830.00	12525.00	OSF>5.00			Exit Alert	
	5008.72	211.64	4866.80	4797.08	35.91	OSF1.50	22355.05	12525.00				TD	
30-025-33529 Cimarex Thyme APY Federal #2 INC Only Surveys to 9154ft MD - Plugged (Def Survey)													Warning Alert
	1558.90	32.81	1556.40	1526.10	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1558.61	32.81	1556.08	1525.81	48375.06	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	1558.59	32.81	1556.06	1525.78	55073.62	MAS = 10.00 (m)	23.00	23.00				WRP	
	1557.88	32.81	1537.21	1525.07	85.61	MAS = 10.00 (m)	570.00	570.00				MinPts	
	1468.53	242.74	1305.87	1225.79	9.15	OSF1.50	4620.00	4612.82				MinPt-CtCt	
	1444.23	321.84	1228.83	1122.39	6.77	OSF1.50	6040.00	6032.31				MinPt-CtCt	
	1461.01	404.87	1190.27	1056.14	5.44	OSF1.50	7620.00	7612.31				MinPt-CtCt	
	1459.29	439.78	1165.27	1019.51	5.00	OSF1.50	8320.00	8312.31	OSF<5.00			Enter Alert	
	1449.20	485.08	1124.98	964.12	4.50	OSF1.50	9190.00	9182.31				MinPts	
	1530.21	461.65	1221.61	1068.56	4.99	OSF1.50	9680.00	9672.31	OSF>5.00			Exit Alert	
	3409.22	159.37	3302.14	3249.86	32.58	OSF1.50	13560.00	12525.00				MinPt-CtCt	
	3409.30	159.53	3302.11	3249.77	32.54	OSF1.50	13580.00	12525.00				MINPT-O-EOU	
	3409.38	159.62	3302.13	3249.75	32.52	OSF1.50	13590.00	12525.00				MinPt-O-ADP	
	4556.33	360.22	4315.35	4196.11	19.10	OSF1.50	16580.00	12525.00				MinPt-O-SF	
	9435.31	479.51	9114.81	8955.80	29.66	OSF1.50	22355.05	12525.00				TD	
Cimarex Coriander AOC State 1 (Offset 025-33531) (Def Survey)													Warning Alert
	2175.50	32.81	2173.00	2142.69	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2175.38	32.81	2172.87	2142.58	121557.47	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	2175.30	32.81	2172.79	2142.50	155386.66	MAS = 10.00 (m)	23.00	23.00				WRP	
	1847.94	556.45	1476.13	1291.48	5.00	OSF1.50	8830.00	8822.31	OSF<5.00			Enter Alert	
	1843.52	576.07	1458.64	1267.45	4.81	OSF1.50	9150.00	9142.31				MinPts	
	1843.51	576.04	1458.65	1267.46	4.81	OSF1.50	9160.00	9152.31				MinPt-CtCt	
	1877.05	565.32	1499.33	1311.73	5.00	OSF1.50	9510.00	9502.31	OSF>5.00			Exit Alert	
	4756.20	421.89	4474.11	4334.31	17.00	OSF1.50	15130.00	12525.00				MinPt-O-SF	
	10735.79	570.48	10354.63	10165.30	28.35	OSF1.50	22355.05	12525.00				TD	
Final Survey - Cimarex Coriander AOC 1-12 State 3H MWD 0ft-19431ft (Surcon Corrected) (Def Survey)													Pass
	1787.20	32.81	1784.70	1754.39	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1787.18	32.81	1784.67	1754.37	117300.07	MAS = 10.00 (m)	23.00	23.00				WRP	
	1316.23	88.92	1256.12	1227.31	22.80	OSF1.50	5870.00	5862.31				MinPt-CtCt	
	1316.60	89.99	1255.77	1226.61	22.53	OSF1.50	5950.00	5942.31				MINPT-O-EOU	
	1317.03	90.52	1255.86	1226.52	22.40	OSF1.50	5990.00	5982.31				MinPt-O-ADP	
	1332.84	104.87	1262.10	1227.98	19.49	OSF1.50	6990.00	6982.31				MINPT-O-EOU	
	1311.97	136.20	1220.33	1175.77	14.69	OSF1.50	9100.00	9092.31				MinPt-CtCt	
	1312.05	136.41	1220.27	1175.64	14.67	OSF1.50	9120.00	9112.31				MINPT-O-EOU	
	1312.15	136.52	1220.31	1175.63	14.66	OSF1.50	9130.00	9122.31				MinPt-O-ADP	
	1315.86	138.40	1222.76	1177.46	14.50	OSF1.50	9260.00	9252.31				MinPts	
	1321.48	140.21	1227.17	1181.27	14.37	OSF1.50	9430.00	9422.31				MinPt-O-SF	
	3264.34	116.12	3186.09	3148.21	43.06	OSF1.50	13050.00	12525.00				MINPT-O-EOU	
	3264.54	116.36	3186.13	3148.17	42.97	OSF1.50	13080.00	12525.00				MinPt-O-ADP	
	3207.53	167.16	3095.26	3040.37	29.20	OSF1.50	15590.00	12525.00				MinPt-CtCt	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	3218.00	192.26	3089.00	3025.75	25.42	OSF1.50	16490.00	12525.00				MINPT-O-EOU	
	3223.17	199.92	3089.06	3023.25	24.47	OSF1.50	16740.00	12525.00				MINPT-O-EOU	
	3225.81	203.05	3089.61	3022.76	24.11	OSF1.50	16850.00	12525.00				MinPt-O-ADP	
	3226.41	203.64	3089.82	3022.77	24.04	OSF1.50	16870.00	12525.00				MinPt-O-ADP	
	3247.82	243.63	3084.56	3004.19	20.19	OSF1.50	18110.00	12525.00				MINPT-O-EOU	
	3258.72	260.00	3084.55	2998.72	18.97	OSF1.50	18610.00	12525.00				MINPT-O-EOU	
	3256.38	315.93	3044.93	2940.45	15.57	OSF1.50	20230.00	12525.00				MinPt-CtCt	
	3238.17	350.38	3003.76	2887.80	13.95	OSF1.50	21190.00	12525.00				MinPt-CtCt	
	3238.33	360.41	2997.22	2877.92	13.56	OSF1.50	21460.00	12525.00				MinPt-CtCt	
	3232.63	382.17	2977.02	2850.46	12.76	OSF1.50	22080.00	12525.00				MinPt-CtCt	
	3232.62	385.81	2974.58	2846.81	12.64	OSF1.50	22180.00	12525.00				MinPt-CtCt	
	3232.55	391.95	2970.41	2840.60	12.44	OSF1.50	22350.00	12525.00				MinPt-CtCt	
	3232.55	392.08	2970.33	2840.47	12.44	OSF1.50	22355.05	12525.00				MinPts	
Final Survey Cimarex Coriander AOC 1-12 State 2H Surcon Corrected 0ft - 19642ft (Def Survey)													Pass
	1807.20	32.81	1804.70	1774.39	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1807.18	32.81	1804.66	1774.37	112423.41	MAS = 10.00 (m)	23.00	23.00				WRP	
	1804.51	32.81	1799.45	1771.71	702.13	MAS = 10.00 (m)	350.00	350.00				MinPts	
	1633.47	73.04	1583.94	1560.42	34.68	OSF1.50	4880.00	4872.31				MinPt-CtCt	
	1633.58	73.50	1583.75	1560.08	34.46	OSF1.50	4910.00	4902.31				MINPT-O-EOU	
	1633.82	73.80	1583.79	1560.02	34.32	OSF1.50	4930.00	4922.31				MinPt-O-ADP	
	1592.94	137.06	1500.73	1455.88	17.73	OSF1.50	9220.00	9212.31				MinPt-CtCt	
	1593.04	137.41	1500.60	1455.63	17.68	OSF1.50	9250.00	9242.31				MINPT-O-EOU	
	1593.13	137.52	1500.62	1455.61	17.67	OSF1.50	9260.00	9252.31				MinPt-O-ADP	
	1608.33	140.71	1513.69	1467.62	17.43	OSF1.50	9560.00	9552.31				MinPt-O-SF	
	3219.98	145.32	3122.27	3074.66	33.79	OSF1.50	14240.00	12525.00				MinPt-CtCt	
	3220.74	147.74	3121.42	3073.00	33.24	OSF1.50	14360.00	12525.00				MINPT-O-EOU	
	3221.60	148.74	3121.60	3072.85	33.02	OSF1.50	14410.00	12525.00				MinPt-O-ADP	
	3217.71	155.36	3113.30	3062.34	31.55	OSF1.50	14670.00	12525.00				MinPt-CtCt	
	3197.08	176.55	3078.54	3020.53	27.53	OSF1.50	15460.00	12525.00				MinPt-CtCt	
	3198.03	179.36	3077.62	3018.67	27.10	OSF1.50	15570.00	12525.00				MINPT-O-EOU	
	3199.61	181.20	3077.98	3018.41	26.84	OSF1.50	15640.00	12525.00				MinPt-O-ADP	
	3180.56	212.86	3037.82	2967.70	22.66	OSF1.50	16620.00	12525.00				MinPt-CtCt	
