Well Name: GRAYLING 14 FED COM

Well Location: T19S / R32E / SEC 14 / SESW / 32.655416 / -103.738627

County or Parish/State: LEA / NM

Well Number: 503H

Type of Well: OIL WELL

Allottee or Tribe Name:

Lease Number: NMNM105821018

Unit or CA Name:

Unit or CA Number:

US Well Number: 3002554114

Operator: AVANT OPERATING LLC

Notice of Intent

Sundry ID: 2864066

Type of Submission: Notice of Intent

Type of Action: APD Change

Date Sundry Submitted: 07/18/2025

Time Sundry Submitted: 02:31

Date proposed operation will begin: 08/01/2025

Procedure Description: Coterra Energy Operating Co. requests the following changes to the Grayling 14 Fed Com 503H: SHL from 835 FSL/2099 FWL to 1085 FSL/2061 FWL BHL from 100 FNL/2178 FWL to 100 FNL/2630 FWL TVD from 9600' to 9626' Updated C102 and directionals are attached.

NOI Attachments

Procedure Description

COTERRA_GRAYLING_14_FED_COM_503H_Sundry_Submittal_07182025_20250718143049.pdf

Well Name: GRAYLING 14 FED COM | **Well Location:** T19S / R32E / SEC 14 / SESW / 32.655416 / -103.738627 | **County or Parish/State:** LEA / NM

Well Number: 503H | **Type of Well:** OIL WELL | **Allottee or Tribe Name:**

Lease Number: NMNM105821018 | **Unit or CA Name:** | **Unit or CA Number:**

US Well Number: 3002554114 | **Operator:** AVANT OPERATING LLC

Conditions of Approval

Additional

14_19_32_N_Sundry_ID_2864066_Grayling_14_Fed_Com_503H_Lea_NM105821018_AVANT_OPERATING_LLC_13_22g_2_27_2024_LV_20250724132415.pdf

Grayling_14_Fed_Com_503H_Dr_COA_20250724132415.pdf

Operator

I certify that the foregoing is true and correct. 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. Electronic submission of Sundry Notices through this system satisfies regulations requiring a

Operator Electronic Signature: SHELLY BOWEN **Signed on:** JUL 18, 2025 02:30 PM

Name: AVANT OPERATING LLC

Title: Regulatory Analyst

Street Address: 6001 DEAUVILLE BLVD STE 300N

City: MIDLAND **State:** TX

Phone: (432) 620-1644

Email address: DL_PBUREGULATORY@COTERRA.COM

Field

Representative Name:

Street Address:

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

Phone:

Email address:

BLM Point of Contact

BLM POC Name: CHRISTOPHER WALLS **BLM POC Title:** Petroleum Engineer

BLM POC Phone: 5752342234 **BLM POC Email Address:** cwalls@blm.gov

Disposition: Approved **Disposition Date:** 07/25/2025

Signature: Chris Walls

Form 3160-5
(June 2019)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0137
Expires: October 31, 2021

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE *- Other instructions on page 2*

5. Lease Serial No.

6. If Indian, Allottee or Tribe Name

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

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

8. Well Name and No.

2. Name of Operator

9. API Well No.

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool or Exploratory Area

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)*

11. Country or Parish, State

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☐ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
	☐ Alter Casing	☐ Hydraulic Fracturing	☐ Reclamation	☐ Well Integrity
☐ Subsequent Report	☐ Casing Repair	☐ New Construction	☐ Recomplete	☐ Other
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
☐ Final Abandonment Notice	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be perfonned or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has detennined that the site is ready for final inspection.)

14. I hereby certify that the foregoing is true and correct. Name *(Printed/Typed)*

Title

Signature

Date

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by

Title

Date

Conditions of approval, if any, are attached. Approval of this notice 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.

Office

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.

(Instructions on page 2)

GENERAL INSTRUCTIONS

This form is designed for submitting proposals to perform certain well operations and reports of such operations when completed as indicated on Federal and Indian lands pursuant to applicable Federal law and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local area or regional procedures and practices, are either shown below, will be issued by or may be obtained from the local Federal office.

SPECIFIC INSTRUCTIONS

Item 4 - Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult the local Federal office for specific instructions.

Item 13: Proposals to abandon a well and subsequent reports of abandonment should include such special information as is required by the local Federal office. In addition, such proposals and reports should include reasons for the abandonment; data on any former or present productive zones or other zones with present significant fluid contents not sealed off by cement or otherwise; depths (top and bottom) and method of placement of cement plugs; mud or other material placed below, between and above plugs; amount, size, method of parting of any casing, liner or tubing pulled and the depth to the top of any tubing left in the hole; method of closing top of well and date well site conditioned for final inspection looking for approval of the abandonment. If the proposal will involve **hydraulic fracturing operations**, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

NOTICES

The privacy Act of 1974 and the regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.
AUTHORITY: 30 U.S.C. 181 et seq., 351 et seq., 25 U.S.C. 396; 43 CFR 3160.
PRINCIPAL PURPOSE: The information is used to: (1) Evaluate, when appropriate, approve applications, and report completion of subsequent well operations, on a Federal or Indian lease; and (2) document for administrative use, information for the management, disposal and use of National Resource lands and resources, such as: (a) evaluating the equipment and procedures to be used during a proposed subsequent well operation and reviewing the completed well operations for compliance with the approved plan; (b) requesting and granting approval to perform those actions covered by 43 CFR 3162.3-2, 3162.3-3, and 3162.3-4; (c) reporting the beginning or resumption of production, as required by 43 CFR 3162.4-1(c)and (d) analyzing future applications to drill or modify operations in light of data obtained and methods used.
ROUTINE USES: Information from the record and/or the record will be transferred to appropriate Federal, State, local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecutions in connection with congressional inquiries or to consumer reporting agencies to facilitate collection of debts owed the Government.
EFFECT OF NOT PROVIDING THE INFORMATION: Filing of this notice and report and disclosure of the information is mandatory for those subsequent well operations specified in 43 CFR 3162.3-2, 3162.3-3, 3162.3-4.

The Paperwork Reduction Act of 1995 requires us to inform you that:
The BLM collects this information to evaluate proposed and/or completed subsequent well operations on Federal or Indian oil and gas leases.
Response to this request is mandatory.
The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

BURDEN HOURS STATEMENT: Public reporting burden for this form is estimated to average 8 hours per response, including the time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. Direct comments regarding the burden estimate or any other aspect ofthis form to U.S. Department ofthe Interior, Bureau ofLand Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

Additional Information

Location of Well

0. SHL: SESW / 835 FSL / 2099 FWL / TWSP: 19S / RANGE: 32E / SECTION: 14 / LAT: 32.655416 / LONG: -103.738627 (TVD: 0 feet, MD: 0 feet)

PPP: NESW / 1320 FSL / 2178 FWL / TWSP: 19S / RANGE: 32E / SECTION: 14 / LAT: 32.656748 / LONG: -103.738375 (TVD: 9600 feet, MD: 11141 feet)

PPP: SESW / 0 FSL / 2178 FWL / TWSP: 19S / RANGE: 32E / SECTION: 11 / LAT: 32.667659 / LONG: -103.738409 (TVD: 9600 feet, MD: 15011 feet)

PPP: SESW / 100 FSL / 2178 FWL / TWSP: 19S / RANGE: 32E / SECTION: 14 / LAT: 32.653395 / LONG: -103.738365 (TVD: 9600 feet, MD: 9921 feet)

BHL: NENW / 100 FNL / 2178 FWL / TWSP: 19S / RANGE: 32E / SECTION: 11 / LAT: 32.681876 / LONG: -103.738458 (TVD: 9600 feet, MD: 19856 feet)

Grayling 14 Fed Com 503H

13 3/8	surface csg in a		17 1/2	inch hole.		Design Factors			Surface			
Segment	#/ft	Grade		Coupling	Joint	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	48.00		h 40	stc	5.50	1.46	0.55	1,220	3	0.93	2.97	58,560
"B"				stc				0				0
	w/8.4#/g mud, 30min Sfc Csg Test psig:	679		Tail Cmt	does not	circ to sfc.	Totals:	1,220				58,560

Comparison of Proposed to Minimum Required Cement Volumes

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
17 1/2	0.6946	760	1246	847	47	8.33	1865	2M				1.56

Burst Frac Gradient(s) for Segment(s) A, B = , b All > 0.70, OK.

Site plat (pipe racks S or E) as per O.O.1 III.D.4.i not found

9 5/8	casing inside the		13 3/8			Design Factors			Int 1			
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	40.00		j 55	btc	2.66	0.81	0.88	5,919	1	1.66	1.38	236,760
"B"								0				0
	w/8.4#/g mud, 30min Sfc Csg Test psig:	182					Totals:	5,919				236,760
	The cement volume(s) are intended to achieve a top of				0	ft from	surface or a	1220				overlap.

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
12 1/4	0.3132	1461	2589	1931	34	10.30	2383	3M				0.81
D V Tool(s):							sum of sx	Σ CuFt				Σ%excess
by stage % :		#VALUE!	#VALUE!				1461	2589				34

Class 'H' tail cmt yld > 1.20

Burst Frac Gradient(s) for Segment(s): A, B, C, D = 0.67, b, c, d <0.70 a Problem!!

Tail cmt

5 1/2	casing inside the		9 5/8			Design Factors			Prod 1			
Segment	#/ft	Grade		Coupling	Body	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"	20.00		p 110	btc	3.33	2.46	2.81	19,931	3	5.30	4.65	398,620
"B"								0				0
"C"								0				0
"D"								0				0
	w/8.4#/g mud, 30min Sfc Csg Test psig:	2,118					Totals:	19,931				398,620
	The cement volume(s) are intended to achieve a top of				5719	ft from	surface or a	200				overlap.

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
8 3/4	0.2526	3478	5366	3592	49	9.00						1.35

Class 'C' tail cmt yld > 1.35

#N/A

0			5 1/2			Design Factors			<Choose Casing>			
Segment	#/ft	Grade		Coupling	#N/A	Collapse	Burst	Length	B@s	a-B	a-C	Weight
"A"				0.00				0				0
"B"				0.00				0				0
	w/8.4#/g mud, 30min Sfc Csg Test psig:						Totals:	0				0
	Cmt vol calc below includes this csg, TOC intended				#N/A	ft from	surface or a	#N/A				overlap.

Hole	Annular	1 Stage	1 Stage	Min	1 Stage	Drilling	Calc	Req'd				Min Dist
Size	Volume	Cmt Sx	CuFt Cmt	Cu Ft	% Excess	Mud Wt	MASP	BOPE				Hole-Cplg
0		#N/A	#N/A	0	#N/A							

#N/A Capitan Reef est top XXXX.

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**Devon Energy Production Company LP**
LEASE NO.:	**NMNM105821018**
LOCATION:	Section 14, T.19 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	**Grayling 14 Fed Com 503H**
ATS/API ID:	**3002554114**
APD ID:	**10400097860**
Sundry ID:	**2864066**

COA

H2S	Yes		
Potash	None	None	
Cave/Karst Potential	Low		
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	Conventional and Multibowl		
Other	☐ 4 String	Capitan Reef Int 1	☐ WIPP
Other	Pilot Hole None	☐ Open Annulus	
Cementing	Contingency Squeeze None	Echo-Meter None	Primary Cement Squeeze None
Special Requirements	☐ Water Disposal/Injection	☑ COM	☐ Unit
Special Requirements	☐ Batch Sundry	Waste Prevention None	
Special Requirements Variance	☐ Break Testing	☐ Offline Cementing	☐ Casing Clearance

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Bone Springs** formation. As a result, the Hydrogen Sulfide area must meet **43 CFR part 3170 Subpart 3176** 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 **1220 feet** (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt when present, and below usable fresh water) and cemented to the surface. The surface hole shall be **17 1/2** inch in diameter.

    a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
    b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
    c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
    d. If cement falls back, remedial cementing will be done prior to drilling out that string.

    Intermediate casing must be kept fluid filled to meet BLM minimum collapse requirement.

2. The minimum required fill of cement behind the **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 lead cement slurry due to cave/karst, potash or capitan reef.**

    ❖ **Special Capitan Reef requirements.** If lost circulation (50% or greater) occurs below the Base of the Salt, the operator shall do the following:

    - Switch to fresh water mud to protect the Capitan Reef and use fresh water mud until setting the intermediate casing. The appropriate BLM office is to be notified for a PET to witness the switch to fresh water.

- Daily drilling reports from the Base of the Salt to the setting of the intermediate casing are to be submitted to the BLM CFO engineering staff via e-mail by 0800 hours each morning. Any lost circulation encountered is to be recorded on these drilling reports. The daily drilling report should show mud volume per shift/tour. Failure to submit these reports will result in an Incidence of Non-Compliance being issued for failure to comply with the Conditions of Approval. If not already planned, the operator shall run a caliper survey for the intermediate well bore and submit to the appropriate BLM office.

❖ In Capitan Reef Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

   - Cement should tie-back at least **50 feet** on top of Capitan Reef top **or 200** into the previous casing, whichever is greater. Operator shall provide method of verification.
     Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, potash or capitan reef.

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.

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **3000 (3M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the **9-5/8** inch intermediate casing shoe shall be **5000 (5M)** psi.

Option 2:

Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **13-3/8** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
c. Manufacturer representative shall install the test plug for the initial BOP test.
d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
e. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) 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.
- The operator will submit an as-drilled survey well plat of the well completion, but are not limited to, those specified in **43 CFR part 3170 Subpart 3171**
- 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)

☑ 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 **43 CFR part 3170 Subpart 3172** 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.

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 of both lead and tail cement, 2) until cement has been in place at least 8 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 **43 CFR part 3170 Subpart 3172** and **API STD 53 Sec. 5.3**.

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 43 CFR 3172.6(b)(9) 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 **43 CFR part 3170 Subpart 3172** 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 8 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 **43 CFR part 3170 Subpart 3172**.

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.

Long Vo (LVO) 7/24/2025

C-102

Submit Electronically
Via OCD Permitting

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION

Revised July 9, 2024

Submittal Type: ☒ Initial Submittal ☒ Amended Report ☐ As Drilled

WELL LOCATION INFORMATION

API Number	Pool Code	Pool Name
30-025-54114	41442	Lusk; Bone Spring, East

Property Code	Property Name	Well Number
336580	GRAYLING 14 FED COM	#503H

OGRID No.	Operator Name	Ground Level Elevation
~~300396~~ 330396	AVANT OPERATING LLC.	3624'

Surface Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal
Mineral Owner: ☐ State ☐ Fee ☐ Tribal ☒ Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
N	14	19 S	32 E		1085' FSL	2061' FWL	32.656103°	-103.738754°	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	11	19 S	32 E		100' FNL	2630' FWL	32.681869°	-103.736989°	LEA

Dedicated Acres	Infill or Defining Well	Defining Well API	Overlapping Spacing Unit (Y/N)	Consolidation Code
1280.00	Defining	30-025-54114	N	F

Order Numbers. R-23615
Well setbacks are under Common Ownership: ☒Yes ☐No

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
N	14	19 S	32 E		1085' FSL	2061' FWL	32.656103°	-103.738754°	LEA

First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
N	14	19 S	32 E		100' FSL	2630' FWL	32.653390°	-103.736896°	LEA

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
C	11	19 S	32 E		100' FNL	2630' FWL	32.681869°	-103.736989°	LEA

Unitized Area or Area of Uniform Interest	Spacing Unit Type	Ground Floor Elevation:
NA	☒ Horizontal ☐ Vertical	3624'

OPERATOR CERTIFICATIONS

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, 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 a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.

Shelly Bowen 7/18/2025

Signature Date

Shelly Bowen

Printed Name

shelly.bowen@coterra.com

Email Address

SURVEYOR CERTIFICATIONS

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.

TIM C. PAPPAS NEW MEXICO 21209 PROFESSIONAL SURVEYOR

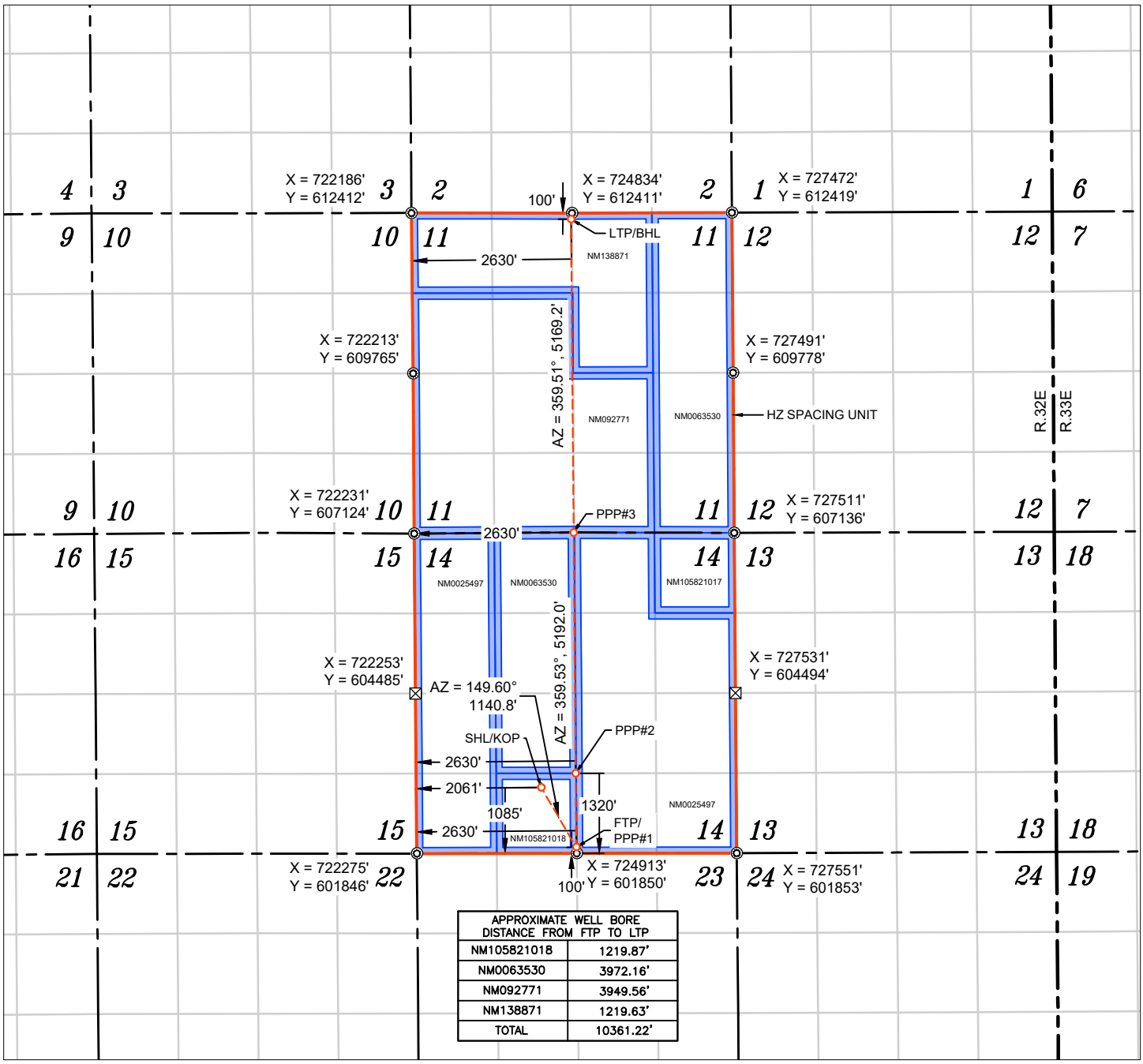
23 June 2025

Signature and Seal of Professional Surveyor

21209 JUNE 23, 2025

Certificate Number Date of Survey

Note: 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.



APPROXIMATE WELL BORE DISTANCE FROM FTP TO LTP	
NM105821018	1219.87'
NM0063530	3972.16'
NM092771	3949.56'
NM138871	1219.63'
TOTAL	10361.22'

WELL NAME: GRAYLING 14 FED COM #503H
ELEVATION: 3624'

NAD 83 (SHL/KOP) 1085' FSL & 2061' FWL
LATITUDE = 32.656103°
LONGITUDE = -103.738754°
NAD 27 (SHL/KOP)
LATITUDE = 32.655984°
LONGITUDE = -103.738251°
STATE PLANE NAD 83 (N.M. EAST)
N: 602933.68' E: 724326.93'
STATE PLANE NAD 27 (N.M. EAST)
N: 602871.56' E: 683148.45'

NAD 83 (FTP/PPP#1) 100' FSL & 2630' FWL
LATITUDE = 32.653390°
LONGITUDE = -103.736896°
NAD 27 (FTP/PPP#1)
LATITUDE = 32.653271°
LONGITUDE = -103.736393°
STATE PLANE NAD 83 (N.M. EAST)
N: 601949.69' E: 724904.17'
STATE PLANE NAD 27 (N.M. EAST)
N: 601887.59' E: 683725.65'

NAD 83 (PPP#2) 2630' FWL & 1320' FSL
LATITUDE = 32.656743°
LONGITUDE = -103.736907°
NAD 27 (PPP#2)
LATITUDE = 32.656624°
LONGITUDE = -103.736404°
STATE PLANE NAD 83 (N.M. EAST)
N: 603169.51' E: 724894.11'
STATE PLANE NAD 27 (N.M. EAST)
N: 603107.40' E: 683715.62'

NAD 83 (PPP#3) 2630' FWL
LATITUDE = 32.667661°
LONGITUDE = -103.736941°
NAD 27 (PPP#3)
LATITUDE = 32.667542°
LONGITUDE = -103.736437°
STATE PLANE NAD 83 (N.M. EAST)
N: 607141.54' E: 724861.34'
STATE PLANE NAD 27 (N.M. EAST)
N: 607079.39' E: 683682.95'

NAD 83 (LTP/BHL) 100' FNL & 2630' FWL
LATITUDE = 32.681869°
LONGITUDE = -103.736989°
NAD 27 (LTP/BHL)
LATITUDE = 32.681750°
LONGITUDE = -103.736485°
STATE PLANE NAD 83 (N.M. EAST)
N: 612310.54' E: 724817.44'
STATE PLANE NAD 27 (N.M. EAST)
N: 612248.35' E: 683639.14'

FOUND MONUMENT
CALC. CORNER
SHL/ KOP/ FTP / PPP/ LTP / BHL
WELLBORE
HORIZONTAL SPACING UNIT
STATE OIL & GAS LEASE
BLM OIL & GAS LEASE

NOTES

1. ALL COORDINATES, BEARINGS, AND DISTANCES CONTAINED HEREIN ARE GRID, BASED UPON THE NEW MEXICO STATE PLANE COORDINATES SYSTEM, NORTH AMERICAN DATUM 83, NEW MEXICO EAST (3001).

2. THIS DOCUMENT IS BASED UPON AN ON THE GROUND SURVEY PERFORMED DURING JUNE, 2025. CERTIFICATION OF THIS DOCUMENT IS ONLY TO THE LOCATION OF THIS EASEMENT IN RELATION TO RECORDED MONUMENT OF DEEDS PROVIDED BY THE CLIENT.

