

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

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

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[333771]</div>	
2. Name of Operator <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[215099]</div>		9. API Well No. <div style="text-align: center; font-weight: bold; font-size: 1.2em;">30-025-51608</div>	
3a. Address		3b. Phone No. (include area code)	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory <div style="text-align: center; font-weight: bold; font-size: 1.2em;">[17644]</div> 11. Sec., T. R. M. or Blk. and Survey or Area	
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State	
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)		16. No of acres in lease 17. Spacing Unit dedicated to this well	
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.		19. Proposed Depth 20. BLM/BIA Bond No. in file	
21. Elevations (Show whether DF, KDB, RT, GL, etc.)		22. Approximate date work will start* 23. Estimated duration	
24. Attachments The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable) <div style="display: flex; justify-content: space-between;"> <div style="width: 48%;"> 1. Well plat certified by a registered surveyor. 2. A Drilling Plan. 3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). </div> <div style="width: 48%;"> 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). 5. Operator certification. 6. Such other site specific information and/or plans as may be requested by the BLM. </div> </div>			
25. Signature		Name (Printed/Typed)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
Title		Office	
Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon. Conditions of approval, if any, are attached.			
Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.			

NGMP Rec 06/05/2023

SL

(Continued on page 2)



Approval Date: 05/30/2023

KZ

06/14/2023

*(Instructions on page 2)

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-025-51608	² Pool Code 17644	³ Pool Name Diamondtail; Bone Spring
⁴ Property Code 333771	⁵ Property Name CORIANDE 1-12 FEDERAL COM	⁶ Well Number 6H
⁷ OGRID No. 215099	⁸ Operator Name CIMAREX ENERGY CO.	⁹ Elevation 3749.2'

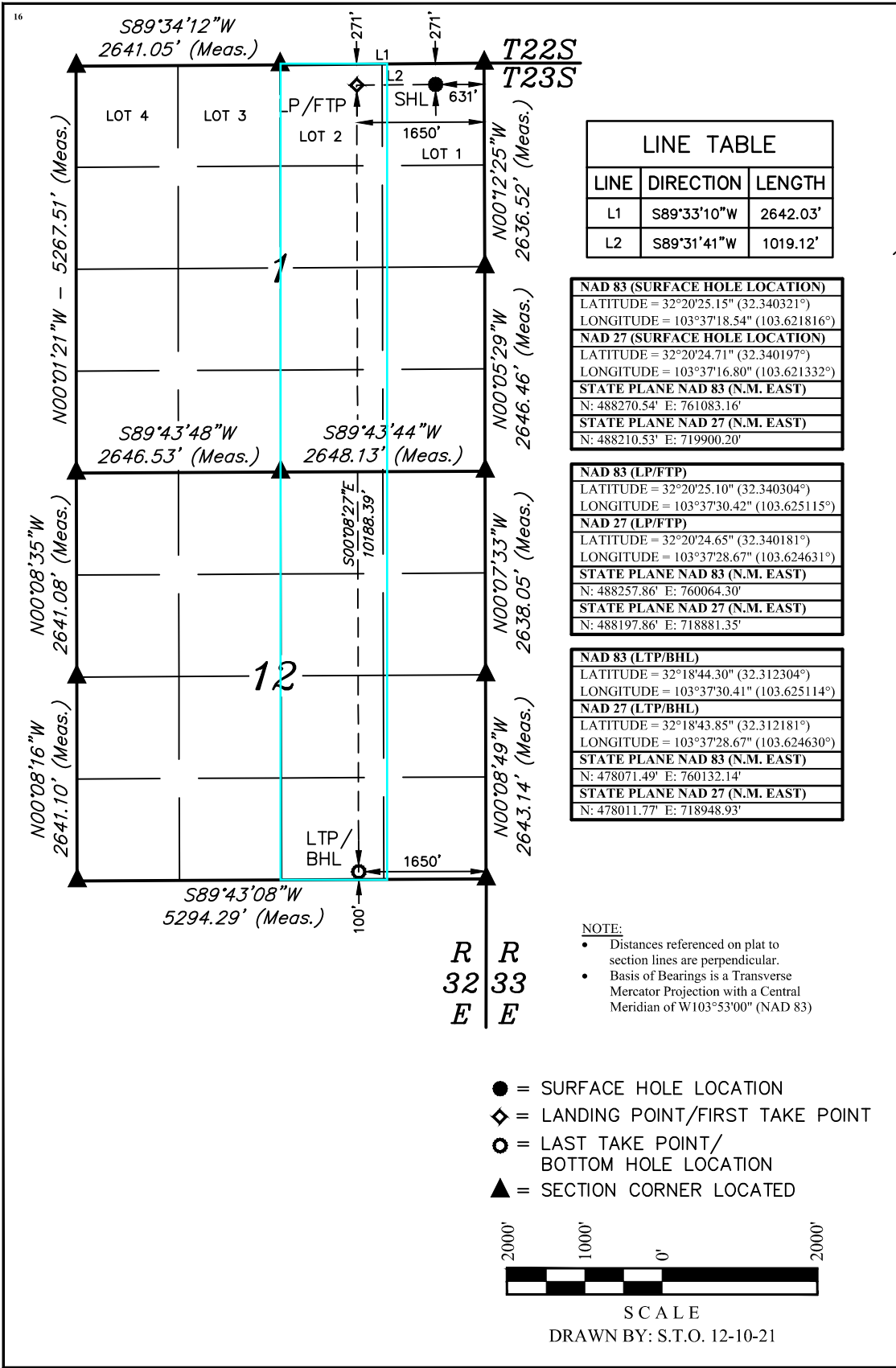
¹⁰ Surface Location

UL or lot no. 1	Section 1	Township 23S	Range 32E	Lot Idn	Feet from the 271	North/South line NORTH	Feet from the 631	East/West line EAST	County LEA
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no. O	Section 12	Township 23S	Range 32E	Lot Idn	Feet from the 100	North/South line SOUTH	Feet from the 1650	East/West line EAST	County LEA
¹² Dedicated Acres 319.85	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.						

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



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 1/4/22
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.

September 9, 2021
Date of Survey

Signature and Seal of Professional Surveyor:

PAUL BUCHELE
NEW MEXICO
23782
12-10-21
PROFESSIONAL SURVEYOR

Certificate Number:

Intent ☐ As Drilled ☐

API # 30-025-51608		
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? ☐

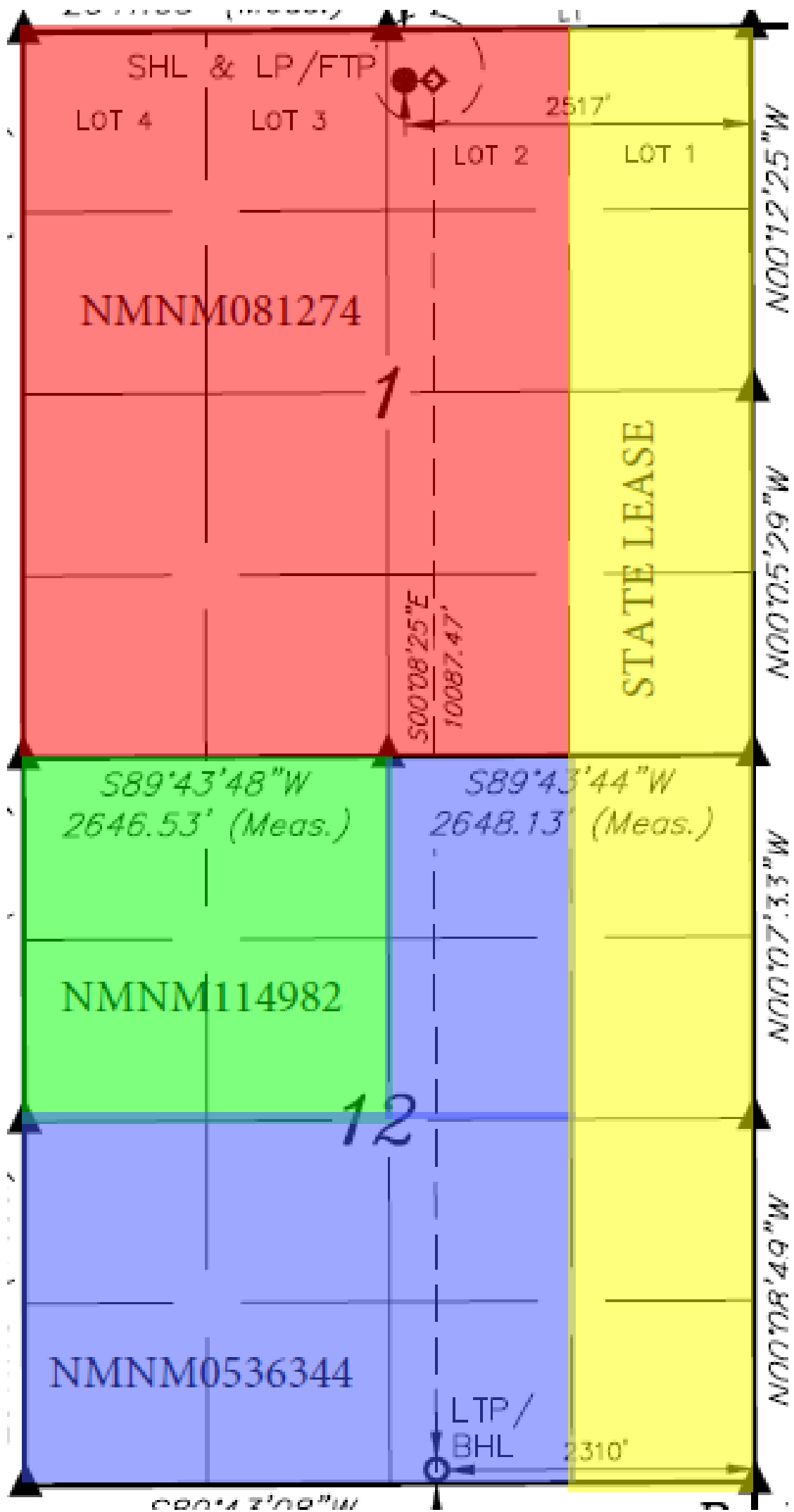
If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API #		
Operator Name:	Property Name:	Well Number

Estimated Formation Tops

Formation:	Top:	Formation:	Top:

CORIANDER LEASE MAP



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:** 6/5/2023

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 State Com 6H		1, Sec 1 T23S, R32E	271 FNL/631 FEL	2300	4600	4600
	30-025-51608					

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 State Com 6H		9/9/2023	10/27/2023	1/1/2024	3/1/2024	3/1/2024
	30-025-51608					

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

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

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

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

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices


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

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

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

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

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

Signature: 
Printed Name: Sarah Jordan
Title: Regulatory Analyst
E-mail Address: sarah.jordan@coterra.com
Date: 6/5/23
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 6H
SURFACE HOLE FOOTAGE:	271'N & 631'E
BOTTOM HOLE FOOTAGE:	100'S & 1650'E

COA

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

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **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 **13-3/8** 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**

- 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.
2. The minimum required fill of cement behind the **9-5/8** inch intermediate casing is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above
- Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.**
3. The minimum required fill of cement behind the **7** inch production casing is:
- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.
4. The minimum required fill of cement behind the **4-1/2** inch production casing is:
- Cement should tie-back at least **100 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

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

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

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

- b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
- 5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead 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 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



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

Operator Certification Data Report

06/05/2023

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: 03/01/2022

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:



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

Application Data

06/05/2023

APD ID: 10400082952

Submission Date: 03/03/2022

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

Well Type: OIL WELL

Well Work Type: Drill

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

Section 1 - General

APD ID: 10400082952

Tie to previous NOS? Y

Submission Date: 03/03/2022

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: NMNM081274

Lease Acres:

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO

APD Operator: CIMAREX ENERGY COMPANY

Operator letter of

Operator Info

Operator Organization Name: CIMAREX ENERGY COMPANY

Operator Address: 6001 DEAUVILLE BLVD STE 300N

Zip: 79706

Operator PO Box:

Operator City: MIDLAND

State: TX

Operator Phone: (303)295-3995

Operator Internet Address: hknaults@cimarex.com

Section 2 - Well Information

Well in Master Development Plan? NO

Master Development Plan name:

Well in Master SUPO? NO

Master SUPO name:

Well in Master Drilling Plan? NO

Master Drilling Plan name:

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

Well API Number:

Field/Pool or Exploratory? Field and Pool

Field Name: 3RD BONE
SPRINGPool Name: DIAMONDTAIL;
BONE SPRING

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**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:****Number:** E2E2

Coriander 1-12 State

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:** 271 FT**Reservoir well spacing assigned acres Measurement:** 319.85 Acres**Well plat:** Coriander_Lease_Map_20211209073929.pdf

Coriander_1_12_Federal_Com_6H_C102_20220301080410.pdf

Well work start Date: 12/31/2021**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:****Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	271	FNL	631	FEL	23S	32E	1	Lot 1	32.340321	-103.621816	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	3749	0	0	Y
KOP Leg #1	271	FNL	631	FEL	23S	32E	1	Lot 1	32.340321	-103.621816	LEA	NEW MEXI CO	NEW MEXI CO	S	STATE	-7888	11751	11637	Y

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H

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	271	FNL	1650	FEL	23S	32E	1	Lot 2	32.340304	- 103.625115	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 081274	- 8481	12801	12230	Y
EXIT Leg #1	100	FSL	1650	FEL	23S	32E	12	Aliquot SWSE	32.312304	- 103.625114	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 536344	- 8481	22267	12230	Y
BHL Leg #1	100	FSL	1650	FEL	23S	32E	12	Aliquot SWSE	32.312304	- 103.625114	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 536344	- 8481	22267	12230	Y



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

Drilling Plan Data Report

06/05/2023

APD ID: 10400082952

Submission Date: 03/03/2022

Highlighted data
reflects the most
recent changes

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
8070997	RUSTLER	0	1256	1256	ANHYDRITE, SANDSTONE	USEABLE WATER	N
8070998	TOP SALT	-3686	3686	3686	ANHYDRITE	NONE	N
8070999	BASE OF SALT	-4680	4680	4680	ANHYDRITE	NONE	N
8071000	LAMAR	-4963	4963	4963	SANDSTONE	NONE	N
8071001	BELL CANYON	-5017	5017	5017	SANDSTONE	NONE	N
8071002	CHERRY CANYON	-5870	5870	5870	SANDSTONE	NONE	N
8071003	BRUSHY CANYON	-7216	7216	7216	SANDSTONE	NATURAL GAS, OIL	N
8071004	BONE SPRING	-8827	8827	8827	LIMESTONE	NATURAL GAS, OIL	N
8071005	UPPER AVALON SHALE	-9361	9361	9361	SHALE	NATURAL GAS, OIL	N
8071006	BONE SPRING 2ND	-10340	10340	10340	SANDSTONE	NATURAL GAS, OIL	N
8071007	BONE SPRING 3RD	-11040	11040	11040	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M

Rating Depth: 12502

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.

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H

Testing Procedure: A multi-bowl wellhead system will be utilized. After running the 16" surface casing, a 16 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_2_6HChoke_10M_20221104082753.pdf

BOP Diagram Attachment:

Coriander_1_2_6H_BOP_10M_20221104082803.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 16" surface casing, a 16" 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_6H_Choke_2M_20220301094621.pdf

BOP Diagram Attachment:

Coriander_1_12_Federal_Com_6H_BOP_2M_20220301094625.pdf

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**Pressure Rating (PSI):** 5M**Rating Depth:** 4977

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 16" surface casing, a 16 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_6H_Choke_5M_20220301094646.pdf

BOP Diagram Attachment:

Coriander_1_12_Federal_Com_6H_BOP_5M_10.75_20220301094653.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	17.5	13.375	NEW	API	N	0	1306	0	1306	3749	2443	1306	H-40	48	ST&C	1.31	3.06	BUOY	5.14	BUOY	5.14
2	INTERMEDIATE	12.25	9.625	NEW	API	N	0	4977	0	4977	3750	-1228	4977	HCK-55	40	LT&C	1.43	1.48	BUOY	2.82	BUOY	2.82
3	PRODUCTION	8.75	7.0	NEW	API	N	0	11751	0	11751	3750	-8002	11751	L-80	29	LT&C	1.28	1.48	BUOY	1.66	BUOY	1.66

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H

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	PRODUCTI ON	8.75	7.0	NEW	API	N	11751	12502	11751	12191	-8002	-8442	751	P- 110	29	BUTT	1.5	1.97	BUOY	72.8 1	BUOY	72.8 1
5	COMPLETI ON SYSTEM	6	4.5	NEW	API	N	10751	22267	10751	12230	-7002	-8481	11516	P- 110	11.6	BUTT	1.25	1.77	BUOY	21.3 9	BUOY	21.3 9

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_6H_Casing_Assumptions_20221104083724.pdf

Casing ID: 2 **String** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Coriander_1_12_Federal_Com_6H_Casing_Assumptions_20221104084045.pdf

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**Casing Attachments****Casing ID:** 3 **String** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Coriander_1_12_Federal_Com_6H_Casing_Assumptions_20221104084346.pdf

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

Coriander_1_12_Federal_Com_6H_Casing_Assumptions_20221104084529.pdf

Casing ID: 5 **String** COMPLETION SYSTEM**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

Coriander_1_12_Federal_Com_6H_Casing_Assumptions_20221104084724.pdf

Section 4 - Cement

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H

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	632	1.72	13.5	1087	45	Class C	Bentonite
SURFACE	Tail		0	1306	170	1.34	14.8	228	45	Class C	LCM
INTERMEDIATE	Lead	5100	0	4977	291	1.34	14.8	390	51	Class C	LCM

INTERMEDIATE	Lead		0	4977	931	1.88	12.9	1750	51	35:65 (Poz:C)	Salt, Bentonite
--------------	------	--	---	------	-----	------	------	------	----	---------------	-----------------

PRODUCTION	Lead		4777	1250 2	429	3.64	10.3	1562	25	Tuned Light	LCM
PRODUCTION	Tail		4777	1250 2	125	1.36	14.8	170	25	Class C	Retarder
COMPLETION SYSTEM	Lead		1230 2	2226 7	725	1.3	14.2	943	10	50:50 (POZ:H)	Salt + Bentonite + Fluid Loss + Dispersant + 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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**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	7.83	8.33							
1306	4977	OTHER : Brine Water	9.8	10.3							
4977	12502	OTHER : Cut Brine or OBM	8.5	9							
12502	22267	OIL-BASED MUD	9	9.5							

Section 6 - Test, Logging, Coring**List of production tests including testing procedures, equipment and safety measures:**

No DST Planned

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

COMPENSATED NEUTRON LOG,DIRECTIONAL SURVEY,GAMMA RAY LOG,

Coring operation description for the well:

N/A

Section 7 - Pressure**Anticipated Bottom Hole Pressure:** 6041**Anticipated Surface Pressure:** 3350**Anticipated Bottom Hole Temperature(F):** 190**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** YES**Describe:**

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

Contingency Plans geohazards description:

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

Contingency Plans geohazards**Hydrogen Sulfide drilling operations plan required?** YES

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

Hydrogen sulfide drilling operations

Coriander_1_12_Federal_Com_6H_H2S_Plan_20220301095616.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Coriander_1_12_Federal_Com_6H_Directional___AC_Report_20220301095637.pdf

Other proposed operations facets description:

Other proposed operations facets attachment:

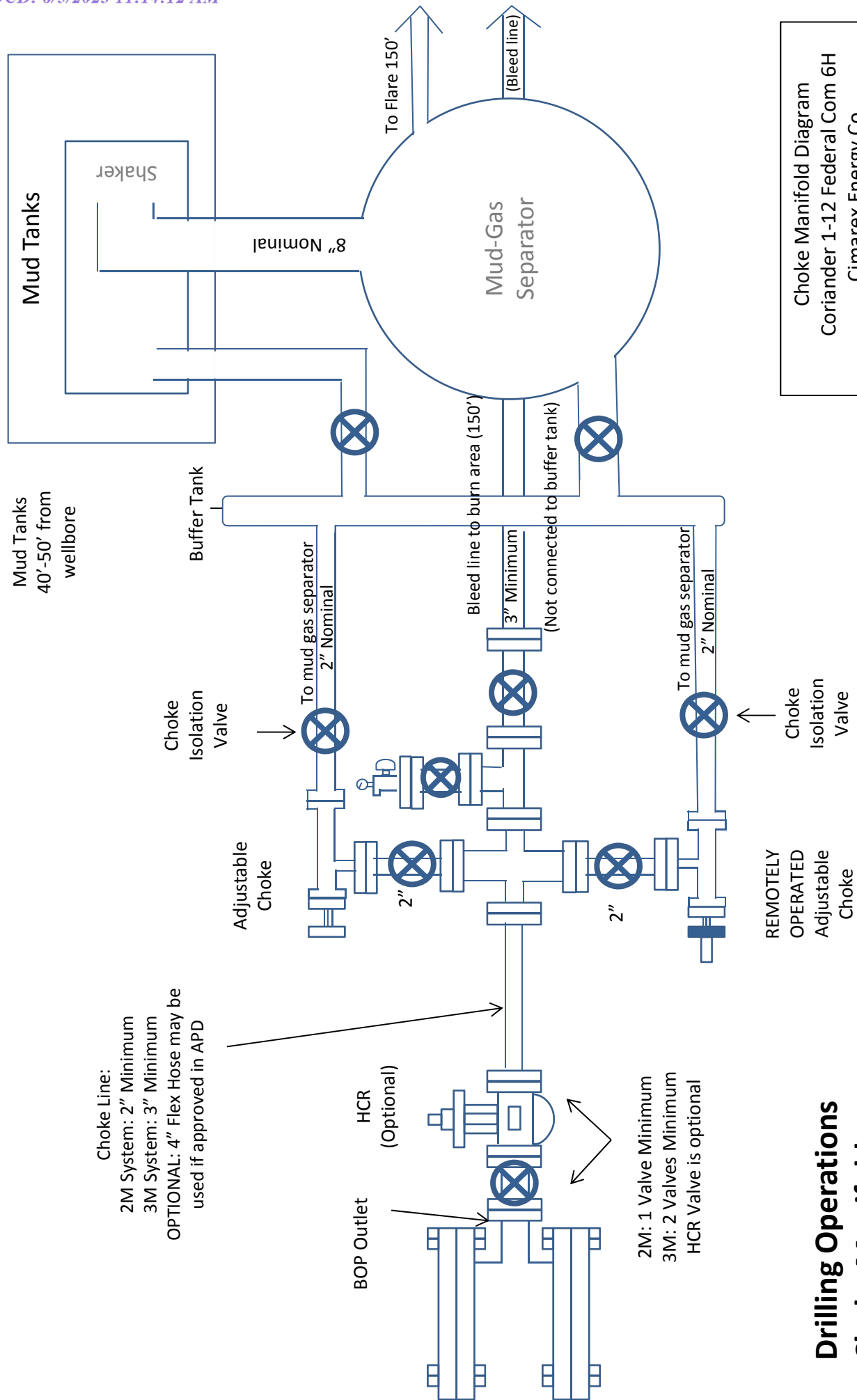
Coriander_1_12_Fed_Com_6H_Drilling_Plan_11.3.22_20221104094348.pdf