	3183.37	220.93	3035.25	2962.44	21.84	OSF1.50	16880.00	12525.00				MINPT-O-EOU	
	3182.44	227.44	3029.98	2955.00	21.20	OSF1.50	17070.00	12525.00				MinPt-CtCt	
	3184.14	232.16	3028.53	2951.97	20.78	OSF1.50	17230.00	12525.00				MINPT-O-EOU	
	3186.14	234.56	3028.94	2951.58	20.58	OSF1.50	17310.00	12525.00				MinPt-O-ADP	
	3189.92	242.62	3027.34	2947.30	19.91	OSF1.50	17540.00	12525.00				MINPT-O-EOU	
	3193.98	250.27	3026.30	2943.71	19.32	OSF1.50	17760.00	12525.00				MINPT-O-EOU	
	3196.06	252.77	3026.71	2943.29	19.14	OSF1.50	17840.00	12525.00				MinPt-O-ADP	
	3200.65	258.76	3027.31	2941.89	18.72	OSF1.50	18000.00	12525.00				MINPT-O-EOU	
	3193.10	282.93	3003.64	2910.17	17.07	OSF1.50	18650.00	12525.00				MinPt-CtCt	
	3191.43	305.02	2987.25	2886.41	15.81	OSF1.50	19270.00	12525.00				MinPt-CtCt	
	3191.62	318.70	2978.31	2872.91	15.13	OSF1.50	19650.00	12525.00				MinPt-CtCt	
	3189.94	327.37	2970.86	2862.57	14.72	OSF1.50	19900.00	12525.00				MinPt-CtCt	
	3193.57	335.89	2968.81	2857.68	14.36	OSF1.50	20150.00	12525.00				MINPT-O-EOU	
	3196.36	339.25	2969.36	2857.11	14.23	OSF1.50	20250.00	12525.00				MinPt-O-ADP	
	3198.85	342.49	2969.68	2856.35	14.10	OSF1.50	20330.00	12525.00				MINPT-O-EOU	
	3200.32	344.17	2970.05	2856.18	14.04	OSF1.50	20380.00	12525.00				MinPt-O-ADP	
	3220.32	372.93	2970.87	2847.39	13.03	OSF1.50	21140.00	12525.00				MinPt-CtCt	
	3225.45	389.01	2965.28	2836.45	12.51	OSF1.50	21600.00	12525.00				MINPT-O-EOU	
	3236.75	417.36	2957.68	2819.39	11.69	OSF1.50	22320.00	12525.00				MinPt-CtCt	
	3236.77	418.61	2956.86	2818.16	11.66	OSF1.50	22355.05	12525.00				MinPts	
Cimarex Coriander AOC 1-12 State 1H final survey (Def Survey)													Pass
	1926.57	32.81	1924.07	1893.76	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	1926.55	32.81	1924.04	1893.74	183529.81	MAS = 10.00 (m)	23.00	23.00				WRP	
	1721.41	73.40	1671.64	1648.00	36.36	OSF1.50	4900.00	4892.31				MinPt-CtCt	
	1721.53	73.84	1671.47	1647.69	36.15	OSF1.50	4930.00	4922.31				MINPT-O-EOU	
	1721.93	74.27	1671.58	1647.66	35.94	OSF1.50	4960.00	4952.31				MinPt-O-ADP	
	1726.65	81.65	1671.38	1645.00	32.67	OSF1.50	5460.00	5452.31				MINPT-O-EOU	
	1729.04	85.02	1671.52	1644.02	31.38	OSF1.50	5690.00	5682.31				MINPT-O-EOU	
	1725.33	133.21	1635.69	1592.12	19.77	OSF1.50	8940.00	8932.31				MinPt-CtCt	
	1725.45	133.57	1635.57	1591.88	19.72	OSF1.50	8970.00	8962.31				MINPT-O-EOU	
	1725.65	133.81	1635.61	1591.84	19.68	OSF1.50	8990.00	8982.31				MinPt-O-ADP	
	1732.55	135.12	1641.64	1597.43	19.57	OSF1.50	9150.00	9142.31				MinPt-O-SF	
	2172.03	136.96	2079.89	2035.07	24.20	OSF1.50	10470.00	10462.31				MinPt-O-SF	
	3516.74	159.99	3409.24	3356.75	33.47	OSF1.50	14470.00	12525.00				MinPt-CtCt	
	3518.99	168.64	3405.73	3350.35	31.75	OSF1.50	14790.00	12525.00				MINPT-O-EOU	
	3521.91	172.92	3405.80	3348.99	30.98	OSF1.50	14930.00	12525.00				MINPT-O-EOU	
	3525.75	201.96	3390.28	3323.80	26.50	OSF1.50	15760.00	12525.00				MinPt-CtCt	
	3527.90	208.08	3388.35	3319.82	25.72	OSF1.50	15960.00	12525.00				MINPT-O-EOU	
	3530.23	210.87	3388.81	3319.36	25.39	OSF1.50	16050.00	12525.00				MinPt-O-ADP	
	3516.99	245.55	3352.39	3271.38	21.69	OSF1.50	16950.00	12525.00				MinPt-CtCt	
	3518.23	249.48	3351.08	3268.75	21.35	OSF1.50	17080.00	12525.00				MINPT-O-EOU	
	3527.35	271.72	3345.37	3255.63	19.64	OSF1.50	17640.00	12525.00				MINPT-O-EOU	
	3519.15	297.74	3319.82	3221.41	17.87	OSF1.50	18280.00	12525.00				MinPt-CtCt	
	3518.64	314.72	3307.99	3203.92	16.89	OSF1.50	18680.00	12525.00				MinPt-CtCt	
	3521.11	328.25	3301.44	3192.85	16.20	OSF1.50	19010.00	12525.00				MinPt-CtCt	
	3521.22	341.00	3293.05	3180.22	15.59	OSF1.50	19320.00	12525.00				MinPt-CtCt	
	3520.22	364.88	3276.13	3155.34	14.56	OSF1.50	19870.00	12525.00				MinPt-CtCt	
	3533.19	409.44	3259.40	3123.75	13.01	OSF1.50	20910.00	12525.00				MinPt-CtCt	
	3537.53	440.51	3243.02	3097.02	12.11	OSF1.50	21650.00	12525.00				MINPT-O-EOU	
	3539.46	442.87	3243.38	3096.58	12.05	OSF1.50	21720.00	12525.00				MinPt-O-ADP	
	3540.52	452.21	3238.22	3088.31	11.80	OSF1.50	21890.00	12525.00				MinPt-CtCt	
	3540.99	453.86	3237.58	3087.13	11.76	OSF1.50	21950.00	12525.00				MINPT-O-EOU	
	3541.61	454.65	3237.68	3086.96	11.74	OSF1.50	21980.00	12525.00				MinPt-O-ADP	
	3566.27	461.72	3257.63	3104.56	11.64	OSF1.50	22320.00	12525.00				MinPt-O-SF	
	3570.65	462.25	3261.65	3108.40	11.64	OSF1.50	22355.05	12525.00				TD	
30-025-33574 EOG Coriander AOC State #002 INC Only Surveys to 9170ft MD - Plugged (Def Survey)													Pass
	2534.52	32.81	2532.02	2501.71	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	2534.26	32.81	2531.73	2501.45	71596.79	MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
	2534.24	32.81	2531.70	2501.43	71737.58	MAS = 10.00 (m)	23.00	23.00				WRP	
	2534.16	32.81	2531.50	2501.35	16129.53	MAS = 10.00 (m)	50.00	50.00				MinPts	
	2370.97	250.27	2203.28	2120.69	14.34	OSF1.50	4840.00	4832.33				MinPt-CtCt	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
	2373.44	399.79	2106.08	1973.65	8.95	OSF1.50	7540.00	7532.31				MinPt-CtCt	
	2379.66	489.65	2052.39	1890.01	7.32	OSF1.50	9220.00	9212.31				MinPts	
	2379.75	489.69	2052.45	1890.06	7.32	OSF1.50	9240.00	9232.31				MinPt-O-SF	
	3855.92	280.16	3668.32	3575.77	20.82	OSF1.50	13600.00	12525.00				MinPt-CtCt	
	3855.94	280.21	3668.30	3575.73	20.81	OSF1.50	13610.00	12525.00				MINPT-O-EOU	
	3855.98	280.26	3668.30	3575.72	20.81	OSF1.50	13620.00	12525.00				MinPt-O-ADP	
	4584.44	371.85	4335.71	4212.59	18.61	OSF1.50	16080.00	12525.00				MinPt-O-SF	
	9566.30	493.74	9236.30	9072.56	29.20	OSF1.50	22355.05	12525.00				TD	
Cimarex April APZ State 1H Gyro (Offset 025-33354) (Def Survey)													Pass
	5682.53	32.81	5680.03	5649.73	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	5682.40	32.81	5679.88	5649.59	327612.50	MAS = 10.00 (m)	23.00	23.00				WRP	
	5682.36	32.81	5679.76	5649.55	58603.30	MAS = 10.00 (m)	50.00	50.00				MinPts	
	5683.17	32.81	5674.01	5650.36	853.80	MAS = 10.00 (m)	750.00	750.00				MinPts	
	5683.16	32.81	5672.82	5650.35	724.70	MAS = 10.00 (m)	870.00	870.00				MinPts	
	5681.92	32.81	5665.74	5649.11	415.20	MAS = 10.00 (m)	1460.00	1460.00				MinPts	