3. ELEVATIONS MSL, DERIVED FROM G.N.S.S. OBSERVATION AND DERIVED FROM SAID ON-THE-GROUND SURVEY.

0' 2500' 5000'

SCALE: 1" = 2500'

1. Geological Formations

TVD of target 9,626
MD at TD 19,931

Pilot Hole TD N/A
Deepest expected fresh water

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone	Hazards
Rustler	1110	N/A	
Top of Salt	1415	N/A	
Base of Salt/Lamar	5894	N/A	
Top Delaware Sands/Bell Canyon	5980	N/A	
Cherry Canyon	6230	N/A	
Brushy Canyon	6615	N/A	
Brushy Canyon	6615	N/A	
Basal Brushy Canyon	7365	N/A	
Bone Spring Lime	7600	N/A	
Leonard/Avalon Sand	7741	N/A	
Avalon Shale	7993	N/A	
1st Bone Spring Sand	8787	Hydrocarbons	
2nd Bone Spring Sand	9533	Hydrocarbons	
2nd Bone Spring Sand - Target	9735	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	1237	1237	13-3/8"	48.00	H-40	ST&C	1.38	3.23	5.42
12 1/4	0	5919	5919	9-5/8"	40.00	J-55	BT&C	1.50	1.25	2.66
8 3/4	0	9240	9240	[redacted]						
8 3/4	9240	19931	9626	5-1/2"	20.00	P-110	BT&C	2.46	2.74	83.03
					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

	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	# Sks	Wt. lb/gal	Yld ft3/sack	H2O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surface	599	13.50	1.72	9.15	15.5	Lead: Class C + Bentonite
	161	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Intermediate	1169	12.90	1.88	9.65	12	Lead: 35:65 (Poz:C) + Salt + Bentonite
	292	14.80	1.34	6.32	9.5	Tail: Class C + LCM
Production	361	10.30	3.64	22.18	12	Lead: Tuned Light + LCM
	3117	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	5719	25

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

4. Pressure Control Equipment

	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size	Min Required WP	Type		Tested To
12 1/4	**13 5/8**	**10M**	Annular	X	100% of working pressure
			Blind Ram		5M
			Pipe Ram	X	
			Double Ram		
			Other		
8 3/4	**13 5/8**	**10M**	Annular	X	100% of working pressure
			Blind Ram		10M
			Pipe Ram	X	
			Double Ram	X	
			Other		

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

5. Mud Program

Depth	Type	Weight (ppg)	Viscosity	Water Loss
0' to 1237'	Fresh Water	7.83 - 8.33	28	N/C
1237' to 5919'	Brine Water	9.80 - 10.30	30-32	N/C
5919' to 19931'	Oil Based Mud	8.50 - 9.00	50-70	N/C

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

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

6. Logging and Testing Procedures

Logging, Coring and Testing	
	Will run GR/CNL fromTD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
X	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	4504 psi
Abnormal Temperature	No

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

8. Other Facets of Operation

9. Wellhead

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

2. A packoff will be installed after running and cementing the production casing. This packoff will be tested to 10K psi.

BOPE Additional Information & Testing

1. After running the first string of casing, a 10M BOP/BOPE system with 10M annular will be installed. BOPs will be tested according to Onshore Order #2. BOPE will be tested to full rated pressure (10K for all BOPE). For the low test, the system will be tested to 250 psi.

2. All BOP equipment will be tested utilizing a conventional test plug.

3. A remote kill line is included in the BOPE system

4. All casing strings will be tested per Onshore Order #2, to 0.22 psi/ft or 1,500 psi, whichever is greater, not to exceed 70% of casing burst.

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

Additional Well Control Notes

1. In the event wellbore pressure encroaches to the maximum rated pressure of the annular, primary pressure control will be switched to the higher rated components (i.e., switch from annular to pipe rams) – upper pipe rams will be closed, and the annular opened in order to not exceed maximum rated pressures.

Coterra Grayling 14 Fed Com 503H Rev0 kFc 14Jul25 Anti-Collision Summary Report

Analysis Date-24hr Time:	July 14, 2025 - 07:18 PM (UTC 0)	**Analysis Method:**	3D Least Distance
Client:	COTERRA	**Reference Trajectory:**	Coterra Grayling 14 Fed Com 503H Rev0 kFc 14Jul25 (Def
Field:	NM Lea County (NAD 83)	**Depth Interval:**	Every 10.00 Measured Depth (ft)
Structure:	Coterra Grayling 14 Fed Com Pad (west)	**Rule Set:**	NAL Procedure: D&M AntiCollision Standard S002
Slot:	Grayling 14 Fed Com 503H	**Min Pts:**	Absolute minima indicated.
Well:	Grayling 14 Fed Com 503H	**Engine Version:**	2024.5.0.1
Borehole:	Grayling 14 Fed Com 503H	**Database \ Project:**	Grayling 14 Fed Com 503H–COTERRA
Scan MD Range:	0.00ft ~ 19930.99ft		

Trajectory Error Model: ISCWSA0 3 - D 95 % Confidence 2.7955 sigma

Offset Trajectories Summary

Offset Selection Criteria

Bounding box scan: minimum Ct-Ct separation <= 2000ft

Selection filters: Definitive Surveys - Definitive Plans - Definitive surveys exclude definitive plans
- All Non-Def Surveys when no Def-Survey is set in a borehole - All Non-Def Plans when no Def-Plan is set in a borehole

19 out of 21 are selected

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	
30-025-27077 - Shearn Federal 1 - Blind to 13650ft - P&A (DefinitiveSurvey) - **Fail Major**												
	7577.25	32.81	7573.85	7544.44	5355.60	MAS = 10.00 (m)	0.00	0.00				Surface
	7577.25	32.81	7570.88	7544.44	1727.36	MAS = 10.00 (m)	23.00	23.00				WRP
	7577.25	2293.35	6047.76	5283.90	4.96	OSF1.50	1210.00	1210.00	OSF<=5.00			Enter Alert
	7577.25	2480.15	5923.23	5097.10	4.58	OSF1.50	1300.00	1300.00				MinPt-CtCt
	7903.83	7907.38	2631.66	-3.55	1.50	OSF1.50	3950.00	3914.81		OSF<=1.50		Enter Minor
	8204.66	12322.39	-10.81	-4117.73	1.00	OSF1.50	6110.00	6042.01			OSF<=1.00	Enter Major
	677.13	19806.94	**-12528.00**	**-19129.81**	0.05	OSF1.50	18020.00	9647.63				MinPts
	677.02	19806.65	-12527.92	-19129.63	**0.05**	OSF1.50	18032.02	9647.50				MinPts
	2015.93	19761.27	-11158.75	-17745.34	0.15	OSF1.50	19930.99	9626.00				TD
Coterra Grayling 14 Fed Com 502H Rev0 kFc 14Jul25 (DefinitivePlan) - **Fail Minor**												
	20.00	16.40	16.71	3.60	9.36	MAS = 5.00 (m)	0.00	0.00	CtCt<=15.00m			Enter Alert
	20.00	16.40	16.71	3.60	9.36	MAS = 5.00 (m)	23.00	23.00				WRP
	20.00	18.51	**7.23**	**1.49**	**1.63**	OSF1.50	1190.00	1190.00				MinPts
	20.00	19.84	6.44	0.16	1.51	OSF1.50	1300.00	1300.00				MinPt-CtCt
	20.04	20.13	6.29	-0.10	1.49	OSF1.50	1320.00	1320.00		OSF<=1.50		Enter Minor
	20.22	20.57	**6.19**	-0.34	1.47	OSF1.50	1350.00	1350.00				MinPt-EOU
	20.59	21.00	6.26	**-0.41**	**1.47**	OSF1.50	1380.00	1379.99				MinPts
	21.64	21.72	6.83	-0.08	1.49	OSF1.50	1430.00	1429.96		OSF>1.50		Exit Minor
	103.16	31.77	81.65	71.38	4.98	OSF1.50	2130.00	2122.45	OSF>5.00			Exit Alert
	1061.29	151.67	**959.85**	909.62	10.55	OSF1.50	9230.00	9132.75				MinPt-EOU
	1061.32	151.70	959.85	**909.62**	**10.55**	OSF1.50	9239.84	9142.59				MinPts
	1148.28	345.37	917.70	802.90	5.00	OSF1.50	19160.00	9634.73	OSF<=5.00			Enter Alert
	1148.65	367.90	**903.05**	**780.74**	**4.69**	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com 501H Rev0 kFc 14Jul25 (DefinitivePlan) - **Warning Alert**												
	40.00	32.40	36.72	7.60	19.35	MAS = 9.88 (m)	0.00	0.00	CtCt<=15.00m			Enter Alert
	40.00	32.40	36.72	7.60	19.35	MAS = 9.88 (m)	23.00	23.00				WRP
	40.00	32.40	**27.23**	7.60	3.37	MAS = 9.88 (m)	1190.00	1190.00				MinPt-EOU
	40.00	32.40	26.45	**7.60**	3.10	MAS = 9.88 (m)	1300.00	1300.00				MinPts
	40.23	32.40	**26.19**	7.83	3.01	MAS = 9.88 (m)	1350.00	1350.00				MinPt-EOU
	41.02	32.40	26.60	8.61	**2.98**	MAS = 9.88 (m)	1390.00	1389.99				MinPt-SF
	84.18	32.40	66.41	51.78	4.96	MAS = 9.88 (m)	1760.00	1758.03	OSF>5.00			Exit Alert
	1875.69	136.88	1784.10	1738.80	**20.69**	OSF1.50	8200.00	8102.85				MinPt-SF
	2070.61	151.53	1969.26	1919.08	**20.62**	OSF1.50	9200.00	9102.75				MinPt-SF
	2094.63	156.32	1990.09	1938.31	**20.22**	OSF1.50	9380.00	9281.36				MinPt-SF
	2296.06	160.02	2189.05	**2136.04**	21.65	OSF1.50	10630.00	9731.29				MinPt-ADP
	2301.33	413.45	**2025.36**	**1887.87**	**8.37**	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com Penn3H Rev0 plan (DefinitivePlan) - **Warning Alert**												
	215.46	32.81	212.17	182.65	107.07	MAS = 10.00 (m)	0.00	0.00				Surface
	215.46	32.81	212.17	182.65	107.07	MAS = 10.00 (m)	23.00	23.00				WRP
	215.46	32.81	**202.69**	182.65	18.65	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	127.38	39.02	101.04	88.36	4.98	OSF1.50	2640.00	2624.71	OSF<=5.00			Enter Alert
	79.61	57.98	40.63	21.63	2.07	OSF1.50	3720.20	3688.51				MinPt-CtCt
	80.37	60.20	**39.91**	20.17	2.01	OSF1.50	3840.00	3806.48				MinPt-EOU
	81.13	61.11	40.07	**20.03**	2.00	OSF1.50	3890.00	3855.73				MinPt-ADP
	82.37	62.16	40.60	20.21	**2.00**	OSF1.50	3950.00	3914.81				MinPt-SF
	299.50	151.55	198.14	147.95	2.97	OSF1.50	9630.00	9503.29				MinPt-CtCt
	299.63	151.80	**198.10**	**147.83**	2.97	OSF1.50	9640.00	9511.00				MinPts
	299.94	152.04	198.25	147.90	**2.97**	OSF1.50	9650.00	9518.60				MinPt-SF
	505.79	152.50	403.80	353.29	5.00	OSF1.50	10080.00	9715.91	OSF>5.00			Exit Alert
	2122.69	351.77	**1887.85**	**1770.92**	**9.07**	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com Penn2H Rev0 plan (DefinitivePlan) - **Warning Alert**												
	208.86	32.81	205.58	176.05	103.77	MAS = 10.00 (m)	0.00	0.00				Surface
	208.86	32.81	205.58	176.05	103.77	MAS = 10.00 (m)	23.00	23.00				WRP
	208.86	32.81	**196.09**	176.05	18.07	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	106.61	32.85	84.38	73.76	4.97	OSF1.50	2200.00	2191.39	OSF<=5.00			Enter Alert
	95.45	35.70	71.32	59.75	4.08	OSF1.50	2392.07	2380.54				MinPt-CtCt
	95.56	35.97	**71.26**	**59.60**	4.06	OSF1.50	2410.00	2398.20				MinPts
	96.64	36.55	71.95	60.09	**4.03**	OSF1.50	2450.00	2437.59				MinPt-SF
	136.58	41.67	108.48	94.92	5.00	OSF1.50	2780.00	2762.58	OSF>5.00			Exit Alert
	1307.13	133.34	1217.91	1173.79	**14.80**	OSF1.50	8200.00	8102.85				MinPt-SF

Results highlighted in red: Sep-Factor <= 1.5

Result highlighted in boxed, red and bold: all local minima indicated.

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	
	1437.18	148.04	1338.16	1289.14	14.65	OSF1.50	9200.00	9102.75				MinPt-SF
	1477.99	153.51	1375.32	1324.48	14.53	OSF1.50	9650.00	9518.60				MinPt-SF
	2245.16	358.04	2006.13	1887.12	9.43	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com 1BS3H Rev0 plan (DefinitivePlan) - **Warning Alert**												
	99.96	32.81	96.68	67.15	49.33	MAS = 10.00 (m)	0.00	0.00				Surface
	99.96	32.81	96.68	67.15	49.33	MAS = 10.00 (m)	23.00	23.00				WRP
	99.96	32.81	87.19	67.15	8.59	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	99.96	32.81	86.41	67.15	7.87	MAS = 10.00 (m)	1300.00	1300.00				MinPts
	104.54	32.81	83.68	71.73	5.21	MAS = 10.00 (m)	2040.00	2033.82				MinPt-EOU
	105.79	32.81	83.81	72.98	4.99	MAS = 10.00 (m)	2140.00	2132.30	OSF<=5.00			Enter Alert
	107.96	34.89	84.37	73.07	4.73	OSF1.50	2280.00	2270.18				MinPt-ADP
	167.85	66.69	123.06	101.16	3.81	OSF1.50	4120.00	4082.23				MinPt-SF
	158.87	135.76	68.04	23.11	1.76	OSF1.50	7700.00	7607.86				MinPt-CtCt
	159.15	136.50	67.82	22.65	1.75	OSF1.50	7750.00	7657.10				MinPt-EOU
	159.39	136.77	67.89	22.63	1.75	OSF1.50	7770.00	7676.80				MinPts
	175.16	145.64	77.74	29.52	1.81	OSF1.50	8660.00	8562.75				MinPts
	379.87	115.41	302.60	264.46	4.97	OSF1.50	9270.00	9172.74	OSF>5.00			Exit Alert
	541.44	163.37	432.20	378.07	4.99	OSF1.50	14150.00	9691.44	OSF<=5.00			Enter Alert
	476.00	343.70	246.54	132.30	2.08	OSF1.50	19930.99	9626.00				MinPts
30-025-54108 - Grayling 14 Federal Com 603H - MWD to 20961ft - A (DefinitiveSurvey) - **Warning Alert**												
	402.02	32.81	398.63	369.21	282.82	MAS = 10.00 (m)	0.00	0.00				MinPts
	402.03	32.81	398.63	369.22	282.83	MAS = 10.00 (m)	23.00	23.00				WRP
	407.41	32.81	395.79	374.60	42.09	MAS = 10.00 (m)	1040.00	1040.00				MinPt-EOU
	409.17	32.81	396.07	376.36	36.61	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	173.57	53.63	137.23	119.95	4.97	OSF1.50	3460.00	3432.26	OSF<=5.00			Enter Alert
	150.99	62.23	108.91	88.76	3.70	OSF1.50	3953.81	3918.56				MinPt-CtCt
	151.29	63.14	108.61	88.15	3.65	OSF1.50	4010.00	3973.90				MinPt-EOU
	151.68	63.61	108.68	88.07	3.64	OSF1.50	4040.00	4003.45				MinPt-ADP
	154.44	65.27	110.34	89.17	3.61	OSF1.50	4150.00	4111.78				MinPt-SF
	251.29	76.90	199.43	174.38	4.98	OSF1.50	5040.00	4988.26	OSF>5.00			Exit Alert
	461.00	101.19	393.01	359.81	6.92	OSF1.50	6680.00	6603.35				MinPt-EOU
	461.99	102.38	393.20	359.61	6.85	OSF1.50	6750.00	6672.29				MinPt-ADP
	476.96	141.93	381.84	335.03	5.08	OSF1.50	8970.00	8872.75				MinPt-CtCt
	477.24	142.90	381.47	334.33	5.05	OSF1.50	9030.00	8932.75				MinPt-EOU
	477.63	143.38	381.54	334.25	5.03	OSF1.50	9060.00	8962.75				MinPt-ADP
	479.41	144.92	382.29	334.48	5.00	OSF1.50	9150.00	9052.75	OSF<=5.00			Enter Alert
	483.36	147.54	384.50	335.83	4.95	OSF1.50	9340.00	9242.24				MinPt-SF
	497.15	150.35	396.42	346.80	4.99	OSF1.50	9530.00	9420.51	OSF>5.00			Exit Alert
	956.98	109.02	883.80	847.96	13.33	OSF1.50	10550.00	9732.20				MinPt-CtCt
	956.98	109.04	883.79	847.94	13.33	OSF1.50	10560.00	9732.08				MinPts
	959.55	111.07	885.00	848.48	13.12	OSF1.50	10800.00	9729.37				MinPt-EOU
	959.68	111.22	885.03	848.46	13.10	OSF1.50	10820.00	9729.14				MinPt-ADP
	930.33	127.64	844.74	802.69	11.05	OSF1.50	11640.00	9719.86				MinPt-CtCt
	930.57	128.34	844.51	802.23	10.99	OSF1.50	11690.00	9719.29				MinPt-EOU
	930.83	128.63	844.57	802.19	10.96	OSF1.50	11710.00	9719.07				MinPt-ADP
	932.31	131.82	843.93	800.49	10.71	OSF1.50	11830.00	9717.71				MinPt-CtCt
	932.41	132.08	843.85	800.33	10.69	OSF1.50	11850.00	9717.48				MinPt-EOU
	932.51	132.22	843.87	800.30	10.68	OSF1.50	11860.00	9717.37				MinPt-ADP
	921.85	151.88	820.10	769.97	9.18	OSF1.50	12600.00	9708.99				MinPt-CtCt
	922.01	152.34	819.95	769.67	9.15	OSF1.50	12630.00	9708.65				MinPt-EOU
	922.13	152.49	819.97	769.64	9.15	OSF1.50	12640.00	9708.54				MinPt-ADP
	925.16	161.10	817.26	764.06	8.68	OSF1.50	12910.00	9705.48				MinPt-CtCt
	927.89	166.93	816.10	760.96	8.40	OSF1.50	13120.00	9703.10				MinPt-EOU
	928.17	175.52	810.66	752.65	7.99	OSF1.50	13360.00	9700.39				MinPt-CtCt
	928.38	176.19	810.42	752.19	7.96	OSF1.50	13400.00	9699.93				MinPt-EOU
	928.51	176.35	810.45	752.16	7.95	OSF1.50	13410.00	9699.82				MinPt-ADP
	931.96	193.65	802.36	738.31	7.26	OSF1.50	14000.00	9693.14				MinPt-CtCt
	931.24	204.59	794.35	726.65	6.87	OSF1.50	14300.00	9689.75				MinPt-CtCt
	931.55	205.38	794.13	726.17	6.84	OSF1.50	14340.00	9689.29				MinPt-EOU
	931.71	205.57	794.16	726.14	6.84	OSF1.50	14350.00	9689.18				MinPt-ADP
	935.05	209.60	794.82	725.46	6.73	OSF1.50	14480.00	9687.71				MinPt-EOU
	935.85	210.57	794.97	725.28	6.70	OSF1.50	14520.00	9687.25				MinPt-ADP
	939.87	216.02	795.36	723.85	6.56	OSF1.50	14680.00	9685.44				MinPt-EOU
	940.62	216.93	795.50	723.69	6.54	OSF1.50	14720.00	9684.99				MinPt-ADP
	938.84	235.69	781.22	703.16	6.00	OSF1.50	15240.00	9679.10				MinPt-CtCt
	939.38	237.44	780.59	701.94	5.96	OSF1.50	15310.00	9678.31				MinPt-EOU
	940.43	238.70	780.80	701.73	5.94	OSF1.50	15360.00	9677.75				MinPt-ADP
	946.23	244.59	782.67	701.64	5.83	OSF1.50	15530.00	9675.82				MinPt-EOU
	946.48	244.84	782.75	701.64	5.82	OSF1.50	15540.00	9675.71				MinPt-ADP
	952.95	255.85	781.89	697.10	5.61	OSF1.50	15810.00	9672.65				MinPt-CtCt
	951.44	266.18	773.48	685.25	5.38	OSF1.50	16080.00	9669.59				MinPt-CtCt
	952.25	268.82	772.54	683.43	5.33	OSF1.50	16170.00	9668.58				MinPt-EOU
	947.99	285.64	757.06	662.35	5.00	OSF1.50	16550.00	9664.27	OSF<=5.00			Enter Alert
	947.38	286.84	755.65	660.54	4.97	OSF1.50	16610.00	9663.59				MinPt-CtCt
	947.53	294.16	750.92	653.37	4.85	OSF1.50	16880.00	9660.54				MinPt-CtCt
	941.06	311.12	733.15	629.94	4.55	OSF1.50	17400.00	9654.65				MinPt-CtCt
	941.67	313.05	732.47	628.62	4.53	OSF1.50	17470.00	9653.86				MinPt-EOU
	944.91	316.66	733.30	628.25	4.49	OSF1.50	17590.00	9652.50				MinPt-ADP
	949.02	325.58	731.47	623.44	4.39	OSF1.50	17800.00	9650.12				MinPt-EOU
	950.85	327.78	731.83	623.07	4.36	OSF1.50	17870.00	9649.33				MinPt-ADP
	955.45	334.90	731.68	620.55	4.29	OSF1.50	18050.00	9647.29				MinPt-EOU
	956.74	355.72	719.09	601.02	4.05	OSF1.50	18600.00	9641.07				MinPt-CtCt
	914.33	410.82	639.95	503.51	3.35	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com penn4H Rev0 plan (DefinitivePlan) - **Warning Alert**												
	1798.34	32.81	1795.05	1765.53	898.37	MAS = 10.00 (m)	0.00	0.00				Surface
	1798.34	32.81	1795.05	1765.53	898.37	MAS = 10.00 (m)	23.00	23.00				WRP
	1798.34	32.81	1785.57	1765.53	156.47	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	432.89	130.74	345.40	302.15	4.99	OSF1.50	7850.00	7755.59	OSF<=5.00			Enter Alert