Other Variance attachment:

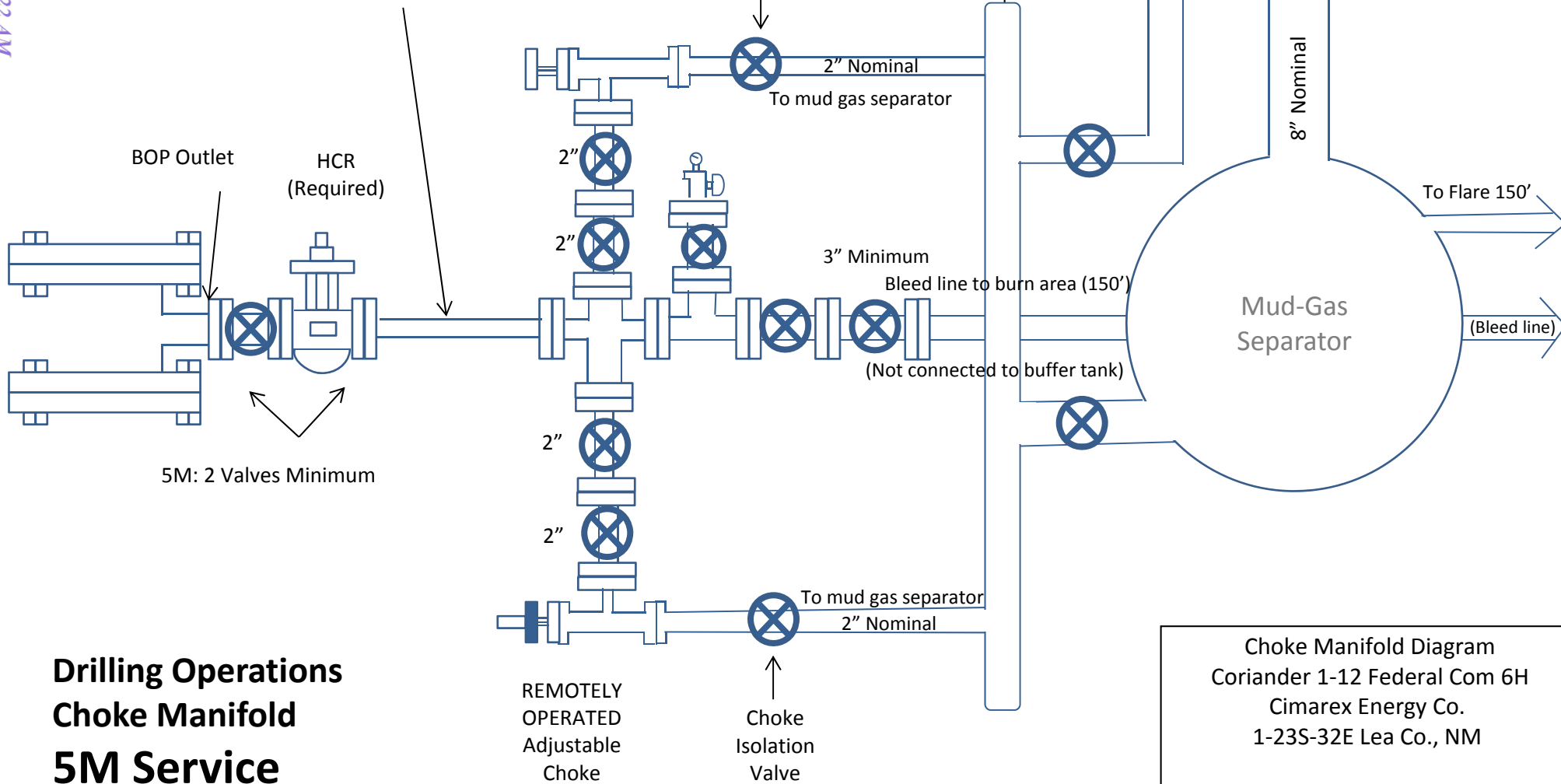
Offline_Cement_Procedure_20220126145421.pdf

Coriander_1_12_Federal_Com_6H_Flex_Hose_20220301095706.pdf

Coriand_1_12_Fed_Com_6H_Multibowl_13.375_20221104094919.pdf



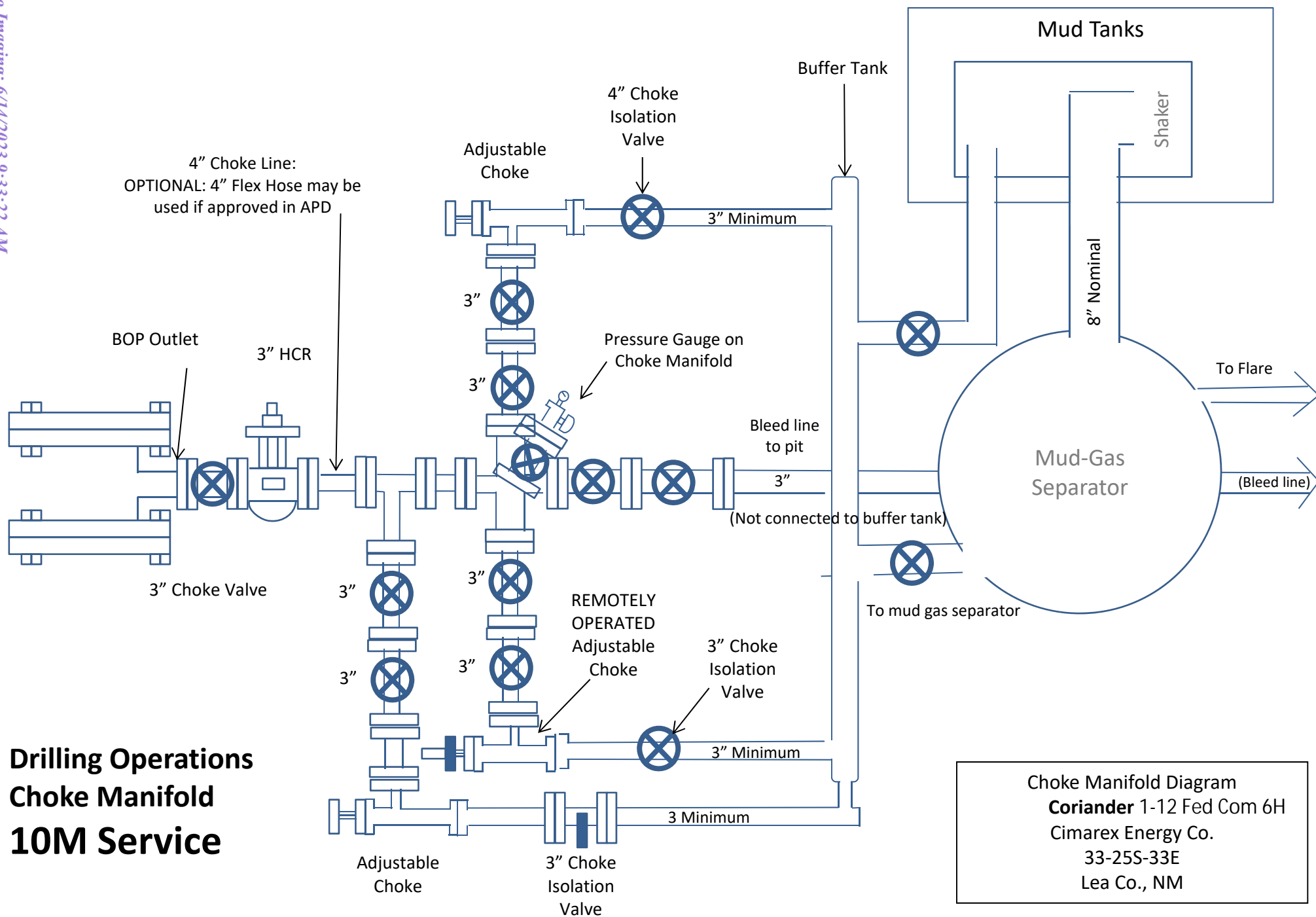
Choke Line:
5M System: 3" Minimum
OPTIONAL: 4" Flex Hose may be
used if approved in APD



Drilling Operations Choke Manifold 5M Service

Drilling Operations Choke Manifold 10M Service

4" Choke Line:
OPTIONAL: 4" Flex Hose may be
used if approved in APD



Mud Tanks
40'-50' from
wellbore

Mud Tanks

Shaker

Buffer Tank

4" Choke
Isolation
Valve

Adjustable
Choke

3" Minimum

3"

3"

Pressure Gauge on
Choke Manifold

Bleed line
to pit

3"

(Not connected to buffer tank)

8" Nominal

Mud-Gas
Separator

To Flare

(Bleed line)

To mud gas separator

REMOTELY
OPERATED
Adjustable
Choke

3" Choke
Isolation
Valve

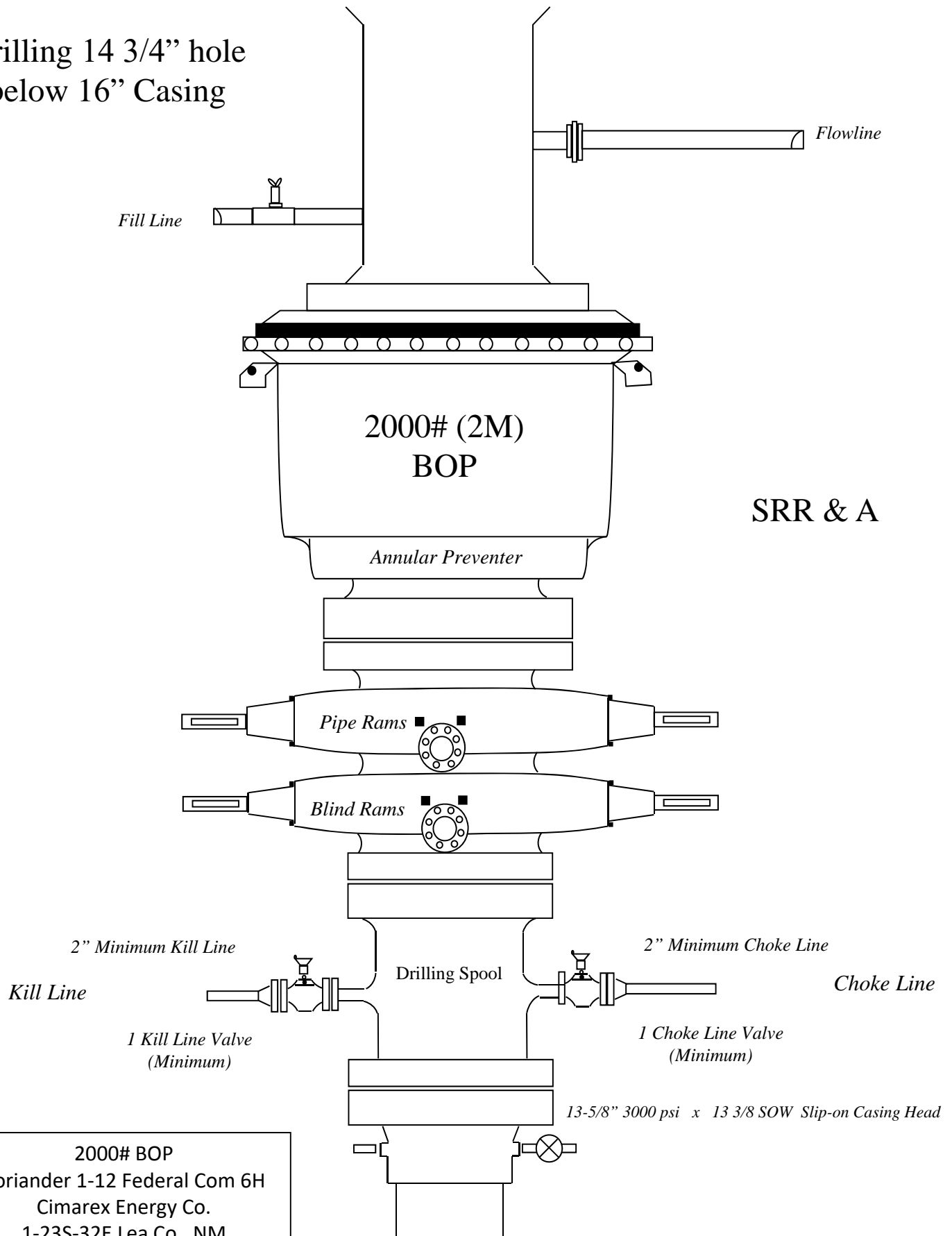
3" Minimum

Adjustable
Choke

3" Choke
Isolation
Valve

Choke Manifold Diagram
Coriander 1-12 Fed Com 6H
Cimarex Energy Co.
33-25S-33E
Lea Co., NM

Drilling 14 3/4" hole
below 16" Casing



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

Fill Line

Flowline

5000# (5M)
BOP

Annular Preventer

SRR & A

Pipe Rams

Blind Rams

2" Minimum Kill Line

Kill Line

Drilling
Spool

3" minimum choke line

Choke Line

2 Valves Minimum

(HCR Required)

2 Valves and a check valve

Wellhead
Assembly

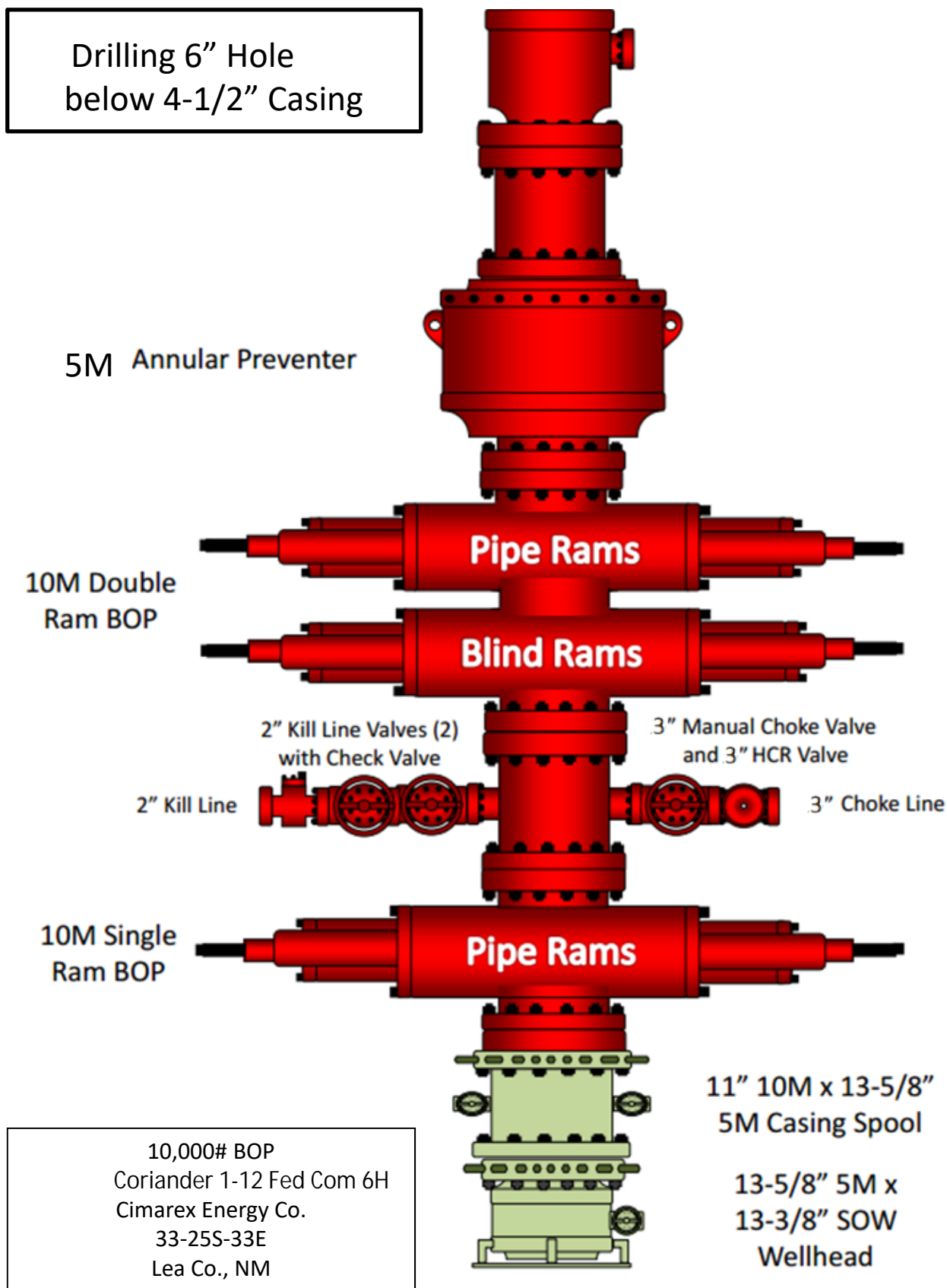
11" 5000 psi x 7-1/16" 10,000 psi
Wellhead Assembly

Wellhead
Assembly

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

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

5000# BOP
Coriander 1-12 Federal Com 6H
Cimarex Energy Co.
1-23S-32E Lea Co., NM



Coriander 1-12 Federal Com 6H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1306	1306	13-3/8"	48.00	H-40	ST&C	1.31	3.06	5.14
12 1/4	0	4977	4977	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	11751	11751	7"	29.00	L-80	LT&C	1.28	1.48	1.66
8 3/4	11751	12502	12191	7"	29.00	P-110	BT&C	1.50	1.97	72.81
6	10751	22267	12230	4-1/2"	11.60	P-110	BT&C	1.25	1.77	21.39
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Coriander 1-12 Federal Com 6H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1306	1306	13-3/8"	48.00	H-40	ST&C	1.31	3.06	5.14
12 1/4	0	4977	4977	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	11751	11751	7"	29.00	L-80	LT&C	1.28	1.48	1.66
8 3/4	11751	12502	12191	7"	29.00	P-110	BT&C	1.50	1.97	72.81
6	10751	22267	12230	4-1/2"	11.60	P-110	BT&C	1.25	1.77	21.39
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Coriander 1-12 Federal Com 6H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1306	1306	13-3/8"	48.00	H-40	ST&C	1.31	3.06	5.14
12 1/4	0	4977	4977	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	11751	11751	7"	29.00	L-80	LT&C	1.28	1.48	1.66
8 3/4	11751	12502	12191	7"	29.00	P-110	BT&C	1.50	1.97	72.81
6	10751	22267	12230	4-1/2"	11.60	P-110	BT&C	1.25	1.77	21.39
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Coriander 1-12 Federal Com 6H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1306	1306	13-3/8"	48.00	H-40	ST&C	1.31	3.06	5.14
12 1/4	0	4977	4977	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	11751	11751	7"	29.00	L-80	LT&C	1.28	1.48	1.66
8 3/4	11751	12502	12191	7"	29.00	P-110	BT&C	1.50	1.97	72.81
6	10751	22267	12230	4-1/2"	11.60	P-110	BT&C	1.25	1.77	21.39
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Coriander 1-12 Federal Com 6H

Casing Assumptions

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
20	0	1306	1306	16"	75.00	J-55	BT&C	1.80	4.65	12.03
14 3/4	0	4967	4967	10-3/4"	45.50	N-80	BT&C	1.11	1.96	4.60
9 7/8	0	12502	12191	7-5/8"	29.70	L-80	BT&C	2.51	1.21	1.83
6 3/4	0	11751	11751	5-1/2"	23.00	L-80	LT&C	1.52	1.35	2.22
6 3/4	11751	22267	12230	5"	18.00	P-110	BT&C	1.76	1.78	67.27
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Coriander 1-12 Federal Com 6H

Casing Assumptions

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1306	1306	13-3/8"	48.00	H-40	ST&C	1.31	3.06	5.14
12 1/4	0	4977	4977	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	11751	11751	7"	29.00	L-80	LT&C	1.28	1.48	1.66
8 3/4	11751	12502	12191	7"	29.00	P-110	BT&C	1.50	1.97	72.81
6	10751	22267	12230	4-1/2"	11.60	P-110	BT&C	1.25	1.77	21.39
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

Coriander 1-12 Federal Com 6H

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

H₂S Detection and Alarm Systems:

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

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

H₂S Contingency Plan
Coriander 1-12 Federal Com 6H
Cimarex Energy Co. Sec. 1, 23S, 32E Lea
Co., NM

Emergency Procedures

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

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

Ignition of Gas Source

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

Characteristics of H₂S and SO₂

Please see attached International Chemical Safety Cards.