	5625.98	66.91	5580.54	5559.07	130.96	OSF1.50	4490.00	4483.19				MinPt-CtCt	
	5624.83	70.78	5576.81	5554.05	123.51	OSF1.50	4740.00	4732.47				MinPt-CtCt	
	5625.18	71.98	5576.37	5553.21	121.39	OSF1.50	4820.00	4812.35				MINPT-O-EOU	
	5625.66	72.55	5576.46	5553.11	120.40	OSF1.50	4860.00	4852.32				MinPt-O-ADP	
	5627.12	73.93	5576.99	5553.18	118.11	OSF1.50	4940.00	4932.31				MinPt-O-ADP	
	5628.61	75.22	5577.63	5553.39	116.05	OSF1.50	5020.00	5012.31				MinPt-O-ADP	
	5629.68	76.42	5577.90	5553.26	114.19	OSF1.50	5090.00	5082.31				MINPT-O-EOU	
	5624.94	102.41	5555.84	5522.53	84.41	OSF1.50	6830.00	6822.31				MinPt-CtCt	
	5625.00	103.89	5554.91	5521.11	83.18	OSF1.50	6930.00	6922.31				MinPt-CtCt	
	5624.97	120.98	5543.49	5503.99	71.18	OSF1.50	8090.00	8082.31				MinPt-CtCt	
	5624.95	122.45	5542.49	5502.50	70.31	OSF1.50	8190.00	8182.31				MinPt-CtCt	
	5623.99	131.75	5535.32	5492.24	65.24	OSF1.50	8820.00	8812.31				MinPt-CtCt	
	5624.36	133.83	5534.31	5490.53	64.21	OSF1.50	8980.00	8972.31				MINPT-O-EOU	
	5625.64	135.36	5534.56	5490.27	63.48	OSF1.50	9100.00	9092.31				MinPt-O-ADP	
	5640.82	145.08	5543.26	5495.73	59.32	OSF1.50	9770.00	9762.31				MinPt-O-ADP	
	5642.10	146.45	5543.64	5495.65	58.77	OSF1.50	9850.00	9842.31				MINPT-O-EOU	
	5642.79	147.45	5543.66	5495.34	58.37	OSF1.50	9910.00	9902.31				MINPT-O-EOU	
	5644.22	149.84	5543.50	5494.39	57.44	OSF1.50	10070.00	10062.31				MINPT-O-EOU	
	5645.34	151.81	5543.31	5493.54	56.69	OSF1.50	10200.00	10192.31				MINPT-O-EOU	
	5645.98	152.80	5543.28	5493.18	56.32	OSF1.50	10270.00	10262.31				MINPT-O-EOU	
	5646.57	153.70	5543.27	5492.87	55.99	OSF1.50	10330.00	10322.31				MINPT-O-EOU	
	5647.06	154.41	5543.29	5492.65	55.74	OSF1.50	10380.00	10372.31				MINPT-O-EOU	
	5647.62	155.10	5543.38	5492.51	55.49	OSF1.50	10430.00	10422.31				MINPT-O-EOU	
	5648.43	156.05	5543.57	5492.38	55.15	OSF1.50	10500.00	10492.31				MinPt-O-ADP	
	5649.76	162.64	5540.50	5487.12	52.90	OSF1.50	10910.00	10902.31				MinPt-CtCt	
	5649.84	162.87	5540.43	5486.97	52.82	OSF1.50	10940.00	10932.31				MINPT-O-EOU	
	5649.90	162.95	5540.44	5486.96	52.80	OSF1.50	10950.00	10942.31				MinPt-O-ADP	
	5730.67	168.60	5617.44	5562.07	51.73	OSF1.50	11870.00	11862.31				MinPt-O-SF	
	2568.49	264.44	2391.37	2304.06	14.69	OSF1.50	17560.00	12525.00				MinPt-CtCt	
	2569.28	266.65	2390.68	2302.63	14.58	OSF1.50	17620.00	12525.00				MINPT-O-EOU	
	2570.20	267.73	2390.88	2302.47	14.52	OSF1.50	17650.00	12525.00				MinPt-O-ADP	
	2634.01	282.31	2444.97	2351.70	14.11	OSF1.50	18140.00	12525.00				MinPt-O-SF	
	5443.03	273.65	5259.76	5169.38	30.10	OSF1.50	22355.05	12525.00				TD	
30-025-42170 COG Resolver Federal Com #2H ST01 MWD Surveys 9000ft to 14096ft MD - A (Def Survey)													Pass
	5121.83	32.81	5119.31	5089.03	229547.15	MAS = 10.00 (m)	0.00	0.00				Surface	
	5121.78	32.81	5119.15	5088.97	38604.24	MAS = 10.00 (m)	23.00	23.00				WRP	
	5118.34	32.81	5107.94	5085.54	647.56	MAS = 10.00 (m)	850.00	850.00				MinPts	
	5113.34	32.81	5093.61	5080.53	296.72	MAS = 10.00 (m)	1790.00	1790.00				MinPts	
	5113.57	32.81	5093.33	5080.76	288.14	MAS = 10.00 (m)	1860.00	1860.00				MINPT-O-EOU	
	5119.97	34.35	5096.24	5085.62	241.01	OSF1.50	2218.34	2218.13				MinPts	
	5123.23	37.64	5097.31	5085.59	218.58	OSF1.50	2440.00	2439.15				MinPt-O-ADP	
	5127.07	41.64	5098.48	5085.43	196.41	OSF1.50	2710.00	2708.36				MinPt-O-ADP	
	5157.79	102.31	5088.75	5055.48	77.47	OSF1.50	6790.00	6782.31				MinPt-CtCt	
	5160.19	109.04	5086.66	5051.14	72.61	OSF1.50	7270.00	7262.31				MINPT-O-EOU	
	5161.50	110.64	5086.90	5050.85	71.56	OSF1.50	7390.00	7382.31				MinPt-O-ADP	
	5173.24	120.54	5092.05	5052.70	65.71	OSF1.50	8070.00	8062.31				MinPt-O-ADP	
	5176.35	123.54	5093.16	5052.81	64.12	OSF1.50	8270.00	8262.31				MinPt-O-ADP	
	5179.17	126.35	5094.10	5052.82	62.70	OSF1.50	8460.00	8452.31				MinPt-O-ADP	
	5294.01	142.74	5198.01	5151.27	56.60	OSF1.50	10150.00	10142.31				MinPt-O-SF	
	2907.27	200.44	2772.81	2706.83	22.01	OSF1.50	18790.00	12525.00				MinPt-CtCt	
	2908.21	203.15	2771.94	2705.06	21.72	OSF1.50	18900.00	12525.00				MINPT-O-EOU	
	2886.99	226.27	2735.32	2660.73	19.34	OSF1.50	19740.00	12525.00				MinPt-CtCt	
	2885.08	242.66	2722.48	2642.42	18.00	OSF1.50	20300.00	12525.00				MinPt-CtCt	
	2886.79	247.92	2720.68	2638.87	17.63	OSF1.50	20490.00	12525.00				MINPT-O-EOU	
	2842.92	292.71	2646.95	2550.21	14.68	OSF1.50	22020.00	12525.00				MinPt-CtCt	
	2843.34	293.92	2646.56	2549.42	14.62	OSF1.50	22070.00	12525.00				MINPT-O-EOU	
	2843.76	294.39	2646.66	2549.37	14.60	OSF1.50	22090.00	12525.00				MinPt-O-ADP	
	2862.49	299.74	2661.83	2562.75	14.43	OSF1.50	22355.05	12525.00				MinPt-O-SF	
30-025-33538 Burlington Resources Pronghorn 12 Federal #001 INC Only Surveys to 9200ft MD - Plugged (Def Survey)													Pass
	5604.61	32.81	5602.11	5571.80	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	5604.58	32.81	5602.07	5571.77	N/A	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	5604.56	32.81	5602.05	5571.75	645720.84	MAS = 10.00 (m)	23.00	23.00				WRP	
	5603.90	32.81	5596.01	5571.10	1039.20	MAS = 10.00 (m)	220.00	220.00				MinPts	
	5599.45	148.11	5499.88	5451.34	57.66	OSF1.50	2680.00	2678.45				MinPt-CtCt	
	5617.08	212.32	5474.70	5404.76	40.14	OSF1.50	4130.00	4124.24				MINPT-O-EOU	
	5623.46	219.96	5475.98	5403.49	38.77	OSF1.50	4340.00	4333.63				MinPt-O-ADP	
	5597.56	293.19	5401.27	5304.37	28.87	OSF1.50	5460.00	5452.31				MinPt-CtCt	
	5599.23	489.19	5272.27	5110.04	17.25	OSF1.50	9230.00	9222.31				MinPts	
	5599.24	489.21	5272.27	5110.04	17.25	OSF1.50	9240.00	9232.31				MinPt-O-ADP	
	5599.47	489.25	5272.47	5110.22	17.25	OSF1.50	9280.00	9272.31				MinPt-O-SF	
	4453.06	346.84	4221.00	4106.22	19.39	OSF1.50	14920.00	12525.00				MinPt-O-SF	
	3372.75	207.44	3233.63	3165.31	24.67	OSF1.50	17830.00	12525.00				MinPt-CtCt	
	3373.16	208.56	3233.26	3164.60	24.54	OSF1.50	17880.00	12525.00				MINPT-O-EOU	
	3374.01	209.61	3233.44	3164.40	24.42	OSF1.50	17920.00	12525.00				MinPt-O-ADP	
	4290.75	373.12	4041.17	3917.63	17.36	OSF1.50	20480.00	12525.00				MinPt-O-SF	
	5645.62	443.08	5349.40	5202.54	19.21	OSF1.50	22355.05	12525.00				TD	