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	
	272.83	152.10	171.10	120.72	2.70	OSF1.50	9239.84	9142.59				MinPt-CtCt
	272.96	152.75	170.80	120.22	2.69	OSF1.50	9330.00	9232.38				MinPt-EOU
	273.10	152.91	170.83	120.19	2.69	OSF1.50	9350.00	9252.07				MinPt-ADP
	273.47	153.16	171.03	120.31	2.69	OSF1.50	9380.00	9281.36				MinPt-SF
	506.37	154.89	402.79	351.49	4.93	OSF1.50	9990.00	9696.07	OSF>5.00			Exit Alert
	1837.10	351.35	1602.53	1485.74	7.86	OSF1.50	19930.00	9626.01				MinPts
	1837.11	351.36	1602.54	1485.75	7.86	OSF1.50	19930.99	9626.00				MinPt-SF
30-025-43135 - Crazy Wolf 1 2 B2Mm Federal Com 001H - MWD to 16500ft - A (True North) (DefinitiveSurvey) - **Warning Alert**												
	10772.97	32.81	10769.57	10740.16	7579.45	MAS = 10.00 (m)	0.00	0.00				Surface
	10772.93	32.81	10769.51	10740.12	7503.70	MAS = 10.00 (m)	23.00	23.00				WRP
	10753.48	32.81	10737.35	10720.67	748.03	MAS = 10.00 (m)	1390.00	1389.99				MinPts
	10753.55	32.81	10737.29	10720.74	741.64	MAS = 10.00 (m)	1410.00	1409.97				MinPt-EOU
	11131.30	359.65	10890.94	10771.65	46.65	OSF1.50	5670.00	5608.69				MinPt-SF
	11096.19	356.83	10857.71	10739.36	46.87	OSF1.50	5850.00	5785.96				MinPts
	10936.30	355.07	10699.04	10581.22	46.40	OSF1.50	7000.00	6918.49				MinPt-SF
	1194.19	361.03	953.00	833.16	4.98	OSF1.50	19170.00	9634.61	OSF<=5.00			Enter Alert
	440.03	357.17	201.42	82.86	1.85	OSF1.50	19930.99	9626.00				MinPts
30-025-54109 - Grayling 14 Federal Com 604H - MWD to 21017ft - A (DefinitiveSurvey) - **Warning Alert**												
	1645.36	32.81	1641.97	1612.55	1161.84	MAS = 10.00 (m)	0.00	0.00				MinPts
	1645.37	32.81	1641.97	1612.56	1161.81	MAS = 10.00 (m)	23.00	23.00				WRP
	1644.97	32.81	1631.89	1612.16	147.99	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	502.85	151.65	401.25	351.20	5.01	OSF1.50	9503.71	9397.23				MinPt-CtCt
	502.86	151.68	401.24	351.18	5.01	OSF1.50	9510.00	9402.85				MinPts
	502.97	151.73	401.32	351.24	5.01	OSF1.50	9520.00	9411.72				MinPt-SF
	1042.84	112.26	967.50	930.58	14.10	OSF1.50	10530.00	9732.42				MinPt-ADP
	1031.22	120.31	950.51	910.90	13.00	OSF1.50	11050.00	9726.54				MinPt-CtCt
	1031.38	120.73	950.39	910.65	12.96	OSF1.50	11090.00	9726.08				MinPt-EOU
	1031.57	120.96	950.43	910.61	12.93	OSF1.50	11110.00	9725.86				MinPt-ADP
	1017.28	140.82	922.90	876.46	10.94	OSF1.50	11980.00	9716.01				MinPt-CtCt
	1018.71	145.59	921.15	873.12	10.59	OSF1.50	12200.00	9713.52				MinPt-EOU
	1011.88	168.38	899.13	843.50	9.08	OSF1.50	13000.00	9704.46				MinPt-CtCt
	1011.90	173.31	895.86	838.59	8.82	OSF1.50	13160.00	9702.65				MinPt-CtCt
	1012.10	173.99	895.61	838.12	8.79	OSF1.50	13200.00	9702.20				MinPt-EOU
	1012.36	174.32	895.65	838.04	8.77	OSF1.50	13220.00	9701.97				MinPt-ADP
	1010.09	201.06	875.55	809.03	7.58	OSF1.50	14090.00	9692.12				MinPt-CtCt
	1004.92	221.02	857.07	783.90	6.86	OSF1.50	14670.00	9685.56				MinPt-CtCt
	1005.32	222.34	856.60	782.99	6.82	OSF1.50	14730.00	9684.88				MinPt-EOU
	1005.83	222.99	856.68	782.85	6.80	OSF1.50	14760.00	9684.54				MinPt-ADP
	1008.06	229.14	854.80	778.92	6.63	OSF1.50	14930.00	9682.61				MinPt-EOU
	1013.91	240.59	853.01	773.32	6.35	OSF1.50	15270.00	9678.76				MinPt-EOU
	1014.71	241.59	853.15	773.13	6.33	OSF1.50	15310.00	9678.31				MinPt-ADP
	1018.29	258.89	845.19	759.40	5.93	OSF1.50	15700.00	9673.90				MinPt-CtCt
	994.89	287.13	802.97	707.76	5.22	OSF1.50	16460.00	9665.29				MinPt-CtCt
	996.90	295.49	799.41	701.41	5.08	OSF1.50	16740.00	9662.12				MinPt-EOU
	999.93	301.32	798.55	698.61	5.00	OSF1.50	16890.00	9660.43	OSF<=5.00			Enter Alert
	997.98	325.02	780.80	672.96	4.62	OSF1.50	17540.00	9653.07				MinPt-CtCt
	998.39	326.36	780.32	672.03	4.60	OSF1.50	17600.00	9652.39				MinPt-EOU
	1000.05	353.07	764.17	646.98	4.26	OSF1.50	18290.00	9644.58				MinPt-CtCt
	1000.36	354.23	763.71	646.13	4.25	OSF1.50	18340.00	9644.01				MinPt-EOU
	1000.87	354.86	763.80	646.02	4.24	OSF1.50	18370.00	9643.67				MinPt-ADP
	1001.64	362.04	759.78	639.60	4.16	OSF1.50	18520.00	9641.97				MinPt-CtCt
	1005.36	372.63	756.44	632.73	4.06	OSF1.50	18840.00	9638.35				MinPt-EOU
	1007.30	377.90	754.87	629.41	4.01	OSF1.50	19000.00	9636.54				MinPt-EOU
	1004.45	404.92	734.01	599.54	3.73	OSF1.50	19560.00	9630.20				MinPt-CtCt
	1004.65	405.57	733.77	599.09	3.72	OSF1.50	19600.00	9629.75				MinPt-EOU
	998.20	418.29	718.84	579.91	3.59	OSF1.50	19930.99	9626.00				MinPts
30-025-37060 - Korczak Federal 001 - Inc Only to 13640ft - A (DefinitiveSurvey) - **Warning Alert**												
	890.20	32.81	886.80	857.39	627.96	MAS = 10.00 (m)	0.00	0.00				Surface
	890.20	32.81	886.80	857.39	626.79	MAS = 10.00 (m)	23.00	23.00				WRP
	890.20	66.39	845.35	823.81	20.62	OSF1.50	1300.00	1300.00				MinPt-CtCt
	892.48	73.03	843.21	819.45	18.75	OSF1.50	1420.00	1419.96				MinPt-EOU
	894.79	75.79	843.67	818.99	18.09	OSF1.50	1470.00	1469.90				MinPt-ADP
	1858.90	560.26	1484.89	1298.64	4.99	OSF1.50	9640.00	9511.00	OSF<=5.00			Enter Alert
	651.26	578.02	265.41	73.24	1.69	OSF1.50	11443.89	9722.08				MinPts
	1910.42	575.60	1526.19	1334.82	4.99	OSF1.50	13240.00	9701.74	OSF>5.00			Exit Alert
	8511.50	571.58	8129.95	7939.92	22.39	OSF1.50	19930.99	9626.00				TD
Coterra Grayling 14 Fed Com 504H Rev0 kFc 14Jul25 (DefinitivePlan) - **Warning Alert**												
	1909.07	32.81	1905.78	1876.26	953.73	MAS = 10.00 (m)	0.00	0.00				Surface
	1909.07	32.81	1905.78	1876.26	953.73	MAS = 10.00 (m)	23.00	23.00				WRP
	946.59	152.67	844.48	793.92	9.35	OSF1.50	9300.00	9202.64				MinPt-SF
	946.57	152.67	844.47	793.91	9.35	OSF1.50	9310.00	9212.57				MinPts
	946.57	152.67	844.47	793.91	9.35	OSF1.50	9310.92	9213.49				MinPt-CtCt
	1170.01	351.92	935.07	818.09	5.00	OSF1.50	19430.00	9631.67	OSF<=5.00			Enter Alert
	1170.43	366.50	925.76	803.92	4.80	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com 1BS1H Rev0 plan (DefinitivePlan) - **Pass**												
	72.06	32.81	68.77	39.25	35.38	MAS = 10.00 (m)	0.00	0.00				Surface
	72.06	32.81	68.77	39.25	35.38	MAS = 10.00 (m)	23.00	23.00				WRP
	72.06	32.81	59.29	39.25	6.16	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	72.06	32.81	58.50	39.25	5.65	MAS = 10.00 (m)	1300.00	1300.00				MinPts
	72.34	32.81	58.20	39.53	5.43	MAS = 10.00 (m)	1360.00	1360.00				MinPt-EOU
	77.93	32.81	61.88	45.12	5.11	MAS = 10.00 (m)	1560.00	1559.64				MinPt-SF
	94.95	32.81	76.61	62.14	5.42	MAS = 10.00 (m)	1800.00	1797.47				MinPt-SF
	2199.05	151.55	2097.69	2047.51	21.90	OSF1.50	9000.00	8902.75				MinPt-SF
	2325.80	149.87	2225.56	2175.93	23.42	OSF1.50	10310.00	9734.92				MinPt-SF
	2348.91	364.00	2105.91	1984.91	9.70	OSF1.50	19930.99	9626.00				MinPts

Offset Trajectory	Separation			Allow	Sep.	Controlling	Reference Trajectory		Risk Level			Alert
	Ct-Ct (ft)	MAS (ft)	EOU (ft)	Dev. (ft)	Fact.	Rule	MD (ft)	TVD (ft)	Alert	Minor	Major	
Coterra Grayling 14 Fed Com 1BS2H Rev0 plan (DefinitivePlan) - **Pass**												
	84.81	32.81	81.52	52.00	41.75	MAS = 10.00 (m)	0.00	0.00				Surface
	84.81	32.81	81.52	52.00	41.75	MAS = 10.00 (m)	23.00	23.00				WRP
	84.81	32.81	72.04	52.00	7.27	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	84.81	32.81	71.25	52.00	6.67	MAS = 10.00 (m)	1300.00	1300.00				MinPts
	85.26	32.81	70.74	52.46	6.22	MAS = 10.00 (m)	1400.00	1399.98				MinPt-EOU
	92.52	32.81	75.60	59.71	5.74	MAS = 10.00 (m)	1650.00	1649.13				MinPt-SF
	104.12	32.81	85.74	71.31	5.93	MAS = 10.00 (m)	1800.00	1797.47				MinPt-SF
	122.28	33.16	99.84	89.11	5.65	OSF1.50	2240.00	2230.78				MinPt-CtCt
	122.63	34.19	99.51	88.44	5.50	OSF1.50	2310.00	2299.72				MinPt-EOU
	122.99	34.63	99.58	88.36	5.44	OSF1.50	2340.00	2329.26				MinPt-ADP
	134.31	39.48	107.66	94.83	5.19	OSF1.50	2660.00	2644.40				MinPt-SF
	782.64	138.00	690.30	644.63	8.56	OSF1.50	8130.00	8033.03				MinPt-SF
	1252.54	138.80	1159.68	1113.74	13.62	OSF1.50	10350.00	9734.46				MinPt-SF
	1239.93	364.60	996.53	875.33	5.11	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com Avalon2H Rev0 plan (DefinitivePlan) - **Pass**												
	119.94	32.81	116.65	87.13	59.32	MAS = 10.00 (m)	0.00	0.00				Surface
	119.94	32.81	116.65	87.13	59.32	MAS = 10.00 (m)	23.00	23.00				WRP
	119.94	32.81	107.17	87.13	10.33	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	119.94	32.81	106.38	87.13	9.46	MAS = 10.00 (m)	1300.00	1300.00				MinPts
	120.08	32.81	106.23	87.27	9.26	MAS = 10.00 (m)	1330.00	1330.00				MinPt-EOU
	131.06	32.81	114.92	98.26	8.58	MAS = 10.00 (m)	1570.00	1569.60				MinPt-SF
	157.29	32.81	138.93	124.48	9.00	MAS = 10.00 (m)	1800.00	1797.47				MinPt-SF
	430.25	95.31	366.38	334.93	6.83	OSF1.50	5870.00	5805.66				MinPt-SF
	1555.78	91.30	1494.59	1464.48	25.82	OSF1.50	10440.00	9733.44				MinPt-CtCt
	1555.99	91.84	1494.44	1464.15	25.67	OSF1.50	10470.00	9733.10				MinPt-EOU
	1556.31	92.21	1494.51	1464.10	25.57	OSF1.50	10490.00	9732.88				MinPt-ADP
	1485.40	346.37	1254.16	1139.04	6.45	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com Avalon1H Rev0 plan (DefinitivePlan) - **Pass**												
	121.60	32.81	118.31	88.79	60.14	MAS = 10.00 (m)	0.00	0.00				Surface
	121.60	32.81	118.31	88.79	60.14	MAS = 10.00 (m)	23.00	23.00				WRP
	121.60	32.81	108.82	88.79	10.48	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	121.60	32.81	108.04	88.79	9.59	MAS = 10.00 (m)	1300.00	1300.00				MinPts
	121.78	32.81	107.84	88.97	9.32	MAS = 10.00 (m)	1340.00	1340.00				MinPt-EOU
	131.93	32.81	115.75	99.13	8.61	MAS = 10.00 (m)	1580.00	1579.55				MinPt-SF
	161.16	32.81	142.87	128.35	9.26	MAS = 10.00 (m)	1800.00	1797.47				MinPt-SF
	2335.93	141.98	2240.95	2193.95	24.84	OSF1.50	8280.00	8182.76				MinPt-SF
	2630.39	344.28	2400.55	2286.11	11.49	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com Penn1H Rev0 plan (DefinitivePlan) - **Pass**												
	204.02	32.81	200.73	171.21	101.35	MAS = 10.00 (m)	0.00	0.00				Surface
	204.02	32.81	200.73	171.21	101.35	MAS = 10.00 (m)	23.00	23.00				WRP
	204.02	32.81	191.25	171.21	17.65	MAS = 10.00 (m)	1190.00	1190.00				MinPt-EOU
	168.27	32.81	148.63	135.46	8.97	MAS = 10.00 (m)	1956.19	1951.29				MinPts
	168.42	32.81	148.55	135.61	8.87	MAS = 10.00 (m)	1980.00	1974.73				MinPt-EOU
	177.86	32.81	156.12	145.05	8.52	MAS = 10.00 (m)	2170.00	2161.85				MinPt-SF
	1818.77	147.32	1720.23	1671.45	18.63	OSF1.50	9200.00	9102.75				MinPt-SF
	3097.14	362.49	2855.15	2734.65	12.85	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com Avalon4H Rev0 plan (DefinitivePlan) - **Pass**												
	2004.27	32.81	2000.99	1971.47	1001.32	MAS = 10.00 (m)	0.00	0.00				Surface
	2004.27	32.81	2000.99	1971.47	1001.32	MAS = 10.00 (m)	23.00	23.00				WRP
	782.76	139.42	689.49	643.35	8.47	OSF1.50	8148.14	8051.11				MinPt-CtCt
	782.77	139.42	689.49	643.35	8.47	OSF1.50	8150.00	8052.97				MinPts
	782.94	139.48	689.63	643.46	8.47	OSF1.50	8170.00	8072.91				MinPt-SF
	1498.35	351.23	1263.87	1147.12	6.41	OSF1.50	19930.99	9626.00				MinPts
Coterra Grayling 14 Fed Com 1BS4H Rev0 plan (DefinitivePlan) - **Pass**												
	1993.42	32.81	1990.13	1960.61	995.89	MAS = 10.00 (m)	0.00	0.00				Surface
	1993.42	32.81	1990.13	1960.61	995.89	MAS = 10.00 (m)	23.00	23.00				WRP
	1110.94	144.81	1014.07	966.13	11.58	OSF1.50	8650.00	8552.75				MinPt-CtCt
	1111.05	145.21	1013.92	965.85	11.55	OSF1.50	8710.00	8612.75				MinPt-EOU
	1111.22	145.40	1013.96	965.82	11.53	OSF1.50	8740.00	8642.75				MinPt-ADP
	1115.95	146.77	1017.78	969.18	11.47	OSF1.50	8950.00	8852.75				MinPt-SF
	1263.51	364.17	1020.40	899.34	5.21	OSF1.50	19930.00	9626.01				MinPt-CtCt
	1263.51	364.19	1020.39	899.32	5.21	OSF1.50	19930.99	9626.00				MinPts

Coterra Grayling 14 Fed Com 503H Rev0 kFc 14Jul25 Proposal Geodetic Report

Def Plan

Report Date:	July 14, 2025 - 07:19 PM (UTC 0)	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	COTERRA	**Vertical Section Azimuth:**	359.520 °(GRID North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Coterra Grayling 14 Fed Com Pad (west) / Grayling 14 Fed Com 503H	**TVD Reference Datum:**	RKB
Well:	Grayling 14 Fed Com 503H	**TVD Reference Elevation:**	3647.000 ft above MSL
Borehole:	Grayling 14 Fed Com 503H	**Seabed / Ground Elevation:**	3624.000 ft above MSL
UBHI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.346°
Survey Name:	Coterra Grayling 14 Fed Com 503H Rev0 kFc 14Jul25	**Total Gravity Field Strength:**	998.5059mgn (9.80665 Based)
Survey Date:	July 14, 2025	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	110.648 ° / 11502.648 ft / 6.416 / 1.182	**Total Magnetic Field Strength:**	47500.341 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.38°
Location Lat / Long:	32°39'21.97161"N , 103°44'19.51325"W	**Declination Date:**	July 14, 2025
Location Grid N/E Y/X:	N 602933.680 ftUS , E 724326.930 ftUS	**Magnetic Declination Model:**	HDGM 2025
CRS Grid Convergence Angle:	0.321°	**North Reference:**	Grid North
Grid Scale Factor:	0.99994744(Applied)	**Grid Convergence Used:**	0.321°
Version / Patch:	2024.5.0.1	**Total Corr Mag North->Grid North:**	6.025°
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
SHL [1085'FSL, 2061'FWL]	0.00	0.00	0.00	0.00	-3,647.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368			
Nudge, Build 2°/100ft	1,300.00	0.00	149.60	1,300.00	-2,347.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
Hold	1,799.91	10.00	149.60	1,797.37	-1,849.63	-37.71	-37.53	22.01	602,896.16	724,348.94	32.65599975	-103.73868284	2.00	2.00	0.00
Drop 2°/100ft	7,869.93	10.00	149.60	7,775.22	4,128.22	-951.14	-946.52	555.26	601,987.21	724,882.16	32.65349324	-103.73696696	0.00	0.00	0.00
Hold	8,369.84	0.00	149.60	8,272.59	4,625.59	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	2.00	-2.00	0.00
KOP, Build 10°/100ft	9,239.84	0.00	149.60	9,142.59	5,495.59	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
Build 5°/100ft	9,989.84	75.00	359.52	9,696.02	6,049.02	-564.18	-559.39	573.71	602,374.32	724,900.61	32.65455693	-103.73689993	10.00	10.00	0.00
Landing Point	10,302.84	90.65	359.52	9,735.00	6,088.00	-254.60	-249.82	571.12	602,683.87	724,898.02	32.65540781	-103.73690271	5.00	5.00	0.00
Turn 2°/100ft	10,402.84	90.65	359.52	9,733.86	6,086.86	-154.60	-149.83	570.28	602,783.86	724,897.18	32.65568264	-103.73690361	0.00	0.00	0.00
Hold	10,402.91	90.65	359.52	9,733.86	6,086.86	-154.53	-149.76	570.28	602,783.93	724,897.18	32.65568284	-103.73690361	2.00	-1.91	0.59
Grayling 14 Fed Com 503H - BHL [100'FNL, 2630'FWL]	19,930.99	90.65	359.52	9,626.00	5,979.00	9,372.93	9,377.37	490.54	612,310.54	724,817.44	32.68186856	-103.73698879	0.00	0.00	0.00

Survey Type: Def Plan

Survey Error Model: ISCWSA0 3 - D 95 % 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 Code	Vendor / Tool	Borehole / Survey
	1	0.000	9,200.000	1/100.000	- 12.25 – 8.75 – 6	– 9.625 – 7 – 4.5		A001Mb_MWD		Grayling 14 Fed Com 503H / Coterra Grayling 14 F
	1	9,200.000	19,930.923	1/100.000	6	4.5		A008Mb_MWD+IFR1+MS		Grayling 14 Fed Com 503H / Coterra Grayling 14 F

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
1,200.000	17.500	13.375	
5,965.799	12.250	9.625	
7,895.080	8.750	7.000	
19,930.985	6.000	4.500	

Coterra Grayling 14 Fed Com 503H Rev0 kFc 14Jul25 Proposal Geodetic Report

Def Plan

Report Date:	July 14, 2025 - 07:17 PM (UTC 0)	**Survey / DLS Computation:**	Minimum Curvature / Lubinski
Client:	COTERRA	**Vertical Section Azimuth:**	359.520 °(GRID North)
Field:	NM Lea County (NAD 83)	**Vertical Section Origin:**	0.000 ft, 0.000 ft
Structure / Slot:	Coterra Grayling 14 Fed Com Pad (west) / Grayling 14 Fed Com 503H	**TVD Reference Datum:**	RKB
Well:	Grayling 14 Fed Com 503H	**TVD Reference Elevation:**	3647.000 ft above MSL
Borehole:	Grayling 14 Fed Com 503H	**Seabed / Ground Elevation:**	3624.000 ft above MSL
UBHI / API#:	Unknown / Unknown	**Magnetic Declination:**	6.346°
Survey Name:	Coterra Grayling 14 Fed Com 503H Rev0 kFc 14Jul25	**Total Gravity Field Strength:**	998.5059mgn (9.80665 Based)
Survey Date:	July 14, 2025	**Gravity Model:**	GARM
Tort / AHD / DDI / ERD Ratio:	110.648 ° / 11502.648 ft / 6.416 / 1.182	**Total Magnetic Field Strength:**	47500.341 nT
Coordinate Reference System:	NAD83 New Mexico State Plane, Eastern Zone, US Feet	**Magnetic Dip Angle:**	60.38°
Location Lat / Long:	32°39'21.97161"N , 103°44'19.51325"W	**Declination Date:**	July 14, 2025
Location Grid N/E Y/X:	N 602933.680 ftUS , E 724326.930 ftUS	**Magnetic Declination Model:**	HDGM 2025
CRS Grid Convergence Angle:	0.321°	**North Reference:**	Grid North
Grid Scale Factor:	0.99994744(Applied)	**Grid Convergence Used:**	0.321°
Version / Patch:	2024.5.0.1	**Total Corr Mag North->Grid North:**	6.025°
		Local Coord Referenced To:	Well Head