Contacting Authorities

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

H₂S Contingency Plan Emergency Contact
 s **Coriander 1-12 Federal Com 6H** 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
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Medical

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

Other

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



Cimarex Coriander 1-12 Federal Com 6H Rev0 kFc 04Jan22 Proposal

Geodetic Report

(Def Plan)



Report Date: January 05, 2022 - 07:16 AM
Client: Cimarex
Field: NM Lea County (NAD 83)
Structure / Slot: Cimarex Coriander 1-12 Federal Com Lot 1 Pad / 6H
Well: Coriander 1-12 Federal Com 6H
Borehole: Coriander 1-12 Federal Com 6H
UWI / API#: Unknown / Unknown
Survey Name: Cimarex Coriander 1-12 Federal Com 6H Rev0 kFc 04Jan22
Survey Date: January 04, 2022
Tort / AHD / DDI / ERD Ratio: 117.000 ° / 11205.958 ft / 6.378 / 0.916
Coordinate Reference System: NAD83 New Mexico State Plane, Eastern Zone, US Feet
Location Lat / Long: N 32° 20' 25.15403", W 103° 37' 18.53866"
Location Grid N/E Y/X: N 488270.540 ftUS, E 761083.160 ftUS
CRS Grid Convergence Angle: 0.3806 °
Grid Scale Factor: 0.99996439
Version / Patch: 2.10.826.8

Survey / DLS Computation: Minimum Curvature / Lubinski
Vertical Section Azimuth: 179.620 ° (Grid North)
Vertical Section Origin: 0.000 ft, 0.000 ft
TVD Reference Datum: RKB
TVD Reference Elevation: 3772.200 ft above MSL
Seabed / Ground Elevation: 3749.200 ft above MSL
Magnetic Declination: 6.401 °
Total Gravity Field Strength: 998.4399mgn (9.80665 Based)
Gravity Model: GARM
Total Magnetic Field Strength: 47722.505 nT
Magnetic Dip Angle: 59.983 °
Declination Date: January 04, 2022
Magnetic Declination Model: HDGM 2021
North Reference: Grid North
Grid Convergence Used: 0.3806 °
Total Corr Mag North->Grid North: 6.0201 °
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 [271° FNL, 631° FEL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	N/A	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	100.00	0.00	269.29	100.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	200.00	0.00	269.29	200.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	300.00	0.00	269.29	300.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	400.00	0.00	269.29	400.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	500.00	0.00	269.29	500.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	600.00	0.00	269.29	600.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	700.00	0.00	269.29	700.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	800.00	0.00	269.29	800.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	900.00	0.00	269.29	900.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	1000.00	0.00	269.29	1000.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	1100.00	0.00	269.29	1100.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
Nudge, Build 2"/100ft	1200.00	0.00	269.29	1200.00	0.00	0.00	0.00	0.00	488270.54	761083.16	N 32 20 25.15	W 103 37 18.54
	1300.00	2.00	269.29	1299.98	0.01	-0.02	-1.75	2.00	488270.52	761081.42	N 32 20 25.15	W 103 37 18.56
	1400.00	4.00	269.29	1399.84	0.04	-0.09	-6.98	2.00	488270.45	761076.18	N 32 20 25.15	W 103 37 18.62
	1500.00	6.00	269.29	1499.45	0.09	-0.20	-15.69	2.00	488270.34	761067.47	N 32 20 25.15	W 103 37 18.72
	1600.00	8.00	269.29	1598.70	0.16	-0.35	-27.88	2.00	488270.19	761055.28	N 32 20 25.15	W 103 37 18.86
	1700.00	10.00	269.29	1697.47	0.25	-0.54	-43.52	2.00	488270.00	761039.64	N 32 20 25.15	W 103 37 19.05
	1800.00	12.00	269.29	1795.62	0.36	-0.78	-62.60	2.00	488269.76	761020.56	N 32 20 25.15	W 103 37 19.27
Hold	1875.00	13.50	269.29	1868.77	0.46	-0.98	-79.15	2.00	488269.56	761004.02	N 32 20 25.15	W 103 37 19.46
	1900.00	13.50	269.29	1893.08	0.49	-1.06	-84.98	0.00	488269.48	760998.18	N 32 20 25.15	W 103 37 19.53
	2000.00	13.50	269.29	1990.32	0.63	-1.35	-108.33	0.00	488269.19	760974.84	N 32 20 25.15	W 103 37 19.80
	2100.00	13.50	269.29	2087.56	0.77	-1.64	-131.67	0.00	488268.90	760951.50	N 32 20 25.15	W 103 37 20.07
	2200.00	13.50	269.29	2184.79	0.90	-1.93	-155.01	0.00	488268.61	760928.15	N 32 20 25.15	W 103 37 20.35
	2300.00	13.50	269.29	2282.03	1.04	-2.22	-178.35	0.00	488268.32	760904.81	N 32 20 25.14	W 103 37 20.62
	2400.00	13.50	269.29	2379.27	1.17	-2.51	-201.70	0.00	488268.03	760881.47	N 32 20 25.14	W 103 37 20.89
	2500.00	13.50	269.29	2476.50	1.31	-2.80	-225.04	0.00	488267.74	760858.13	N 32 20 25.14	W 103 37 21.16
	2600.00	13.50	269.29	2573.74	1.44	-3.09	-248.38	0.00	488267.45	760834.79	N 32 20 25.14	W 103 37 21.43
	2700.00	13.50	269.29	2670.98	1.58	-3.38	-271.72	0.00	488267.16	760811.45	N 32 20 25.14	W 103 37 21.71
	2800.00	13.50	269.29	2768.21	1.72	-3.67	-295.07	0.00	488266.87	760788.10	N 32 20 25.14	W 103 37 21.98
	2900.00	13.50	269.29	2865.45	1.85	-3.96	-318.41	0.00	488266.58	760764.76	N 32 20 25.14	W 103 37 22.25
	3000.00	13.50	269.29	2962.69	1.99	-4.25	-341.75	0.00	488266.29	760741.42	N 32 20 25.13	W 103 37 22.52
	3100.00	13.50	269.29	3059.93	2.12	-4.54	-365.09	0.00	488266.00	760718.08	N 32 20 25.13	W 103 37 22.79
	3200.00	13.50	269.29	3157.16	2.26	-4.83	-388.44	0.00	488265.71	760694.74	N 32 20 25.13	W 103 37 23.07
	3300.00	13.50	269.29	3254.40	2.39	-5.12	-411.78	0.00	488265.42	760671.40	N 32 20 25.13	W 103 37 23.34
	3400.00	13.50	269.29	3351.64	2.53	-5.42	-435.12	0.00	488265.13	760648.05	N 32 20 25.13	W 103 37 23.61
	3500.00	13.50	269.29	3448.87	2.66	-5.71	-458.46	0.00	488264.83	760624.71	N 32 20 25.13	W 103 37 23.88
	3600.00	13.50	269.29	3546.11	2.80	-6.00	-481.81	0.00	488264.54	760601.37	N 32 20 25.13	W 103 37 24.15
	3700.00	13.50	269.29	3643.35	2.94	-6.29	-505.15	0.00	488264.25	760578.03	N 32 20 25.12	W 103 37 24.43
	3800.00	13.50	269.29	3740.58	3.07	-6.58	-528.49	0.00	488263.96	760554.69	N 32 20 25.12	W 103 37 24.70
	3900.00	13.50	269.29	3837.82	3.21	-6.87	-551.84	0.00	488263.67	760531.35	N 32 20 25.12	W 103 37 24.97
	4000.00	13.50	269.29	3935.06	3.34	-7.16	-575.18	0.00	488263.38	760508.00	N 32 20 25.12	W 103 37 25.24
	4100.00	13.50	269.29	4032.30	3.48	-7.45	-598.52	0.00	488263.09	760484.66	N 32 20 25.12	W 103 37 25.52
	4200.00	13.50	269.29	4129.53	3.61	-7.74	-621.86	0.00	488262.80	760461.32	N 32 20 25.12	W 103 37 25.79
	4300.00	13.50	269.29	4226.77	3.75	-8.03	-645.21	0.00	488262.51	760437.98	N 32 20 25.12	W 103 37 26.06
	4400.00	13.50	269.29	4324.01	3.89	-8.32	-668.55	0.00	488262.22	760414.64	N 32 20 25.12	W 103 37 26.33
NMNM081274 Lease Crossing	4493.02	13.50	269.29	4414.45	4.01	-8.59	-690.26	0.00	488261.95	760392.93	N 32 20 25.11	W 103 37 26.58
	4500.00	13.50	269.29	4421.24	4.02	-8.61	-691.89	0.00	488261.93	760391.30	N 32 20 25.11	W 103 37 26.60
	4600.00	13.50	269.29	4518.48	4.16	-8.90	-715.23	0.00	488261.64	760367.95	N 32 20 25.11	W 103 37 26.88
	4700.00	13.50	269.29	4615.72	4.29	-9.19	-738.58	0.00	488261.35	760344.61	N 32 20 25.11	W 103 37 27.15
	4800.00	13.50	269.29	4712.95	4.43	-9.48	-761.92	0.00	488261.06	760321.27	N 32 20 25.11	W 103 37 27.42
	4900.00	13.50	269.29	4810.19	4.56	-9.77	-785.26	0.00	488260.77	760297.93	N 32 20 25.11	W 103 37 27.69
	5000.00	13.50	269.29	4907.43	4.70	-10.06	-808.60	0.00	488260.48	760274.59	N 32 20 25.11	W 103 37 27.96
	5100.00	13.50	269.29	5004.67	4.84	-10.35	-831.95	0.00	488260.19	760251.25	N 32 20 25.11	W 103 37 28.24
	5200.00	13.50	269.29	5101.90	4.97	-10.64	-855.29	0.00	488259.90	760227.90	N 32 20 25.10	W 103 37 28.51
	5300.00	13.50	269.29	5199.14	5.11	-10.93	-878.63	0.00	488259.61	760204.56	N 32 20 25.10	W 103 37 28.78
	5400.00	13.50	269.29	5296.38	5.24	-11.22	-901.97	0.00	488259.32	760181.22	N 32 20 25.10	W 103 37 29.05
	5500.00	13.50	269.29	5393.61	5.38	-11.52	-925.32	0.00	488259.03	760157.88	N 32 20 25.10	W 103 37 29.32
Drop 2"/100ft	5561.85	13.50	269.29	5453.75	5.46	-11.70	-939.75	0.00	488258.85	760143.44	N 32 20 25.10	W 103 37 29.49
	5600.00	12.74	269.29	5490.91	5.51	-11.80	-948.41	2.00	488258.74	760134.78	N 32 20 25.10	W 103 37 29.59
	5700.00	10.74	269.29	5588.81	5.63	-12.06	-968.75	2.00	488258.48	760114.45	N 32 20 25.10	W 103 37 29.83
	5800.00	8.74	269.29	5687.37	5.73	-12.27	-985.66	2.00	488258.27	760097.54	N 32 20 25.10	W 103 37 30.03
	5900.00	6.74	269.29	5786.45	5.81	-12.43	-999.12	2.00	488258.11	760084.08	N 32 20 25.10	W 103 37 30.18
	6000.00	4.74	269.29	5885.95	5.87	-12.56	-1009.12	2.00	488257.98	760074.08	N 32 20 25.10	W 103 37 30.30
	6100.00	2.74	269.29	5985.73	5.90	-12.64	-1015.63	2.00	488257.90	760067.57	N 32 20 25.10	W 103 37 30.38
	6200.00	0.74	269.29	6085.68	5.92	-12.68	-1018.66	2.00	488257.86	760064.54	N 32 20 25.10	W 103 37 30.41
Hold	6236.84	0.00	269.29	6122.52	5.92	-12.68	-1018.90	2.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	6300.00	0.00	269.29	6185.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	6400.00	0.00	269.29	6285.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	6500.00	0.00	269.29	6385.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	6600.00	0.00	269.29	6485.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30

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 ° ' ")
	7100.00	0.00	269.29	6985.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	7200.00	0.00	269.29	7085.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	7300.00	0.00	269.29	7185.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	7400.00	0.00	269.29	7285.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	7500.00	0.00	269.29	7385.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	7600.00	0.00	269.29	7485.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	7700.00	0.00	269.29	7585.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	7800.00	0.00	269.29	7685.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	7900.00	0.00	269.29	7785.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8000.00	0.00	269.29	7885.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8100.00	0.00	269.29	7985.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8200.00	0.00	269.29	8085.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8300.00	0.00	269.29	8185.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8400.00	0.00	269.29	8285.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8500.00	0.00	269.29	8385.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8600.00	0.00	269.29	8485.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8700.00	0.00	269.29	8585.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8800.00	0.00	269.29	8685.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	8900.00	0.00	269.29	8785.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9000.00	0.00	269.29	8885.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9100.00	0.00	269.29	8985.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9200.00	0.00	269.29	9085.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9300.00	0.00	269.29	9185.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9400.00	0.00	269.29	9285.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9500.00	0.00	269.29	9385.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9600.00	0.00	269.29	9485.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9700.00	0.00	269.29	9585.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9800.00	0.00	269.29	9685.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	9900.00	0.00	269.29	9785.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10000.00	0.00	269.29	9885.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10100.00	0.00	269.29	9985.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10200.00	0.00	269.29	10085.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10300.00	0.00	269.29	10185.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10400.00	0.00	269.29	10285.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10500.00	0.00	269.29	10385.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10600.00	0.00	269.29	10485.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10700.00	0.00	269.29	10585.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10800.00	0.00	269.29	10685.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	10900.00	0.00	269.29	10785.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	11000.00	0.00	269.29	10885.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	11100.00	0.00	269.29	10985.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	11200.00	0.00	269.29	11085.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	11300.00	0.00	269.29	11185.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	11400.00	0.00	269.29	11285.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	11500.00	0.00	269.29	11385.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	11600.00	0.00	269.29	11485.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	11700.00	0.00	269.29	11585.68	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
KOP, Build 10"/100ft	11751.84	0.00	269.29	11637.52	5.92	-12.68	-1018.90	0.00	488257.86	760064.30	N 32 20 25.10	W 103 37 30.42
	11800.00	4.82	179.62	11685.62	7.94	-14.70	-1018.89	10.00	488255.84	760064.31	N 32 20 25.08	W 103 37 30.42
	11900.00	14.82	179.62	11784.03	24.97	-31.73	-1018.77	10.00	488238.81	760064.43	N 32 20 24.91	W 103 37 30.42
	12000.00	24.82	179.62	11877.99	58.83	-65.58	-1018.55	10.00	488204.96	760064.65	N 32 20 24.57	W 103 37 30.42
	12100.00	34.82	179.62	11964.64	108.49	-115.24	-1018.22	10.00	488155.30	760064.98	N 32 20 24.08	W 103 37 30.42
	12200.00	44.82	179.62	12041.36	172.44	-179.19	-1017.79	10.00	488091.36	760065.41	N 32 20 23.45	W 103 37 30.42
	12300.00	54.82	179.62	12105.80	248.74	-255.49	-1017.28	10.00	488015.06	760065.92	N 32 20 22.69	W 103 37 30.42
	12400.00	64.82	179.62	12156.01	335.07	-341.82	-1016.71	10.00	487928.73	760066.49	N 32 20 21.84	W 103 37 30.41
	12500.00	74.82	179.62	12190.47	428.81	-435.56	-1016.08	10.00	487835.00	760067.12	N 32 20 20.91	W 103 37 30.41
Build 5"/100ft	12501.84	75.00	179.62	12190.95	430.59	-437.34	-1016.07	10.00	487833.22	760067.13	N 32 20 20.89	W 103 37 30.41
	12600.00	79.91	179.62	12212.27	526.37	-533.12	-1015.43	5.00	487737.44	760067.77	N 32 20 19.95	W 103 37 30.41
	12700.00	84.91	179.62	12225.48	625.46	-632.21	-1014.77	5.00	487638.36	760068.43	N 32 20 18.97	W 103 37 30.41
Landing Point	12800.00	89.91	179.62	12230.00	725.33	-732.07	-1014.10	5.00	487538.50	760069.09	N 32 20 17.98	W 103 37 30.41
	12801.84	90.00	179.62	12230.00	727.17	-733.91	-1014.09	5.00	487536.65	760069.11	N 32 20 17.96	W 103 37 30.41
	12900.00	90.00	179.62	12230.00	825.33	-832.07	-1013.44	0.00	487438.50	760069.76	N 32 20 16.99	W 103 37 30.41
	13000.00	90.00	179.62	12230.00	925.33	-932.07	-1012.77	0.00	487338.51	760070.43	N 32 20 16.00	W 103 37 30.41
	13100.00	90.00	179.62	12230.00	1025.33	-1032.06	-1012.11	0.00	487238.51	760071.09	N 32 20 15.01	W 103 37 30.41
	13200.00	90.00	179.62	12230.00	1125.33	-1132.06	-1011.44	0.00	487138.52	760071.76	N 32 20 14.02	W 103 37 30.41
	13300.00	90.00	179.62	12230.00	1225.33	-1232.06	-1010.78	0.00	487038.53	760072.42	N 32 20 13.03	W 103 37 30.41
	13400.00	90.00	179.62	12230.00	1325.33	-1332.06	-1010.11	0.00	486938.53	760073.09	N 32 20 12.04	W 103 37 30.41
	13500.00	90.00	179.62	12230.00	1425.33	-1432.06	-1009.44	0.00	486838.54	760073.75	N 32 20 11.05	W 103 37 30.41
	13600.00	90.00	179.62	12230.00	1525.33	-1532.05	-1008.78	0.00	486738.54	760074.42	N 32 20 10.06	W 103 37 30.41
	13700.00	90.00	179.62	12230.00	1625.33	-1632.05	-1008.11	0.00	486638.55	760075.09	N 32 20 9.07	W 103 37 30.41
	13800.00	90.00	179.62	12230.00	1725.33	-1732.05	-1007.45	0.00	486538.56	760075.75	N 32 20 8.08	W 103 37 30.41
	13900.00	90.00	179.62	12230.00	1825.33	-1832.05	-1006.78	0.00	486438.56	760076.42	N 32 20 7.09	W 103 37 30.41
	14000.00	90.00	179.62	12230.00	1925.33	-1932.04	-1006.11	0.00	486338.57	760077.08	N 32 20 6.10	W 103 37 30.41
	14100.00	90.00	179.62	12230.00	2025.33	-2032.04	-1005.45	0.00	486238.57	760077.75	N 32 20 5.11	W 103 37 30.41
	14200.00	90.00	179.62	12230.00	2125.33	-2132.04	-1004.78	0.00	486138.58	760078.42	N 32 20 4.12	W 103 37 30.41
	14300.00	90.00	179.62	12230.00	2225.33	-2232.04	-1004.12	0.00				

Comments	MD (ft)	Incl (°)	Azim Grid (°)	TVD (ft)	VSEC (ft)	NS (ft)	EW (ft)	DLS (°/100ft)	Northing (ftUS)	Easting (ftUS)	Latitude (N/S ° ' ")	Longitude (E/W ° ' ")
	17100.00	90.00	179.62	12230.00	5025.33	-5031.96	-985.47	0.00	483238.75	760097.73	N 32 19 35.43	W 103 37 30.41
	17200.00	90.00	179.62	12230.00	5125.33	-5131.97	-984.80	0.00	483138.76	760098.39	N 32 19 34.44	W 103 37 30.41
	17300.00	90.00	179.62	12230.00	5225.33	-5231.97	-984.14	0.00	483038.77	760099.06	N 32 19 33.45	W 103 37 30.41
	17400.00	90.00	179.62	12230.00	5325.33	-5331.97	-983.47	0.00	482938.77	760099.73	N 32 19 32.46	W 103 37 30.41
	17500.00	90.00	179.62	12230.00	5425.33	-5431.97	-982.81	0.00	482838.78	760100.39	N 32 19 31.47	W 103 37 30.41
	17600.00	90.00	179.62	12230.00	5525.33	-5531.96	-982.14	0.00	482738.78	760101.06	N 32 19 30.48	W 103 37 30.41
	17700.00	90.00	179.62	12230.00	5625.33	-5631.96	-981.47	0.00	482638.79	760101.72	N 32 19 29.49	W 103 37 30.41
	17800.00	90.00	179.62	12230.00	5725.33	-5731.96	-980.81	0.00	482538.80	760102.39	N 32 19 28.50	W 103 37 30.41
	17900.00	90.00	179.62	12230.00	5825.33	-5831.96	-980.14	0.00	482438.80	760103.06	N 32 19 27.51	W 103 37 30.41
	18000.00	90.00	179.62	12230.00	5925.33	-5931.96	-979.48	0.00	482338.81	760103.72	N 32 19 26.52	W 103 37 30.41
	18100.00	90.00	179.62	12230.00	6025.33	-6031.95	-978.81	0.00	482238.81	760104.39	N 32 19 25.53	W 103 37 30.41
	18200.00	90.00	179.62	12230.00	6125.33	-6131.95	-978.14	0.00	482138.82	760105.05	N 32 19 24.54	W 103 37 30.41
	18300.00	90.00	179.62	12230.00	6225.33	-6231.95	-977.48	0.00	482038.82	760105.72	N 32 19 23.55	W 103 37 30.41
	18400.00	90.00	179.62	12230.00	6325.33	-6331.95	-976.81	0.00	481938.83	760106.38	N 32 19 22.56	W 103 37 30.41
	18500.00	90.00	179.62	12230.00	6425.33	-6431.94	-976.15	0.00	481838.84	760107.05	N 32 19 21.58	W 103 37 30.41
	18600.00	90.00	179.62	12230.00	6525.33	-6531.94	-975.48	0.00	481738.84	760107.72	N 32 19 20.59	W 103 37 30.41
	18700.00	90.00	179.62	12230.00	6625.33	-6631.94	-974.81	0.00	481638.85	760108.38	N 32 19 19.60	W 103 37 30.41
	18800.00	90.00	179.62	12230.00	6725.33	-6731.94	-974.15	0.00	481538.85	760109.05	N 32 19 18.61	W 103 37 30.41
	18900.00	90.00	179.62	12230.00	6825.33	-6831.94	-973.48	0.00	481438.86	760109.71	N 32 19 17.62	W 103 37 30.41
	19000.00	90.00	179.62	12230.00	6925.33	-6931.93	-972.82	0.00	481338.87	760110.38	N 32 19 16.63	W 103 37 30.41
	19100.00	90.00	179.62	12230.00	7025.33	-7031.93	-972.15	0.00	481238.87	760111.05	N 32 19 15.64	W 103 37 30.41
	19200.00	90.00	179.62	12230.00	7125.33	-7131.93	-971.48	0.00	481138.88	760111.71	N 32 19 14.65	W 103 37 30.41
	19300.00	90.00	179.62	12230.00	7225.33	-7231.93	-970.82	0.00	481038.88	760112.38	N 32 19 13.66	W 103 37 30.41
	19400.00	90.00	179.62	12230.00	7325.33	-7331.92	-970.15	0.00	480938.89	760113.04	N 32 19 12.67	W 103 37 30.41
	19500.00	90.00	179.62	12230.00	7425.33	-7431.92	-969.49	0.00	480838.90	760113.71	N 32 19 11.68	W 103 37 30.41
	19600.00	90.00	179.62	12230.00	7525.33	-7531.92	-968.82	0.00	480738.90	760114.38	N 32 19 10.69	W 103 37 30.41
	19700.00	90.00	179.62	12230.00	7625.33	-7631.92	-968.15	0.00	480638.91	760115.04	N 32 19 9.70	W 103 37 30.41
	19800.00	90.00	179.62	12230.00	7725.33	-7731.92	-967.49	0.00	480538.91	760115.71	N 32 19 8.71	W 103 37 30.41
	19900.00	90.00	179.62	12230.00	7825.33	-7831.91	-966.82	0.00	480438.92	760116.37	N 32 19 7.72	W 103 37 30.41
	20000.00	90.00	179.62	12230.00	7925.33	-7931.91	-966.16	0.00	480338.93	760117.04	N 32 19 6.73	W 103 37 30.41
	20100.00	90.00	179.62	12230.00	8025.33	-8031.91	-965.49	0.00	480238.93	760117.71	N 32 19 5.74	W 103 37 30.41
	20200.00	90.00	179.62	12230.00	8125.33	-8131.91	-964.82	0.00	480138.94	760118.37	N 32 19 4.75	W 103 37 30.41
	20300.00	90.00	179.62	12230.00	8225.33	-8231.91	-964.16	0.00	480038.94	760119.04	N 32 19 3.76	W 103 37 30.41
	20400.00	90.00	179.62	12230.00	8325.33	-8331.90	-963.49	0.00	479938.95	760119.70	N 32 19 2.77	W 103 37 30.41
	20500.00	90.00	179.62	12230.00	8425.33	-8431.90	-962.83	0.00	479838.96	760120.37	N 32 19 1.79	W 103 37 30.41
	20600.00	90.00	179.62	12230.00	8525.33	-8531.90	-962.16	0.00	479738.96	760121.04	N 32 19 0.80	W 103 37 30.41
	20700.00	90.00	179.62	12230.00	8625.33	-8631.90	-961.49	0.00	479638.97	760121.70	N 32 18 59.81	W 103 37 30.41
	20800.00	90.00	179.62	12230.00	8725.33	-8731.89	-960.83	0.00	479538.97	760122.37	N 32 18 58.82	W 103 37 30.41
	20900.00	90.00	179.62	12230.00	8825.33	-8831.89	-960.16	0.00	479438.98	760123.03	N 32 18 57.83	W 103 37 30.41
	21000.00	90.00	179.62	12230.00	8925.33	-8931.89	-959.50	0.00	479338.99	760123.70	N 32 18 56.84	W 103 37 30.41
	21100.00	90.00	179.62	12230.00	9025.33	-9031.89	-958.83	0.00	479238.99	760124.36	N 32 18 55.85	W 103 37 30.41
	21200.00	90.00	179.62	12230.00	9125.33	-9131.89	-958.17	0.00	479139.00	760125.03	N 32 18 54.86	W 103 37 30.41
	21300.00	90.00	179.62	12230.00	9225.33	-9231.88	-957.50	0.00	479039.00	760125.70	N 32 18 53.87	W 103 37 30.41
	21400.00	90.00	179.62	12230.00	9325.33	-9331.88	-956.83	0.00	478939.01	760126.36	N 32 18 52.88	W 103 37 30.41
	21500.00	90.00	179.62	12230.00	9425.33	-9431.88	-956.17	0.00	478839.02	760127.03	N 32 18 51.89	W 103 37 30.41
	21600.00	90.00	179.62	12230.00	9525.33	-9531.88	-955.50	0.00	478739.02	760127.69	N 32 18 50.90	W 103 37 30.41
	21700.00	90.00	179.62	12230.00	9625.33	-9631.87	-954.84	0.00	478639.03	760128.36	N 32 18 49.91	W 103 37 30.41
	21800.00	90.00	179.62	12230.00	9725.33	-9731.87	-954.17	0.00	478539.03	760129.03	N 32 18 48.92	W 103 37 30.41
	21900.00	90.00	179.62	12230.00	9825.33	-9831.87	-953.50	0.00	478439.04	760129.69	N 32 18 47.93	W 103 37 30.41
	22000.00	90.00	179.62	12230.00	9925.33	-9931.87	-952.84	0.00	478339.05	760130.36	N 32 18 46.94	W 103 37 30.41
	22100.00	90.00	179.62	12230.00	10025.33	-10031.87	-952.17	0.00	478239.05	760131.02	N 32 18 45.95	W 103 37 30.41
	22200.00	90.00	179.62	12230.00	10125.33	-10131.86	-951.51	0.00	478139.06	760131.69	N 32 18 44.96	W 103 37 30.41