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major		
30-025-36192 Cimarex Thyme APY Federal #011 INC Only Surveys to 9150ft MD - SWD (Def Survey)													Pass
	3735.14	32.81	3732.64	3702.33	N/A	MAS = 10.00 (m)	0.00	0.00				Surface	
	3735.09	32.81	3732.58	3702.28	480472.68	MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
	3735.06	32.81	3732.56	3702.25	751367.03	MAS = 10.00 (m)	20.00	20.00				MINPT-O-EOU	
	3735.06	32.81	3732.56	3702.25	N/A	MAS = 10.00 (m)	23.00	23.00				WRP	
	3725.93	65.02	3681.75	3660.91	89.34	OSF1.50	1130.00	1130.00				MinPt-CtCt	
	3750.84	146.53	3652.32	3604.31	39.04	OSF1.50	2730.00	2728.30				MINPT-O-EOU	
	3752.35	148.81	3652.31	3603.54	38.44	OSF1.50	2780.00	2778.16				MINPT-O-EOU	
	3763.97	162.89	3654.54	3601.08	35.18	OSF1.50	3080.00	3077.29				MinPt-O-ADP	
	3784.14	187.24	3658.47	3596.89	30.70	OSF1.50	3520.00	3516.01				MINPT-O-EOU	
	3791.71	201.16	3656.77	3590.55	28.61	OSF1.50	3760.00	3755.31				MINPT-O-EOU	
	3804.26	216.07	3659.38	3588.19	26.70	OSF1.50	4100.00	4094.33				MinPt-O-ADP	
	3833.25	269.59	3652.69	3563.66	21.51	OSF1.50	5180.00	5172.31				MINPT-O-EOU	
	3829.75	427.49	3543.92	3402.26	13.51	OSF1.50	8110.00	8102.31				MinPt-CtCt	
	3842.63	478.59	3522.74	3364.04	12.10	OSF1.50	9160.00	9152.31				MINPT-O-EOU	
	3845.98	485.35	3521.57	3360.62	11.94	OSF1.50	9270.00	9262.31				MinPts	
	4539.95	346.31	4308.24	4193.63	19.80	OSF1.50	13230.00	12525.00				MinPt-O-SF	
	3894.40	290.63	3699.81	3603.76	20.26	OSF1.50	15560.00	12525.00				MinPt-CtCt	
	3894.49	290.97	3699.67	3603.51	20.24	OSF1.50	15590.00	12525.00				MINPT-O-EOU	
	3894.67	291.22	3699.69	3603.45	20.22	OSF1.50	15610.00	12525.00				MinPt-O-ADP	
	4531.32	376.29	4279.63	4155.03	18.17	OSF1.50	17880.00	12525.00				MinPt-O-SF	
	7828.97	480.09	7508.08	7348.88	24.58	OSF1.50	22355.05	12525.00				TD	