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
SHL [1085'FSL, 2061'FWL]	0.00	0.00	0.00	0.00	-3,647.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368			
	100.00	0.00	149.60	100.00	-3,547.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	200.00	0.00	149.60	200.00	-3,447.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	300.00	0.00	149.60	300.00	-3,347.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	400.00	0.00	149.60	400.00	-3,247.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	500.00	0.00	149.60	500.00	-3,147.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	600.00	0.00	149.60	600.00	-3,047.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	700.00	0.00	149.60	700.00	-2,947.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	800.00	0.00	149.60	800.00	-2,847.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	900.00	0.00	149.60	900.00	-2,747.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	1,000.00	0.00	149.60	1,000.00	-2,647.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	1,100.00	0.00	149.60	1,100.00	-2,547.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
Rustler□	1,110.00	0.00	149.60	1,110.00	-2,537.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
	1,200.00	0.00	149.60	1,200.00	-2,447.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
A3 Top□	1,212.00	0.00	149.60	1,212.00	-2,435.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
Nudge, Build 2°/100ft	1,300.00	0.00	149.60	1,300.00	-2,347.00	0.00	0.00	0.00	602,933.68	724,326.93	32.65610323	-103.73875368	0.00	0.00	0.00
Tamarisk□	1,340.00	0.80	149.60	1,340.00	-2,307.00	-0.24	-0.24	0.14	602,933.44	724,327.07	32.65610256	-103.73875323	2.00	2.00	0.00
	1,400.00	2.00	149.60	1,399.98	-2,247.02	-1.51	-1.51	0.88	602,932.17	724,327.81	32.65609907	-103.73875084	2.00	2.00	0.00
Salado□	1,415.03	2.30	149.60	1,415.00	-2,232.00	-2.00	-1.99	1.17	602,931.69	724,328.10	32.65609773	-103.73874992	2.00	2.00	0.00
	1,500.00	4.00	149.60	1,499.84	-2,147.16	-6.05	-6.02	3.53	602,927.66	724,330.46	32.65608663	-103.73874232	2.00	2.00	0.00
	1,600.00	6.00	149.60	1,599.45	-2,047.55	-13.60	-13.54	7.94	602,920.14	724,334.87	32.65606590	-103.73872813	2.00	2.00	0.00
	1,700.00	8.00	149.60	1,698.70	-1,948.30	-24.16	-24.05	14.11	602,909.63	724,341.04	32.65603692	-103.73870828	2.00	2.00	0.00
Hold	1,799.91	10.00	149.60	1,797.37	-1,849.63	-37.71	-37.53	22.01	602,896.16	724,348.94	32.65599975	-103.73868284	2.00	2.00	0.00
	1,800.00	10.00	149.60	1,797.47	-1,849.53	-37.72	-37.54	22.02	602,896.14	724,348.95	32.65599971	-103.73868281	0.00	0.00	0.00
	1,900.00	10.00	149.60	1,895.95	-1,751.05	-52.77	-52.51	30.81	602,881.17	724,357.74	32.65595842	-103.73865455	0.00	0.00	0.00
	2,000.00	10.00	149.60	1,994.43	-1,652.57	-67.82	-67.49	39.59	602,866.19	724,366.52	32.65591712	-103.73862628	0.00	0.00	0.00
	2,100.00	10.00	149.60	2,092.91	-1,554.09	-82.87	-82.47	48.38	602,851.22	724,375.30	32.65587583	-103.73859801	0.00	0.00	0.00
	2,200.00	10.00	149.60	2,191.39	-1,455.61	-97.92	-97.44	57.16	602,836.25	724,384.09	32.65583454	-103.73856974	0.00	0.00	0.00
	2,300.00	10.00	149.60	2,289.87	-1,357.13	-112.96	-112.42	65.95	602,821.27	724,392.87	32.65579325	-103.73854147	0.00	0.00	0.00
	2,400.00	10.00	149.60	2,388.35	-1,258.65	-128.01	-127.39	74.73	602,806.30	724,401.66	32.65575195	-103.73851320	0.00	0.00	0.00
	2,500.00	10.00	149.60	2,486.83	-1,160.17	-143.06	-142.37	83.52	602,791.32	724,410.44	32.65571066	-103.73848493	0.00	0.00	0.00
	2,600.00	10.00	149.60	2,585.32	-1,061.68	-158.11	-157.34	92.30	602,776.35	724,419.23	32.65566937	-103.73845666	0.00	0.00	0.00
	2,700.00	10.00	149.60	2,683.80	-963.20	-173.16	-172.32	101.09	602,761.37	724,428.01	32.65562807	-103.73842840	0.00	0.00	0.00
	2,800.00	10.00	149.60	2,782.28	-864.72	-188.20	-187.29	109.87	602,746.40	724,436.79	32.65558678	-103.73840013	0.00	0.00	0.00
	2,900.00	10.00	149.60	2,880.76	-766.24	-203.25	-202.27	118.66	602,731.43	724,445.58	32.65554549	-103.73837186	0.00	0.00	0.00
	3,000.00	10.00	149.60	2,979.24	-667.76	-218.30	-217.24	127.44	602,716.45	724,454.36	32.65550419	-103.73834359	0.00	0.00	0.00
	3,100.00	10.00	149.60	3,077.72	-569.28	-233.35	-232.22	136.23	602,701.48	724,463.15	32.65546290	-103.73831532	0.00	0.00	0.00
	3,200.00	10.00	149.60	3,176.20	-470.80	-248.40	-247.19	145.01	602,686.50	724,471.93	32.65542161	-103.73828705	0.00	0.00	0.00
	3,300.00	10.00	149.60	3,274.69	-372.31	-263.45	-262.17	153.80	602,671.53	724,480.72	32.65538031	-103.73825878	0.00	0.00	0.00
	3,400.00	10.00	149.60	3,373.17	-273.83	-278.49	-277.14	162.58	602,656.55	724,489.50	32.65533902	-103.73823052	0.00	0.00	0.00
	3,500.00	10.00	149.60	3,471.65	-175.35	-293.54	-292.12	171.36	602,641.58	724,498.29	32.65529773	-103.73820225	0.00	0.00	0.00
	3,600.00	10.00	149.60	3,570.13	-76.87	-308.59	-307.09	180.15	602,626.61	724,507.07	32.65525643	-103.73817398	0.00	0.00	0.00
	3,700.00	10.00	149.60	3,668.61	21.61	-323.64	-322.07	188.93	602,611.63	724,515.85	32.65521514	-103.73814571	0.00	0.00	0.00
	3,800.00	10.00	149.60	3,767.09	120.09	-338.69	-337.04	197.72	602,596.66	724,524.64	32.65517385	-103.73811744	0.00	0.00	0.00
	3,900.00	10.00	149.60	3,865.57	218.57	-353.73	-352.02	206.50	602,581.68	724,533.42	32.65513256	-103.73808917	0.00	0.00	0.00
	4,000.00	10.00	149.60	3,964.05	317.05	-368.78	-366.99	215.29	602,566.71	724,542.21	32.65509126	-103.73806091	0.00	0.00	0.00
	4,100.00	10.00	149.60	4,062.54	415.54	-383.83	-381.97	224.07	602,551.73	724,550.99	32.65504997	-103.73803264	0.00	0.00	0.00
	4,200.00	10.00	149.60	4,161.02	514.02	-398.88	-396.94	232.86	602,536.76	724,559.78	32.65500868	-103.73800437	0.00	0.00	0.00
	4,300.00	10.00	149.60	4,259.50	612.50	-413.93	-411.92	241.64	602,521.79	724,568.56	32.65496738	-103.73797610	0.00	0.00	0.00
	4,400.00	10.00	149.60	4,357.98	710.98	-428.98	-426.89	250.43	602,506.81	724,577.34	32.65492609	-103.73794783	0.00	0.00	0.00
	4,500.00	10.00	149.60	4,456.46	809.46	-444.02	-441.87	259.21	602,491.84	724,586.13	32.65488480	-103.73791956	0.00	0.00	0.00
	4,600.00	10.00	149.60	4,554.94	907.94	-459.07	-456.84	268.00	602,476.86	724,594.91	32.65484350	-103.73789130	0.00	0.00	0.00
	4,700.00	10.00	149.60	4,653.42	1,006.42	-474.12	-471.82	276.78	602,461.89	724,603.70	32.65480221	-103.73786303	0.00	0.00	0.00
	4,800.00	10.00	149.60	4,751.91	1,104.91	-489.17	-486.79	285.57	602,446.91	724,612.48	32.65476092	-103.73783476	0.00	0.00	0.00
	4,900.00	10.00	149.60	4,850.39	1,203.39	-504.22	-501.77	294.35	602,431.94	724,621.27	32.65471962	-103.73780649	0.00	0.00	0.00
	5,000.00	10.00	149.60	4,948.87	1,301.87	-519.26	-516.74	303.14	602,416.97	724,630.05	32.65467833	-103.73777822	0.00	0.00	0.00
	5,100.00	10.00	149.60	5,047.35	1,400.35	-534.31	-531.72	311.92	602,401.99	724,638.84	32.65463704	-103.73774996	0.00	0.00	0.00
	5,200.00	10.00	149.60	5,145.83	1,498.83	-549.36	-546.69	320.71	602,387.02	724,647.62	32.65459574	-103.73772169	0.00	0.00	0.00
	5,300.00	10.00	149.60	5,244.31	1,597.31	-564.41	-561.67	329.49	602,372.04	724,656.40	32.65455445	-103.73769342	0.00	0.00	0.00
	5,400.00	10.00	149.60	5,342.79	1,695.79	-579.46	-576.64	338.28	602,357.07	724,665.19	32.65451316	-103.73766515	0.00	0.00	0.00
	5,500.00	10.00	149.60	5,441.27	1,794.27	-594.50	-591.62	347.06	602,342.09	724,673.97	32.65447186	-103.73763688	0.00	0.00	0.00
	5,600.00	10.00	149.60	5,539.76	1,892.76	-609.55	-606.59	355.85	602,327.12	724,682.76	32.65443057	-103.73760862	0.00	0.00	0.00
	5,700.00	10.00	149.60	5,638.24	1,991.24	-624.60	-621.57	364.63	602,312.15	724,691.54	32.65438928	-103.73758035	0.00	0.00	0.00
	5,800.00	10.00	149.60	5,736.72	2,089.72	-639.65	-636.54	373.42	602,297.17	724,700.33	32.65434798	-103.73755208	0.00	0.00	0.00
	5,900.00	10.00	149.60	5,835.20	2,188.20	-654.70	-651.52	382.20	602,282.20	724,709.11	32.65430669	-103.73752381	0.00	0.00	0.00
Lamar□	5,959.71	10.00	149.60	5,894.00	2,247.00	-663.68	-660.46	387.45	602,273.26	724,714.36	32.65428204	-103.73750693	0.00	0.00	0.00
	6,000.00	10.00	149.60	5,933.68	2,286.68	-669.75	-666.49	390.99	602,267.22	724,717.90	32.65426540	-103.73749554	0.00	0.00	0.00
Bell Canyon□	6,047.03	10.00	149.60	5,980.00	2,333.00	-676.82	-673.54	395.12	602,260.18	724,722.03	32.65424598	-103.73748225	0.00	0.00	0.00
	6,100.00	10.00	149.60	6,032.16	2,385.16	-684.79	-681.47	399.77	602,252.25	724,726.68	32.65422410	-103.73746728	0.00	0.00	0.00
	6,200.00	10.00	149.60	6,130.64	2,483.64	-699.84	-696.44	408.56	602,237.27	724,735.46	32.65418281	-103.73743901	0.00	0.00	0.00
	6,300.00	10.00	149.60	6,229.13	2,582.13	-714.89	-711.42	417.34	602,222.30	724,744.25	32.65414152	-103.73741074	0.00	0.00	0.00
Cherry Canyon□	6,300.89	10.00	149.60	6,230.00	2,583.00	-715.02	-711.55	417.42	602,222.17	724,744.33	32.65414115	-103.73741049	0.00	0.00	0.00
	6,400.00	10.00	149.60	6,327.61	2,680.61	-729.94	-726.39	426.13	602,207.33	724,753.03	32.65410022	-103.73738247	0.00	0.00	0.00
	6,500.00	10.00	149.60	6,426.09	2,779.09	-744.99	-741.37	434.91	602,192.35	724,761.82	32.65405893	-103.73735421	0.00	0.00	0.00
	6,600.00	10.00	149.60	6,524.57	2,877.57	-760.03	-756.34	443.70	602,177.38	724,770.60	32.65401764	-103.73732594	0.00	0.00	0.00
Brushy Canyon□	6,691.83	10.00	149.60	6,615.00	2,968.00	-773.85	-770.10	451.76	602,163.63	724,778.67	32.65397972	-103.73729998	0.00	0.00	0.00
	6,700.00	10.00	149.60	6,623.05	2,976.05	-775.08	-771.32	452.48	602,162.40	724,779.39	32.65397634	-103.73729767	0.00	0.00	0.00
	6,800.00	10.00	149.60	6,721.53	3,074.53	-790.13	-786.29	461.27	602,147.43	724,788.17	32.65393505	-103.73726940	0.00	0.00	0.00
	6,900.00	10.00	149.60	6,820.01	3,173.01	-805.18	-801.27	470.05	602,132.45	724,796.95	32.65389376	-103.73724113	0.00	0.00	0.00
	7,000.00	10.00	149.60	6,918.49	3,271.49	-820.23	-816.24	478.84	602,117.48	724,805.74	32.65385246	-103.73721287	0.00	0.00	0.00
	7,100.00	10.00	149.60	7,016.98	3,369.98	-835.28	-831.22	487.62	602,102.51	724,814.52	32.65381117	-103.73718460	0.00	0.00	0.00
	7,200.00	10.00	149.60	7,115.46	3,468.46	-850.32	-846.19	496.40	602,087.53	724,823.31	32.65376988	-103.73715633	0.00	0.00	0.00
	7,300.00	10.00	149.60	7,213.94	3,566.94	-865.37	-861.17	505.19	602,072.56	724,832.09	32.65372858	-103.73712806	0.00	0.00	0.00
	7,400.00	10.00	149.60	7,312.42	3,665.42	-880.42	-876.14	513.97	602,057.58	724,840.88	32.65368729	-103.73709980	0.00	0.00	0.00
Basal Brushy Canyon□	7,453.39	10.00	149.60	7,365.00	3,718.00	-888.45	-884.14	518.66	602,049.59	724,845.57	32.65366524	-103.73708471	0.00	0.00	0.00
	7,500.00	10.00	149.60	7,410.90	3,763.90	-895.47	-891.12	522.76	602,042.61	724,849.66	32.65364600	-103.73707153	0.00	0.00	0.00
	7,600.00	10.00	149.60	7,509.38	3,862.38	-910.52	-906.10	531.54	602,027.63	724,858.45	32.65360470	-103.73704326	0.00	0.00	0.00
Bone Spring Lime□	7,692.01	10.00	149.60	7,600.00	3,953.00	-924.36	-919.87	539.63	602,013.86	724,866.53	32.65356671	-103.73701725	0.00	0.00	0.00
	7,700.00	10.00	149.60	7,607.86	3,960.86	-925.56	-921.07	540.33	602,012.66	724,867.23	32.65356341	-103.73701500	0.00	0.00	0.00
	7,800.00	10.00	149.60	7,706.35	4,059.35	-940.61	-936.05	549.11	601,997.69	724,876.01	32.65352212	-103.73698673	0.00	0.00	0.00
Leonard□	7,835.19	10.00	149.60	7,741.00	4,094.00	-945.91	-941.31	552.21	601,992.42	724,879.11	32.65350759	-103.73697678	0.00	0.00	0.00
Drop 2°/100ft	7,869.93	10.00	149.60	7,775.22	4,128.22	-951.14	-946.52	555.26	601,987.21	724,882.16	32.65349324	-103.73696696	0.00	0.00	0.00
	7,900.00	9.40	149.60	7,804.85	4,157.85	-955.53	-950.89	557.82	601,982.85	724,884.72	32.65348119	-103.73695871	2.00	-2.00	0.00
	8,000.00	7.40	149.60	7,903.78	4,256.78	-968.18	-963.48	565.21	601,970.25	724,892.11	32.65344646	-103.73693494	2.00	-2.00	0.00
Avalon□	8,089.80	5.60	149.60	7,993.00	4,346.00	-976.99	-972.25	570.35	601,961.49	724,897.25	32.65342229	-103.73691839	2.00	-2.00	0.00
	8,100.00	5.40	149.60	8,003.15	4,356.15	-977.84	-973.09	570.85	601,960.64	724,897.74	32.65341997	-103.73691680	2.00	-2.00	0.00
	8,200.00	3.40	149.60	8,102.85	4,455.85	-984.48	-979.70	574.72	601,954.03	724,901.62	32.65340173	-103.73690432	2.00	-2.00	0.00
	8,300.00	1.40	149.60	8,202.76	4,555.76	-988.11	-983.31	576.84	601,950.42	724,903.74	32.65339179	-103.73689751	2.00	-2.00	0.00
Hold	8,369.84	0.00	149.60	8,272.59	4,625.59	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	2.00	-2.00	0.00
	8,400.00	0.00	149.60	8,302.75	4,655.75	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
	8,500.00	0.00	149.60	8,402.75	4,755.75	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
	8,600.00	0.00	149.60	8,502.75	4,855.75	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
	8,700.00	0.00	149.60	8,602.75	4,955.75	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
	8,800.00	0.00	149.60	8,702.75	5,055.75	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
1st BS SS □	8,884.25	0.00	149.60	8,787.00	5,140.00	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
	8,900.00	0.00	149.60	8,802.75	5,155.75	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
	9,000.00	0.00	149.60	8,902.75	5,255.75	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
	9,100.00	0.00	149.60	9,002.75	5,355.75	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
	9,200.00	0.00	149.60	9,102.75	5,455.75	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
KOP, Build 10°/100ft	9,239.84	0.00	149.60	9,142.59	5,495.59	-988.85	-984.04	577.27	601,949.69	724,904.17	32.65338976	-103.73689612	0.00	0.00	0.00
	9,300.00	6.02	359.52	9,202.64	5,555.64	-985.69	-980.89	577.25	601,952.85	724,904.14	32.65339843	-103.73689615	10.00	10.00	0.00
	9,400.00	16.02	359.52	9,300.67	5,653.67	-966.61	-961.80	577.09	601,971.93	724,903.98	32.65345089	-103.73689632	10.00	10.00	0.00
	9,500.00	26.02	359.52	9,393.90	5,746.90	-930.79	-925.99	576.79	602,007.74	724,903.68	32.65354933	-103.73689665	10.00	10.00	0.00
	9,600.00	36.02	359.52	9,479.50	5,832.50	-879.33	-874.53	576.35	602,059.20	724,903.25	32.65369077	-103.73689711	10.00	10.00	0.00
2nd BS SS□	9,669.37	42.95	359.52	9,533.00	5,886.00	-835.24	-830.45	575.98	602,103.28	724,902.88	32.65381193	-103.73689750	10.00	10.00	0.00
	9,700.00	46.02	359.52	9,554.85	5,907.85	-813.78	-808.99	575.80	602,124.74	724,902.70	32.65387091	-103.73689769	10.00	10.00	0.00
	9,800.00	56.02	359.52	9,617.68	5,970.68	-736.15	-731.36	575.15	602,202.36	724,902.05	32.65408429	-103.73689839	10.00	10.00	0.00
	9,900.00	66.02	359.52	9,666.08	6,019.08	-648.78	-643.99	574.42	602,289.72	724,901.32	32.65432440	-103.73689917	10.00	10.00	0.00
Build 5°/100ft	9,989.84	75.00	359.52	9,696.02	6,049.02	-564.18	-559.39	573.71	602,374.32	724,900.61	32.65455693	-103.73689993	10.00	10.00	0.00
	10,000.00	75.51	359.52	9,698.61	6,051.61	-554.35	-549.57	573.63	602,384.14	724,900.53	32.65458394	-103.73690002	5.00	5.00	0.00
	10,100.00	80.51	359.52	9,719.38	6,072.38	-456.57	-451.78	572.81	602,481.92	724,899.71	32.65485270	-103.73690090	5.00	5.00	0.00
	10,200.00	85.51	359.52	9,731.55	6,084.55	-357.34	-352.56	571.98	602,581.14	724,898.88	32.65512542	-103.73690179	5.00	5.00	0.00
	10,300.00	90.51	359.52	9,735.03	6,088.03	-257.44	-252.66	571.14	602,681.03	724,898.04	32.65540001	-103.73690268	5.00	5.00	0.00
Landing Point	10,302.84	90.65	359.52	9,735.00	6,088.00	-254.60	-249.82	571.12	602,683.87	724,898.02	32.65540781	-103.73690271	5.00	5.00	0.00
	10,400.00	90.65	359.52	9,733.89	6,086.89	-157.44	-152.67	570.31	602,781.02	724,897.21	32.65567484	-103.73690358	0.00	0.00	0.00
Turn 2°/100ft	10,402.84	90.65	359.52	9,733.86	6,086.86	-154.60	-149.83	570.28	602,783.86	724,897.18	32.65568264	-103.73690361	0.00	0.00	0.00
Hold	10,402.91	90.65	359.52	9,733.86	6,086.86	-154.53	-149.76	570.28	602,783.93	724,897.18	32.65568284	-103.73690361	2.00	-1.91	0.59
	10,500.00	90.65	359.52	9,732.76	6,085.76	-57.45	-52.68	569.47	602,881.00	724,896.37	32.65594966	-103.73690448	0.00	0.00	0.00
	10,600.00	90.65	359.52	9,731.63	6,084.63	42.55	47.31	568.63	602,980.99	724,895.53	32.65622449	-103.73690537	0.00	0.00	0.00
	10,700.00	90.65	359.52	9,730.50	6,083.50	142.54	147.30	567.80	603,080.97	724,894.69	32.65649932	-103.73690626	0.00	0.00	0.00
Pool, NM105821018 S NM0063	10,789.00	90.65	359.52	9,729.49	6,082.49	231.53	236.29	567.05	603,169.96	724,893.95	32.65674391	-103.73690706	0.00	0.00	0.00
	10,800.00	90.65	359.52	9,729.37	6,082.37	242.53	247.29	566.96	603,180.96	724,893.86	32.65677415	-103.73690716	0.00	0.00	0.00
	10,900.00	90.65	359.52	9,728.23	6,081.23	342.53	347.28	566.12	603,280.94	724,893.02	32.65704897	-103.73690805	0.00	0.00	0.00
	11,000.00	90.65	359.52	9,727.10	6,080.10	442.52	447.27	565.28	603,380.93	724,892.18	32.65732380	-103.73690895	0.00	0.00	0.00
	11,100.00	90.65	359.52	9,725.97	6,078.97	542.51	547.26	564.45	603,480.91	724,891.35	32.65759863	-103.73690984	0.00	0.00	0.00
	11,200.00	90.65	359.52	9,724.84	6,077.84	642.51	647.25	563.61	603,580.90	724,890.51	32.65787346	-103.73691074	0.00	0.00	0.00
	11,300.00	90.65	359.52	9,723.71	6,076.71	742.50	747.24	562.77	603,680.88	724,889.67	32.65814828	-103.73691163	0.00	0.00	0.00
	11,400.00	90.65	359.52	9,722.57	6,075.57	842.49	847.23	561.94	603,780.87	724,888.84	32.65842311	-103.73691253	0.00	0.00	0.00
	11,500.00	90.65	359.52	9,721.44	6,074.44	942.49	947.22	561.10	603,880.85	724,888.00	32.65869794	-103.73691342	0.00	0.00	0.00
	11,600.00	90.65	359.52	9,720.31	6,073.31	1,042.48	1,047.21	560.26	603,980.83	724,887.16	32.65897277	-103.73691431	0.00	0.00	0.00
	11,700.00	90.65	359.52	9,719.18	6,072.18	1,142.48	1,147.20	559.43	604,080.82	724,886.33	32.65924759	-103.73691521	0.00	0.00	0.00
	11,800.00	90.65	359.52	9,718.05	6,071.05	1,242.47	1,247.19	558.59	604,180.80	724,885.49	32.65952242	-103.73691610	0.00	0.00	0.00
	11,900.00	90.65	359.52	9,716.91	6,069.91	1,342.46	1,347.18	557.75	604,280.79	724,884.65	32.65979725	-103.73691700	0.00	0.00	0.00
	12,000.00	90.65	359.52	9,715.78	6,068.78	1,442.46	1,447.17	556.92	604,380.77	724,883.81	32.66007208	-103.73691789	0.00	0.00	0.00
	12,100.00	90.65	359.52	9,714.65	6,067.65	1,542.45	1,547.16	556.08	604,480.76	724,882.98	32.66034690	-103.73691879	0.00	0.00	0.00
	12,200.00	90.65	359.52	9,713.52	6,066.52	1,642.44	1,647.15	555.24	604,580.74	724,882.14	32.66062173	-103.73691968	0.00	0.00	0.00
	12,300.00	90.65	359.52	9,712.39	6,065.39	1,742.44	1,747.14	554.40	604,680.73	724,881.30	32.66089656	-103.73692057	0.00	0.00	0.00
	12,400.00	90.65	359.52	9,711.25	6,064.25	1,842.43	1,847.13	553.57	604,780.71	724,880.47	32.66117138	-103.73692147	0.00	0.00	0.00
	12,500.00	90.65	359.52	9,710.12	6,063.12	1,942.42	1,947.12	552.73	604,880.70	724,879.63	32.66144621	-103.73692236	0.00	0.00	0.00
	12,600.00	90.65	359.52	9,708.99	6,061.99	2,042.42	2,047.11	551.89	604,980.68	724,878.79	32.66172104	-103.73692326	0.00	0.00	0.00
	12,700.00	90.65	359.52	9,707.86	6,060.86	2,142.41	2,147.10	551.06	605,080.67	724,877.96	32.66199587	-103.73692415	0.00	0.00	0.00
	12,800.00	90.65	359.52	9,706.73	6,059.73	2,242.40	2,247.09	550.22	605,180.65	724,877.12	32.66227069	-103.73692504	0.00	0.00	0.00
	12,900.00	90.65	359.52	9,705.59	6,058.59	2,342.40	2,347.08	549.38	605,280.64	724,876.28	32.66254552	-103.73692594	0.00	0.00	0.00
	13,000.00	90.65	359.52	9,704.46	6,057.46	2,442.39	2,447.07	548.55	605,380.62	724,875.45	32.66282035	-103.73692683	0.00	0.00	0.00
	13,100.00	90.65	359.52	9,703.33	6,056.33	2,542.39	2,547.06	547.71	605,480.60	724,874.61	32.66309518	-103.73692773	0.00	0.00	0.00
	13,200.00	90.65	359.52	9,702.20	6,055.20	2,642.38	2,647.05	546.87	605,580.59	724,873.77	32.66337000	-103.73692862	0.00	0.00	0.00
	13,300.00	90.65	359.52	9,701.07	6,054.07	2,742.37	2,747.04	546.03	605,680.57	724,872.94	32.66364483	-103.73692952	0.00	0.00	0.00
	13,400.00	90.65	359.52	9,699.93	6,052.93	2,842.37	2,847.03	545.20	605,780.56	724,872.10	32.66391966	-103.73693041	0.00	0.00	0.00
	13,500.00	90.65	359.52	9,698.80	6,051.80	2,942.36	2,947.02	544.36	605,880.54	724,871.26	32.66419448	-103.73693130	0.00	0.00	0.00
	13,600.00	90.65	359.52	9,697.67	6,050.67	3,042.35	3,047.01	543.52	605,980.53	724,870.42	32.66446931	-103.73693220	0.00	0.00	0.00
	13,700.00	90.65	359.52	9,696.54	6,049.54	3,142.35	3,147.00	542.69	606,080.51	724,869.59	32.66474414	-103.73693309	0.00	0.00	0.00
	13,800.00	90.65	359.52	9,695.41	6,048.41	3,242.34	3,246.99	541.85	606,180.50	724,868.75	32.66501897	-103.73693399	0.00	0.00	0.00
	13,900.00	90.65	359.52	9,694.27	6,047.27	3,342.33	3,346.98	541.01	606,280.48	724,867.91	32.66529379	-103.73693488	0.00	0.00	0.00
	14,000.00	90.65	359.52	9,693.14	6,046.14	3,442.33	3,446.97	540.18	606,380.47	724,867.08	32.66556862	-103.73693577	0.00	0.00	0.00
	14,100.00	90.65	359.52	9,692.01	6,045.01	3,542.32	3,546.96	539.34	606,480.45	724,866.24	32.66584345	-103.73693667	0.00	0.00	0.00
	14,200.00	90.65	359.52	9,690.88	6,043.88	3,642.31	3,646.95	538.50	606,580.44	724,865.40	32.66611827	-103.73693756	0.00	0.00	0.00
	14,300.00	90.65	359.52	9,689.75	6,042.75	3,742.31	3,746.94	537.67	606,680.42	724,864.57	32.66639310	-103.73693846	0.00	0.00	0.00
	14,400.00	90.65	359.52	9,688.61	6,041.61	3,842.30	3,846.93	536.83	606,780.40	724,863.73	32.66666793	-103.73693935	0.00	0.00	0.00
	14,500.00	90.65	359.52	9,687.48	6,040.48	3,942.30	3,946.92	535.99	606,880.39	724,862.89	32.66694276	-103.73694025	0.00	0.00	0.00
	14,600.00	90.65	359.52	9,686.35	6,039.35	4,042.29	4,046.91	535.15	606,980.37	724,862.06	32.66721758	-103.73694114	0.00	0.00	0.00
	14,700.00	90.65	359.52	9,685.22	6,038.22	4,142.28	4,146.90	534.32	607,080.36	724,861.22	32.66749241	-103.73694203	0.00	0.00	0.00
Section 14S 11N, Pool NM0063	14,750.00	90.65	359.52	9,684.65	6,037.65	4,192.28	4,196.90	533.90	607,130.35	724,860.80	32.66762982	-103.73694248	0.00	0.00	0.00
	14,800.00	90.65	359.52	9,684.08	6,037.08	4,242.28	4,246.89	533.48	607,180.34	724,860.38	32.66776724	-103.73694293	0.00	0.00	0.00
	14,900.00	90.65	359.52	9,682.95	6,035.95	4,342.27	4,346.88	532.64	607,280.33	724,859.54	32.66804206	-103.73694382	0.00	0.00	0.00
	15,000.00	90.65	359.52	9,681.82	6,034.82	4,442.26	4,446.87	531.81	607,380.31	724,858.71	32.66831689	-103.73694472	0.00	0.00	0.00
	15,100.00	90.65	359.52	9,680.69	6,033.69	4,542.26	4,546.87	530.97	607,480.30	724,857.87	32.66859172	-103.73694561	0.00	0.00	0.00
	15,200.00	90.65	359.52	9,679.56	6,032.56	4,642.25	4,646.86	530.13	607,580.28	724,857.03	32.66886655	-103.73694650	0.00	0.00	0.00
	15,300.00	90.65	359.52	9,678.42	6,031.42	4,742.24	4,746.85	529.30	607,680.27	724,856.20	32.66914137	-103.73694740	0.00	0.00	0.00
	15,400.00	90.65	359.52	9,677.29	6,030.29	4,842.24	4,846.84	528.46	607,780.25	724,855.36	32.66941620	-103.73694829	0.00	0.00	0.00
	15,500.00	90.65	359.52	9,676.16	6,029.16	4,942.23	4,946.83	527.62	607,880.24	724,854.52	32.66969103	-103.73694919	0.00	0.00	0.00
	15,600.00	90.65	359.52	9,675.03	6,028.03	5,042.23	5,046.82	526.78	607,980.22	724,853.69	32.66996585	-103.73695008	0.00	0.00	0.00
	15,700.00	90.65	359.52	9,673.90	6,026.90	5,142.22	5,146.81	525.95	608,080.20	724,852.85	32.67024068	-103.73695097	0.00	0.00	0.00
	15,800.00	90.65	359.52	9,672.76	6,025.76	5,242.21	5,246.80	525.11	608,180.19	724,852.01	32.67051551	-103.73695187	0.00	0.00	0.00
	15,900.00	90.65	359.52	9,671.63	6,024.63	5,342.21	5,346.79	524.27	608,280.17	724,851.18	32.67079033	-103.73695276	0.00	0.00	0.00
	16,000.00	90.65	359.52	9,670.50	6,023.50	5,442.20	5,446.78	523.44	608,380.16	724,850.34	32.67106516	-103.73695366	0.00	0.00	0.00
	16,100.00	90.65	359.52	9,669.37	6,022.37	5,542.19	5,546.77	522.60	608,480.14	724,849.50	32.67133999	-103.73695455	0.00	0.00	0.00
	16,200.00	90.65	359.52	9,668.24	6,021.24	5,642.19	5,646.76	521.76	608,580.13	724,848.66	32.67161481	-103.73695544	0.00	0.00	0.00
	16,300.00	90.65	359.52	9,667.10	6,020.10	5,742.18	5,746.75	520.93	608,680.11	724,847.83	32.67188964	-103.73695634	0.00	0.00	0.00
	16,400.00	90.65	359.52	9,665.97	6,018.97	5,842.17	5,846.74	520.09	608,780.10	724,846.99	32.67216447	-103.73695723	0.00	0.00	0.00
	16,500.00	90.65	359.52	9,664.84	6,017.84	5,942.17	5,946.73	519.25	608,880.08	724,846.15	32.67243930	-103.73695812	0.00	0.00	0.00
	16,600.00	90.65	359.52	9,663.71	6,016.71	6,042.16	6,046.72	518.42	608,980.07	724,845.32	32.67271412	-103.73695902	0.00	0.00	0.00
	16,700.00	90.65	359.52	9,662.58	6,015.58	6,142.15	6,146.71	517.58	609,080.05	724,844.48	32.67298895	-103.73695991	0.00	0.00	0.00
	16,800.00	90.65	359.52	9,661.44	6,014.44	6,242.15	6,246.70	516.74	609,180.04	724,843.64	32.67326378	-103.73696081	0.00	0.00	0.00
	16,900.00	90.65	359.52	9,660.31	6,013.31	6,342.14	6,346.69	515.90	609,280.02	724,842.81	32.67353860	-103.73696170	0.00	0.00	0.00
	17,000.00	90.65	359.52	9,659.18	6,012.18	6,442.14	6,446.68	515.07	609,380.01	724,841.97	32.67381343	-103.73696259	0.00	0.00	0.00
	17,100.00	90.65	359.52	9,658.05	6,011.05	6,542.13	6,546.67	514.23	609,479.99	724,841.13	32.67408826	-103.73696349	0.00	0.00	0.00
	17,200.00	90.65	359.52	9,656.92	6,009.92	6,642.12	6,646.66	513.39	609,579.97	724,840.30	32.67436308	-103.73696438	0.00	0.00	0.00
	17,300.00	90.65	359.52	9,655.78	6,008.78	6,742.12	6,746.65	512.56	609,679.96	724,839.46	32.67463791	-103.73696528	0.00	0.00	0.00
	17,400.00	90.65	359.52	9,654.65	6,007.65	6,842.11	6,846.64	511.72	609,779.94	724,838.62	32.67491274	-103.73696617	0.00	0.00	0.00
	17,500.00	90.65	359.52	9,653.52	6,006.52	6,942.10	6,946.63	510.88	609,879.93	724,837.79	32.67518756	-103.73696706	0.00	0.00	0.00
	17,600.00	90.65	359.52	9,652.39	6,005.39	7,042.10	7,046.62	510.05	609,979.91	724,836.95	32.67546239	-103.73696796	0.00	0.00	0.00
	17,700.00	90.65	359.52	9,651.26	6,004.26	7,142.09	7,146.61	509.21	610,079.90	724,836.11	32.67573722	-103.73696885	0.00	0.00	0.00
	17,800.00	90.65	359.52	9,650.12	6,003.12	7,242.08	7,246.60	508.37	610,179.88	724,835.27	32.67601204	-103.73696974	0.00	0.00	0.00
	17,900.00	90.65	359.52	9,648.99	6,001.99	7,342.08	7,346.59	507.54	610,279.87	724,834.44	32.67628687	-103.73697064	0.00	0.00	0.00
	18,000.00	90.65	359.52	9,647.86	6,000.86	7,442.07	7,446.58	506.70	610,379.85	724,833.60	32.67656170	-103.73697153	0.00	0.00	0.00
	18,100.00	90.65	359.52	9,646.73	5,999.73	7,542.07	7,546.57	505.86	610,479.84	724,832.76	32.67683652	-103.73697243	0.00	0.00	0.00
	18,200.00	90.65	359.52	9,645.60	5,998.60	7,642.06	7,646.56	505.02	610,579.82	724,831.93	32.67711135	-103.73697332	0.00	0.00	0.00
	18,300.00	90.65	359.52	9,644.46	5,997.46	7,742.05	7,746.55	504.19	610,679.81	724,831.09	32.67738618	-103.73697421	0.00	0.00	0.00
	18,400.00	90.65	359.52	9,643.33	5,996.33	7,842.05	7,846.54	503.35	610,779.79	724,830.25	32.67766100	-103.73697511	0.00	0.00	0.00
	18,500.00	90.65	359.52	9,642.20	5,995.20	7,942.04	7,946.53	502.51	610,879.77	724,829.42	32.67793583	-103.73697600	0.00	0.00	0.00
	18,600.00	90.65	359.52	9,641.07	5,994.07	8,042.03	8,046.52	501.68	610,979.76	724,828.58	32.67821066	-103.73697689	0.00	0.00	0.00
	18,700.00	90.65	359.52	9,639.94	5,992.94	8,142.03	8,146.51	500.84	611,079.74	724,827.74	32.67848548	-103.73697779	0.00	0.00	0.00
Pool, NM092771 S NM138871 N	18,714.00	90.65	359.52	9,639.78	5,992.78	8,156.03	8,160.51	500.72	611,093.74	724,827.63	32.67852396	-103.73697791	0.00	0.00	0.00
	18,800.00	90.65	359.52	9,638.80	5,991.80	8,242.02	8,246.50	500.00	611,179.73	724,826.91	32.67876031	-103.73697868	0.00	0.00	0.00
	18,900.00	90.65	359.52	9,637.67	5,990.67	8,342.01	8,346.49	499.17	611,279.71	724,826.07	32.67903514	-103.73697958	0.00	0.00	0.00
	19,000.00	90.65	359.52	9,636.54	5,989.54	8,442.01	8,446.48	498.33	611,379.70	724,825.23	32.67930996	-103.73698047	0.00	0.00	0.00
	19,100.00	90.65	359.52	9,635.41	5,988.41	8,542.00	8,546.47	497.49	611,479.68	724,824.39	32.67958479	-103.73698136	0.00	0.00	0.00
	19,200.00	90.65	359.52	9,634.28	5,987.28	8,641.99	8,646.46	496.65	611,579.67	724,823.56	32.67985962	-103.73698226	0.00	0.00	0.00
	19,300.00	90.65	359.52	9,633.14	5,986.14	8,741.99	8,746.45	495.82	611,679.65	724,822.72	32.68013444	-103.73698315	0.00	0.00	0.00
	19,400.00	90.65	359.52	9,632.01	5,985.01	8,841.98	8,846.44	494.98	611,779.64	724,821.88	32.68040927	-103.73698404	0.00	0.00	0.00
	19,500.00	90.65	359.52	9,630.88	5,983.88	8,941.98	8,946.43	494.14	611,879.62	724,821.05	32.68068410	-103.73698494	0.00	0.00	0.00
	19,600.00	90.65	359.52	9,629.75	5,982.75	9,041.97	9,046.42	493.31	611,979.61	724,820.21	32.68095892	-103.73698583	0.00	0.00	0.00
	19,700.00	90.65	359.52	9,628.61	5,981.61	9,141.96	9,146.41	492.47	612,079.59	724,819.37	32.68123375	-103.73698673	0.00	0.00	0.00
	19,800.00	90.65	359.52	9,627.48	5,980.48	9,241.96	9,246.40	491.63	612,179.57	724,818.54	32.68150857	-103.73698762	0.00	0.00	0.00
	19,900.00	90.65	359.52	9,626.35	5,979.35	9,341.95	9,346.39	490.80	612,279.56	724,817.70	32.68178340	-103.73698851	0.00	0.00	0.00
Grayling 14 Fed Com 503H - BH	19,930.99	90.65	359.52	9,626.00	5,979.00	9,372.93	9,377.37	490.54	612,310.54	724,817.44	32.68186856	-103.73698879	0.00	0.00	0.00