Coriander 1-12
Federal Com 6H
-BHL [100' FSL,
1650' FEL]

22267.57 90.00 179.62 12230.00 10192.90 -10199.43 -951.06 0.00 478071.49 760132.14 N 32 18 44.30 W 103 37 30.41

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 6H /
	1	23.000	22267.572	1/100.000	30.000	30.000		A001Mb_MWD	Cimarex Coriander 1-12 Federal Coriander 1-12 Federal Com 6H / Cimarex Coriander 1-12 Federal



Cimarex

Rev 0



Borehole:	Well:	Field:	Structure:
Coriander 1-12 Federal Com 6H	Coriander 1-12 Federal Com 6H	NM Lea County (NAD 83)	Cimarex Coriander 1-12 Federal Com Lot 1 Pad

Gravity & Magnetic Parameters	Dip:	Date:	Surface Location	NAD83 New Mexico State Plane, Eastern Zone, US Feet	Grid Conv:	Miscellaneous	TVD Ref:
Model: HDGM 2021 MagDec: 6.401°	59.983° FS: 47722.509mT	04-Jan-2022 Gravity FS: 998.44mgm (9.80665 Based)	Lat: N 32 20 25.15 Lon: W 103 37 18.54	Northing: 488270.541US Easting: 761083.161US	0.3806° Scale Fact: 0.99996439	Slot: 6H Plan: Cimarex Coriander 1-12 Federal Com 6H Rev0 KfC 04Jan22	RKB = 23ft (3772.2ft above MSL)

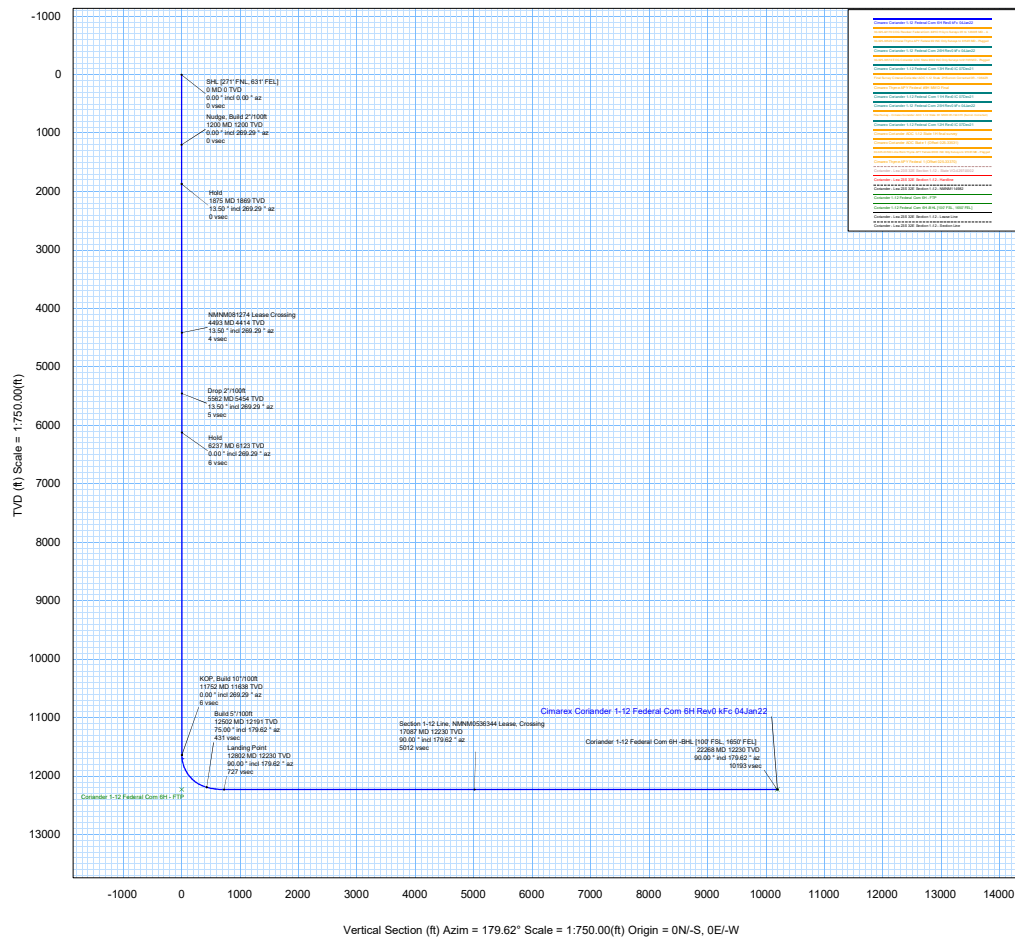
Critical Points							
Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)
SHL [271° FNL, 631° FEL]	0.00		0.00	0.00	0.00		
Nudge, Build 2°/100ft	1200.00	0.00	269.29	1200.00	0.00		
Hold	1875.00	13.50	269.29	1868.77	0.46	-0.98	-79.15
NMN081274 Lease Crossing	4493.02	13.50	269.29	4414.45	4.01	-8.59	-690.26
Drop 2°/100ft	5561.85	13.50	269.29	5453.75	5.46	-11.70	-939.75
Hold	6236.84	0.00	269.29	6122.52	5.92	-12.68	-1018.90
KOP, Build 10°/100ft	11751.84	0.00	269.29	11637.52	5.92	-12.68	-1018.90
Build 5°/100ft	12501.84	75.00	179.62	12190.95	430.59	-437.34	-1016.07
Landing Point	12801.84	90.00	179.62	12230.00	727.17	-733.91	-1014.09
Section 1-12 Line, NMN0536344 Lease, Crossing	17086.79	90.00	179.62	12230.00	5012.12	-5018.77	-985.56
Coriander 1-12 Federal Com 6H -BHL [100° FSL, 1650° FEL]	22267.57	90.00	179.62	12230.00	10199.43	-10199.43	-951.06



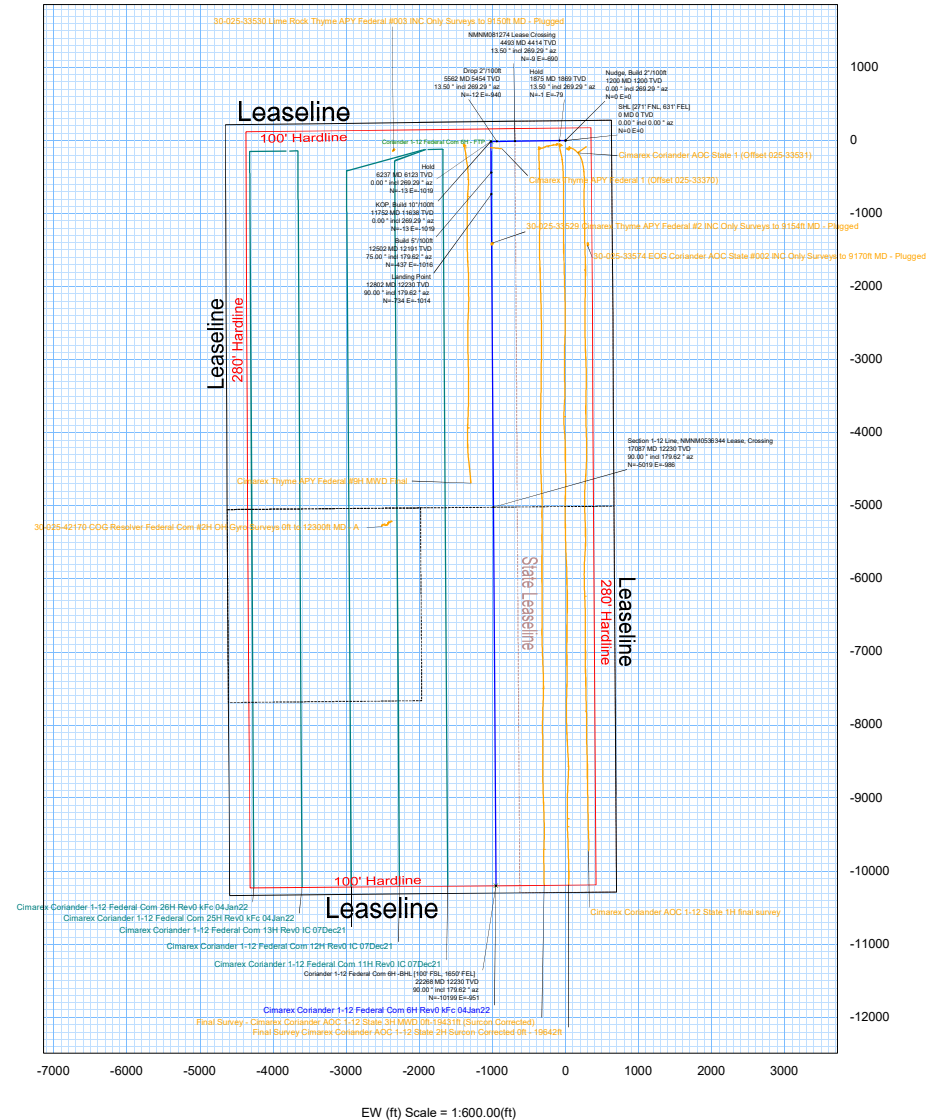
Grid
True
Mag

Grid North
Tot Corr (M→G 6.020°)
Mag Dec (6.401°)
Grid Conv (0.381°)

CONTROLLED	
Plan ref	04Jan22
Drawing ref	
Copy number	of 3
Date	04-Jan-2022
1 Client	
2 Client	
3 Office	
4 Office	
Copy number	for



NS (ft) Scale = 1:600.00(ft)





Cimarex Coriander 1-12 Federal Com 6H Rev0 kFc 04Jan22 Anti-Collision Summary Report

Analysis Date-24hr Time: January 05, 2022 - 07:02

Client: Cimarex

Field: NM Lea County (NAD 83)

Structure: Cimarex Coriander 1-12 Federal Com Lot 1 Pad

Slot: 6H

Well: Coriander 1-12 Federal Com 6H

Borehole: Coriander 1-12 Federal Com 6H

Scan MD Range: 0.00ft ~ 22267.57ft

Analysis Method: 3D Least Distance

Reference Trajectory: Cimarex Coriander 1-12 Federal Com 6H Rev0 kFc 04Jan22 (Def Plan)

Depth Interval: Every 10.00 Measured Depth (ft)

Rule Set: NAL Procedure: D&M AntiCollision Standard S002

Min Pts: All local minima indicated.

Version / Patch: 2.10.826.8

Database \ Project: Us1455vsm3172\drilling-NM Lea County 2.10

Trajectory Error Model: ISCSA0 3-D 95.000% Confidence 2.7955 sigma

Offset Trajectories Summary

Offset Selection Criteria
Wellhead distance scan:
Selection filters:
Not performed!
Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status	
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major			
Cimarex Thyme APY Federal 1 (Offset 025-33370) (Def Survey)														Fail Major
	1034.61	32.81	1032.11	1001.80	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
	1034.47	32.81	1031.95	1001.66	53022.02	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF	
	1034.41	32.81	1031.86	1001.61	19409.34	MAS = 10.00 (m)	23.00	23.00					WRP	
	603.52	182.96	480.71	420.55	5.00	OSF1.50	3230.00	3186.33	OSF<5.00				Enter Alert	
	264.04	266.69	85.41	-2.65	1.48	OSF1.50	4640.00	4557.38		OSF<1.50			Enter Minor	
	194.06	290.42	-0.39	-96.36	1.00	OSF1.50	4920.00	4829.64			OSF<1.00		Enter Major	
	92.89	340.35	-134.84	-247.46	0.40	OSF1.50	5580.00	5471.42					MinPt-CtCt	
	93.20	342.32	-135.84	-249.12	0.40	OSF1.50	5610.00	5500.67					MinPt-O-SF	
	94.40	344.88	-136.36	-250.48	0.40	OSF1.50	5650.00	5539.77					MINPT-O-EOU	
	97.44	348.53	-135.74	-251.09	0.41	OSF1.50	5710.00	5598.64					MinPt-O-ADP	
	174.11	621.52	-241.06	-447.40	0.42	OSF1.50	10230.00	10115.68					MinPt-O-SF	
	178.12	632.38	-244.30	-454.26	0.42	OSF1.50	10390.00	10275.68					MinPts	
	272.98	429.08	-13.90	-156.10	0.95	OSF1.50	10590.00	10475.68			OSF>1.00		Exit Major	
	346.23	348.93	112.77	-2.71	1.49	OSF1.50	10680.00	10565.68					Exit Minor	
	690.31	209.78	549.63	480.53	4.98	OSF1.50	11050.00	10935.68	OSF>5.00		OSF>1.50		Exit Alert	
	2714.01	452.74	2411.35	2261.28	9.03	OSF1.50	14050.00	12230.00					MinPt-O-SF	
	10277.65	631.79	9855.62	9645.86	24.49	OSF1.50	22267.57	12230.00					TD	
Final Survey - Cimarex Coriander AOC 1-12 State 3H MWD Off-19431ft (Surcon Corrected) (Def Survey)														Warning Alert
	116.41	32.81	113.91	83.61	581141.57	MAS = 10.00 (m)	0.00	0.00					MinPts	
	116.42	32.81	113.91	83.62	9531.52	MAS = 10.00 (m)	23.00	23.00					WRP	
	117.34	32.81	111.11	84.53	30.73	MAS = 10.00 (m)	450.00	450.00					MinPts	
	117.33	32.81	107.59	84.52	15.86	MAS = 10.00 (m)	800.00	800.00					MinPts	
	83.55	32.81	64.60	50.74	4.93	MAS = 10.00 (m)	1730.00	1726.98	OSF<5.00				Enter Alert	
	52.54	32.81	30.12	19.73	2.51	MAS = 10.00 (m)	2050.00	2038.94					MinPts	
	52.62	32.81	30.09	19.81	2.50	MAS = 10.00 (m)	2060.00	2048.66					MINPT-O-EOU	
	53.04	32.88	30.29	20.16	2.50	OSF1.50	2080.00	2068.11					MinPt-O-SF	
	128.09	40.42	100.31	87.67	4.97	OSF1.50	2600.00	2573.74	OSF>5.00				Exit Alert	
	680.94	107.35	608.54	573.59	9.71	OSF1.50	7110.00	6995.68					MINPT-O-EOU	
	657.08	137.17	564.80	519.91	7.29	OSF1.50	9180.00	9065.68					MinPt-CtCt	
	657.11	137.25	564.77	519.86	7.29	OSF1.50	9190.00	9075.68					MinPts	
	657.53	137.44	565.06	520.08	7.28	OSF1.50	9220.00	9105.68					MinPt-O-SF	
	2770.68	101.86	2701.95	2668.83	41.79	OSF1.50	12890.00	12230.00					MinPt-O-ADP	
	2770.83	102.27	2701.82	2668.66	41.62	OSF1.50	12950.00	12230.00					MINPT-O-EOU	
	2770.95	102.41	2701.84	2668.54	41.56	OSF1.50	12970.00	12230.00					MinPt-O-ADP	
	2711.01	150.81	2609.63	2560.20	27.39	OSF1.50	15490.00	12230.00					MinPt-CtCt	
	2722.90	172.77	2606.89	2550.13	23.97	OSF1.50	16330.00	12230.00					MINPT-O-EOU	
	2728.87	181.43	2607.08	2547.44	22.86	OSF1.50	16630.00	12230.00					MINPT-O-EOU	
	2732.27	185.42	2607.82	2546.35	22.39	OSF1.50	16780.00	12230.00					MinPt-O-ADP	
	2737.89	192.65	2608.62	2545.24	21.58	OSF1.50	17010.00	12230.00					MINPT-O-EOU	
	2750.15	216.70	2604.85	2533.45	19.24	OSF1.50	17810.00	12230.00					MINPT-O-EOU	
	2753.39	221.62	2604.81	2531.77	18.83	OSF1.50	17970.00	12230.00					MINPT-O-EOU	
	2764.76	236.40	2606.33	2528.36	17.71	OSF1.50	18450.00	12230.00					MINPT-O-EOU	
	2770.89	250.99	2602.73	2519.91	16.71	OSF1.50	18890.00	12230.00					MinPt-CtCt	
	2764.89	291.45	2569.75	2473.43	14.34	OSF1.50	20150.00	12230.00					MinPt-CtCt	
	2742.84	334.81	2518.80	2408.03	12.37	OSF1.50	21450.00	12230.00					MinPt-CtCt	
	2737.98	357.42	2498.86	2380.56	11.56	OSF1.50	22140.00	12230.00					MinPt-CtCt	
	2737.78	361.64	2495.85	2376.13	11.42	OSF1.50	22267.57	12230.00					MinPts	
Final Survey Cimarex Coriander AOC 1-12 State 2H Surcon Corrected Off - 19642ft (Def Survey)														Warning Alert
	99.76	32.81	97.26	66.96	593091.53	MAS = 10.00 (m)	0.00	0.00					MinPts	
	99.77	32.81	97.26	66.96	10809.90	MAS = 10.00 (m)	23.00	23.00					WRP	
	76.57	32.81	59.15	43.76	4.96	MAS = 10.00 (m)	1600.00	1598.70	OSF<5.00				Enter Alert	
	61.20	32.81	41.20	28.39	3.36	MAS = 10.00 (m)	1850.00	1844.44					MinPts	
	61.26	32.81	41.16	28.45	3.34	MAS = 10.00 (m)	1860.00	1854.18					MINPT-O-EOU	
	61.99	32.81	41.58	29.19	3.32	MAS = 10.00 (m)	1890.00	1883.36					MinPt-O-SF	
	107.75	34.26	84.08	73.50	4.97	OSF1.50	2220.00	2204.24	OSF>5.00				Exit Alert	
	933.11	138.11	840.21	795.00	10.29	OSF1.50	9320.00	9205.68					MinPt-CtCt	
	933.14	138.18	840.17	794.94	10.29	OSF1.50	9330.00	9215.68					MINPT-O-EOU	
	933.21	138.28	840.19	794.93	10.28	OSF1.50	9340.00	9225.68					MinPt-O-ADP	
	934.94	138.79	841.58	796.15	10.25	OSF1.50	9410.00	9295.68					MinPt-O-SF	
	2661.30	128.41	2574.86	2532.89	31.67	OSF1.50	14170.00	12230.00					MinPt-CtCt	
	2661.72	129.76	2574.38	2531.96	31.34	OSF1.50	14250.00	12230.00					MINPT-O-EOU	
	2662.28	130.42	2574.50	2531.86	31.19	OSF1.50	14290.00	12230.00					MinPt-O-ADP	
	2658.62	137.49	2566.13	2521.13	29.52	OSF1.50	14580.00	12230.00					MinPt-CtCt	
	2638.36	157.74	2532.36	2480.62	25.47	OSF1.50	15380.00	12230.00					MinPt-CtCt	
	2638.89	159.38	2531.80	2479.50	25.21	OSF1.50	15460.00	12230.00					MINPT-O-EOU	
	2639.59	160.21	2531.95	2479.37	25.08	OSF1.50	15500.00	12230.00					MinPt-O-ADP	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Cl-Cl (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
2619.75	192.12	2490.84	2427.63	20.70		OSF1.50	16550.00	12230.00				MinPt-CiCt	
2621.53	197.25	2489.20	2424.29	20.17		OSF1.50	16740.00	12230.00				MINPT-O-EOU	
2622.85	204.57	2485.68	2418.32	19.45		OSF1.50	16960.00	12230.00				MinPt-CiCt	
2623.93	207.50	2484.76	2416.42	19.18		OSF1.50	17080.00	12230.00				MINPT-O-EOU	
2625.44	209.27	2485.09	2416.17	19.03		OSF1.50	17150.00	12230.00				MinPt-O-ADP	
2630.69	218.24	2484.37	2412.45	18.27		OSF1.50	17420.00	12230.00				MINPT-O-EOU	
2631.72	219.46	2484.58	2412.26	18.18		OSF1.50	17470.00	12230.00				MinPt-O-ADP	
2634.79	225.94	2483.33	2408.85	17.67		OSF1.50	17660.00	12230.00				MINPT-O-EOU	
2635.92	227.24	2483.60	2408.69	17.58		OSF1.50	17710.00	12230.00				MinPt-O-ADP	
2640.97	234.28	2483.95	2406.69	17.08		OSF1.50	17910.00	12230.00				MINPT-O-EOU	
2631.73	256.48	2459.91	2375.25	15.53		OSF1.50	18540.00	12230.00				MinPt-CiCt	
2631.23	278.33	2444.84	2352.90	14.30		OSF1.50	19200.00	12230.00				MinPt-CiCt	
2631.85	288.82	2438.47	2343.03	13.78		OSF1.50	19510.00	12230.00				MinPt-CiCt	
2631.84	298.10	2432.27	2333.74	13.34		OSF1.50	19800.00	12230.00				MinPt-CiCt	
2632.99	301.28	2431.30	2331.70	13.21		OSF1.50	19920.00	12230.00				MINPT-O-EOU	
2635.02	305.06	2430.81	2329.96	13.05		OSF1.50	20030.00	12230.00				MINPT-O-EOU	
2636.91	307.36	2431.16	2329.64	12.96		OSF1.50	20110.00	12230.00				MinPt-O-ADP	
2640.17	311.47	2431.69	2328.70	12.81		OSF1.50	20220.00	12230.00				MINPT-O-EOU	
2641.20	312.64	2431.93	2328.55	12.76		OSF1.50	20260.00	12230.00				MinPt-O-ADP	
2663.12	336.81	2437.75	2326.32	11.94		OSF1.50	20920.00	12230.00				MinPt-CiCt	
2663.23	340.71	2435.26	2322.52	11.80		OSF1.50	21040.00	12230.00				MinPt-CiCt	
2668.45	353.95	2431.65	2314.50	11.38		OSF1.50	21460.00	12230.00				MINPT-O-EOU	
2679.54	383.61	2422.97	2295.93	10.54		OSF1.50	22267.57	12230.00				MinPts	