1. Geological Formations

TVD of target 12,525
MD at TD 22,355

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1256	Useable Water	
Top Salt	3686	N/A	
Base Salt	4680	N/A	
Lamar	4963	N/A	
Bell Canyon	5017	N/A	
Cherry Canyon	5870	N/A	
Brushy Canyon	7216	Hydrocarbons	
Bone Spring	8827	Hydrocarbons	
Upper Avalon Shale	9361	Hydrocarbons	
2nd Bone Spring	10340	Hydrocarbons	
3rd Bone Spring	11040	Hydrocarbons	
Wolfcamp	12170	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	1306	1306	10-3/4"	40.50	J-55	BT&C	2.80	5.55	11.89
9 7/8	0	12690	12486	7-5/8"	29.70	L-80	LT&C	2.45	1.18	1.53
6 3/4	0	11940	11940	5-1/2"	23.00	L-80	LT&C	1.50	1.33	2.17
6 3/4	11940	22355	12525	5"	18.00	P-110	BT&C	1.72	1.74	55.08
					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

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

3. Cementing Program

Casing	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	507	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	136	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate Stage 1	584	10.30	3.64	22.18		Lead: Tuned Light + LCM
	198	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Intermediate Stage 2	813	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
Production	1349	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 +/- 5,100'.

Casing String	TOC	% Excess
Surface	0	45
Intermediate Stage 1	5100	47
Intermediate Stage 2	0	37
Production	12490	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
14 3/4	13 5/8	2M	Annular		2M
			Blind Ram		
			Pipe Ram		
			Double Ram		
			Other		
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 1306'	FW Spud Mud	7.80 - 8.30	30-32	N/C
1306' to 12690'	Brine Diesel Emulsion	8.50 - 9.00	30-35	N/C
12690' to 22355'	OBM	11.50 - 12.00	50-70	N/C

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

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 fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
	No logs are planned based on well control or offset log information.
	Drill stem test?
	Coring?

Additional Logs Planned	Interval

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	7815 psi
Abnormal Temperature	No

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

8. Other Facets of Operation

9. Wellhead

A multi-bowl wellhead system will be utilized.

After running the 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 working pressure, or a maximum test pressure of 5000 psi. The pressure test will be repeated at least every 30 days, as per Onshore Order No. 2.