Survey Type: Def Plan

Comments	MD (ft)	Incl (°)	Azim (°)	TVD (ft)	TVDSS (ft)	VSEC (ft)	NS (ft)	EW (ft)	Northing (ftUS)	Easting (ftUS)	Latitude (°)	Longitude (°)	DLS (°/100ft)	BR (°/100ft)	TR (°/100ft)
Survey Error Model:	ISCWSA0 3 - D 95 % 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 Code	Vendor / Tool	Borehole / Survey
	1	0.000	9,200.000	1/100.000	12.25 – 8.75 – 6	– 9.625 – 7 – 4.5		A001Mb_MWD		Grayling 14 Fed Com 503H / Coterra Grayling 14 F
	1	9,200.000	19,930.923	1/100.000	6	4.5		A008Mb_MWD+IFR1+MS		Grayling 14 Fed Com 503H / Coterra Grayling 14 F

EOU Geometry:

End MD (ft)	Hole Size (in)	Casing Size (in)	Name
1,200.000	17.500	13.375	
5,965.799	12.250	9.625	
7,895.080	8.750	7.000	
19,930.985	6.000	4.500	

COTERRA Rev0

COTERRA

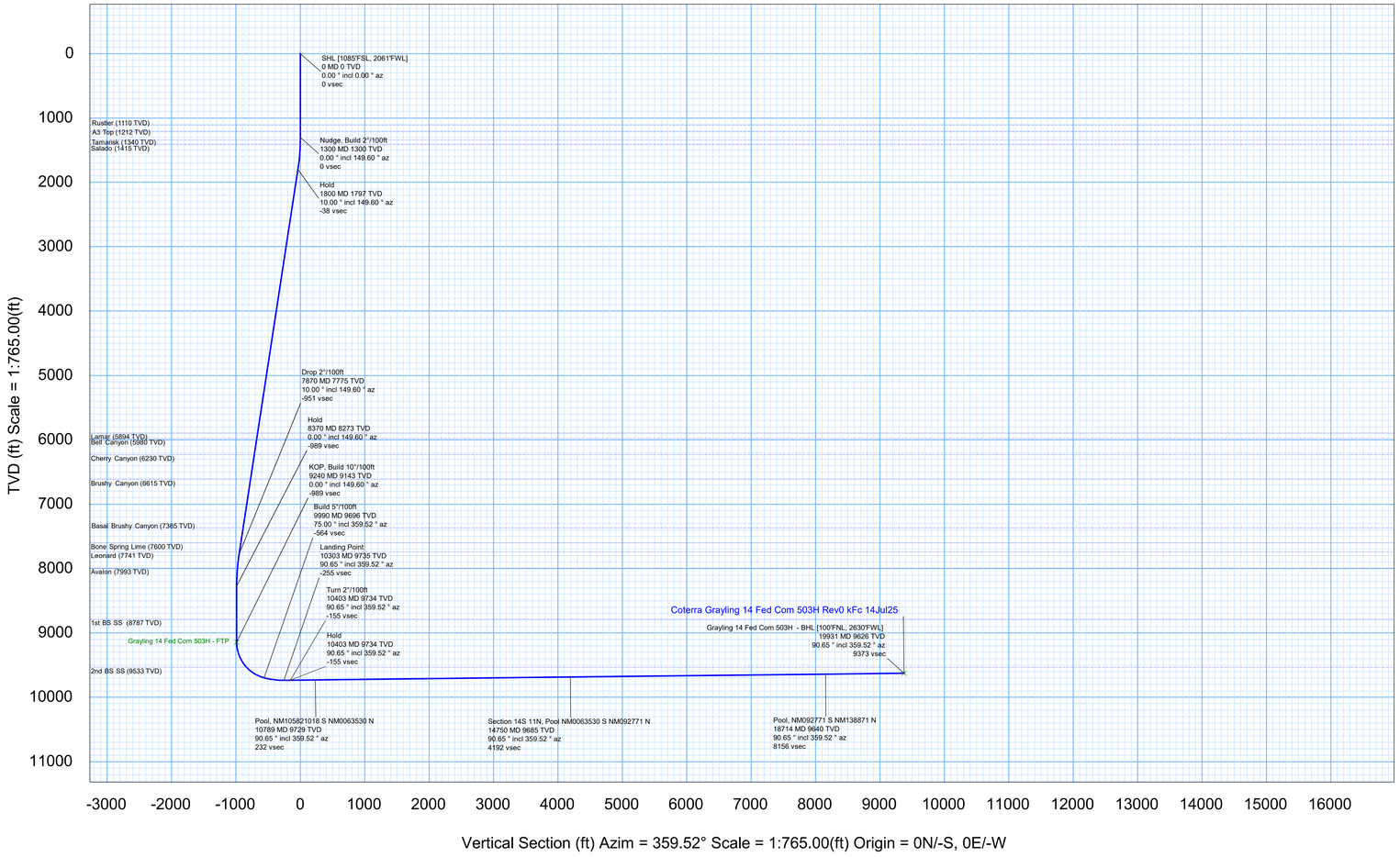
Borehole:	Well:	Field:	Structure:
Grayling 14 Fed Com 503H	Grayling 14 Fed Com 503H	NM Lea County (NAD 83)	Coterra Grayling 14 Fed Com Pad (west)

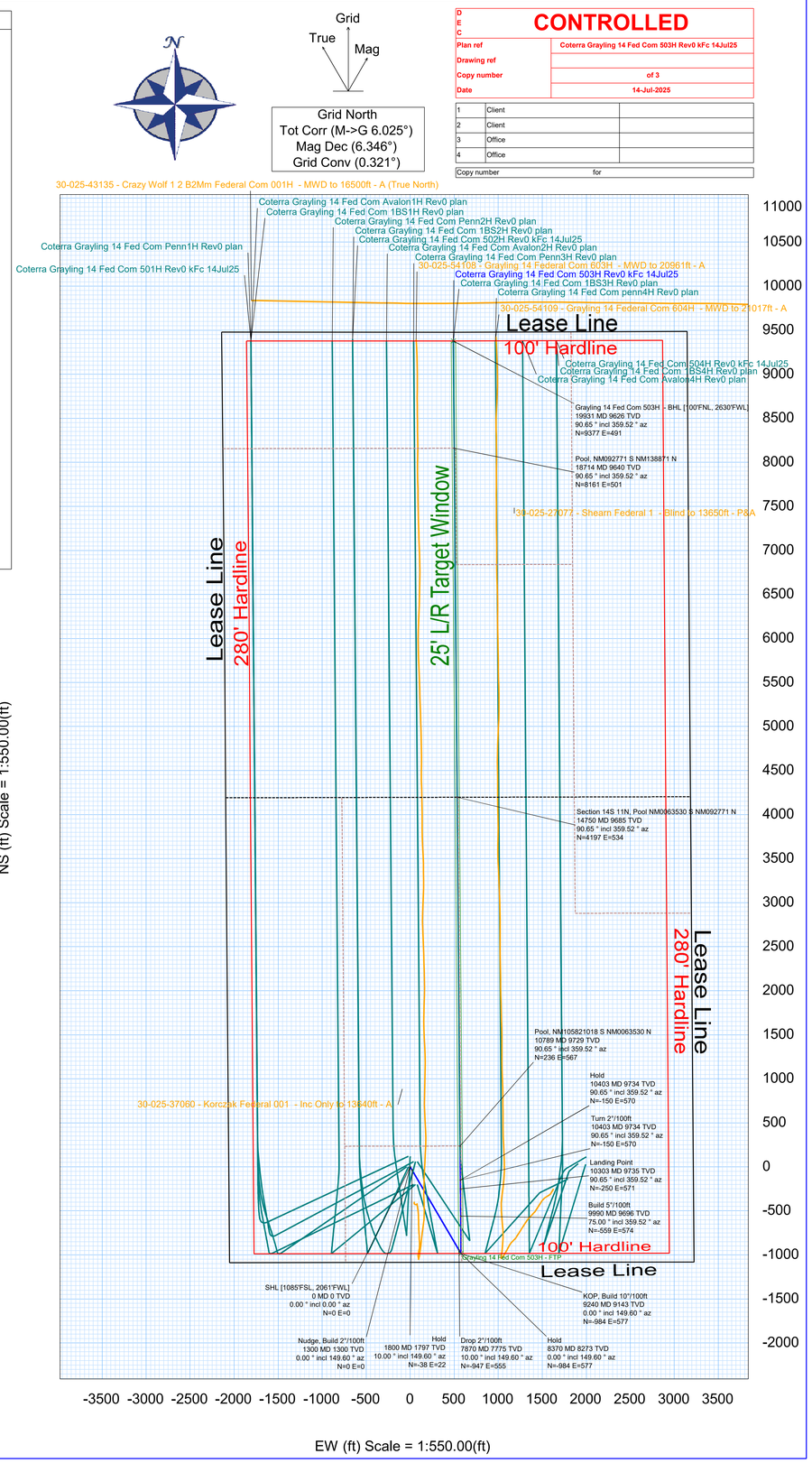
Gravity & Magnetic Parameters						Surface Location						Miscellaneous			
Model:	HDGM 2025	Dip:	60.38°	Date:	14-Jul-2025	Lat:	N 32 39 21.97	Northing:	602933.68ftUS	Grid Conv:	0.3208°	Slot:	Grayling 14 Fed Com 503H	TVD Ref:	RKB (3647.000 ft above MSL)
MagDec:	6.346°	FS:	47500.341nT	Gravity FS:	998.506mgn (9.80665 Based)	Lon:	W 103 44 19.51	Easting:	724326.93ftUS	Scale Fact:	0.99994744	Plan:	Coterra Grayling 14 Fed Com 503H Rev0 kFc 14Jul25		

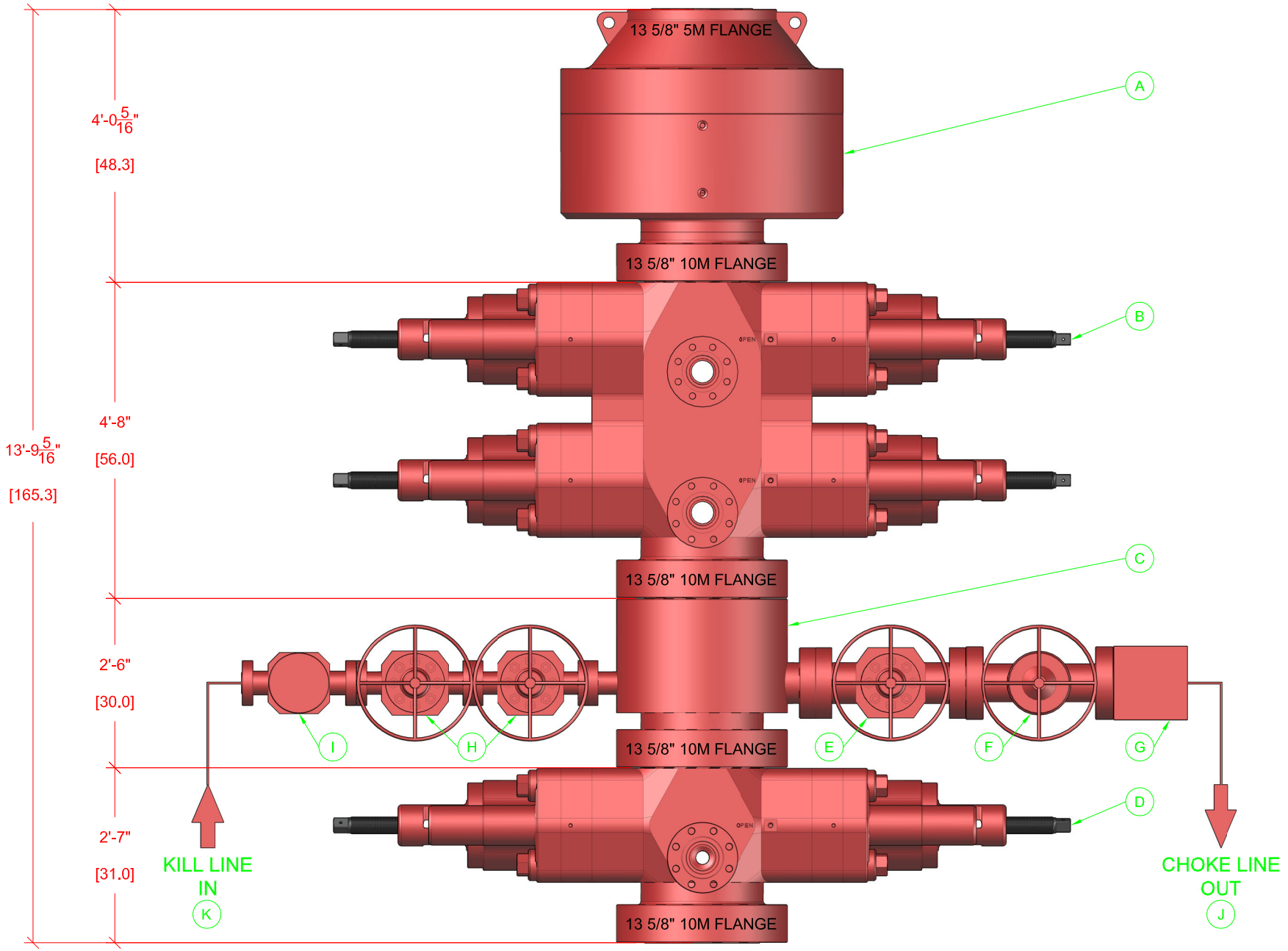
NAD83 New Mexico State Plane, Eastern Zone, US Feet