Cimarex Coriander AOC State 1
(Offset 025-33531) (Def Survey)

Warning Alert

302.61	32.81	300.11	269.80	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
301.84	32.81	299.22	269.04	2515.14	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF	
301.34	32.81	298.76	268.53	3814.51	MAS = 10.00 (m)	23.00	23.00					WRP	
295.40	66.23	250.41	229.17	6.89	OSF1.50	1220.00	1220.00					MinPt-CiCt	
297.95	73.95	247.81	224.00	6.20	OSF1.50	1350.00	1349.93					MINPT-O-EOU	
300.98	77.55	248.45	223.43	5.97	OSF1.50	1410.00	1409.81					MinPt-O-ADP	
421.44	122.41	339.00	299.03	5.24	OSF1.50	2140.00	2126.45					MinPt-O-SF	
1035.01	312.27	826.00	722.74	5.00	OSF1.50	4990.00	4897.71		OSF<5.00			Enter Alert	
1147.63	353.66	911.03	793.97	4.89	OSF1.50	5530.00	5422.79					MinPt-O-SF	
1194.22	576.42	809.10	617.80	3.11	OSF1.50	9250.00	9135.68					MinPt-O-SF	
1194.16	576.39	809.06	617.77	3.11	OSF1.50	9260.00	9145.68					MinPts	
1512.42	456.25	1207.42	1056.17	4.99	OSF1.50	10190.00	10075.68		OSF>5.00			Exit Alert	
4325.13	415.91	4047.02	3909.22	15.69	OSF1.50	15040.00	12230.00					MinPt-O-SF	
10551.43	566.40	10173.00	9985.03	28.06	OSF1.50	22267.57	12230.00					TD	

Cimarex Thyme APY Federal
#9H MWD Final (Def Survey)

Warning Alert

1393.03	32.81	1390.53	1360.22	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1393.03	32.81	1390.50	1360.22	44553.54	MAS = 10.00 (m)	23.00	23.00					WRP	
382.72	93.66	319.50	289.11	6.26	OSF1.50	6190.00	6075.68					MinPt-CiCt	
382.92	94.05	319.35	288.83	6.23	OSF1.50	6220.00	6105.68					MINPT-O-EOU	
383.04	94.23	319.38	288.80	6.22	OSF1.50	6230.00	6115.68		OSF<5.00			MinPt-O-ADP	
372.94	113.76	296.27	259.18	4.99	OSF1.50	7610.00	7495.68					Enter Alert	
367.17	126.79	281.81	240.38	4.40	OSF1.50	8510.00	8395.68					MinPt-CiCt	
367.36	129.25	280.36	238.11	4.32	OSF1.50	8680.00	8565.68					MinPt-CiCt	
368.94	136.22	277.29	232.72	4.11	OSF1.50	9160.00	9045.68					MINPT-O-EOU	
369.10	138.71	275.80	230.39	4.04	OSF1.50	9330.00	9215.68					MinPt-CiCt	
369.21	139.06	275.67	230.15	4.03	OSF1.50	9350.00	9235.68					MINPT-O-EOU	
369.36	139.23	275.70	230.12	4.02	OSF1.50	9360.00	9245.68					MinPt-O-ADP	
373.17	141.22	278.19	231.95	4.01	OSF1.50	9470.00	9355.68					MinPt-O-SF	
449.90	137.42	357.45	312.47	4.97	OSF1.50	9790.00	9675.68		OSF>5.00			Exit Alert	
2654.09	109.85	2580.02	2544.24	37.05	OSF1.50	13370.00	12230.00					MinPt-CiCt	
2654.54	111.76	2579.20	2542.78	36.41	OSF1.50	13510.00	12230.00					MINPT-O-EOU	
2655.13	112.47	2579.32	2542.85	36.18	OSF1.50	13560.00	12230.00					MinPt-O-ADP	
2659.64	116.95	2580.83	2542.68	34.82	OSF1.50	13840.00	12230.00					MINPT-O-EOU	
2660.74	118.25	2581.07	2542.49	34.45	OSF1.50	13920.00	12230.00					MinPt-O-ADP	
2662.47	123.38	2579.38	2539.09	33.01	OSF1.50	14180.00	12230.00					MinPt-CiCt	
2662.90	124.80	2578.87	2538.10	32.63	OSF1.50	14260.00	12230.00					MINPT-O-EOU	
2663.34	125.34	2578.95	2538.00	32.49	OSF1.50	14290.00	12230.00					MinPt-O-ADP	
2671.64	163.43	2561.75	2508.11	24.88	OSF1.50	15850.00	12230.00					MinPt-CiCt	
2672.42	166.17	2560.81	2506.25	24.47	OSF1.50	15960.00	12230.00					MINPT-O-EOU	
2673.66	167.67	2561.05	2505.99	24.26	OSF1.50	16020.00	12230.00					MinPt-O-ADP	
2676.33	173.15	2560.06	2503.18	23.50	OSF1.50	16200.00	12230.00					MinPt-CiCt	
2682.52	187.86	2536.44	2474.65	21.53	OSF1.50	16760.00	12230.00					MinPt-CiCt	
2682.73	188.47	2536.25	2474.26	21.46	OSF1.50	16790.00	12230.00					MINPT-O-EOU	
2683.07	188.88	2536.31	2474.10	21.41	OSF1.50	16810.00	12230.00					MinPt-O-ADP	
2741.72	200.43	2607.27	2541.29	20.76	OSF1.50	17410.00	12230.00					MinPt-O-SF	
6121.22	219.79	5973.86	5901.43	42.24	OSF1.50	22267.57	12230.00					TD	

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

Warning Alert

1889.17	32.81	1886.67	1856.36	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1889.17	32.81	1886.66	1856.36	354986.13	MAS = 10.00 (m)	23.00	23.00					WRP	
659.78	180.16	538.84	479.63	5.55	OSF1.50	12100.00	11964.64					MinPt-CiCt	
659.85	180.42	538.74	479.43	5.54	OSF1.50	12120.00	11980.86					MINPT-O-EOU	
659.95	180.55	538.75	479.40	5.54	OSF1.50	12130.00	11988.81					MinPt-O-ADP	
662.29	181.58	540.40	480.71	5.53	OSF1.50	12210.00	12048.39					MinPt-O-SF	
722.14	218.66	575.54	503.49	4.99	OSF1.50	14220.00	12230.00		OSF<5.00			Enter Alert	
722.23	676.34	270.50	45.89	1.60	OSF1.50	22267.57	12230.00					MinPts	

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

Warning Alert

1909.13	32.81	1906.63	1876.33	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
1909.13	32.81	1906.63	1876.33	413933.77	MAS = 10.00 (m)	23.00	23.00					WRP	
1210.39	91.64	1148.46	1118.75	20.33	OSF1.50	6000.00	5885.95					MinPt-CiCt	
1210.48	91.93	1148.36	1118.55	20.26	OSF1.50	6020.00	5905.88					MINPT-O-EOU	
1210.72	92.23	1148.40	1118.49	20.20	OSF1.50	6040.00	5925.83					MinPt-O-ADP	
1320.29	308.13	1054.04	922.17	5.00	OSF1.50	17240.00	12230.00		OSF<5.00			Enter Alert	
1319.81	725.51	835.31	994.31	2.73	OSF1.50	22267.57	12230.00					MinPts	

30-025-33530 Lime Rock
Thyme APY Federal #003 INC
Only Surveys to 9150ft MD -
Plugged (Def Survey)

Warning Alert

2353.79	32.81	2351.29	2320.98	N/A	MAS = 10.00 (m)	0.00	0.00					Surface	
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Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
2353.72	32.81	2351.20	2320.91	212396.81		MAS = 10.00 (m)	10.00	10.00				MinPt-O-SF	
2353.68	32.81	2351.19	2320.87	438055.45		MAS = 10.00 (m)	20.00	20.00				MINPT-O-EQU	
2353.68	32.81	2351.18	2320.87	N/A		MAS = 10.00 (m)	23.00	23.00				WRP	
1346.00	359.01	1105.82	986.99	5.65		OSF1.50	6870.00	6755.68	OSF<5.00			MinPt-CtCt	
1350.72	407.50	1078.22	943.22	4.99		OSF1.50	7790.00	7675.68				Enter Alert	
1339.37	485.76	1014.69	853.61	4.15		OSF1.50	9270.00	9155.68				MinPt-CtCt	
1339.38	486.64	1014.12	852.74	4.14		OSF1.50	9290.00	9175.68				MinPts	
1477.54	445.75	1179.54	1031.79	4.99		OSF1.50	9910.00	9795.68	OSF>5.00			Exit Alert	
4229.69	363.81	3986.32	3865.88	17.65		OSF1.50	14800.00	12230.00				MinPt-O-SF	
10605.71	496.07	10274.16	10109.64	32.22		OSF1.50	22267.57	12230.00				TD	
30-025-33529 Cimarex Thyme APY Federal #2 INC Only Surveys to 9154ft MD - Plugged (Def Survey)													Warning Alert
1747.71	32.81	1745.21	1714.91	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1747.47	32.81	1744.95	1714.66	68964.57		MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
1747.46	32.81	1744.93	1714.65	81907.57		MAS = 10.00 (m)	23.00	23.00				WRP	
1738.03	63.16	1695.10	1674.88	42.92		OSF1.50	1130.00	1130.00				MinPt-CtCt	
1428.03	251.61	1259.50	1176.47	8.58		OSF1.50	4810.00	4722.68				MinPt-CtCt	
1383.42	340.47	1155.61	1042.95	6.13		OSF1.50	6410.00	6295.68				MinPt-CtCt	
1397.23	407.84	1124.55	989.44	5.16		OSF1.50	7720.00	7605.68				MinPt-CtCt	
1399.76	421.79	1117.73	977.97	5.00		OSF1.50	8020.00	7905.68	OSF<5.00			Enter Alert	
1390.76	487.70	1064.80	903.07	4.29		OSF1.50	9290.00	9175.68				MinPts	
1390.77	487.71	1064.80	903.07	4.29		OSF1.50	9300.00	9185.68				MinPts	
1501.58	454.31	1197.87	1047.26	4.98		OSF1.50	9860.00	9745.68	OSF>5.00			Exit Alert	
3050.48	127.53	2964.62	2922.95	36.57		OSF1.50	13470.00	12230.00				MinPt-CtCt	
3050.61	127.87	2964.53	2922.74	36.47		OSF1.50	13500.00	12230.00				MINPT-O-EQU	
3051.25	128.60	2964.68	2922.65	36.27		OSF1.50	13540.00	12230.00				MinPt-O-ADP	
4153.34	358.77	3913.33	3794.57	17.48		OSF1.50	16290.00	12230.00				MinPt-O-SF	
9310.16	482.43	8987.70	8827.72	29.09		OSF1.50	22267.57	12230.00				TD	
Cimarex Coriander 1-12 Federal Com 13H Rev0 IC 07Dec21 (Def Plan)													Warning Alert
1929.11	32.81	1926.61	1896.30	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1929.11	32.81	1926.61	1896.30	494319.62		MAS = 10.00 (m)	23.00	23.00				WRP	
1552.32	88.34	1492.59	1463.98	27.08		OSF1.50	5780.00	5667.61				MinPt-CtCt	
1552.46	88.82	1492.42	1463.65	26.94		OSF1.50	5810.00	5697.25				MINPT-O-EQU	
1552.73	89.13	1492.48	1463.60	26.84		OSF1.50	5830.00	5717.04				MinPt-O-ADP	
1979.47	186.14	1854.54	1793.32	16.15		OSF1.50	12530.00	12197.91				MinPt-CtCt	
1979.56	186.55	1854.37	1793.03	16.11		OSF1.50	12560.00	12204.58				MINPT-O-EQU	
1979.77	186.80	1854.40	1792.97	16.09		OSF1.50	12580.00	12208.59				MinPt-O-ADP	
1988.50	189.74	1861.17	1798.75	15.91		OSF1.50	12801.84	12230.00	OSF<5.00			MinPt-O-SF	
2001.37	602.52	1598.86	1398.85	5.00		OSF1.50	20530.00	12230.00				Enter Alert	
2001.42	717.16	1522.48	1284.26	4.20		OSF1.50	22267.57	12230.00				MinPts	
Cimarex Coriander AOC 1-12 State 1H final survey (Def Survey)													Pass
126.40	32.81	123.90	93.59	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
126.38	32.81	123.88	93.57	21636.56		MAS = 10.00 (m)	23.00	23.00				WRP	
121.30	32.81	109.90	68.49	13.35		MAS = 10.00 (m)	970.00	970.00				MinPts	
121.14	32.81	107.15	68.33	10.32		MAS = 10.00 (m)	1230.00	1230.00				MinPts	
121.59	32.81	106.61	88.78	9.54		MAS = 10.00 (m)	1330.00	1329.96				MINPT-O-EQU	
137.52	32.81	118.76	104.71	8.30		MAS = 10.00 (m)	1710.00	1707.31				MinPt-O-SF	
1068.66	134.42	978.21	934.24	12.12		OSF1.50	9040.00	8925.68				MinPt-CtCt	
1068.71	134.65	978.15	934.08	12.10		OSF1.50	9060.00	8945.68				MINPT-O-EQU	
1068.88	134.83	978.16	934.05	12.09		OSF1.50	9080.00	8965.68				MinPt-O-ADP	
1069.57	135.18	978.62	934.39	12.08		OSF1.50	9120.00	9005.68				MinPt-O-SF	
1479.32	128.38	1392.90	1350.94	17.60		OSF1.50	10300.00	10185.68				MinPt-O-SF	
2935.12	140.59	2840.56	2794.52	31.86		OSF1.50	14350.00	12230.00				MinPt-CtCt	
2937.33	148.00	2837.83	2789.33	30.26		OSF1.50	14660.00	12230.00				MINPT-O-EQU	
2940.47	152.42	2838.02	2788.05	29.39		OSF1.50	14820.00	12230.00				MINPT-O-EQU	
2944.82	175.03	2827.30	2769.79	25.58		OSF1.50	15520.00	12230.00				MinPt-CtCt	
2944.27	179.44	2823.81	2764.83	24.94		OSF1.50	15660.00	12230.00				MinPt-CtCt	
2945.78	183.61	2822.54	2762.17	24.38		OSF1.50	15820.00	12230.00				MINPT-O-EQU	
2947.82	186.06	2822.95	2761.77	24.07		OSF1.50	15910.00	12230.00				MinPt-O-ADP	
2938.31	218.77	2791.63	2719.54	20.36		OSF1.50	16840.00	12230.00				MinPt-CtCt	
2939.16	221.22	2790.84	2717.94	20.14		OSF1.50	16940.00	12230.00				MINPT-O-EQU	
2940.18	222.47	2791.03	2717.70	20.03		OSF1.50	16990.00	12230.00				MinPt-O-ADP	
2948.01	242.13	2785.75	2705.89	18.44		OSF1.50	17520.00	12230.00				MINPT-O-EQU	
2942.86	268.00	2763.37	2674.87	16.61		OSF1.50	18220.00	12230.00				MinPt-CtCt	
2941.09	282.37	2752.01	2658.73	15.75		OSF1.50	18590.00	12230.00				MinPt-CtCt	
2943.89	294.67	2746.61	2649.22	15.10		OSF1.50	18920.00	12230.00				MinPt-CtCt	
2944.29	306.24	2739.29	2638.05	14.53		OSF1.50	19230.00	12230.00				MinPt-CtCt	
2941.85	328.51	2722.01	2613.34	13.52		OSF1.50	19790.00	12230.00				MinPt-CtCt	
2942.86	331.61	2720.95	2611.25	13.40		OSF1.50	19900.00	12230.00				MINPT-O-EQU	
2954.20	369.21	2707.23	2584.99	12.07		OSF1.50	20830.00	12230.00				MinPt-CtCt	
2954.97	383.64	2698.38	2571.34	11.62		OSF1.50	21190.00	12230.00				MinPt-CtCt	
2957.21	395.96	2692.41	2561.26	11.26		OSF1.50	21530.00	12230.00				MINPT-O-EQU	
2958.60	397.64	2692.69	2560.96	11.22		OSF1.50	21590.00	12230.00				MinPt-O-ADP	
2960.65	408.15	2687.75	2552.53	10.94		OSF1.50	21810.00	12230.00				MinPt-CtCt	
2960.87	408.68	2687.58	2552.18	10.92		OSF1.50	21840.00	12230.00				MINPT-O-EQU	
2961.16	409.02	2687.65	2552.14	10.92		OSF1.50	21860.00	12230.00				MinPt-O-ADP	
2969.11	411.31	2694.07	2557.79	10.88		OSF1.50	22030.00	12230.00				MinPt-O-SF	
2996.38	412.76	2720.38	2583.62	10.95		OSF1.50	22267.57	12230.00				TD	
30-025-33574 EOG Coriander AOC State #002 INC Only Surveys to 9170ft MD - Plugged (Def Survey)													Pass
1435.24	32.81	1432.74	1402.43	N/A		MAS = 10.00 (m)	0.00	0.00				Surface	
1434.80	32.81	1432.24	1401.96	24554.78		MAS = 10.00 (m)	20.00	20.00				MinPt-O-SF	
1434.76	32.81	1432.20	1401.95	24870.11		MAS = 10.00 (m)	23.00	23.00				WRP	
1431.66	46.73	1399.67	1384.93	48.47		OSF1.50	880.00	880.00				MinPt-CtCt	
1438.06	77.01	1385.89	1361.05	28.90		OSF1.50	1470.00	1469.60				MINPT-O-EQU	
1445.12	85.52	1387.27	1359.60	26.06		OSF1.50	1640.00	1638.27				MinPt-O-ADP	
1936.70	413.66	1660.10	1523.05	7.06		OSF1.50	7880.00	7765.68				MinPt-CtCt	
1943.94	491.25	1615.58	1452.65	5.96		OSF1.50	9330.00	9215.68				MinPts	
3292.72	229.58	3138.83	3063.14	21.73		OSF1.50	13510.00	12230.00				MinPt-CtCt	
3292.72	229.61	3138.82	3063.12	21.73		OSF1.50	13520.00	12230.00				MinPts	
4149.74	360.06	3908.86	3789.68	17.40		OSF1.50	16040.00	12230.00				MinPt-O-SF	
9351.95	484.95	9027.82	8867.00	29.07		OSF1.50	22267.57	12230.00				TD	