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

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

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

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

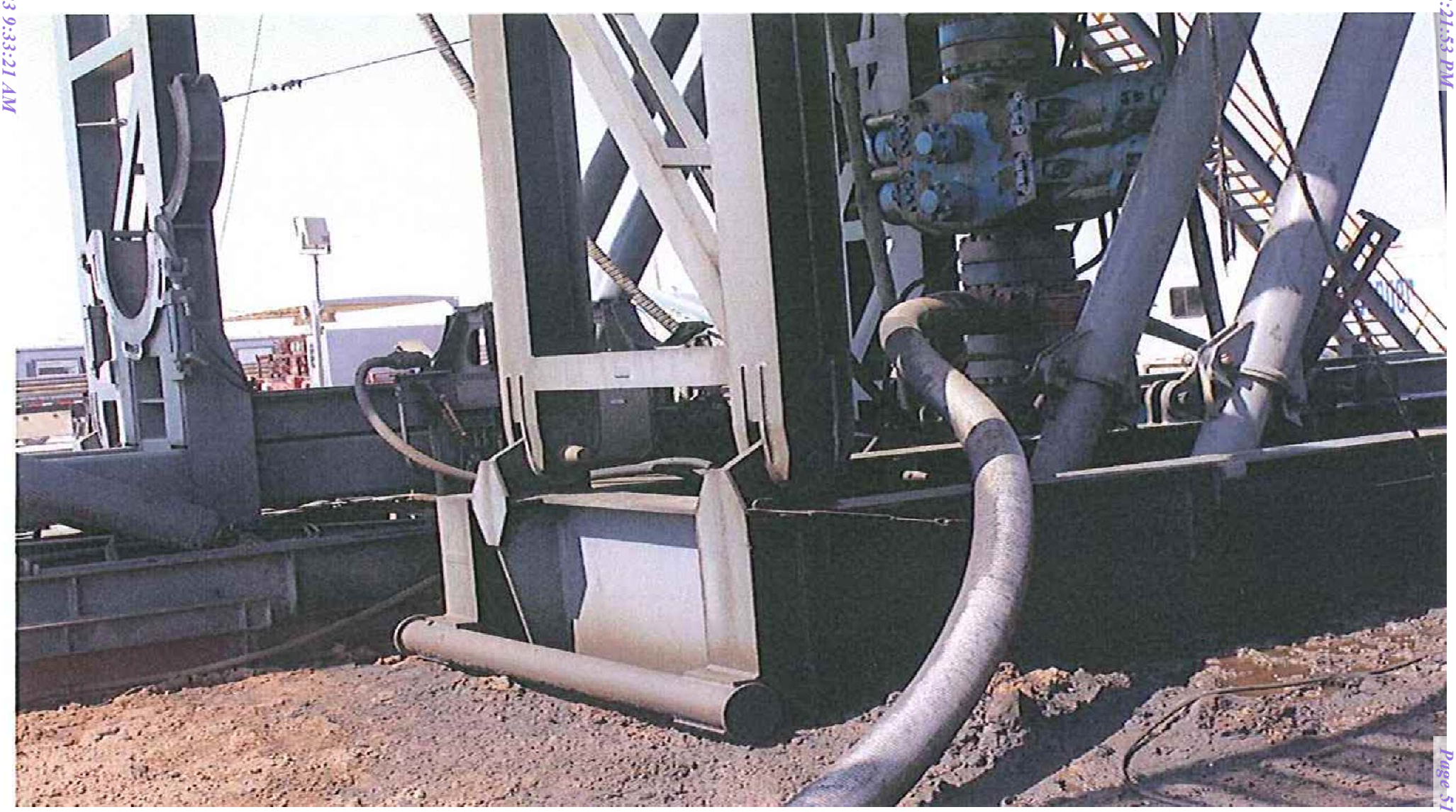
If well conditions dictate conventional slips will be set and BOPE will be tested to appropriate pressures based on permitted pressure requirements.

10.Other Variances

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

Cimarex requests permission to skid the rig to the next well on the pad to begin operations instead of waiting 8 hours for surface cement to harden on this 11H well. Surface cement will be pumped and we will ensure floats hold, do a green cement test and then skid to the next well on pad. We will not perform any operations on this 11H well until at least 8 hours and when both tail and lead slurry reach 500 psi. The mandrel hanger is made up on the last joint of 10 3/4” casing and then lowered down with and landing joint. It is then lowered down until the mandrel contacts the landing ring which is pre-welded to the conductor pipe. At this point the 10 3/4”casing is entirely supported by the conductor pipe via the landing ring/mandrel and is independent from the rig. This allows us to walk the rig away from the 11H well and begin work on the next well while the cement is hardening. There is no way for the casing to be moved or knocked off center since it is hanging from the landing ring.

Co-Flex Hose
Coriander 1-12 Federal Com 11H
Cimarex Energy Co.
1-23S-32E Lea Co., NM



CIMAREX

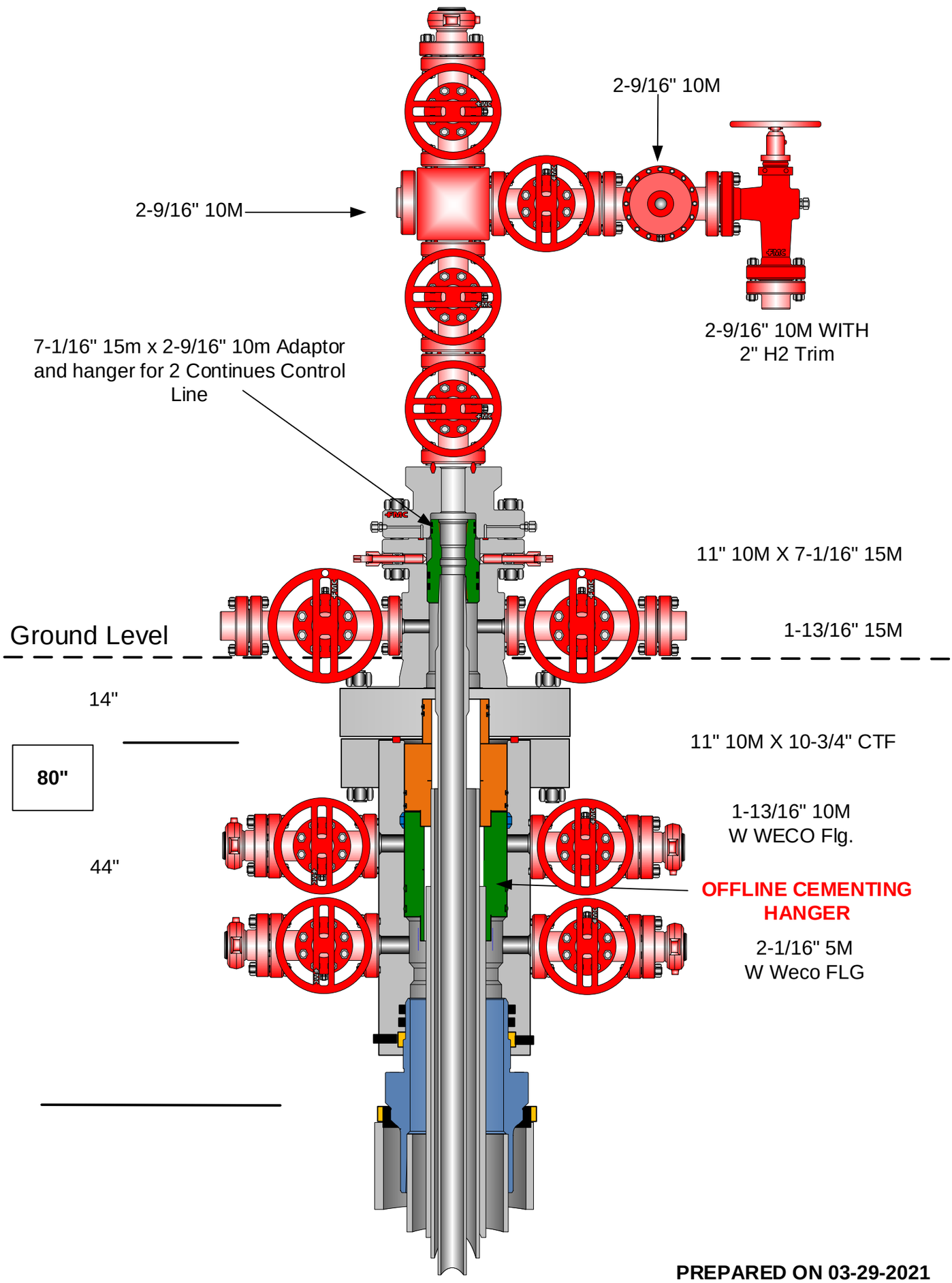
Coriander 1-12 Fed Com 11H

LEA CO., NM

CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL

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	1306	1306	10-3/4"	40.50	J-55	BT&C	2.80	5.55	11.89
9 7/8	0	12690	12486	7-5/8"	29.70	L-80	LT&C	2.45	1.18	1.53
6 3/4	0	11940	11940	5-1/2"	23.00	L-80	LT&C	1.50	1.33	2.17
6 3/4	11940	22355	12525	5"	18.00	P-110	BT&C	1.72	1.74	55.08
						BLM Minimum Safety Factor		1.125	1	1.6 Dry 1.8 Wet