Critical Points

Critical Point	MD	INCL	AZIM	TVD	VSEC	N(+)/S(-)	E(+)/W(-)	DLS
SHL [1085'FSL, 2061'FWL]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Rustler	1110.00	0.00	149.60	1110.00	0.00	0.00	0.00	0.00
A3 Top	1212.00	0.00	149.60	1212.00	0.00	0.00	0.00	0.00
Nudge, Build 2°/100ft	1300.00	0.00	149.60	1300.00	0.00	0.00	0.00	0.00
Tamarisk	1340.00	0.80	149.60	1340.00	-0.24	-0.24	0.14	2.00
Salado	1415.03	2.30	149.60	1415.00	-2.00	-1.99	1.17	2.00
Hold	1799.91	10.00	149.60	1797.37	-37.71	-37.53	22.01	2.00
Lamar	5959.71	10.00	149.60	5894.00	-663.68	-660.46	387.45	0.00
Bell Canyon	6047.03	10.00	149.60	5980.00	-676.82	-673.54	395.12	0.00
Cherry Canyon	6300.89	10.00	149.60	6230.00	-715.02	-711.55	417.42	0.00
Brushy Canyon	6691.83	10.00	149.60	6615.00	-773.85	-770.10	451.76	0.00
Basal Brushy Canyon	7453.39	10.00	149.60	7365.00	-888.45	-884.14	518.66	0.00
Bone Spring Lime	7692.01	10.00	149.60	7600.00	-924.36	-919.87	539.63	0.00
Leonard	7835.19	10.00	149.60	7741.00	-945.91	-941.31	552.21	0.00
Drop 2°/100ft	7869.93	10.00	149.60	7775.22	-951.14	-946.52	555.26	0.00
Avalon	8089.80	5.60	149.60	7993.00	-976.99	-972.25	570.35	2.00
Hold	8369.84	0.00	149.60	8272.59	-988.85	-984.04	577.27	2.00
1st BS SS	8884.25	0.00	149.60	8787.00	-988.85	-984.04	577.27	0.00
KOP, Build 10°/100ft	9239.84	0.00	149.60	9142.59	-988.85	-984.04	577.27	0.00
2nd BS SS	9669.37	42.95	359.52	9533.00	-835.24	-830.45	575.98	10.00
Build 5°/100ft	9989.84	75.00	359.52	9696.02	-564.18	-559.39	573.71	10.00
Landing Point	10302.84	90.65	359.52	9735.00	-254.60	-249.82	571.12	5.00
Turn 2°/100ft	10402.84	90.65	359.52	9733.86	-154.60	-149.83	570.28	0.00
Hold	10402.91	90.65	359.52	9733.86	-154.53	-149.76	570.28	2.00
Pool, NM105821018 S NM0063530 N	10789.00	90.65	359.52	9729.49	231.53	236.29	567.05	0.00
Section 14S 11N, Pool NM0063530 S NM092771 N	14750.00	90.65	359.52	9684.65	4192.28	4196.90	533.90	0.00
Pool, NM092771 S NM138871 N	18714.00	90.65	359.52	9639.78	8156.03	8160.51	500.72	0.00
Grayling 14 Fed Com 503H - BHL [100'FNL, 2630'FWL]	19930.99	90.65	359.52	9626.00	9372.93	9377.37	490.54	0.00





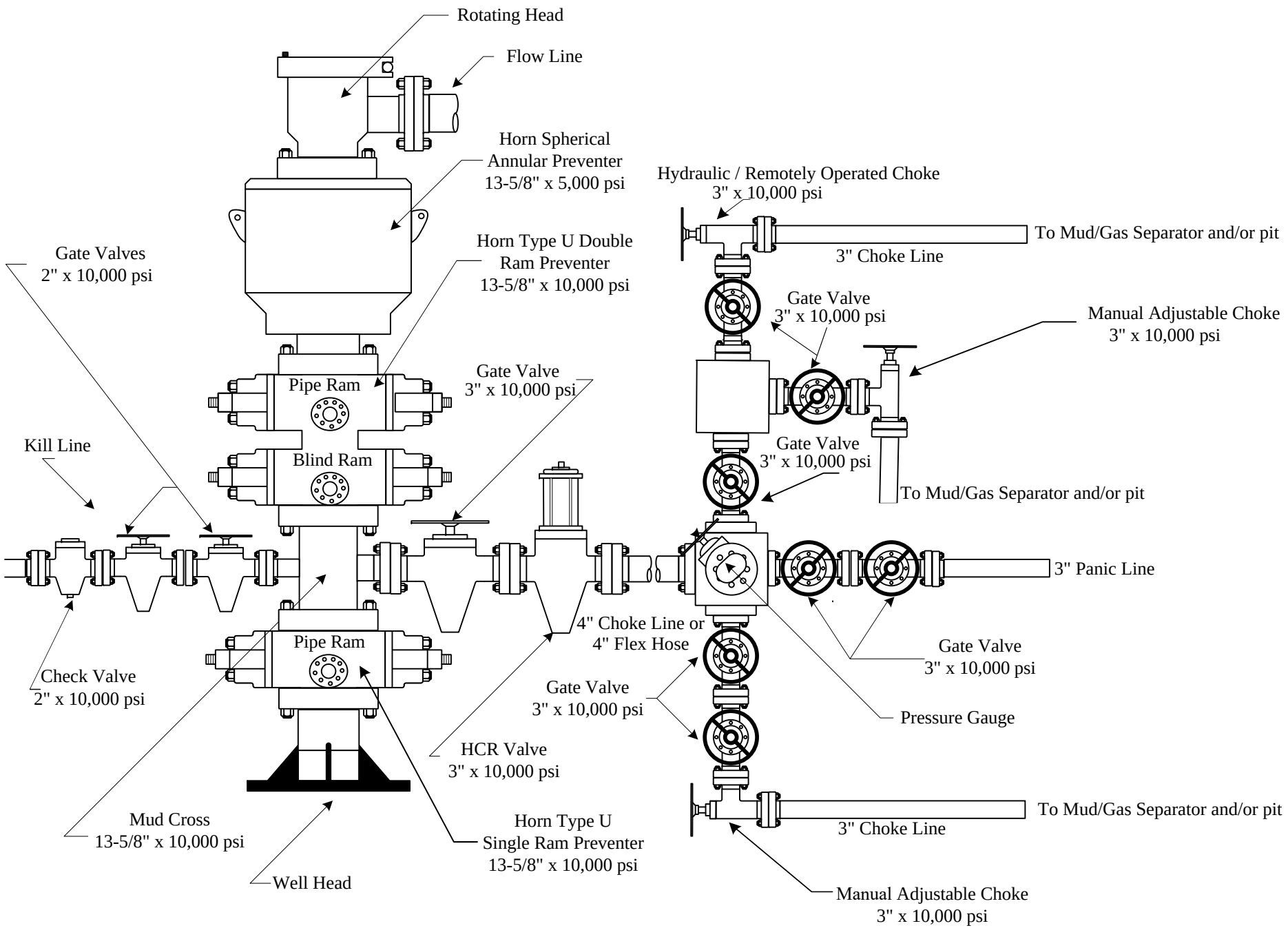


BOP EQUIPMENT INFORMATION

DESCRIPTION	MODEL	QTY
ANNULAR BOP	13 5/8" 5M	1
DOUBLE RAM BOP	13 5/8" 10M TYPE-U	1
MUD CROSS	13 5/8" 10M	1
SINGLE RAM BOP	13 5/8" 10M TYPE-U	1
GATE VALVE	4 1/16" 10M FC MANUAL	1
HCR VALVE	4 1/16" 10M HCR	1

ITEM	DESCRIPTION	MODEL	QTY
G	STUDDED BLOCK	4 1/16" 10M	1
H	GATE VALE	2 1/16" 10M FC MANUAL	2
I	CHECK VALVE	2 1/16" 10M	1
J	CHOKE HOSE	4 1/16" 10M	1
K	KILL HOSE	2 1/16" 10M	1
L			

COTERRA



AustinHOSE

CERTIFICATE OF QUALITY

LTYY/QR-5.7.1-19B №: LT2024-156-001

Customer Name			
Product Name	Choke And Kill Hose		
Product Specification	3″×10000psi×35ft（10.67m）	Quantity	1PCS
Serial Number	VTC-7660257	FSL	FSL3
customer number	PO890145-001	Standard	API Spec 16C 3rd edition
Temperature Range	-29℃～+121℃	Inspection date	2024.09.03

Inspection Items	Inspection results
Appearance Checking	In accordance with API Spec 16C 3rd edition
Size and Lengths	In accordance with API Spec 16C 3rd edition
Dimensions and Tolerances	In accordance with API Spec 16C 3rd edition
End Connections: 4-1/16″×10000psi Integral flange for sour gas service	In accordance with API Spec 6A 21st edition
End Connections: 4-1/16″×10000psi Integral flange for sour gas service	In accordance with API Spec 17D 3rd edition
Hydrostatic Testing	In accordance with API Spec 16C 3rd edition
product Marking	In accordance with API Spec 16C 3rd edition
Inspection conclusion	The inspected items meet standard requirements of API Spec 16C 3rd edition
Remarks	16C-0403

Approver	Jane C	Auditor	Alice D	Inspector	Leo W

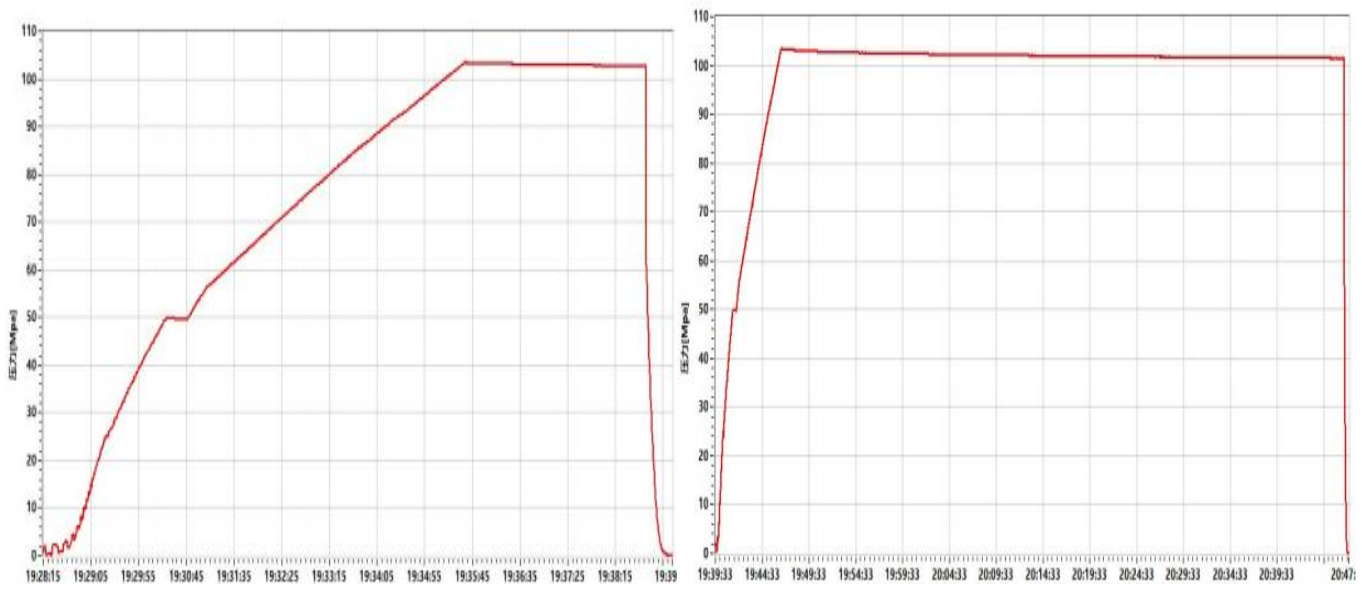
LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD LETONE

HYDROSTATIC TESTING REPORT

LTYY/QR-5.7.1-28 №: 24090301

Product Name	Choke And Kill Hose	Standard	API Spec 16C 3rd edition
Product Specification	3″×10000psi×35ft（10.67m）	Serial Number	VTC-7660257
Inspection Equipment	MTU-BS-1600-3200-E	Test medium	Water
customer number	PO890145-001	Inspection Date	2024.08.30
Rate of length change			
Standard requirements	At working pressure ,the rate of length change should not more than ±2%		
Testing result	10000psi (69.0MPa) ,Rate of length change 0.6%		
Hydrostatic testing			
Standard requirements	At 1.5 times working pressure, the initial pressure-holding period of not less than three minutes, the second pressure-holding period of not less than one hour, no leakage.		
Testing result	15000psi (103.5MPa), 3 min for the first time, 60 min for the second time, no leakage		

Graph of pressure testing：



Conclusion	The inspected items meet standard requirements of API Spec 16C 3rd edition 16C-0403				
Approver	Jane C	Auditor	Alice D	Inspector	Leo W

LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD

AustinHOSE

CERTIFICATE OF CONFORMANCE

№:LT24090307

Product Name：Choke And Kill Hose

Product Specification：3″×10000psi×35ft（10.67m）

Serial Number：VTC-7660257

customer number：PO890145-001

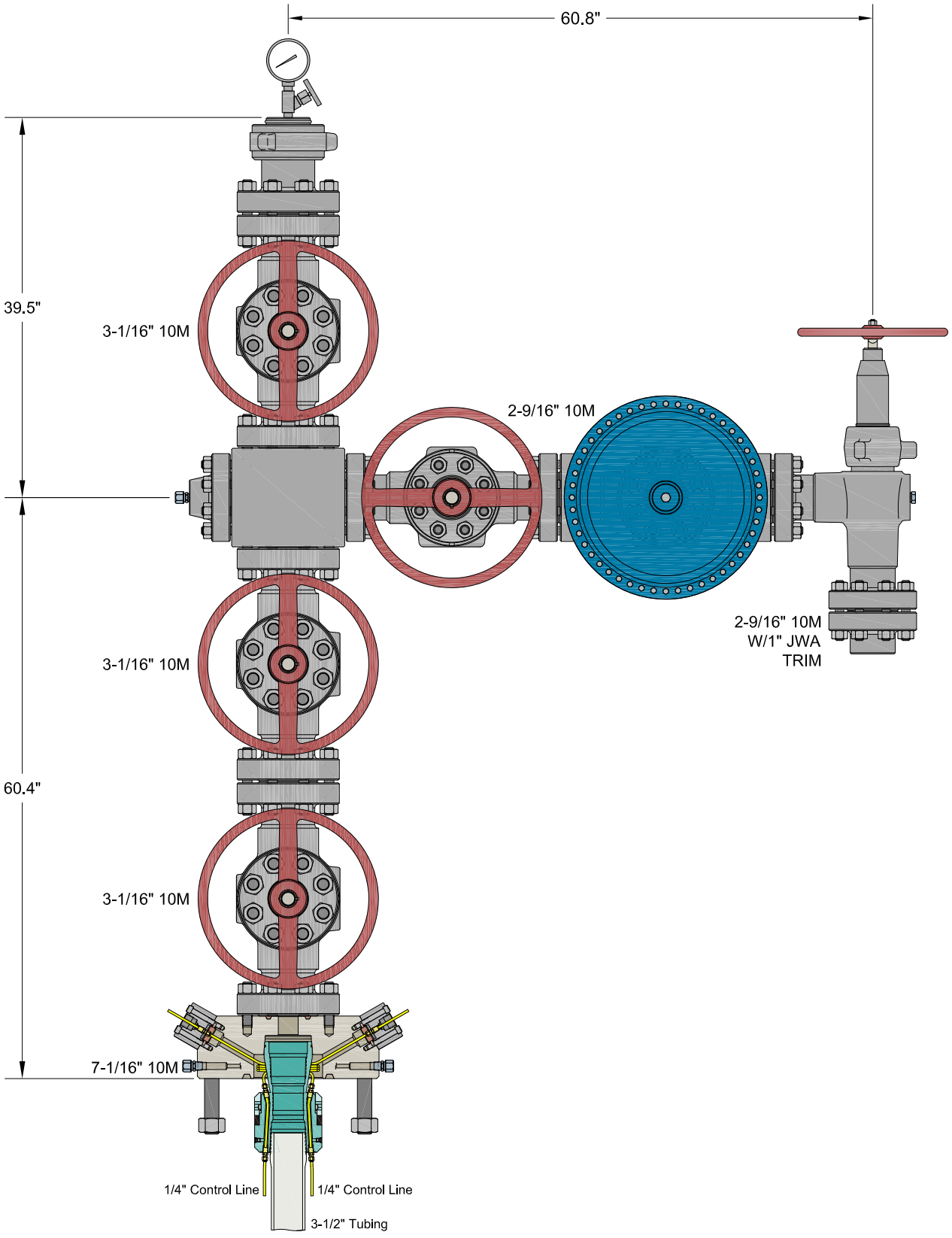
End Connections: 4-1/16″×10000psi Integral flange for sour gas service

The Choke And Kill Hose assembly was produced by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD.in Sep,2024, and inspected by LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD. according to API Spec 16C 3rd edition on Sep 3, 2024. The overall condition is good. This is to certify that the Choke And Kill Hose complies with all current standards and specifications for API Spec 16C 3rd edition .

QC Manager： Jane C Date:Sep 3, 2024

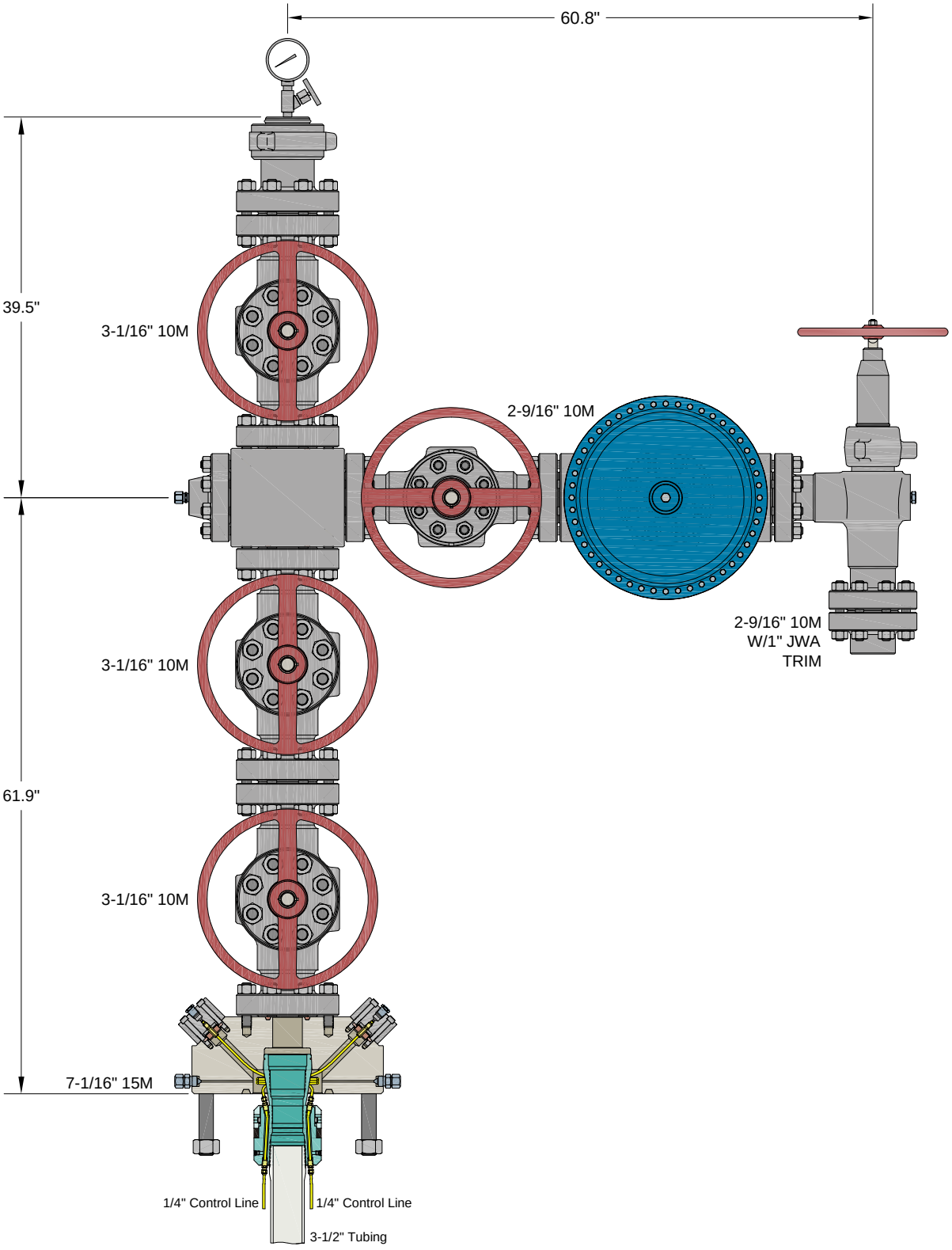
16C-0403

LUOHE LETONE HYDRAULICS TECHNOLOGY CO.,LTD	LETONE



ALL DIMENSIONS APPROXIMATE

CACTUS WELLHEAD LLC	CIMAREX HOBBS, NM		
7-1/16" 10M x 3-1/16" x 2-9/16" 10M Production Tree Assembly With 7-1/16" 10M x 3-1/16" 10M T40-CCL Tubing Head Adapter And 7-1/16" 3-1/2" T40-CCL Tubing Hanger	DRAWN	VJK	05SEP23
	APPRV		
	DRAWING NO.	HBE0001018	



ALL DIMENSIONS APPROXIMAT

CACTUS WELLHEAD LLC	CIMAREX HOBBS, NM	
7-1/16" 15M x 3-1/16" x 2-9/16" 10M Production Tree Assembly With 7-1/16" 15M x 3-1/16" 10M T40-CCL Tubing Head Adapter And 7-1/16" 3-1/2" T40-CCL Tubing Hanger	DRAWN	VJK 13DEC23
	APPRV	
	DRAWING NO.	HBE0001018

Cactus

Quotation

Hobbs, NM
4120 W Carlsbad Hwy
Hobbs NM 88240
Phone: 817-682-8336

Quote Number : HBE0001018

Date: 09/08/2023

Valid For 30 Days

Bill To: 7050

CIMAREX
ATTN: DAVID SHAW
202 S CHEYENNE AVENUE SUITE 1000
TULSA OK 74103
US

Ship To: 1016

2023 PRICING REVIEW
202 S Cheyenne Ave Ste 1000
Tulsa OK 74103-3001
US

	Quantity	Price	Ext Price

CIMAREX

HOBBS, NM

PRODUCTION TREE ASSEMBLY
7-1/16" 10M X 3-1/16" 10M X 2-9/16" 10M
OPTIONAL 15M ADAPTER

QUOTATION SUMMARY:

- PRODUCTION TREE ASSEMBLY - $49,338.02

CACTUS CONTACT:
RILEY STAFFORD / MIKE SPINKS
OFFICE: 405.708.7217 (RILEY) / 713.396.5762 (MIKE)
MOBILE: 405.445.2222 (RILEY) / 832.691.7724 (MIKE)
EMAIL: riley.stafford@cactuswellhead.com / mike.spinks@cactuswellhead.com

DUE TO VOLATILITY IN THE STEEL MARKET, PRICING FOR ITEMS MADE FROM NICKEL ALLOYS (EX. 410SS, 17-4PHSS, INCONEL, ETC.) WILL BE VALID FOR TWO WEEKS. CW WILL REVIEW AND ADJUST, IF NECESSARY, AT ORDER PLACEMENT.