Offset Trajectory	Separation			Allow Dev. (ft)	Sep. Fact.	Controlling Rule	Reference Trajectory		Risk Level			Alert	Status
	Ct-Ct (ft)	MAS (ft)	EOU (ft)				MD (ft)	TVD (ft)	Alert	Minor	Major		
30-025-42170 COG Resolver Federal Com #2H OH Gyro Surveys 0ft to 12300ft MD - A (Def Survey)													
													Pass
5733.12		32.81	5730.59	5700.31	216328.74	MAS = 10.00 (m)	0.00	0.00					Surface
5733.08		32.81	5730.44	5700.27	42879.39	MAS = 10.00 (m)	23.00	23.00					WRP
5730.86		32.81	5720.56	5698.06	734.00	MAS = 10.00 (m)	840.00	840.00					MinPts
5395.98		113.35	5319.58	5282.63	72.98	OSF1.50	6890.00	6775.68					MinPt-CtCt
5398.36		119.31	5317.99	5279.05	69.29	OSF1.50	7360.00	7245.68					MINPT-O-EQU
5399.59		120.77	5318.24	5278.82	68.45	OSF1.50	7480.00	7365.68					MinPt-O-ADP
5443.98		155.13	5339.72	5288.84	53.48	OSF1.50	9970.00	9855.68					MINPT-O-EQU
5444.43		155.69	5339.80	5288.74	53.29	OSF1.50	10020.00	9905.68					MinPt-O-ADP
5448.99		165.35	5337.92	5283.64	50.17	OSF1.50	10700.00	10585.68					MINPT-O-EQU
5450.25		167.34	5337.88	5282.91	49.57	OSF1.50	10840.00	10725.68					MINPT-O-EQU
5450.94		168.18	5337.99	5282.77	49.33	OSF1.50	10910.00	10795.68					MinPt-O-ADP
5466.38		178.98	5346.22	5287.40	46.44	OSF1.50	11660.00	11545.68					MINPT-O-EQU
5466.84		179.54	5346.31	5287.30	46.30	OSF1.50	11710.00	11595.68					MinPt-O-ADP
1529.30		315.93	1317.84	1213.37	7.31	OSF1.50	17340.00	12230.00					MinPt-CtCt
1530.38		319.46	1316.57	1210.91	7.23	OSF1.50	17400.00	12230.00					MINPT-O-EQU
1531.80		321.11	1316.89	1210.68	7.20	OSF1.50	17430.00	12230.00					MinPt-O-ADP
1552.51		329.27	1332.16	1223.23	7.12	OSF1.50	17610.00	12230.00					MinPt-O-SF
5156.97		269.97	4976.15	4887.00	28.91	OSF1.50	22267.57	12230.00					TD
Cimarex Coriander 1-12 Federal Com 25H Rev0 kFc 04Jan22 (Def Plan)													
													Pass
3780.58		32.81	3778.08	3747.78	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
3780.56		32.81	3778.06	3747.75	N/A	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF
3780.56		32.81	3778.06	3747.75	N/A	MAS = 10.00 (m)	23.00	23.00					WRP
2644.14		185.46	2519.66	2458.67	21.66	OSF1.50	12560.00	12204.58					MinPt-CtCt
2653.92		725.06	2169.71	1928.85	5.50	OSF1.50	22267.57	12230.00					MinPts
Cimarex Coriander 1-12 Federal Com 26H Rev0 kFc 04Jan22 (Def Plan)													
													Pass
3820.57		32.81	3818.07	3787.76	N/A	MAS = 10.00 (m)	0.00	0.00					Surface
3820.54		32.81	3818.04	3787.73	N/A	MAS = 10.00 (m)	10.00	10.00					MinPt-O-SF
3820.54		32.81	3818.04	3787.73	N/A	MAS = 10.00 (m)	23.00	23.00					WRP
3303.62		180.22	3182.64	3123.40	27.86	OSF1.50	12120.00	11980.86					MinPt-CtCt
3303.98		181.31	3182.27	3122.67	27.70	OSF1.50	12210.00	12048.39					MINPT-O-EQU
3304.40		181.80	3182.36	3122.60	27.62	OSF1.50	12250.00	12075.24					MinPt-O-ADP
3317.97		189.36	3190.90	3128.61	26.61	OSF1.50	12801.84	12230.00					MinPt-O-ADP
3328.26		722.24	2845.94	2606.02	6.93	OSF1.50	22267.57	12230.00					MinPts

1. Geological Formations

TVD of target 12,230

Pilot Hole TD N/A

MD at TD 22,267

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	
Avalon	9361	Hydrocarbons	
2nd Bone Spring	10340	Hydrocarbons	
3rd Bone Spring	11040	Hydrocarbons	

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1306	1306	13-3/8"	48.00	H-40	ST&C	1.31	3.06	5.14
12 1/4	0	4977	4977	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	11751	11751	7"	29.00	L-80	LT&C	1.28	1.48	1.66
8 3/4	11751	12502	12191	7"	29.00	P-110	BT&C	1.50	1.97	72.81
6	10751	22267	12230	4-1/2"	11.60	P-110	BT&C	1.25	1.77	21.39
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

TVD was used on all calculations.

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

Cimarex Energy Co., Coriander 1-12 Federal Com 6H

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

3. Cementing Program

Casing	# Sk	Wt. lb/gal	Yld ft ³ /sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	632	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	170	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	931	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	291	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	429	10.30	3.64	22.18		Lead: Tuned Light + LCM
	125	14.80	1.36	6.57	9.5	Tail: Class C + Retarder
Completion System	725	14.20	1.30	5.86	14:30	Tail: 50:50 (Poz:H) + Salt + Bentonite + Fluid Loss + Dispersant + SMS

Casing String	TOC	% Excess
Surface	0	45
Intermediate	0	51
Production	4777	25
Completion System	12302	10

Cimarex request the ability to perform casing integrity tests after plug bump of cement job.

4. Pressure Control Equipment

A variance is requested for the use of a diverter on the surface casing. See attached for schematic.					
BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	13 5/8	2M	Annular	X	2M
			Blind Ram		
			Pipe Ram		
			Double Ram	X	
			Other		
8 3/4	13 5/8	3M	Annular	X	3M
			Blind Ram		
			Pipe Ram		
			Double Ram	X	
			Other		
6	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.				
	Y	Are anchors required by manufacturer?			

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1306'	FW Spud Mud	7.83 - 8.33	30-32	N/C
1306' to 4977'	Brine Water	9.83 - 10.33	30-32	N/C
4977' to 12502'	Cut Brine or OBM	8.50 - 9.00	27-70	N/C
12502' to 22267'	OBM	9.00 - 9.50	50-70	N/C

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

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

6. Logging and Testing Procedures

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

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

7. Drilling Conditions

Condition	
BH Pressure at deepest TVD	6041 psi
Abnormal Temperature	No

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

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

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

A multi-bowl wellhead system will be utilized.

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

A solid steel body pack-off will be utilized after running and cementing the production casing. After installation the pack-off and lower flange will be pressure tested to 10000 psi.

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

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

10. Other Variances

Cimarex requests to perform offline cementing. OLC procedure as follows: 1. Land casing on solid body mandrel hanger. Engage packoff 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 6H 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 6H 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 13 3/8" casing and then lowered down with a landing joint. It is then lowered down until the mandrel contacts the landing ring which is pre-welded to the conductor pipe. At this point the 13 3/8" casing is entirely supported by the conductor pipe via the landing ring/mandrel and is independent from the rig. This allows us to walk the rig away from the 6H 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.

Cementing Operational Workflow

Conventional Cementing

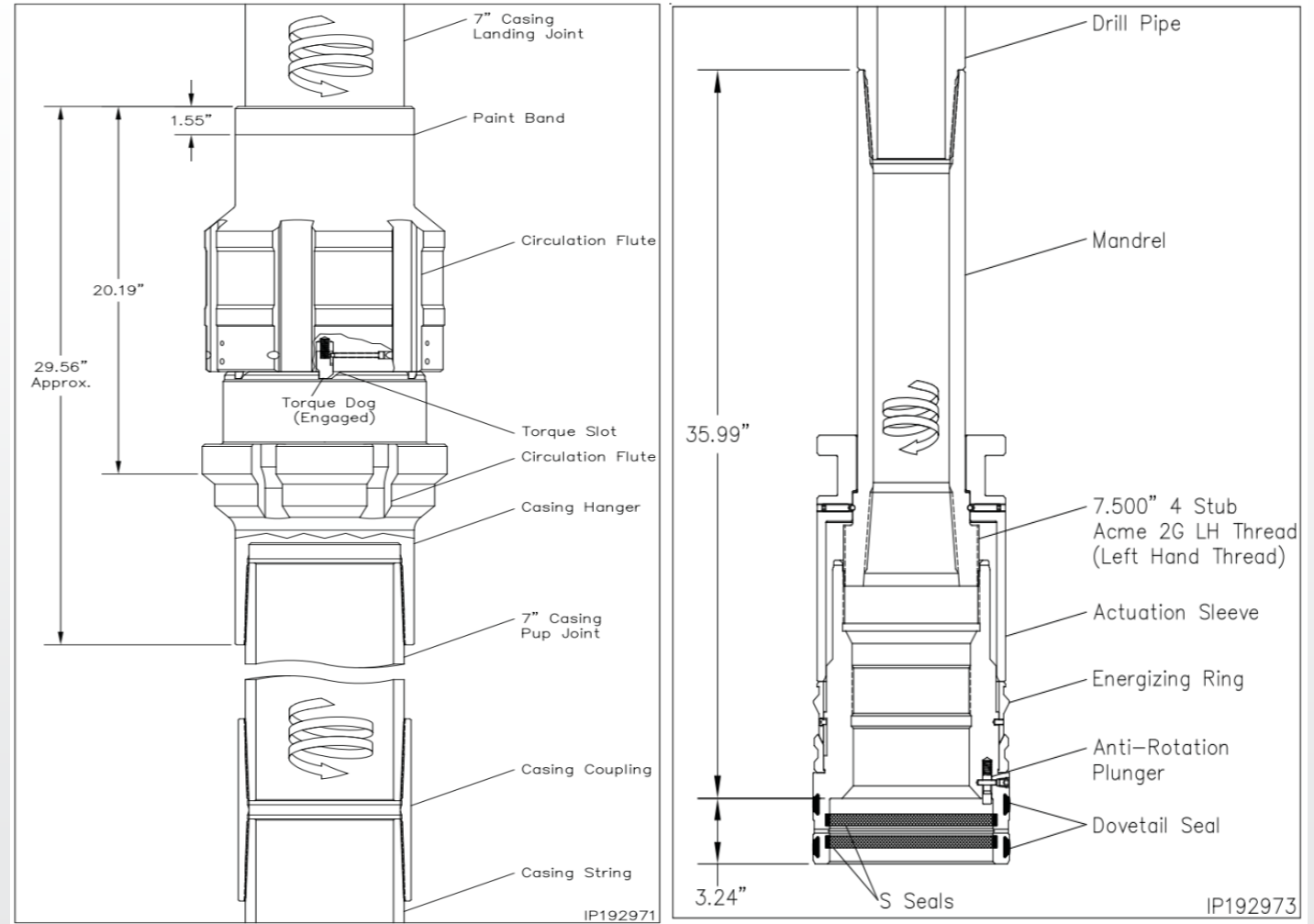
1. Land casing on fluted mandrel hanger
2. Circulate down casing, taking returns through BOP stack
3. Pump lead and tail cement
4. Displace cement and bump the plug
5. Ensure floats are holding pressure
6. RD cement crew
7. Install packoff to isolate pressure
8. Install BPV and skid rig

Offline Cementing

1. Land casing on **solid body** mandrel hanger
 - a) Engage packoff and lockring
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

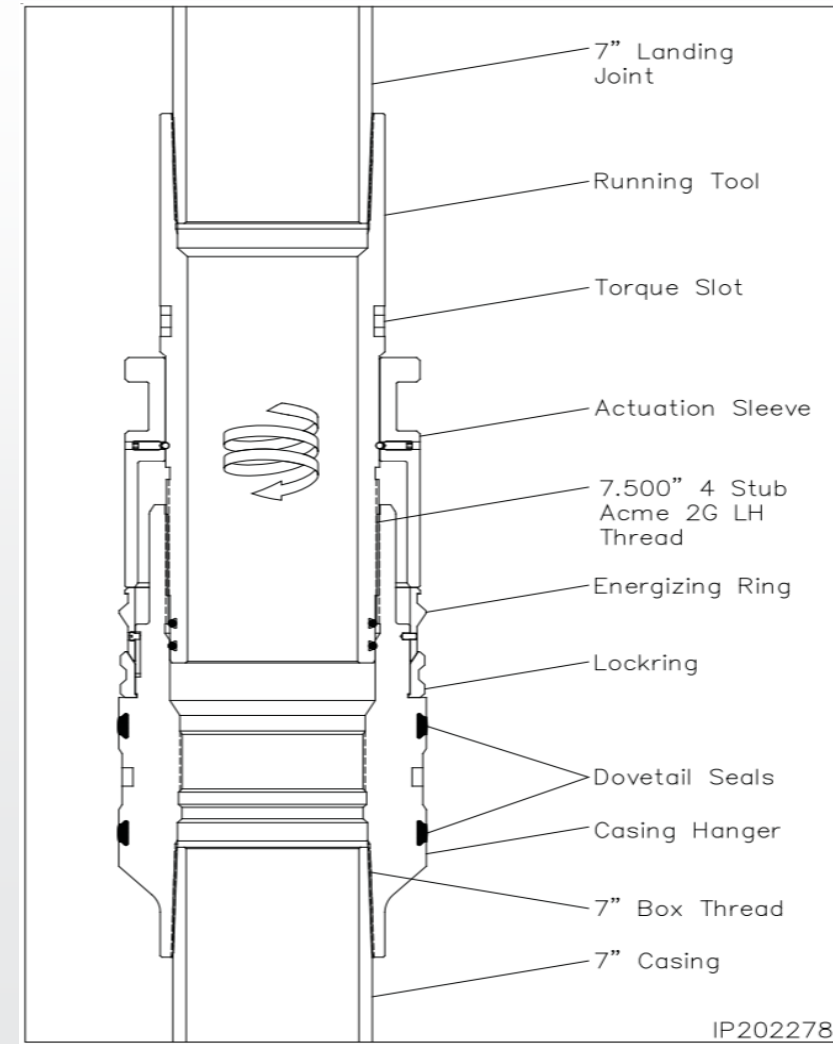
Conventional Cementing Equipment-Fluted Mandrel

- Fluted Hanger allows returns up past the hanger body
- Returns throughout cement job flow up through BOP stack and into flowline
- Packoff is installed **after** cement job to isolate pressure above and below hanger
- Lockring engaged during packoff installation

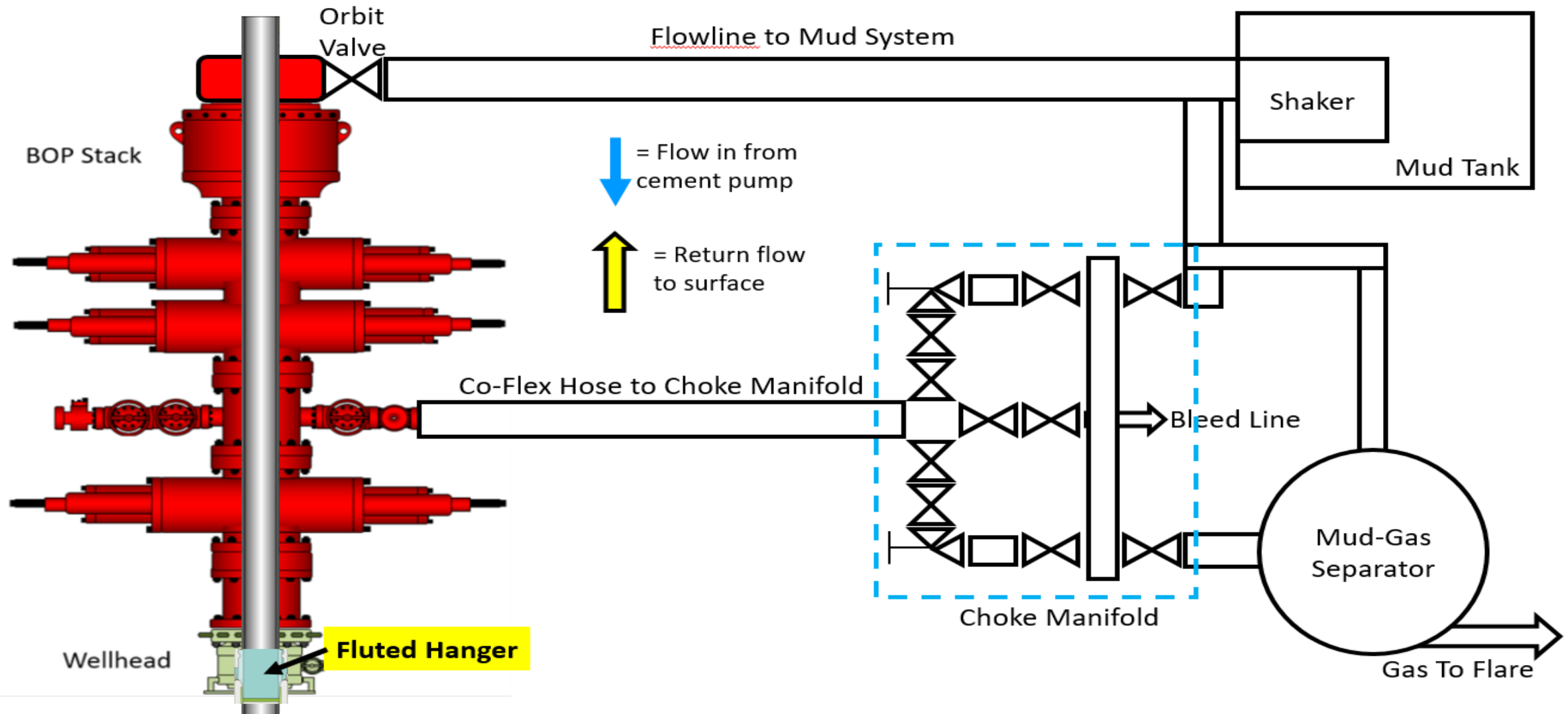


Offline Cementing Equipment-Solid Body Mandrel Hanger

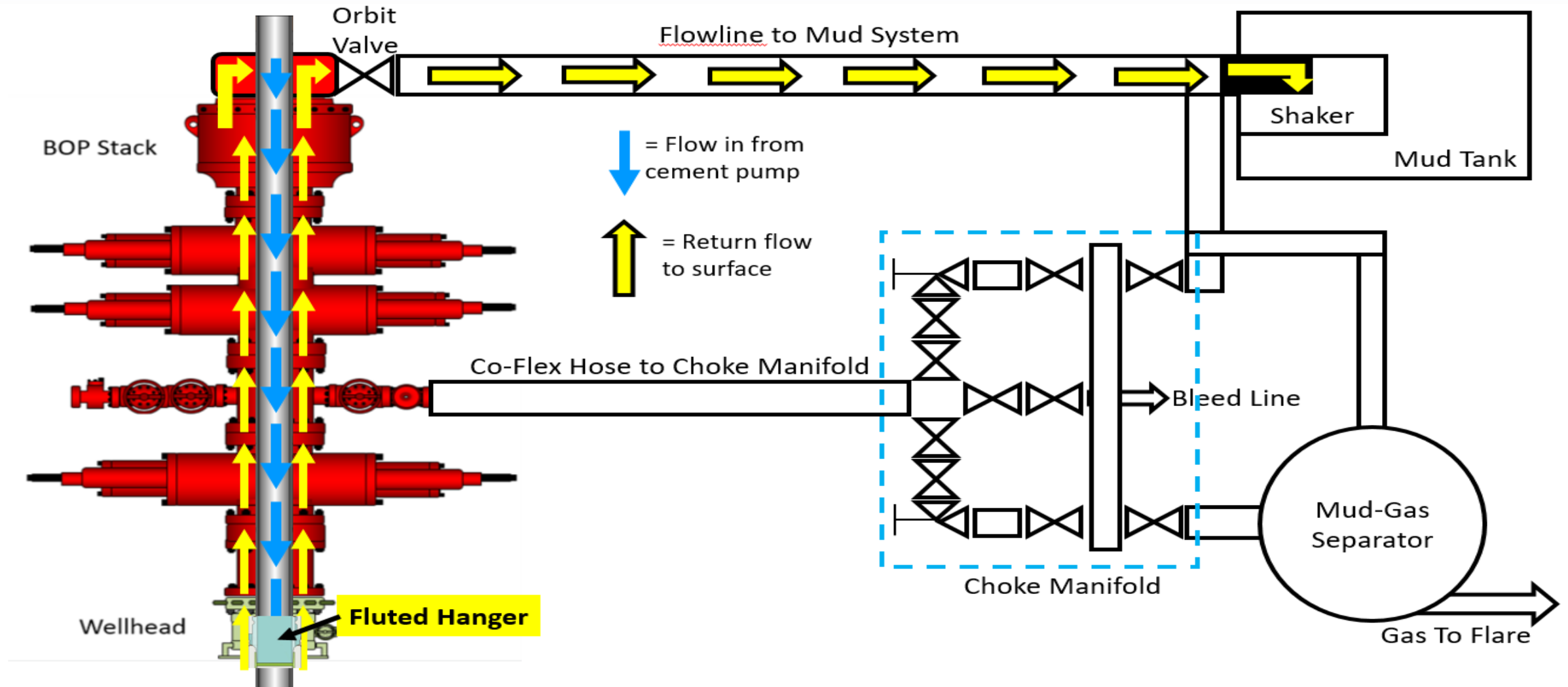
- Solid Body Mandrel Hanger allows for casing to be landed and pressure isolated in one step, **prior** to cementing
- Lockring is engaged to lock casing in place
- Casing is isolated and returns throughout cement job flow through the casing valves and through flowback iron independent of rig