PREPARED ON 03-29-2021

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

SUPO Data Report
02/10/2023

APD ID: 10400082180
Submission Date: 01/26/2022
Operator Name: CIMAREX ENERGY COMPANY
Well Name: CORIANDER 1-12 FEDERAL COM
Well Number: 11H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Coriander_1_12_Federal_Com_W2E2_Existing_Access_Road_20211209095749.pdf

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

ROW ID(s)

ID: NM137119

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Coriander_1_12_Federal_Com_Access_Road_ROW_20211209095807.pdf

New road type: COLLECTOR

Length: 2778 Feet
Width (ft.): 30

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

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 18

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

New road access plan

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Access road engineering design? N

Access road engineering design

Turnout? N

Access surfacing type: OTHER

Access topsoil source: ONSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth: 6

Offsite topsoil source description:

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

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

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

Drainage Control

New road drainage crossing: CULVERT,LOW WATER

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

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

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

Coriander_1_12_Federal_W2E2_One_Mile_Radius_20211209100158.pdf

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Production from this well pad will be routed to the existing Thyme APY Fed 9 Battery located in the NWNE of Section 1 23S 32E. 2778' of new on-lease access road will be built. 3303' of new on-lease powerline will be built. 3100' of new on-lease bulklines will be built. Bulklines will be built within a 75' ROW corridor. Bulklines will have 8 12" steel lines for oil gas and water production & 2 2" fiber optic cables.

Production Facilities map:

Coriander_1_12_Federal_Com_W2E2__SUPO_20211209150129.pdf

Coriander_1_12_Federal_Com_Bulkline_ROW_20211209150137.pdf

Coriander_1_12_Federal_Com_Power_ROW_20211209150143.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

Coriander_1_12_Federal_Com_W2E2_Drilling_Water_Route_20211209150238.pdf

Water source comments:

New water well? N

New Water Well Info

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Caliche will be obtained from the actual well site if available. If not available onsite caliche will be obtained for a pit located in SWSE Sec 6 23S 31E or SENE Sec 3 22S 32E

Construction Materials source location

Section 7 - Methods for Handling

Waste type: DRILLING

Waste content description: Drilling Fluids, drill cuttings, water and other waste produced from the well during drilling operations.

Amount of waste: 15000 barrels

Waste disposal frequency : Weekly

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Waste type: SEWAGE

Waste content description: Human Waste

Amount of waste: 300 gallons

Waste disposal frequency : Weekly

Safe containment description: Waste will be properly contained and disposed of properly at a state approved disposal facility.

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE

Disposal type description:

Disposal location description: A licensed 3rd party contractor will be used to haul and dispose human waste to City of Toyah TX waste water facility.

Waste type: GARBAGE

Waste content description: Garbage and trash produced during drilling and completion operations

Amount of waste: 32500 pounds

Waste disposal frequency : Weekly

Safe containment description: N/A

Safe containmant attachment:

Waste disposal type: HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL

Disposal type description:

Disposal location description: A licensed 3rd party hauls trash to Lea County Landfill

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.) **Reserve pit width (ft.)**

Reserve pit depth (ft.) **Reserve pit volume (cu. yd.)**

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? N

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Description of cuttings location

Cuttings area length (ft.) **Cuttings area width (ft.)**

Cuttings area depth (ft.) **Cuttings area volume (cu. yd.)**

Is at least 50% of the cuttings area in cut?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments:

Section 9 - Well Site

Well Site Layout Diagram:

Coriander_1_12_Federal_Com_11H_Wellsite_Layout__20211209150558.pdf

Coriander_1_12_Federal_W2E2_Well_List_20211209151705.docx

Comments: This well pad will have wells 11H 12H 13H 14H 15H 16H 17H 18H 19H 20H 21H 22H 23H

Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance **Multiple Well Pad Name:** Coriander 1-12 Federal

Multiple Well Pad Number: W2E2

Recontouring

Coriander_1_12_Federal_Com_W2E2_Interim_Reclaim_20211209151743.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: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Well pad proposed disturbance (acres): 6.76	**Well pad interim reclamation (acres):** 2.584	**Well pad long term disturbance (acres):** 4.176
Road proposed disturbance (acres): 1.914	**Road interim reclamation (acres):** 0	**Road long term disturbance (acres):** 1.914
Powerline proposed disturbance (acres): 2.275	**Powerline interim reclamation (acres):** 0	**Powerline long term disturbance (acres):** 2.275
Pipeline proposed disturbance (acres): 5.336	**Pipeline interim reclamation (acres):** 0	**Pipeline long term disturbance (acres):** 5.336
Other proposed disturbance (acres): 0	**Other interim reclamation (acres):** 0	**Other long term disturbance (acres):** 0
Total proposed disturbance: 16.285	**Total interim reclamation:** 2.584	**Total long term disturbance:** 13.701

Disturbance Comments:

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

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

Soil treatment: The soil surface would be prepared to provide a seedbed for reestablishment of desirable vegetation. Establish control of erosion and invasion of non-native plants to reestablish plant community.
Existing Vegetation at the well pad: N/A

Existing Vegetation at the well pad

Existing Vegetation Community at the road: N/A

Existing Vegetation Community at the road

Existing Vegetation Community at the pipeline: N/A

Existing Vegetation Community at the pipeline

Existing Vegetation Community at other disturbances: N/A

Existing Vegetation Community at other disturbances

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Seedling transplant description

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Seed

Seed Table

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation

Operator Contact/Responsible Official

First Name: Amithy **Last Name:** Crawford

Phone: (432)620-1909 **Email:** acrawford@cimarex.com

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment

Weed treatment plan description: N/A

Weed treatment plan

Monitoring plan description: N/A

Monitoring plan

Success standards: N/A

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

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:**

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:**

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Disturbance type: TRANSMISSION LINE

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Disturbance type: NEW ACCESS ROAD

Describe:

Surface Owner: BUREAU OF LAND MANAGEMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Section 12 - Other

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

ROW Type(s): 281001 ROW - ROADS,288100 ROW – O&G Pipeline,289001 ROW- O&G Well Pad,FLPMA (Powerline)

ROW

SUPO Additional Information:

Use a previously conducted onsite? Y

Previous Onsite information: Onsite Date: 7/22/2021. BLM Personnel on site: McKenna Ryder. Cimarex Energy personnel on site: Barry Hunt. Pertinent information from onsite: Location moved 12 east to leave less of gap between existing pad to the east and proposed pad. V-Door West. Top soil west. Interim reclamation: North, west and east (minus 125 north of SE corner). Access road off of SW corner to new rerouted lease road. Pad size is 500 (E/W) x 543 west side & 541 east side (N/S). 190 south, 180 east, 351 north and 320 west. Production lines will run from the SE corner, south, to follow existing utility lines, east to the battery

Other SUPO

Cimarex Coriander 1-12 Federal Com 11H
Surface Use Plan

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

Existing Roads

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

New or Reconstructed Access Roads

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

- Length: 2,778'.
- Width: 30'.
- Road Plat - Exhibit D.
- Cimarex Energy will complete improvements to the driving surface as needed.
- The maximum width of the driving surface for all roads above will be 18'.
- The road will be crowned and ditched with a 2% slope from the tip of the crown to the edge of the driving surface.
- The ditches will be 1' deep with 3:1 slopes.
- The driving surface will be made of 6" rolled and compacted caliche.
- Cimarex Energy will prevent and abate fugitive dust as needed, whether created by vehicular traffic, equipment operations, or other events.

Well Radius Map

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

Proposed or Existing Production Facility

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

- Thyme #9 Battery
  - Battery Pad diagram - Exhibit F
  - Battery will not require an expansion in order to accomodate additional production equipment for the project.

Gas Pipeline Specifications

- No new gas pipelines are required for this project.

Salt Water Disposal Specifications

- No new SWD pipelines are required for this project.

Power Lines

- Cimarex plans to construct an on-lease power line to service the Coriander 1-12 Federal wells.
- Overhead power line from an existing power source located in the N2 of Section 1, 23S 32E.
- Length: 3,303'.
- Poles: 12
- Specifications: 480 volt, 4 wire, 3 phase.
- Please see Exhibit I for proposed route.

Cimarex Coriander 1-12 Federal Com 11H
Surface Use Plan

Well Site Location

- Proposed well pad/location layout - Exhibit J.
- Proposed Rig layout - Exhibit K
  - The rig layout, including V-door and flare line may change depending on rig availability. The pad dimensions and orientation will remain the same. No additional disturbance is anticipated if a rig layout change is necessary to accommodate the drilling rig. If additional disturbance is required a sundry notice will be submitted to the BLM for approval.
  - Mud pits in the closed circulation system will be steel pits and the cuttings will be stored in the steel containment pits.
  - Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- Archeological boundary - Exhibit L
- Multi well pad: Coriander 1-12 Federal Com 11H-23H
- Pad Size: 543 x 500
- Construction Material
  - If possible, native caliche will be obtained from the excavation of drill site. The primary way of obtaining caliche will be by "turning over" the location. This means caliche will be obtained from the actual well site. A caliche permit will be obtained from BLM prior to pushing up any caliche. 2,400 cu yds is the max amount of caliche needed for pad and roads. Amount will vary for each pad. The procedure below has been approved by BLM personnel:
    - The top 6 inches of topsoil is pushed off and stockpiled along the side of the location.
    - An approximate 120' x 120' area is used within the proposed well site to remove caliche.
    - Subsoil is removed and piled alongside the 120' x 120' area within the pad site.
    - When caliche is found, material will be stockpiled within the pad site to build the location and road.
    - Then subsoil is pushed back in the hole and caliche is spread accordingly across entire location and road.
    - Once well is drilled, the stockpiled top soil will be used for interim reclamation and spread along areas where caliche is picked up and the location size is reduced. Neither caliche nor subsoil will be stockpiled outside of the well pad. Topsoil will be stockpiled along the edge of the pad as depicted in Exhibit J - Layout Diagram.
    - In the event that no caliche is found onsite, caliche will be hauled in from BLM-approved caliche pit in SWSE Sec 6 23S 31E or SENE Sec 3 22S 32E.
  - Mud pits in the closed circulation system will be steel pits and the cuttings will be stored in steel containment pits.
- Cuttings will be stored in steel pits until they are hauled to a state-approved disposal facility.
- If the well is a producer, those areas of the location not essential to production facilities will be reclaimed and seeded per BLM requirements. Exhibit P: Interim Reclamation Diagram.
- There are no known dwellings within 1.5 miles of this location.

Bulklines

All proposed pipelines will be constructed in a 75' ROW corridor.

- Bulklines
  - Cimarex Energy plans to construct on-lease bulklines to service the well.
  - 8 12" HP steel lines for oil, gas, and water production & 2 2" Fiber optic cables
  - Length: 3,100'.
  - MAOP: 1,500 psi; Anticipated working pressure: 200-300 psi.
  - Please see Exhibit M for proposed on-lease route.

Water Resources

No temporary fresh water pipelines are proposed for this project.

Methods of Handling Waste

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

Cimarex Coriander 1-12 Federal Com 11H
Surface Use Plan

Waste Minimization Plan
See Gas Capture Plan.

Ancillary Facilities
No camps or airstrips to be constructed.

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

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

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

On Site Notes and Information
Onsite Date: 7/22/2021
BLM Personnel on site: McKenna Ryder
Cimarex Energy personnel on site: Barry Hunt
Pertinent information from onsite:
Location moved 12' east to leave less of gap between existing pad to the east and proposed pad. V-Door West. Top soil west. Interim reclamation: North, west and east (minus 125' north of SE corner). Access road off of SW corner to new rerouted lease road. Pad size is 500' (E/W) x 543' west side & 541 east side (N/S). 190' south, 180' east, 351' north and 320' west. Production lines will run from the SE corner, south, to follow existing utility lines, east to the battery

AFMSS

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

PWD Data Report

02/10/2023

APD ID: 10400082180 **Submission Date:** 01/26/2022

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

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

Section 1 - General

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

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Lined pit Monitor description:

Lined pit Monitor

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

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule

Unlined pit reclamation description:

Unlined pit reclamation

Unlined pit Monitor description:

Unlined pit Monitor

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

Beneficial use user

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Geologic and hydrologic

State

Unlined Produced Water Pit Estimated

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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information

Section 4 -

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection

Underground Injection Control (UIC) Permit?

UIC Permit

Section 5 - Surface

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Surface discharge site facilities map:

Section 6 -

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM **Well Number:** 11H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements

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

Bond Info Data
02/10/2023

APD ID: 10400082180
Submission Date: 01/26/2022
Operator Name: CIMAREX ENERGY COMPANY
Well Name: CORIANDER 1-12 FEDERAL COM
Well Number: 11H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes
Show Final Text

Bond

Federal/Indian APD: FED

BLM Bond number: NMB001188

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 186259

CONDITIONS

Operator: CIMAREX ENERGY CO. 600 N. Marienfeld Street Midland, TX 79701	OGRID: 215099
	Action Number: 186259
	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	2/16/2023
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	2/16/2023
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	2/16/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	2/16/2023