PREMIUM THREADED CASING HANGERS/RUNNING TOOLS & CUSTOMER SPECIFIC EQUIPMENT ARE NON-CANCELABLE AND MAY REQUIRE A PURCHASE ORDER (PO) PRIOR TO MANUFACTURING.

SUPPLY CHAIN PRICING IS BASED UPON A 135 DAY DELIVERY ARO. EXPEDITED PRICING CAN BE PROVIDED UPON REQUEST. PRICES ARE F.O.B. CACTUS BOSSIER CITY, LA. THE FOLLOWING QUOTATION DOES NOT INCLUDE APPLICABLE MILEAGE AND SERVICE CHARGES THAT MAY BE CHARGED AT TIME OF INVOICING.

Cactus

Quotation

Hobbs, NM
4120 W Carlsbad Hwy
Hobbs NM 88240
Phone: 817-682-8336

Quote Number : HBE0001018

Date: 09/08/2023

Valid For 30 Days

		Quantity	Price	Ext Price
	PRODUCTION TREE ASSEMBLY			
1	124314P2	1.00	4,830.00	4,830.00
	ADPT,TBGHD,CW,T40-CCL,7-1/16 10M STD X 3-1/16 10M STD,W/TWO #14 DHCV W/1/4 LP INLETS,10000 PSI MAX WP,TEMP PU,MATL EE,PSL2,PR2			
2	120242MV	1.00	4,343.00	4,343.00
	VLV,CW,SB100,3-1/16 10M FE BB/EE-0,5 (API 6A LU BB/EE-0,5 PSL3 PR1) QPQ TRIM, API 6A PR1 SECTION 10.5.2 (BORE VENT HOLE)			
3	120242MV	1.00	4,343.00	4,343.00
	VLV,CW,SB100,3-1/16 10M FE BB/EE-0,5 (API 6A LU BB/EE-0,5 PSL3 PR1) QPQ TRIM, API 6A PR1 SECTION 10.5.2 (BORE VENT HOLE)			
4	128365	1.00	2,650.00	2,650.00
	CRSS,STD,AOZE,3-1/16 10M X 2-9/16 10M,6A-LU-EE-3			
5	120242MV	1.00	4,343.00	4,343.00
	VLV,CW,SB100,3-1/16 10M FE BB/EE-0,5 (API 6A LU BB/EE-0,5 PSL3 PR1) QPQ TRIM, API 6A PR1 SECTION 10.5.2 (BORE VENT HOLE)			
6	142800	1.00	1,270.00	1,270.00
	TREECAP,NEWAY,BHTA,B15A,3-1/16 10M X 3-1/2 EU ILT,W/1/2 NPT & 3.06 MIN BORE,MONOGRAMMED,TEMP PU,MATL EE,PSL2			
7	BX154	5.00	10.44	52.20
	RING GASKET,BX154,3-1/16 10/15/20M			
8	780077-20E1	16.00	19.83	317.28
	STUD,ALL-THD W/2 HVY HEX NUTS,BLK,1-8UNC X 7,API 20E BSL-1 ASTM A193 GR B7 ALL THREAD STUD W/2 API 20E BSL-1 ASTM A194 GR 2H HEAVY HEX NUTS,NO PLATING			
9	132879	1.00	495.00	495.00
	FLG,BLIND,AOZE,3-1/16 10M X 1/2 NPT,W/HUB,TEMP LU,MATL EE,PSL3			
10	100048	1.00	59.74	59.74
	FTG,GRS,VENTED CAP,1/2 NPT,4140 -50F W/ELECTROLESS NICKEL COATING NACE,K-MONEL BALL,INCONEL X-750 SPRING			
11	115900MV	1.00	3,285.00	3,285.00
	VLV,CW,SB100,2-9/16 10M FE BB/EE-0,5 (API 6A LU BB/EE-0,5 PSL2 PR2) QPQ TRIM, API 6A PR2 ANNEX F (BORE VENT HOLE)			
12	128567	1.00	8,292.00	8,292.00
	VLV/ACT,OMNI,FS-R,2-9/16 10M FE EE HF C/W MODEL DX-18 DIAPHRAGM PNEUMATIC ACTUATOR, FORGED BODY, REVERSE ACTING SLAB GATE, FLOATING SEATS & DIRECTIONAL FLOW BODY BUSHING (FLOW FROM RIGHT TO LEFT): MAT'L CLASS EE, HARDFACE TRIM, TEMP PU (-20 TO 250 F), PSL-2, PR-2; ACTUATOR: MATERIAL CLASS BB, TEMP P (-20F TO 180F) PR-2 (FC TYPE) W/MANUAL OVERRIDE,ACTUATOR REQUIRES 112 PSI TO OPEN AT FULL 10,000 PSI			
13	130652	1.00	7,500.00	7,500.00
	CHOKE,ADJ,HOE,H2,2-9/16 10M FE X FE ALLOY BDY,3" NOMINAL,W/ 2" SSTC TRIM,H2S SERVICE,API MONOGRAMMED,PSL-2 PR-2 TEMP-PU MATL-EE-1.5			
14	120734	1.00	399.00	399.00
	FLG,COMP,AOZE,2-9/16 10M X 2-7/8 EU,5000 PSI MAX WP,TEMP LU,PSL3,PR1			

Cactus

Quotation

Hobbs, NM
4120 W Carlsbad Hwy
Hobbs NM 88240
Phone: 817-682-8336

Quote Number : HBE0001018

Date: 09/08/2023

Valid For 30 Days

			Quantity	Price	Ext Price
15	BX153		5.00	11.54	57.70
	RING GASKET,BX153,2-9/16 10/15/20M				
16	780067-20E1		24.00	14.70	352.80
	STUD,ALL-THD W/2 HVY HEX NUTS,BLK,7/8-9UNC X 6-1/2,API 20E BSL-1 ASTM A193 GR B7 ALL THREAD STUD W/2 API 20E BSL-1 ASTM A194 GR 2H HEAVY HEX NUTS,NO PLATING				
17	135166		1.00	4,490.00	4,490.00
	TBGHGR,CW,T40-CCL,7-1/16 X 3-1/2 EU API MOD BOX BTM X 3-1/2 EU BOX TOP,W/3 HBPV THD,W/ TWO 1/4 CCL & DOVETAIL SEAL,CF 124316P2,10000 PSI MAX WP,17-4PH SS,TEMP PU,MATL FF-0,5,PSL2,PR2				
18	BX156		1.00	62.48	62.48
	RING GASKET,BX156,7-1/16 10/15/20M				
19	NVS		1.00	61.16	61.16
	NEEDLE VALVE,MFS,1/2 NPT MXF,10M PSI WP,CARBON STEEL BODY, 304/316SS STEM, TFE PACKING (NON-NACE)				
20	PG10M		1.00	58.24	58.24
	PRESSURE GAUGE,10M,4-1/2 FACE, LIQUID FILLED,1/2 NPT				
21	PRO	Prorata Freight	0.75	2,768.56	2,076.42
					49,338.02

OPTIONAL 15M ADAPTER

22	124999P2		0.00	7,423.00	0.00
	ADPT,TBGHD,CW,T40-CCL,7-1/16 15M STD X 3-1/16 10M STD,W/TWO #14 DHCV W/1/4 NPT INLET,10000 PSI MAX WP,TEMP PU,MAT'L EE,PSL2,PR2				
					0.00

For Acceptance of this Quotation
Please Contact Ph: 713-626-8800
sales@cactuswellhead.com

Matl:	47,261.60
Labor:	0.00
Misc:	2,076.42
Sales Tax:	0.00
Total:	49,338.02

Cactus

Quotation

Hobbs, NM
4120 W Carlsbad Hwy
Hobbs NM 88240
Phone: 817-682-8336

Quote Number : HBE0001018

Date: 09/08/2023

Valid For 30 Days

CACTUS WELLHEAD, LLC PURCHASE TERMS AND CONDITIONS

1. **ACCEPTANCE**: Acceptance of Cactus Wellhead, LLC (herein: Company) Purchase Terms and Conditions (herein: CACTUS Purchase Terms) shall be deemed effective upon shipment of the Products and/or rendering of Services which are the subject of an order by Customer (defined as the party purchasing CACTUS Products and or Services referred on the invoice). Any proposal made by Customer for additional or different terms and conditions or any attempt by Customer to vary in any degree any of the terms and conditions of CACTUS Purchase Terms is hereby rejected.

2. **PRICING**. Each Product and Service shall be invoiced at (and Customer shall pay) the respective price shown on the reverse side hereof, or if no price is shown on the reverse side hereof, at the price shown in the current price list of Company. In addition, Customer shall pay any and all additional charges for mileage, transportation, freight, packing and other related charges, as well as any federal, state or local tax, excise, or charge applicable on the sale, transportation, or use of Products and Services, unless otherwise specified.

3. **TERMS OF PAYMENT**. Customer agrees to pay Company any and all payments due on or before thirty (30) days from invoice date at the designated address of Company. Amounts unpaid after such thirty (30) day period shall bear interest at the lesser of (i) one and one-half percent (1½%) per month or (ii) the maximum rate allowed by law. Customer shall also pay any and all of Company's attorney's fees and court costs if any amounts hereunder are collected by an attorney or through legal proceedings. Company reserves the right, among other remedies, either to terminate this agreement or to suspend further deliveries upon failure of Customer to make any payment as provided herein.

4. **LIMITED WARRANTY**. COMPANY MAKES NO WARRANTY, EXPRESSED OR IMPLIED, AS TO THE MERCHANTABILITY, FITNESS FOR PURPOSE, DESCRIPTION, QUALITY, PRODUCTIVENESS, ACCURACY OR ANY OTHER MATTER WITH RESPECT TO PRODUCTS OR SERVICES, ALL SUCH WARRANTIES BEING HEREBY SPECIFICALLY AND EXPRESSLY DISCLAIMED BY COMPANY. COMPANY MAY OFFER TECHNICAL ADVICE OR ASSISTANCE WITH REGARD TO THE PRODUCTS AND SERVICES BASED ON LABORATORY AND/OR FIELD EXPERIENCE AND CUSTOMER UNDERSTANDS AND AGREES THAT SUCH ADVICE REPRESENTS ONLY GOOD FAITH OPINIONS AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE. THE SOLE AND EXPRESS WARRANTY PROVIDED BY COMPANY IS TO WARRANT THAT THE PRODUCTS SOLD AS LISTED ON THE REVERSE SIDE HEREOF COMPLY WITH COMPANY'S SOLE SPECIFICATION AT THE DATE AND TIME OF MANUFACTURE. COMPANY MAKES NO WARRANTY THAT SUCH PRODUCTS SHALL MEET SUCH SPECIFICATION AT ANY TIME AFTER SHIPMENT OF PRODUCTS. USE OF SUCH PRODUCTS IS SPECIFICALLY NOT WARRANTED.

5. **REMEDY**. The exclusive remedy for this warranty for Products shall be limited to, in Company's sole discretion and judgment, the replacement of defective part(s), F.O.B. Company's plant (transportation, redesign, dismantling, disposal of material and installation are not included and shall be borne and paid for by Customer), or repair of defective part(s). . The exclusive remedy for this warranty for Services shall be limited to the repeat of Services performed F.O.B. Company's plant (transportation, redesign, dismantling, disposal of material and installation are not included and shall be borne and paid for by Customer). Any such repeat of Services or replacement or repair of Products shall not include any materials not sold by Company hereunder, and specifically excludes any obligation by Company related to other property of the Customer or any property of third parties. Provided, however, Company may in its sole discretion, decide to instead give Customer credit memorandum for the amounts already paid by Customer to Company for such Product or Service. IN ANY EVENT AND NOTWITHSTANDING THE LANGUAGE TO THE CONTRARY HEREIN, CUSTOMER ACKNOWLEDGES THAT ANY CLAIM IT MAY HAVE ARISING OUT OF OR IN CONNECTION WITH ANY ORIGINAL PRODUCTS AND SERVICES, ANY REPLACEMENT PRODUCTS OR REPEAT OF SERVICES AND THESE CACTUS PURCHASE TERMS SHALL BE LIMITED TO AND NOT EXCEED THE AMOUNT CUSTOMER HAS ACTUALLY PAID TO COMPANY FOR SUCH PRODUCTS AND/OR SERVICES PURSUANT HERETO. If Customer fails to make any such claim within thirty (30) days after completion of Service or delivery of Products, Customer hereby waives (to the extent permitted by applicable law) any and all claims it may or does have with respect to such Products and Services. Unless Customer is an authorized reseller of Company, Company's liability in connection with Products and Services shall extend only to Customer. CUSTOMER HEREBY INDEMNIFIES AND HOLDS COMPANY (AND ITS AGENTS, REPRESENTATIVES, OFFICERS DIRECTORS AND EMPLOYEES) HARMLESS FOR ANY LOSS, EXPENSE OR DAMAGE (WHETHER OF CUSTOMER OR OF ANY THIRD PARTY) ARISING FROM OR IN CONNECTION WITH PRODUCTS AND SERVICES, INCLUDING WITHOUT LIMITATION ANY FAILURE OF SUCH PRODUCTS AND SERVICES TO CONFORM TO CUSTOMER'S ORDER OR SPECIFICATION OR ANY OTHER STANDARD, OR ANY NEGLIGENCE OR BREACH OF WARRANTY BY COMPANY WITH RESPECT TO ANYTHING DONE OR FAILED TO HAVE BEEN DONE BY COMPANY, IF AND TO THE EXTENT THAT SUCH LOSS, EXPENSE OR DAMAGE EXCEEDS THE AMOUNT CUSTOMER HAS ACTUALLY PAID COMPANY PURSUANT HERETO FOR SUCH PRODUCTS OR SERVICES.

6. **INSPECTION**. The results of any inspection or testing reported by the Company to Customer represents only good faith opinions and are not to be construed as warranties or guarantees of the quality, classification, merchantability, fitness for purpose, condition, or liability of any equipment or material that has been inspected or tested by the Company.

7. **INSURANCE**. Each party agrees to maintain comprehensive general liability insurance in the amount of $1,000,000 each occurrence, $2,000,000 general aggregate, and Workers Compensation insurance per statutory requirements providing coverage for the indemnity obligations in this agreement. The Company (and such of its affiliates as it shall designate) including their officers, directors, members, shareholders, partners, joint ventures, employees, agents and representatives shall be named as additional insureds under the policies of Customer on a primary basis to the extent of its indemnification obligations set forth in these CACTUS Purchase Terms, and the policies shall also provide a waiver of subrogation rights in favor of the Company (and such of its affiliates as it shall designate) and their officers, directors, members, shareholders, employees, agents and representatives. The provisions of this Section 7 shall apply and the obligation to maintain insurance of each party in the coverages and amounts set forth herein shall remain in force regardless and independent of the validity or enforceability of the indemnity provisions of Section 8, below; the obligation to obtain insurance is a separate and independent obligation. If the insurance required herein is more or less than allowed by prevailing law, the indemnity obligations in Section 8 below shall be effective only to the maximum extent permitted under applicable law.

8. **INDEMNIFICATION**. The following indemnifications and releases of liability will apply to any Products or Services provided under this contract. COMPANY AND CUSTOMER EXPRESSLY AGREE THAT, TO THE EXTENT REQUIRED BY APPLICABLE LAW TO BE EFFECTIVE, THE INDEMNITIES AND DISCLAIMERS OF WARRANTIES CONTAINED HEREIN ARE "CONSPICUOUS."

A. **Customer Indemnity Obligations**. Customer hereby releases Company from any liability for, and shall protect, defend, indemnify, and hold harmless Company, its parents, affiliates, subsidiaries, partners, joint owners, joint ventures, and its contractors and subcontractors of any tier, and the officers, directors, agents, representatives, employees, insurers, and consultants (specifically excluding any member of Customer Group) of all of the foregoing, and its and their respective successors, heirs and assigns ("Company Group") from and against all costs (including the payment of reasonable attorneys' fees), losses, liabilities, demands, causes of action, damages, or claims of every type and character ("Claims"), arising out of or resulting from or related, directly or indirectly, to (i) injury to, illness or death of Customer its parents, affiliates, subsidiaries, partners, joint owners, joint ventures, and its contractors and subcontractors of any tier, and the officers, directors, agents, representatives, employees, customers, insurers, invitees and consultants of all of the foregoing, and its and their respective successors, heirs and assigns ("Customer Group"), or (ii) loss of or damage to any property of any member of Customer Group, REGARDLESS OF THE CAUSE OF SUCH CLAIMS, INCLUDING THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT, ACTIVE OR PASSIVE) STRICT LIABILITY, OR ANY OTHER LEGAL FAULT OR RESPONSIBILITY OF ANY MEMBER OF COMPANY GROUP, BUT NOT IN THE CASE OF GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF ANY MEMBER OF COMPANY GROUP.

B. **Company Indemnity Obligations**. Company hereby releases Customer from any liability for, and shall protect, defend, indemnify, and hold harmless Customer from and against all Claims arising out of or resulting from or related, directly or indirectly, to (i) injury to, illness or death of any member of Company Group, or (ii) loss of or damage to any property of any member of Company Group, REGARDLESS OF THE CAUSE OF SUCH CLAIMS, INCLUDING THE NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT, ACTIVE OR PASSIVE) STRICT LIABILITY, OR ANY OTHER LEGAL FAULT OR RESPONSIBILITY OF ANY MEMBER OF CUSTOMER GROUP, BUT NOT IN THE CASE OF GROSS NEGLIGENCE OR WILLFUL MISCONDUCT OF ANY MEMBER OF COMPANY GROUP.

C. **Third Party Claims**. Notwithstanding the foregoing, to the extent of its negligence, Company and Customer shall each indemnify, defend and hold harmless from and against all Claims, of every type and character, which are asserted by third parties for bodily injury, death or loss or destruction of property or interests in property in any manner caused by, directly or indirectly resulting from, incident to, connected with or arising out of the work to be performed, Services to be rendered or Products or materials furnished to Customer. When personal injury, death or loss of or damage to property is the result of joint or concurrent negligence of Customer and Company, the indemnitor's duty of indemnification shall be in proportion to its allocable share of such negligence.

D. **Pollution**. Company agrees that it shall be totally responsible for, and shall protect, defend and indemnify, Customer for all losses, damages, claims, demands, costs, charges, and other expenses, including attorneys' fees, for any and all waste and/or hazardous substances which are in Company Group's exclusive possession and control and directly associated with Company Group's equipment and facilities, EVEN IF THE LOSSES, DAMAGES, CLAIMS, DEMANDS, COSTS, FEES, AND EXPENSES ARE CAUSED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF CUSTOMER GROUP. Customer shall assume all responsibility for, including control and removal of, and shall protect, defend and indemnify Company Group from and against all Claims arising directly or indirectly from all other pollution or contamination which may occur during the conduct of operations hereunder, including, but not limited to, that which may result from fire, blowout, cratering, seepage or any other uncontrolled flow of oil, gas, water or other substance, EVEN IF THE LOSSES, DAMAGES, CLAIMS, DEMANDS, COSTS, FEES, AND EXPENSES ARE CAUSED BY OR CONTRIBUTED TO BY THE NEGLIGENCE OF COMPANY GROUP.

E. **Wild Well**. Customer shall release Company Group of any liability for, and shall protect, defend and indemnify Company Group for any damages, expenses, losses, fines, penalties, costs, expert fees and attorneys' fees arising out of a fire, blow out, cratering, seepage or wild well, including regaining control thereof, debris removal and property restoration and remediation. THIS INDEMNITY APPLIES EVEN IF THE LOSSES, DAMAGES, CLAIMS, DEMANDS, COSTS, FEES, AND EXPENSES ARE CAUSED NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT, ACTIVE OR PASSIVE, ORDINARY OR GROSS) STRICT LIABILITY, OR ANY OTHER LEGAL FAULT OR RESPONSIBILITY OF ANY MEMBER OF COMPANY GROUP.

F. **Underground Damage**. Customer shall release Company Group of any liability for, and shall protect, defend and indemnify Company Group from and against any and all claims, liability and expenses resulting from operations related to the work under this agreement on account of injury to, destruction of, or loss or impairment of any property right in or to oil, gas or other mineral substance or water, if at the time of the act or omission causing such injury, destruction, loss or impairment said substance and not been reduced to physical possession above the surface of the earth, and for any loss or damage to any formation, strata, or reservoir beneath the surface of the earth. THIS INDEMNITY APPLIES EVEN IF THE LOSSES, DAMAGES, CLAIMS, DEMANDS, COSTS, FEES, AND EXPENSES ARE CAUSED NEGLIGENCE (WHETHER SOLE, JOINT OR CONCURRENT, ACTIVE OR PASSIVE, ORDINARY OR GROSS) STRICT LIABILITY, OR ANY OTHER LEGAL FAULT OR RESPONSIBILITY OF ANY MEMBER OF COMPANY GROUP.

G. The foregoing indemnities set forth in these CACTUS Purchase Terms are intended to be enforceable against the parties hereto in accordance with the express terms and scope hereof notwithstanding Texas' Express Negligence Rule or any similar directive that would prohibit or otherwise limit indemnities because of the negligence (whether sole, concurrent, active or passive, ordinary or gross) or other fault or strict liability of Company or Customer.

H. If a claim is asserted against one of the parties to this agreement which may give rise to a claim for indemnity against the other party hereto, the party against whom the claim is first asserted must notify the potential indemnitor in writing and give the potential indemnitor the right to defend or assist in the defense of the claim.

9. **RISK OF LOSS**.

A. Title and risk of loss shall pass to Customer upon delivery as specified in Article 11. Customer's receipt of any material delivered hereunder shall be an unqualified acceptance of, and a waiver by Customer of any and all claims with respect to, such material unless Customer gives Company written notice of claim within thirty (30) days after such receipt. Notwithstanding the foregoing, installation or use of materials or equipment shall unequivocally constitute irrevocable acceptance of said materials. Customer assumes all risk and liability for the results obtained by the use of any material or Products delivered hereunder in work performed by on behalf of Customer or in combination with other or substances. No claim of any kind, whether as to material delivered or for non-delivery of material, and whether or not based on negligence, shall be greater in amount than the purchase price of the

Cactus

Quotation

Hobbs, NM
4120 W Carlsbad Hwy
Hobbs NM 88240
Phone: 817-682-8336

Quote Number : HBE0001018

Date: 09/08/2023

Valid For 30 Days

material in respect of which such claim is made.

B. For Services, Company shall not be liable for loss or deterioration of any equipment and material of Customer under Company's control or stored on Company's premises after Company has completed its work if such loss or deterioration results from atmospheric condition, Act of God or other occurrence not within the reasonable control of Company.

10. **TERMINATION**. Company reserves the right to terminate the order at issue, or any part hereof, solely for its convenience at any time without cause with notice to Customer. Company shall have the right to cancel any unfilled order without notice to Customer in the event that Customer becomes insolvent, adjudicated bankrupt, petitions for or consents to any relief under any bankruptcy reorganization statute, violates a term of these CACTUS Purchase Terms, or is unable to meet its financial obligations in the normal course of business. In the event of such termination, Company shall immediately stop all work hereunder. Prior to delivery, Customer may terminate this order without cause upon thirty (30) day notice in writing to Company. In the event of such termination, Company at its sole option shall cease work up to thirty (30) days after such notice. Upon the cessation of work, Customer agrees to pay Company a reasonable termination charge consisting of a percentage of the Invoice price, such percentage to reflect the value of the Products, Services or work in progress completed upon the cessation of work. Customer shall also pay promptly to Company any costs incurred due to paying and settling claims of Company's vendors or subcontractors arising out of the termination of the order by Customer.