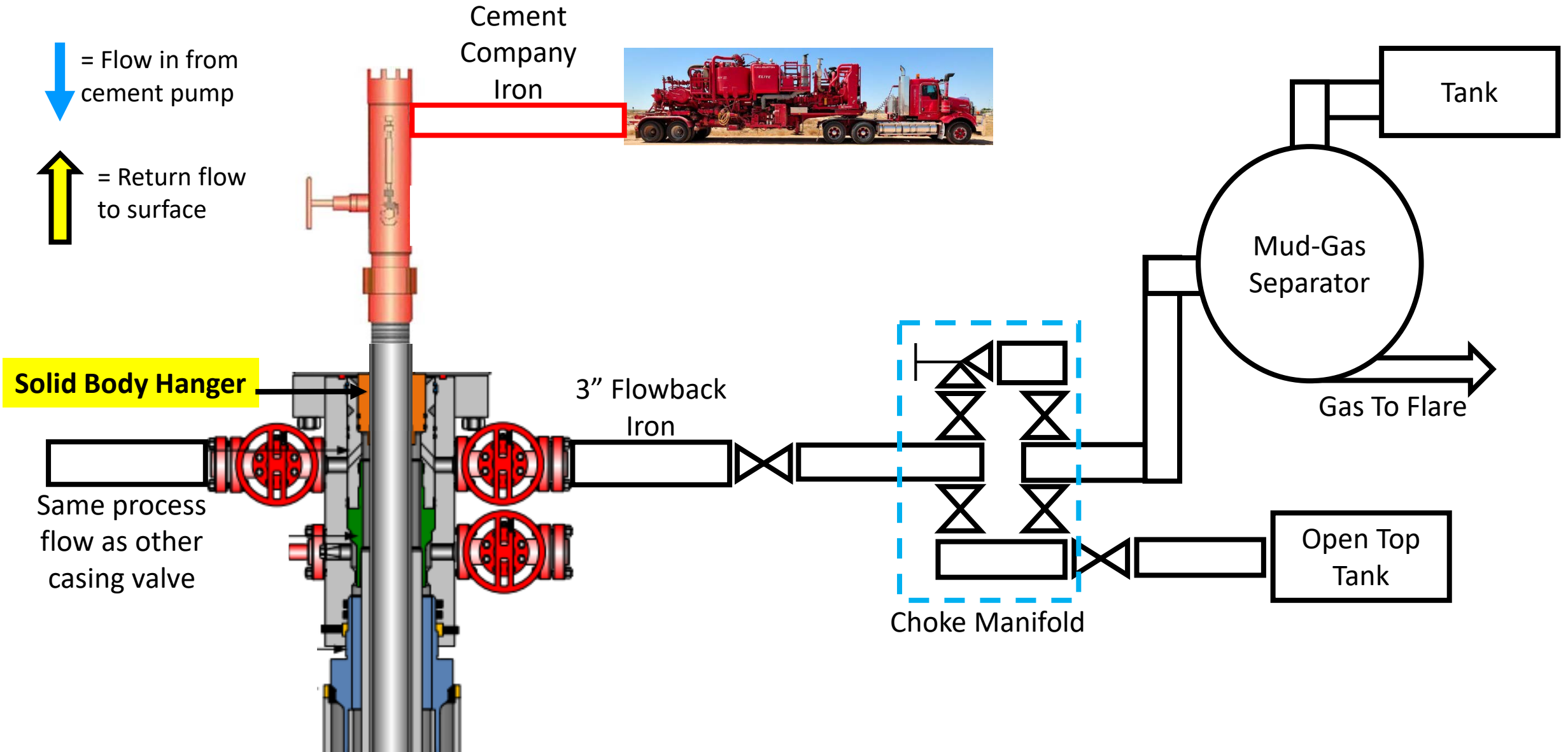
Conventional Cementing Flow Diagram



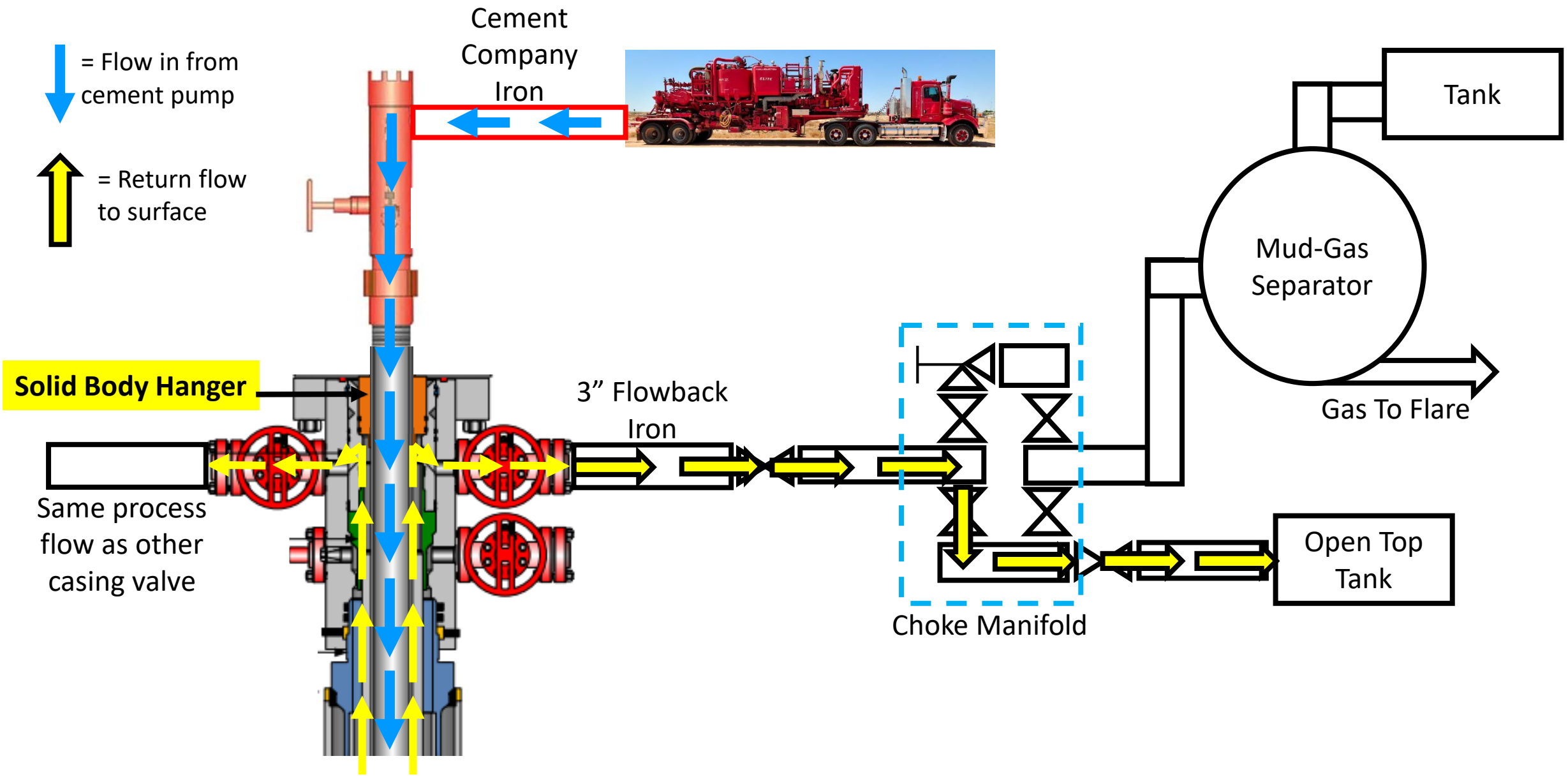
Conventional Cementing Flow Diagram



Offline Cementing -- Intermediate Casing

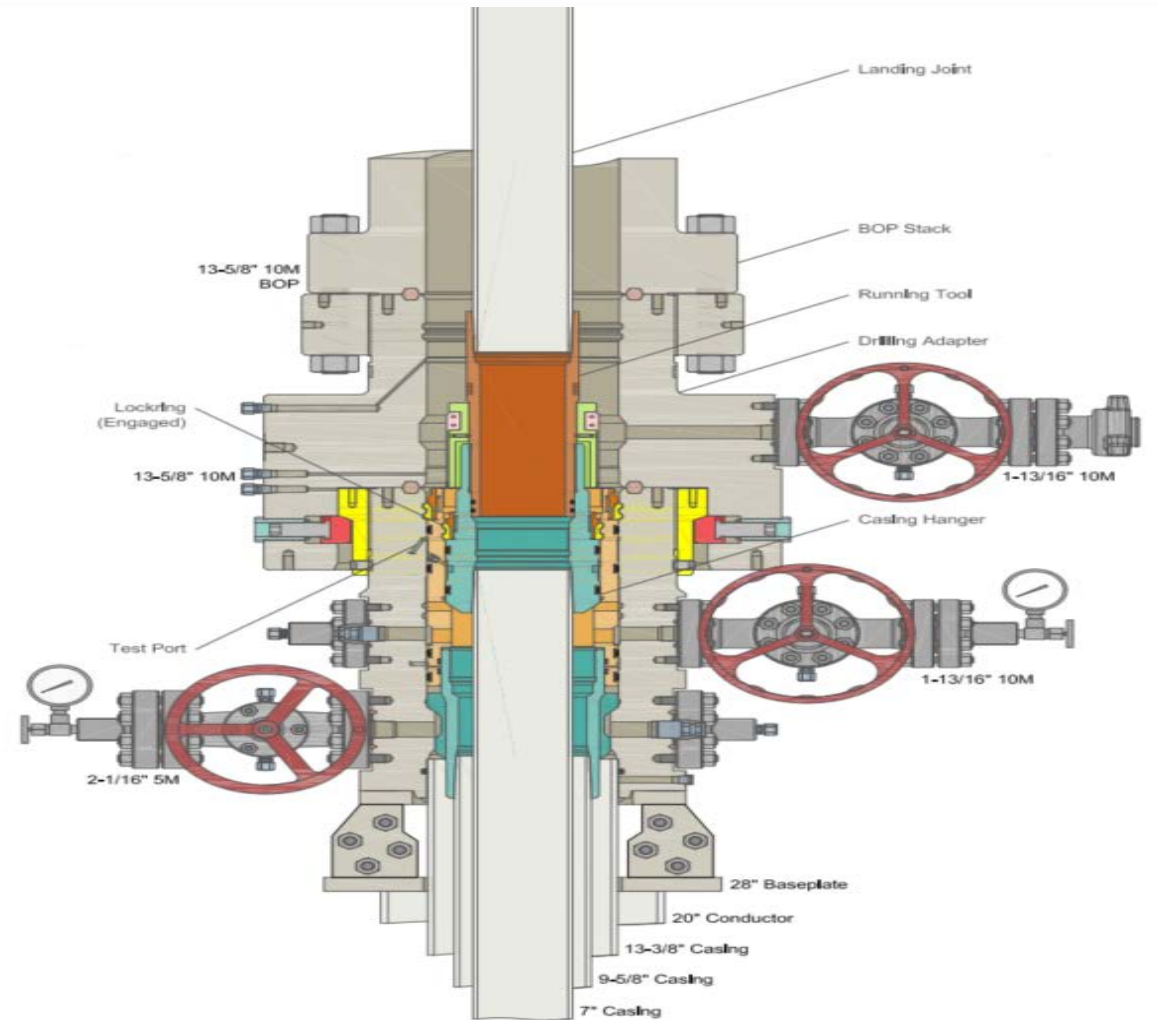


Offline Cementing -- Intermediate Casing



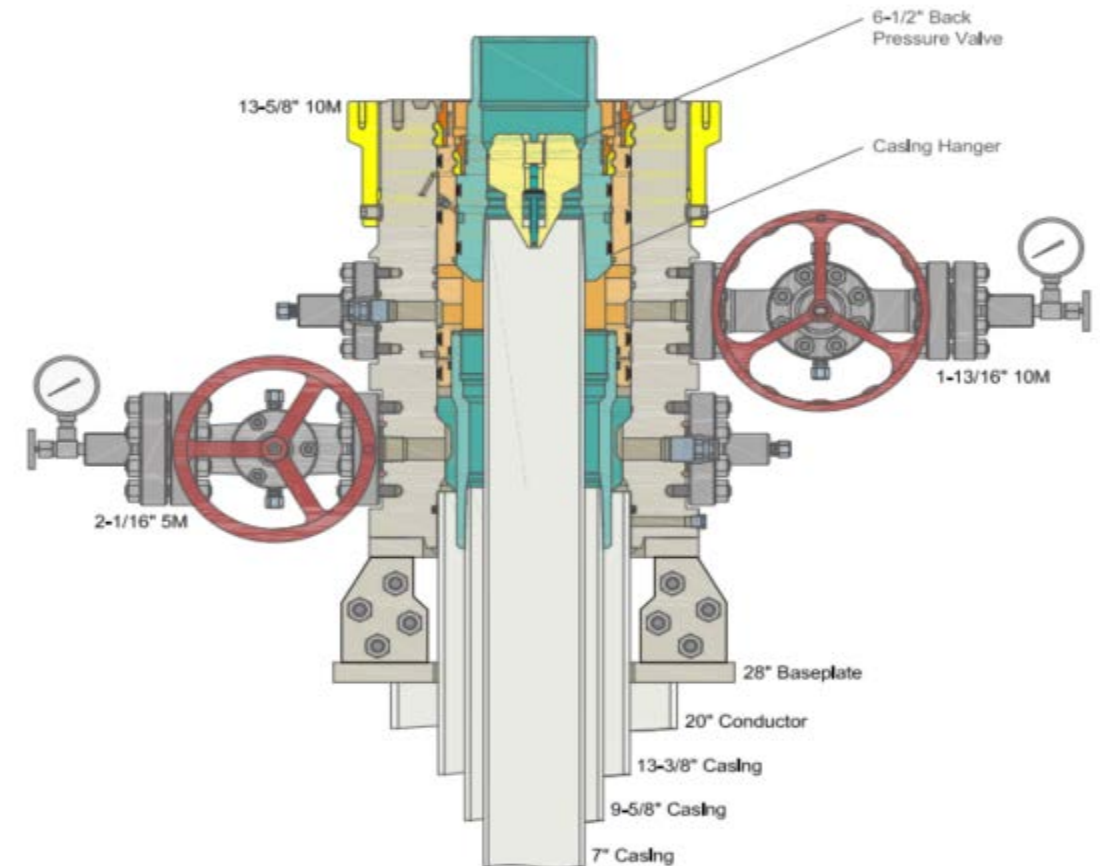
Offline Cementing Progression

- Run 7" casing
- Land 11" nominal x 7" hanger
- Test casing hanger
- Energize 11" nom x 7" hanger lock ring and pull test
- Re-test casing hanger
- Barriers & Procedures after landing casing before setting packoff
 - 10K BOP & 5K Annular-Internal and Annular barrier
 - Kill Weight Fluid in annulus and casing (ensure well is static before setting solid body packoff) Internal and Annular barrier
 - **If well is not static we WILL NOT set solid body packoff.**
 - 10K float collar-Internal Barrier
 - 10k float Shoe-Internal Barrier
 - **After circulating a 1.5 casing capacities to ensure full column of mud and no entrained gas pumps will be shut off and floats checked for flow**



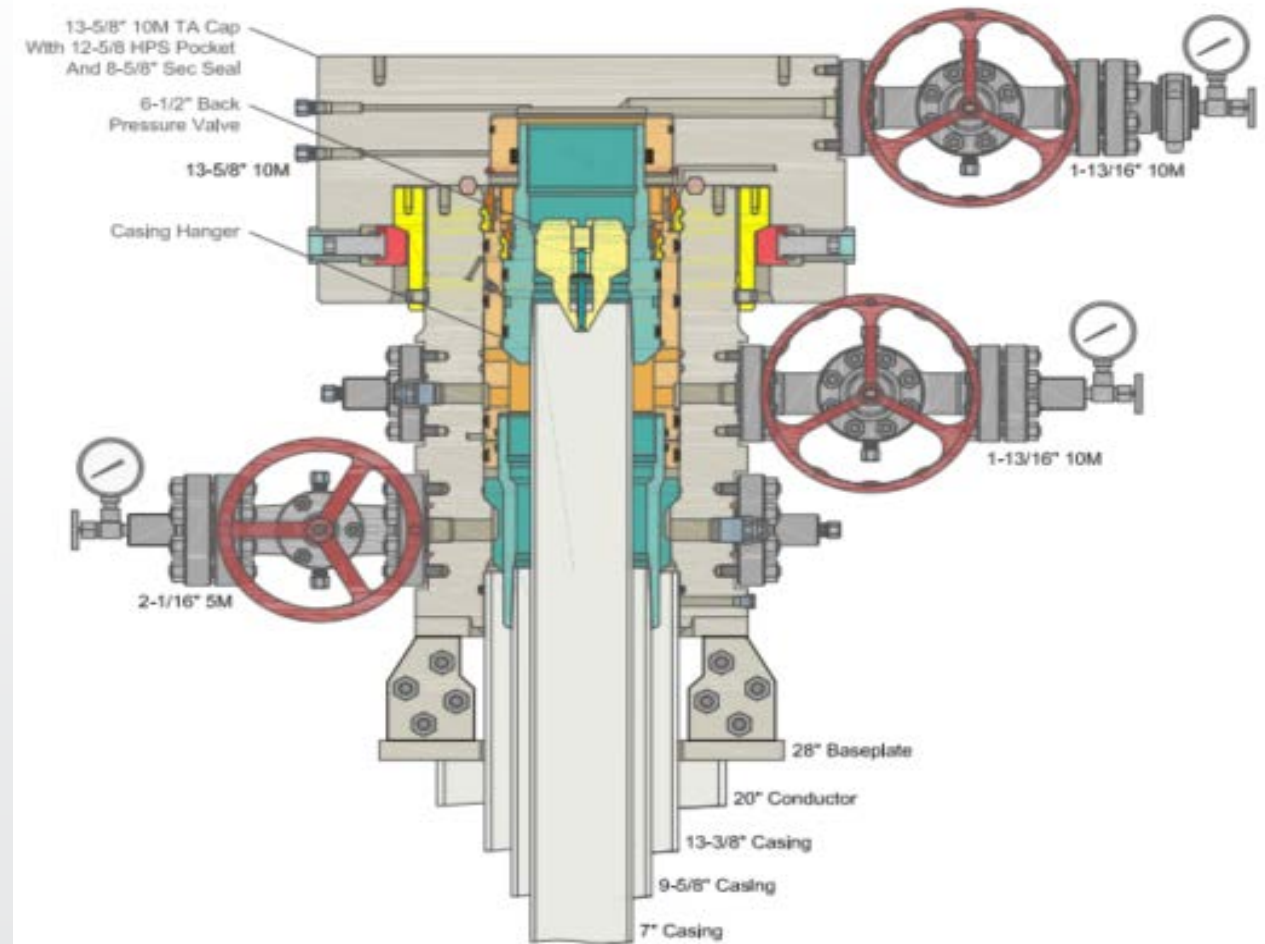
Offline Cementing Progression

- Pick up running tool with 6-1/2" nominal Back Pressure valve run into well and set
- Barriers and procedures **BEFORE** removing BOP's
 - Kill weight Fluid in annulus-Annular Barrier
 - Solid Body Packoff-Annular Barrier
 - 10K Float Equipment-Internal Barrier
 - 10K Back pressure valve installed with BOP still on well-Internal Barrier
 - BPV will be tested before it arrives on location by Cactus



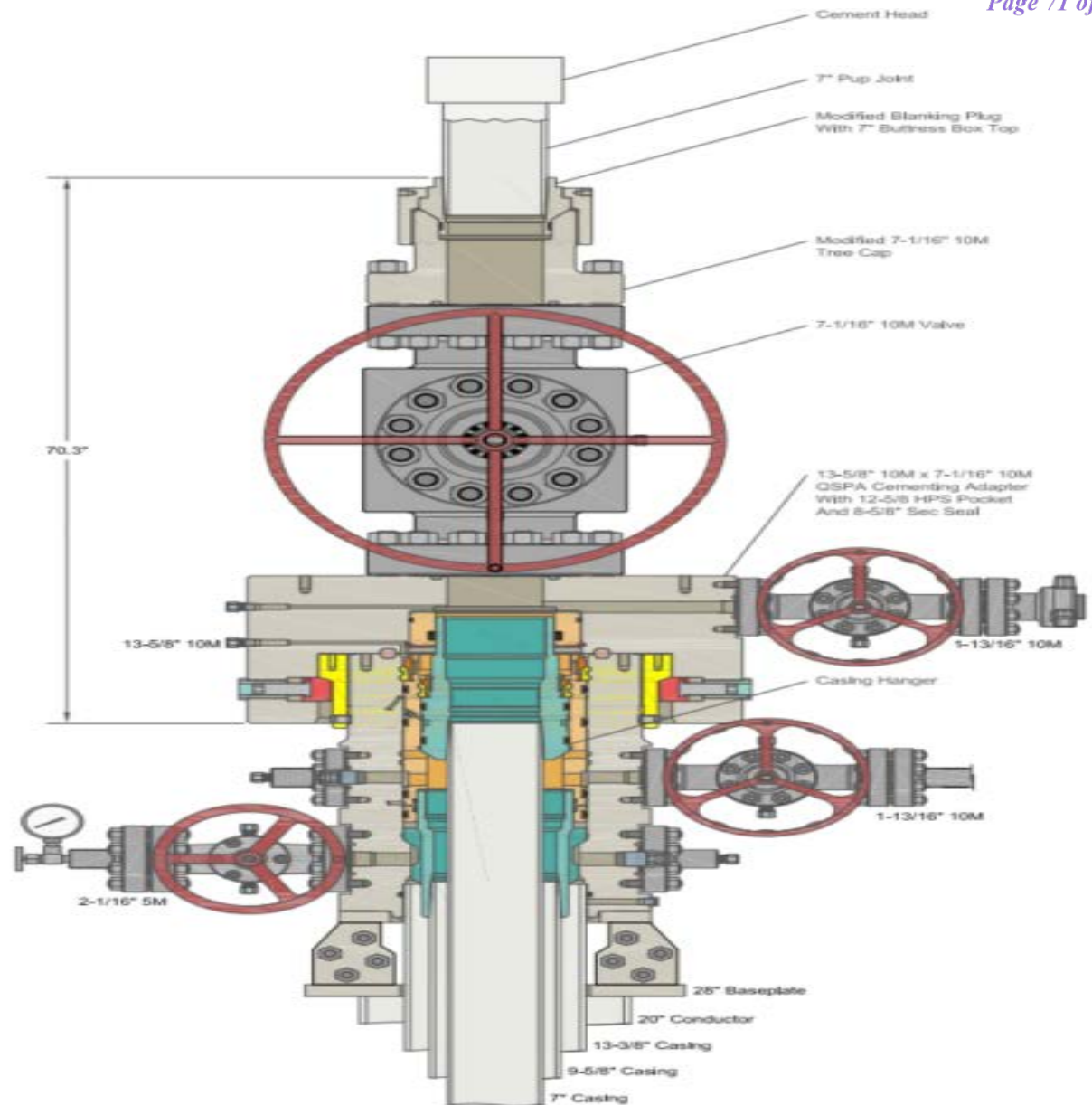
Offline Cementing Progression

- Nipple down BOP
- Nipple up TA Cap and test
- Skid Drilling Rig
- Barriers and procedures **AFTER** removing BOP's
 - Kill weight Fluid in annulus-Annular Barrier
 - Solid Body Packoff-Annular Barrier
 - 10K Float Equipment-Internal Barrier
 - 10K Back pressure valve-Internal Barrier
 - 10K rated TA cap with Valve-Internal Barrier