11. **DELIVERY**. Unless different terms are provided on the face of this order, all items are sold FOB Company's manufacturing facility in Bossier City, LA., and Customer shall bear the cost of transportation to any other named destination. Upon notification of Company of delivery, Customer shall become liable and shall bear all risk of loss associated with the Products at issues regardless of whether the Products are at a location controlled by Company and whether or not caused by the negligence of Company. In the case of Customer pick-up, the truck furnished by Customer is the destination and Company's obligations regarding shipments are fulfilled when the Products are loaded on the truck. Items to be shipped to any other destination outside of the United States are sold FOB port of shipment (Customer will deliver and bear the cost of transportation to the named port and will bear the cost of transportation thereafter to the final destination). The means of shipment and carrier to the point at which Company's liability for transportation costs ceases shall be chosen by Company. Excess packing, marking, shipping, and transportation charges resulting from compliance with Customer's request shall be for Customer's account. Unless otherwise agreed in writing, delivery time is not of the essence.

12. **RETURNS/REFUND**. Within ninety (90) days of delivery, Customer has the option to return any non-defective Products (any Products found to be defective will be subject to the warranty and remedies expressed in paragraphs four (4) and five (5) above). Customer shall bear all costs of shipment and/or transportation for such return and risk of loss for the returned Products shall remain with Customer until re-delivered to Company's Yard. Customer shall receive a full refund for any returns, less a twenty percent (20%) restocking fee. Company at all times reserves the right to designate certain Products as non-refundable in Company's Sales Quote or Sales Order. In addition, any made-to-order , special order, and/or Product manufactured to Customer specifications are NOT returnable.

13. **DELAYS**. If a specific shipping date is either not given or is estimated only, and is not promised on the face of this order or in a separate writing signed by Company, Company will not be responsible for delays in filling this order nor liable for any loss or damages resulting from such delays. If a specific shipping date is promised, Company will not be liable for delays resulting from causes beyond Company's control, including without limitation accidents to machinery, fire, flood, act of God or other casualty, vendor delays, labor disputes, labor shortages, lack of transportation facilities, priorities required by, requested by, or granted for the benefit of any governmental agency, or restrictions imposed by law or governmental regulation.

14. **LIMITATION OF DAMAGES**. Notwithstanding any other provision contained herein, Company shall not be liable to Customer Group or any third party for consequential (whether direct or indirect damages), indirect, incidental, special or punitive damages, howsoever arising, including, but not limited to loss of profits (whether direct or indirect damages), revenues, production or business opportunities, WHETHER OR NOT SUCH LOSSES ARE THE RESULT IN WHOLE OR IN PART FROM THE NEGLIGENCE (WHETHER SOLE, JOINT, CONCURRENT OR COMPARATIVE, ACTIVE OR PASSIVE, ORDINARY OR GROSS) OF COMPANY GROUP, OR ANY DEFECT IN THE PREMISES, PRE-EXISTING CONDITIONS, PATENT OR LATENT, BREACH OF STATUTORY DUTY, STRICT LIABILITY OR ANY OTHER THEORY OF LEGAL LIABILITY OF COMPANY GROUP (EXCLUDING ONLY LOSSES CAUSED BY THE WILLFUL MISCONDUCT OF COMPANY GROUP).

15. **SECURITY INTEREST**. Customer grants Company, and Company reserves, a security interest, covering all Customer's obligations under these terms (including any liability for breach of Customer's obligations), and applying to all of Customer's right, title, and interest in the Leased Equipment, together with all accessions thereto and any proceeds that may arise in connection with the sale or disposition thereof. Customer shall cooperate with Company in the filing of Financing Statements to perfect such security interest. Furthermore, Customer authorizes Company to execute and file Financing Statements without Customer's signature in any jurisdiction in which such procedure is authorized. Customer warrants, covenants and agrees that it will not, without prior written consent of Company, sell, contract to sell, lease, encumber, or dispose of the Leased Equipment or any interest in it until all obligations secured by this security interest have been fully satisfied.

16. **PATENT AND INTELLECTUAL PROPERTY**. The sale of any Products hereunder does not convey any intellectual property license by implication, estoppel or otherwise regarding the Products. Company retains the copyright in all documents, catalogs and plans supplied to Customer pursuant to or ancillary to the contract. Unless otherwise agreed in writing, Customer shall obtain no intellectual property interest in any Company Product.

17. **TAXES**. Unless otherwise specifically provided for herein, Customer shall be liable for all federal, state, or local taxes or import duties assessed by any governmental entity of any jurisdiction in connection with the Products or Services furnished hereunder.

18. **DECEPTIVE TRADE PRACTICES**. Customer acknowledges the application of Section 17.45(4) of the Texas Deceptive Trade Practices Act (Texas Business Commission Code §17.41 et. seq.) (the "Act") to any transaction contemplated hereby and represents that it is not a "consumer" for the purposes of the Act.

19. **NO WAIVER**. Failure to enforce any or all of the provisions in these CACTUS Purchase Terms in any particular instance shall not constitute or be deemed to constitute a waiver of or preclude subsequent enforcement of the same provision or any other provision of these CACTUS Purchase Terms. Should any provision of these CACTUS Purchase Terms be declared invalid or unenforceable all other provisions of these CACTUS Purchase Terms shall remain in full force and effect.

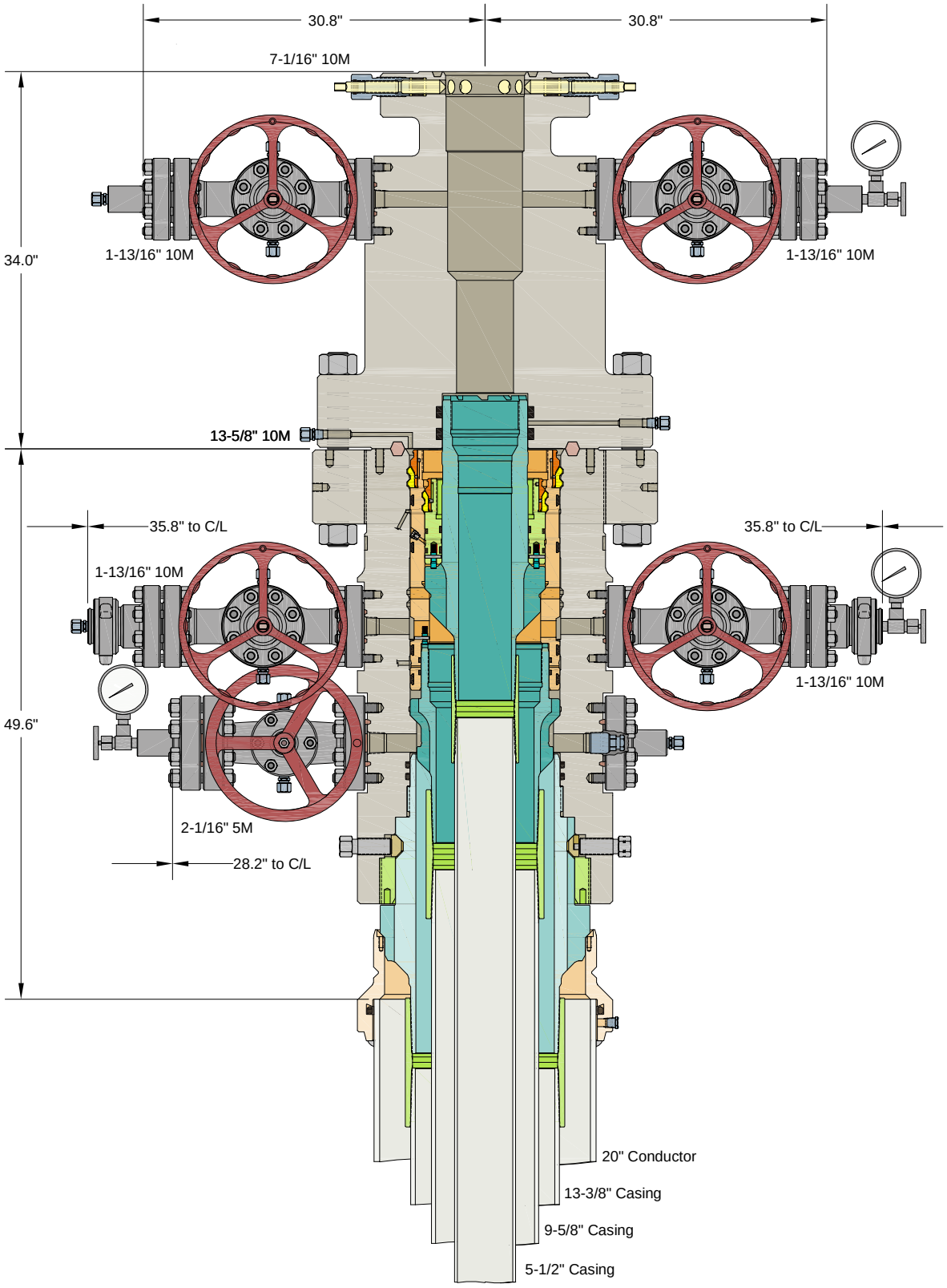
20. **CHOICE OF LAW**. THIS AGREEMENT SHALL BE GOVERNED BY AND CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS AND SHALL BE PERFORMABLE IN HARRIS COUNTY, TEXAS. WITHOUT REGARD TO CONFLICTS OF LAW PRINCIPALS AND WAIVER OF SAME, EACH PARTY HERETO SUBMITS TO THE JURISDICTION OF THE COURTS OF THE STATE OF TEXAS IN HARRIS COUNTY, TEXAS AND THE FEDERAL COURTS IN AND FOR THE SOUTHERN DISTRICT OF TEXAS SITTING IN HOUSTON, TEXAS IN CONNECTION WITH ANY DISPUTE ARISING UNDER THIS AGREEMENT OR ANY DOCUMENT OR INSTRUMENT ENTERED INTO IN CONNECTION HEREWITH.

21. **AUTHORITY**. Customer warrants and represents that the individual receiving this order at issue on behalf of Customer has the authority to enter into these CACTUS Purchase Terms on behalf of Customer, and that upon receipt these CACTUS Purchase Terms shall be binding upon Customer.

22. **FORCE MAJEURE**. If Company is unable to carry out its obligations hereunder by reason of force majeure, then upon Company's giving of notice and reasonably full particulars of such force majeure in writing to Customer, Company's obligations that are affected by force majeure shall be suspended during the continuance of the force majeure and Company shall not be liable to Customer for any damages incurred by the Customer as a result thereof.

23. **CONFIDENTIALITY**. Customer acknowledges the highly secret and valuable nature of all proprietary inventions, methods, processes, designs, know-how, and trade secrets embodied in the Company's equipment, Products and Services and its components (hereinafter referred to as "Confidential Data"). Accordingly, Customer agrees not to disclose or use any Confidential Data. Customer further agrees to take any and all necessary precautions to prevent disclosure of the Confidential Data associated with the Company's equipment, Products and Services and components thereof to persons other than those employees of Customer for whom such disclosure is necessary for performance of the work hereunder.

24. **COMPLIANCE**. Customer expressly agrees to comply with and abide by, all of the laws of the United States and of the State of Texas, including, but not limited to, OSHA, EPA and all rules and regulations now existing or that may be hereafter promulgated under and in accordance with any such law or laws, and hereby agrees to indemnify and hold Company harmless from any and all claims, demands, or damages incurred by Company arising from Customer's failure to comply with all laws and governmental regulations. The indemnities in this paragraph shall be in addition to any other indemnity obligations between Customer and Company, including any other indemnity obligations contained herein.



ALL DIMENSIONS APPROXIMAT

CACTUS WELLHEAD LLC	CIMAREX HOBBS, NM
20" x 13-3/8" x 9-5/8" x 5-1/2" MBU-3T-CFL Wellhead Sys. With 13-5/8" 10M x 7-1/16" 10M CTH-DBLHPS Tubing Head And 9-5/8" & 5-1/2" Fluted Mandrel Casing Hangers	DRAWN VJK 01MAY24 APPRV DRAWING NO. HBE0001215

H2S Drilling Operations Plan

Training

All company and contract personnel admitted on location must be trained by a qualified H2S safety instructor to do the following:

1. Characteristics of H2S
2. Physical effects and hazards
3. Principle and operation of H2S detectors, warning system, and briefing areas
4. Evacuation procedure, routes and first aid
5. Proper use of safety equipment & life support systems
6. 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

1. 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
2. An audio alarm system will be installed on the derrick floor and in the top doghouse

Windsock and/or wind streamers

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

Condition Flags & Signs

1. Warning signs on access road to location
2. Flags are to be displayed on sign at the 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.

Well Control Equipment

1. See the pressure control section of this submission.

Communication

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

Drillstem Testing

1. No DSTs or cores are planned at this tmie
2. Drilling contractor supervisor will be required to be familiar with the effects that H2S has on tubular goods and other mechanical equipment.
3. If H2S is encountered, mud system will be altered if necessary to maintain control of the well. A mud gas separator will be brought into service along with H2S scavenger if necessary.

H2S Contingency Plan

Emergency Procedures

In the event of an H2S release, the first responder(s) must:

1. Isolate the area and prevent entry by other persons into the 100 PPM ROE.
2. Evacuate any public places encompassed by the 100 PPM ROE.
3. Be equipped with H2S monitors and air packs in order to control the release.
4. Use the buddy system
5. Take precautions to avoid personal injury during this operation
6. Contact operator and/or local officials to aid in operation. See list of emergency contacts attached.
7. Have received training the detection of H2S, measures for protection against the gas, and equipment used for protection and emergency response

Ignition of the Gas Source

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

Contacting Authorities

1. Coterra 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.
2. 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. Coterra’s response must be in coordination with the State of New Mexico's" Hazardous Materials Emergency Response Plan" (HMER).

Coterra: H2S Plan

Emergency Contacts

Coterra Energy

Charlie Pritchard: Drilling Operations Manager: 432 – 238 – 7084

Darrell Kelly: Vice President EHS: 281 – 589 – 5795

Third Party

PERMIAN REGION CONTACT NUMBERS

CALL 911

Air Ambulance Services

Reeves County Medical - Pecos, TX	432-447-3551
Aero Care - Midland, TX	800-627-2376
Tri State Care Flight - Artesia, NM	800-800-0900
Air Methods - Hobbs, NM	800-242-6199

Fire / Police / Medical Care

Sheriff's Office		Fire Departments		Hospital / Medical Care Facilities	
Andrews County	432-523-5545	Andrews	432-523-3111	Permian Regional Med.	432-523-2200
Reagan County	325-884-2929	Big Lake	325-884-3650	Reagan Memorial Hosp.	325-884-2561
Howard County	432-264-2244	Big Springs	432-264-2303	Scenic Mountain Med Ctr	432-263-1211
Terry County	806-637-2212	Brownfield	806-637-6633		
Crane County	432-558-3571	Crane	432-558-2361	Crane Memorial Hosp.	432-558-3555
Val Verde County	830-774-7513	Del Rio	830-774-8648	Val Verde Regional Med.	830-775-8566
		Denver City	806-592-3516	Yoakum County Hospital	806-592-2121
Pecos County	432-336-3521	Ft. Stockton	432-336-8525		
Glasscock County	432-354-2361	Garden City			
Winkler County	432-586-3461	Kermit	432-586-2577	Winkler County Memorial	432-586-5864
		McCamey	432-652-8232	McCamey Hospital	432-652-8626
Loving County	432-377-2411	Mentone			
Irion County	325-835-2551	Mertzon			
Ward County	432-943-6703	Monahans	432-943-2211	Ward Memorial Hospital	432-943-2511
Ector County	432-335-3050	Odessa	432-335-4650	Odessa Regional Hosp.	432-582-8340
Crocket County	325-392-2661	Ozona	325-392-2626		
Reeves County	432-445-4901	Pecos	505-757-6511	Reeves County Hospital	432-447-3551
Yoakum County	806-456-2377	Plains	806-456-2288		
Garza County	806-495-3595	Post			
Upton County	432-693-2422	Rankin			
Coke County	915-453-2717	Robert Lee			
		Roscoe	325-766-3931		
Hockley County	806-894-3126	Levelland	806-894-3155	Covenant Health	806-894-4963
Tom Green County	325-655-8111	San Angelo	325-657-4355	San Angelo Comm. Med.	325-949-9511
Gaines County	432-758-9871	Seminole	432-758-3621	Memorial Hospital	432-758-5811
Terrell County	432-345-2525	Sanderson			
Scurry County	325-573-3551	Snyder	325-573-3546	DM Cogdell Memorial	325-573-6374
Sterling County	325-378-4771	Sterling City			
Nolan County	325-235-5471	Sweetwater	325-235-8130	Rolling Plains Memorial	325-235-1701
Culberson County	432-283-2060	Van Horn		Culberson Hospital	432-283-2760
New Mexico					
Lea County	505-396-3611	Knowles	505-392-7469	Lea Reg Med Ctr	575-492-5000
Eddy County	575-887-7551	Carlsbad	575-885-3125	Carlsbad Medical	575-887-4100
		Artesia	575-746-5050	Artesia Hospital	575-748-3333
Roosevelt County	575-356-4408				
Chaves County	575-624-7590				

Ground Ambulance Services

Reeves County Medical		Pecos, TX	432-447-3551

Well Control Plan

Warning Signs of a Kick

If a kick is ever suspected, perform flow check.

While Drilling:

1. Drilling break or increase in penetration rate
2. Increase of flow
3. Pit gain
4. Flow without pumping
5. Circulating pressure decrease and/or spm increase
6. Increase in gas cutting at the shakers
7. Decrease in cuttings at shakers

While Tripping:

1. Hole not taking the proper fill on trip out of hole
2. Hole returns too much mud on trip in hole
3. Flow without pumping

While Out of the Hole:

1. Flow
2. Pit gain

Well Control Procedures with Diverter

A TIW valve in the open position must be on the rig floor at all times.

If rotating head is installed:

1. Perform flow check.
2. If well is flowing, divert flow down flow line and through separator, before returning across shakers.
3. Swap to 10 ppg brine and circulate around. Notify superintendent.

4. If well becomes uncontrollable, close annular, which will open HCR to divert flow away from rig.

If rotating head is not installed:

1. Perform flow check.
2. If well is flowing uncontrollably, close annular, which will open HCR to divert flow away from rig.
3. Swap to 10 ppg brine and circulate around. Notify superintendent.
4. After 10 ppg is circulated around shut pumps off and perform flow check.

Well Control Procedures

Coterra follows a hard shut-in procedure. Choke will be in the closed position.

General Well Control

1. If in doubt, secure the well first, then inform your supervisor.
2. Never wait for approval to shut in the well.
3. Verify that the mud pump is off before you close the BOP.
4. Always check and verify the well is properly secured after shut in.
5. Always install TIW valve in the open position.
6. If TIW valve is installed and then closed, apply estimated DP shut-in pressure above valve before opening.
7. The weak link in the mud system and mud lines is the pressure relief valve or pop off valve on the mud pump.
8. Keep the TIW valve wrench in a designated location on the rig floor and in the open position.
9. Use a drill string float above the bit. Don't perforate or disable the float.
10. In the event wellbore pressure encroaches to the maximum rated pressure of the annular, primary pressure control will be switched to the higher rated components (i.e., switch from annular to pipe rams) – upper pipe rams will be closed, and the annular opened in order to not exceed maximum rated pressures.

Hard Shut-In

1. Remote choke is closed.
2. Stop pumping and space out.
3. Check for flow.
4. To shut in, close annular or pipe ram if no annular is present.
5. Open the HCR valve.
6. Check systems, bump float. Record Initial Shut in Drill pipe pressure and Initial shut in casing pressure.

Flow Check when on Bottom

1. Alert crew & stop rotating
2. Pick up and space out
3. Shut down pumps
4. Observe well for flow
5. Shut-in if flowing

Shutting in while Drilling

1. After flow has been detected via flow check, kill pumps, shut in well and open HCR
2. Verify well is shut-in and flow has stopped
3. Notify supervisory personnel
4. Record data
5. Begin go forward planning

Flow Check while Tripping

1. Alert crew & pick up / space out
2. Stop pipe movement. Set slips with tool joint accessible at rotary table
3. Install open TIW safety valve and close valve
4. Observe well for flow
5. Shut-in if flowing

Shutting in while Tripping

1. Install open TIW safety valve and close valve
2. Shut-in the well
3. Verify well is shut-in and flow has stopped
4. Install IBOP
5. Notify supervisory personnel
6. Record data; SICP, shut-in time, kick depth, and pit gain
7. Begin go forward planning

Shutting in while Out of Hole

1. Sound alarm
2. Shut-in well: close blind rams.
3. Verify well is shut-in and monitor pressures.
4. Notify supervisory personnel
5. Record data; SICP, shut-in time, kick depth, and pit gain
6. Begin go forward planning

Information to Record while Shut-In

1. Shut in drill pipe pressure every 5 minutes

2. Shut in casing pressure every 5 minutes
3. Pit gain
4. Total volume in pit system
5. Mud weight in suction pit
6. Current depth
7. Total depth
8. Time the well is shut in

H2S with Annular Diverter:

1. Kill Pumps, close annular, which will open HCR, to divert flow away from rig.
2. Muster and take head count.
3. Call ASSI to check location for H2S. Call Coterra superintendent.
4. After ASSI has checked for H2S the path forward will be decided from Coterra superintendent.

H2S with BOP's:

1. Kill pumps
2. Shut in annular with HCR open and chokes closed.
3. Muster and take head count.
4. Call ASSI to check location for H2S. Call Coterra superintendent.
5. After ASSI has checked for H2S. discuss path forward with Coterra superintendent

Procedure for Closing Blind Rams

- Open HCR valve (visually check that the HCR valve is open – stem in the valve is open, stem out the valve is closed).
- Verify all circulating pumps are off (mud pumps, trip tank pump, etc.)
- Ensure that the hydraulic choke is in the closed position.
- Close the blind rams and place the "blind rams closed, bleed pressure and remove hole cover before opening" sign on the console.
- Monitor the shut in casing pressure gauge periodically while the blinds are closed to ensure that wellbore pressure isn't building. If pressure build up is observed, monitor the shut in casing pressure more frequently & document. Notify rig management and Coterra representative of the pressure build up.
- Ensure that the inner bushings are locked into the master bushings if applicable.
- Install hole cover.

Procedure for Opening Blind Rams

- Make sure choke manifold is aligned correctly.
- Open the hydraulic choke to bleed any trapped pressure that may be under the blind rams. (Even if the casing pressure gauge is reading zero).

- Confirm that no flow is discharging into the trip tank or possum bellies of the shale shaker (wherever the separator is discharging into).
- Remove hole cover.
- Confirm that the inner bushing are locked into the master bushings if applicable.
- Clear all personnel from the rig floor.
- Remove sign and open blind rams.
- Return the BOPE to its original operating alignment.

BOP Drills

- Drilling crews should conduct BOP drills weekly from BOP nipple up to TD for reaction time to properly simulate securing the well. Record BOP drills on that day's report.
- Standard precautions such as checking the accumulator for proper working pressure, function testing rams, and recording slow pump rates are performed on a daily basis or on trips..
- All supervisory personnel onsite need to be properly trained and currently hold certification from an approved blowout prevention school. Any deviation from this needs to be discussed prior to spud.
- Drillers should always notify the tool pusher and the drilling foreman before performing a blowout drill.

Choke Manifold Freeze Prevention

- When possible, blow out the choke & kill lines as well as the choke manifold with rig air to remove water based fluids.
- When clear water is being placed into the choke & kill line as well as the choke manifold, make sure that the water has a mixture of 30% methanol added.
- When applicable, choke & kill lines as well as choke manifold needs to be pumped through with the rig pump by the driller to ensure that the lines aren't plugged with settling barite or solids.

Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
https://www.emnrd.nm.gov/ocd/contact-us

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

CONDITIONS

Operator: Avant Operating, LLC 6001 Deauville Blvd Midland, TX 79706	OGRID: 330396
	Action Number: 489532
	Action Type: [C-103] NOI Change of Plans (C-103A)

CONDITIONS

Created By	Condition	Condition Date
matthew.gomez	If the Capitan Reef is encountered the intermediate string shall be set and cemented back to surface immediately below the base of the Capitan Reef.	8/5/2025
matthew.gomez	In Capitan Reef areas if lost circulation (50% or greater) occurs below the base of the salt, the operator shall switch to freshwater mud until the intermediate casing is set. (The operator shall notify NMOCD of this switch.)	8/5/2025
matthew.gomez	Notify the OCD 24 hours prior to casing & cement.	8/5/2025
matthew.gomez	Any previous COA's not addressed within the updated COA's still apply.	8/5/2025