Offline Cementing Progression

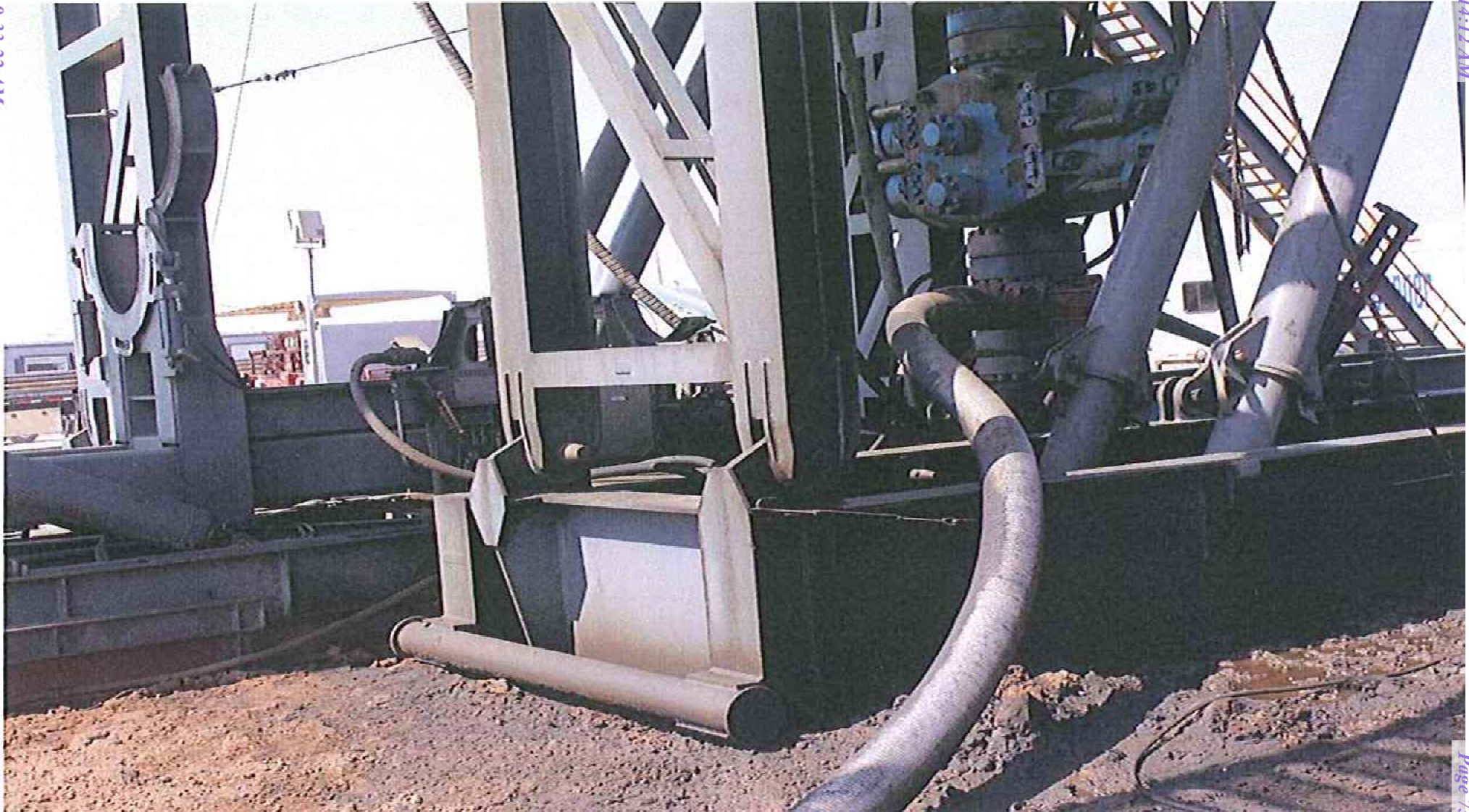
- Check Pressure on TA Cap and remove
- Install adaptor with Gate valve for off line cementing and test
- Rig up flowback iron independent of rig
- Retrieve Back Pressure Valve
- Shut in well
- Rig up to cement and pump job
- NU 10K TA cap after cement job
- Barriers and procedures before rigging up cementing equipment
 - Address well and ensure no pressure on TA cap
 - Ability to pump into well through casing valves on backside to kill if needed
 - Kill weight Fluid in annulus-Annular barrier
 - Solid Body Packoff-Annular barrier
 - 10K Float Equipment-Internal Barrier
 - 10K Back pressure valve-Internal Barrier



Offline Cementing Risk and COA Compliance

- All testing and breaks tested in accordance with Onshore Order # 2 and COA's
- If no cement to surface, bradenhead squeeze still possible with offline cementing equipment
- Time from skid rig to offline cementing ops typically 24 hours
- **Conditions where we would not Offline Cement**
 - **Well is flowing**
- All wellhead equipment rated to 10K maintaining APD compliant
 - 10K flowback iron independent of rig circulating system
 - 10K Back Pressure Valve
 - 10K Gate Valve & TA combo for second barrier during operations
 - 10K 1-13/16 Valve coming off TA cap
 - 10K TA Cap

Co-Flex Hose
Coriander 1-12 Federal Com 6H
Cimarex Energy Co.
1-23S-32E Lea Co., NM





Midwest Hose & Specialty, Inc.

Co-Flex Hose Hydrostatic Test
Coriander 1-12 Federal Com 6H
Cimarex Energy Co.
1-23S-32E Lea Co., NM

INTERNAL HYDROSTATIC TEST REPORT

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



Midwest Hose
& Specialty, Inc.

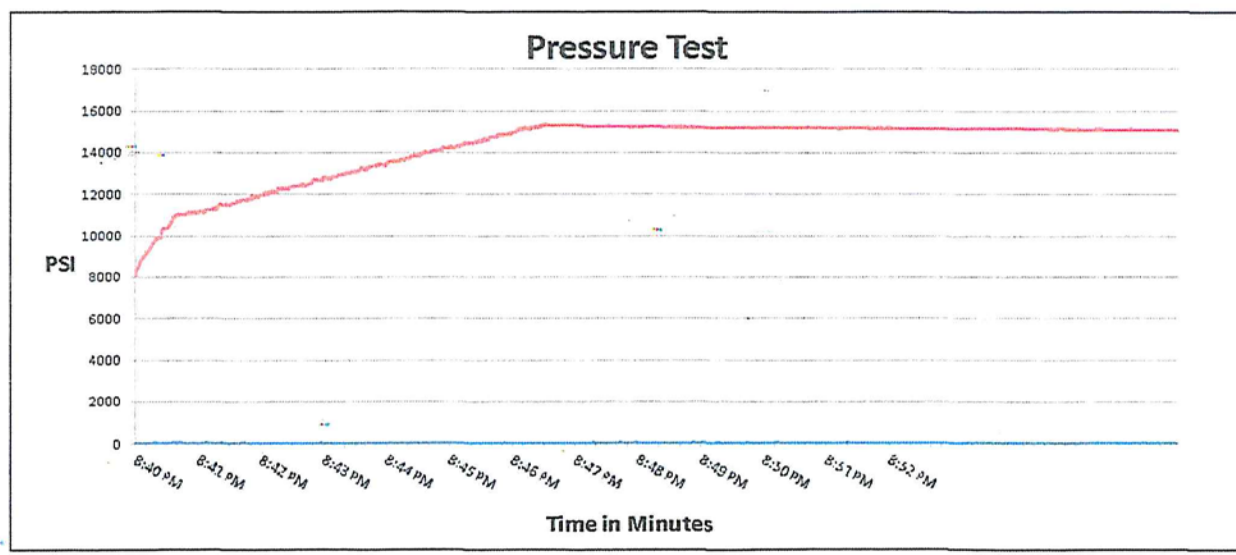
Internal Hydrostatic Test Graph

March 3, 2011

Customer: Houston

Pick Ticket #: 94260

Hose Specifications		Verification	
<u>Hose Type</u>	<u>Length</u>	<u>Type of Fitting</u>	<u>Coupling Method</u>
C & K	45'	41/16 10K	Swage
<u>I.D.</u>	<u>O.D.</u>	<u>Die Size</u>	<u>Final O.D.</u>
4"	6.09"	6.38"	6.25"
<u>Working Pressure</u>	<u>Burst Pressure</u>	<u>Hose Serial #</u>	<u>Hose Assembly Serial #</u>
10000 PSI	Standard Safety Multiplier Applies	5544	79793



<u>Test Pressure</u>	<u>Time Held at Test Pressure</u>	<u>Actual Burst Pressure</u>	<u>Peak Pressure</u>
15000 PSI	11 Minutes		15483 PSI

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

Tested By: Zac Mcconnell

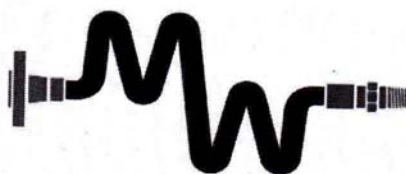
Approved By: Kim Thomas

[Signature of Zac Mcconnell]

[Signature of Kim Thomas]

Co-Flex Hose Hydrostatic Test
Coriander 1-12 Federal Com 6H
Cimarex Energy Co.
1-23S-32E Lea Co., NM

Co-Flex Hose
Coriander 1-12 Federal Com 6H
Cimarex Energy Co.
1-23S-32E Lea Co., NM



Midwest Hose & Specialty, Inc.

Certificate of Conformity

Customer:

DEM

PO

ODYD-271

SPECIFICATIONS

Sales Order

79793

Dated:

3/8/2011

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

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

Comments:

Approved:

James Garcia

Date:

3/8/2011



Co-Flex Hose
Coriander 1-12 Federal Com 6H
Cimarex Energy Co.
1-23S-32E Lea Co., NM

Specification Sheet Choke & Kill Hose

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

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

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



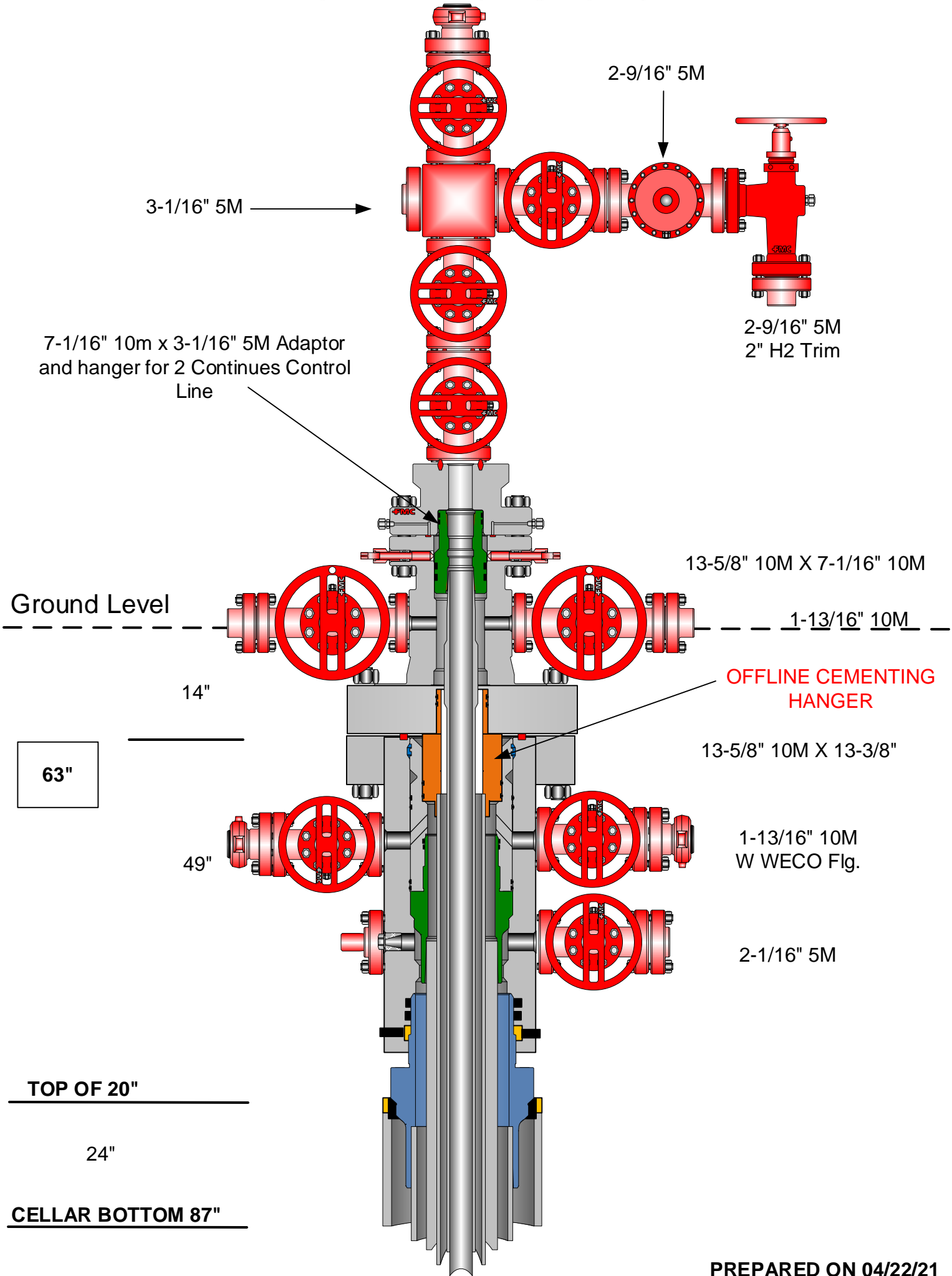
CACTUS FOR SERVICE
WEARBUSHING
IN CASING HEAD &
CASING SPOOL

Coriander 1-12 Federal Com 6H

2. Casing Program

Hole Size	Casing Depth From	Casing Depth To	Setting Depth TVD	Casing Size	Weight (lb/ft)	Grade	Conn.	SF Collapse	SF Burst	SF Tension
17 1/2	0	1306	1306	13-3/8"	48.00	H-40	ST&C	1.31	3.06	5.14
12 1/4	0	4977	4977	9-5/8"	40.00	HCK-55	LT&C	1.43	1.48	2.82
8 3/4	0	11751	11751	7"	29.00	L-80	LT&C	1.28	1.48	1.66
8 3/4	11751	12502	12191	7"	29.00	P-110	BT&C	1.50	1.97	72.81
6	10751	22267	12230	4-1/2"	11.60	P-110	BT&C	1.25	1.77	21.39
BLM Minimum Safety Factor								1.125	1	1.6 Dry 1.8 Wet

LEA CO., NM



PREPARED ON 04/22/21



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

SUPO Data Report

06/05/2023

APD ID: 10400082952

Submission Date: 03/03/2022

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

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_E2E2_Existing_Access_Road_20220301095823.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? YES

ROW ID(s)

ID: NM137119

ID: R35915

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? NO

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H

Section 3 - Location of Existing Wells

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

Coriander_1_12_Federal_Com_E2E2_One_Mile_Radius_20220301095851.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: This well pad is existing and located on State Surface in the E2E2. Production from the 6H federal well will be routed to the existing Thyme APY Fed 9 Battery located in the NWNE of Section 1 23S 32E. Access Road to this well pad is existing. 1969' of new off-lease 4- 12" lines for oil/gas/water and 1- 6" air poly line and 1- 2" fiber optic line will be built. FL/GL will be built within a 30' ROW corridor.

Production Facilities map:

Coriander_1_12_Federal_Com_6H_Flowline_Gas_Llft_20220301100347.pdf

CORIANDER_1_12_STATE_COM_E2E2__BULK_LINE_NETWORK__03_17_2022_20221104095216.pdf

Coriander_1_12_Federal_Com_E2E2__SUPO_20221104095815.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: MUNICIPAL

Water source use type: SURFACE CASING
INTERMEDIATE/PRODUCTION
CASING

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**Water source and transportation**

Coriander_1_12_Federal_Com_E2E2_Drilling_Water_Route_20220301121753.pdf

Water source comments:**New water well?** N**New Water Well Info****Well latitude:****Well Longitude:****Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):****Est thickness of aquifer:****Aquifer comments:****Aquifer documentation:****Well depth (ft):****Well casing type:****Well casing outside diameter (in.):****Well casing inside diameter (in.):****New water well casing?****Used casing source:****Drilling method:****Drill material:****Grout material:****Grout depth:****Casing length (ft.):****Casing top depth (ft.):****Well Production type:****Completion Method:****Water well additional information:****State appropriation permit:****Additional information attachment:****Section 6 - Construction Materials****Using any construction materials:** YES**Construction Materials description:** Well pad is existing**Construction Materials source location****Section 7 - Methods for Handling****Waste type:** DRILLING**Waste content description:** Drilling Fluids, drill cuttings, water and other waste produced from the well during drilling operations.**Amount of waste:** 15000 barrels**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containmant attachment:**

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Haul to R360 Environmental Solutions, 4507 Carlsbad Hwy, Hobbs, NM 88240**Waste type:** SEWAGE**Waste content description:** Human Waste**Amount of waste:** 300 gallons**Waste disposal frequency :** Weekly**Safe containment description:** Waste will be properly contained and disposed of properly at a state approved disposal facility.**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** A licensed 3rd party contractor will be used to haul and dispose human waste to City of Toyah TX waste water facility.**Waste type:** GARBAGE**Waste content description:** Garbage and trash produced during drilling and completion operations**Amount of waste:** 32500 pounds**Waste disposal frequency :** Weekly**Safe containment description:** N/A**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** A licensed 3rd party hauls trash to Lea County Landfill

Reserve Pit

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H

Cuttings Area

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

Section 8 - Ancillary

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

Section 9 - Well Site

Well Site Layout Diagram:

Coriander_1_12_Federal_Com_6H_Wellsite_Layout_20220301122335.pdf

Comments:

Section 10 - Plans for Surface

Type of disturbance: New Surface Disturbance**Multiple Well Pad Name:** Coriander 1-12 State**Multiple Well Pad Number:** E2E2**Recontouring**

Coriander_1_12_Federal_Com_E2E2_Interim_Reclaim_20220301122937.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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

operations would be obliterated, re-contoured, and reclaimed to near original condition to re-establish natural drainage.

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

Well pad proposed disturbance (acres): 0	Well pad interim reclamation (acres): 0	Well pad long term disturbance (acres): 0
Road proposed disturbance (acres): 1.914	Road interim reclamation (acres): 0	Road long term disturbance (acres): 0
Powerline proposed disturbance (acres): 0	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 0
Pipeline proposed disturbance (acres): 1.36	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 1.36
Other proposed disturbance (acres): 0	Other interim reclamation (acres): 0	Other long term disturbance (acres): 0
Total proposed disturbance: 3.274	Total interim reclamation: 0	Total long term disturbance: 1.36

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**Non native seed used?** N**Non native seed description:****Seedling transplant description:****Will seedlings be transplanted for this project?** N**Seedling transplant description****Will seed be harvested for use in site reclamation?** N**Seed harvest description:****Seed harvest description attachment:****Seed****Seed Table****Seed Summary****Total pounds/Acre:****Seed Type****Pounds/Acre****Seed reclamation****Operator Contact/Responsible Official****First Name:** amithy**Last Name:** Crawford**Phone:** (432)620-1909**Email:** amithy.crawford@coterra.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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

Pit closure description: N/A

Pit closure attachment:

Section 11 - Surface

Disturbance type: PIPELINE

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NMSLO

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland:

USFS Ranger District:

Disturbance type: EXISTING ACCESS ROAD

Describe:

Surface Owner: STATE GOVERNMENT

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office: NMSLO

Military Local Office:

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:****Disturbance type:** WELL PAD**Describe:****Surface Owner:** STATE GOVERNMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:** NMSLO**Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:**

Section 12 - Other

Right of Way needed? Y**Use APD as ROW?** Y**ROW Type(s):** 288100 ROW – O&G Pipeline**ROW**

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

SUPO Additional Information:

Use a previously conducted onsite? N

Previous Onsite information:

Other SUPO

Cimarex Coriander 1-12 Federal Com 6H 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

- Well pad is existing and no new access roads will be built for this pad.

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 accommodate 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.
- No new Power lines are required for this project

Cimarex Coriander 1-12 Federal Com 6H Surface Use Plan

Well Site Location

Well Pad is Existing

Flowlines and Bulklines

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

- Bulkline / Flowlines:

- 1 12" Steel Flowline carrying oil gas and water
- 4 12" steel bulklines carrying oil gas or water
- 1 4" fiber optic cable
- 1 12" Air poly line

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 6H 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 NMSLO
- 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.



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

PWD Data Report

06/05/2023

APD ID: 10400082952

Submission Date: 03/03/2022

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

Well Type: OIL WELL

Well Work Type: Drill

Section 1 - General

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

Section 2 - Lined

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner:

PWD disturbance (acres):

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit

Pit liner description:

Pit liner manufacturers

Precipitated solids disposal:

Describe precipitated solids disposal:

Precipitated solids disposal

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule

Lined pit reclamation description:

Lined pit reclamation

Leak detection system description:

Leak detection system

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**Lined pit Monitor description:****Lined pit Monitor****Lined pit: do you have a reclamation bond for the pit?****Is the reclamation bond a rider under the BLM bond?****Lined pit bond number:****Lined pit bond amount:****Additional bond information**

Section 3 - Unlined

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

Operator Name: CIMAREX ENERGY COMPANY**Well Name:** CORIANDER 1-12 FEDERAL COM**Well Number:** 6H**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: 6H

Other PWD type description:

Other PWD type

Have other regulatory requirements been met?

Other regulatory requirements



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

Bond Info Data

06/05/2023

APD ID: 10400082952

Submission Date: 03/03/2022

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

Operator Name: CIMAREX ENERGY COMPANY

Well Name: CORIANDER 1-12 FEDERAL COM

Well Number: 6H

Well Type: OIL WELL

Well Work Type: Drill

Bond

Federal/Indian APD: FED

BLM Bond number: NMB001188

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information

District I

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

District II

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

District III

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

District IV

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

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

CONDITIONS

Action 223784

CONDITIONS

Operator: CIMAREX ENERGY CO. 6001 Deauville Blvd Midland, TX 79706	OGRID: 215099
	Action Number: 223784
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	6/14/2023
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	6/14/2023
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	6/14/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	6/14/2023