

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.

5. Lease Serial No. **NMNM77062**

6. If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE - Other instructions on page 2

1. Type of Well <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other		7. If Unit of CA/Agreement, Name and/or No.
2. Name of Operator COG OPERATING LLC		8. Well Name and No. REDTAIL FEDERAL COM/602H
3a. Address 600 West Illinois Ave, Midland, TX 79701	3b. Phone No. (include area code) (432) 683-7443	9. API Well No. 3002552783
4. Location of Well (Footage, Sec., T.,R.,M., or Survey Description) SEC 2/T23S/R32E/NMP		10. Field and Pool or Exploratory Area DIAMONDTAIL/BONE SPRING
		11. Country or Parish, State LEA/NM

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

TYPE OF SUBMISSION	TYPE OF ACTION			
<input checked="" type="checkbox"/> Notice of Intent	<input type="checkbox"/> Acidize	<input type="checkbox"/> Deepen	<input type="checkbox"/> Production (Start/Resume)	<input type="checkbox"/> Water Shut-Off
<input type="checkbox"/> Subsequent Report	<input type="checkbox"/> Alter Casing	<input type="checkbox"/> Hydraulic Fracturing	<input type="checkbox"/> Reclamation	<input type="checkbox"/> Well Integrity
<input type="checkbox"/> Final Abandonment Notice	<input type="checkbox"/> Casing Repair	<input type="checkbox"/> New Construction	<input type="checkbox"/> Recomplete	<input type="checkbox"/> Other
	<input checked="" type="checkbox"/> Change Plans	<input type="checkbox"/> Plug and Abandon	<input type="checkbox"/> Temporarily Abandon	
	<input type="checkbox"/> Convert to Injection	<input type="checkbox"/> Plug Back	<input type="checkbox"/> 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 performed 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 determined that the site is ready for final inspection.)

COG Operating LLC, requests approval for the following changes to the above approved APD.

Redtail Federal Com 602H. Well number for the Redtail Federal Com 602H API (30-025-52783) to be changed to 602Y.

While running our 7-5/8" intermediate casing on the Redtail Federal Com 602H, we became stuck at 9,332'. A free point was run and determined that the casing is 100% free at 6,148'. After many attempts of working pipe, the BLM on-call engineer was notified and the request to P&A was submitted. Based on recommendations from the BLM engineer, the plan forward is to cement the casing in place utilizing the approved Bradenhead squeeze. A CIBP will be set inside casing at 8810'.

1. Spot 330' plug from 8810' - 8510' (66 sacks of 15.6 ppg Class H cement). WOC.
2. Pressure test.
3. Spot 500' plug from 6148' - 5648' (98 sacks of 14.8 ppg Class C cement). WOC.

Continued on page 3 additional information

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) MAYTE REYES / Ph: (281) 293-1000	Title Regulatory Analyst
Signature (Electronic Submission)	Date 07/22/2024

THE SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved	Title Petroleum Engineer	Date 08/02/2024
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 CARLSBAD	

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)

Additional Information

Additional Remarks

4. Spot 400' plug from 5400' - 5000' (78 sacks of 14.8 ppg Class C cement). WOC.
5. Spot 500' plug from 1915' - 1415' (98 sacks of 14.8 ppg Class C cement). WOC.
6. Spot 250' plug from 250' - 0' (78 sacks of 14.8 ppg Class C cement).
7. Set dry hole marker

P&A well should be changed to Redtail Federal Com 602Y.

New Redtail Federal Com 602H:

Moving from: 220' FNL & 2005' FEL. Section 2. T23S. R32E. BHL: 50' FSL & 1460' FEL. Section 14. T23S. R32E.

To: 220' FNL & 1945' FEL. Section 2. T23S. R32E. BHL: 50' FSL & 1460' FEL. Section 14. T23S. R32E.

See attached.

Location of Well

0. SHL: LOT 2 / 220 FNL / 2005 FEL / TWSP: 23S / RANGE: 32E / SECTION: 2 / LAT: 32.34037 / LONG: -103.643372 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 1 / 100 FNL / 990 FEL / TWSP: 23S / RANGE: 32E / SECTION: 2 / LAT: 32.340711 / LONG: -103.640084 (TVD: 12018 feet, MD: 12165 feet)

PPP: NENE / 1 FNL / 990 FEL / TWSP: 23S / RANGE: 32E / SECTION: 11 / LAT: 32.326508 / LONG: -103.640098 (TVD: 12140 feet, MD: 17400 feet)

BHL: SESE / 50 FSL / 1460 FEL / TWSP: 23S / RANGE: 32E / SECTION: 14 / LAT: 32.312121 / LONG: -103.640112 (TVD: 12140 feet, MD: 27666 feet)

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 of this form to U.S. Department of the Interior, Bureau of Land Management (1004-0137), Bureau Information Collection Clearance Officer (WO-630), 1849 C St., N.W., Mail Stop 401 LS, Washington, D.C. 20240

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
611 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 746-1283 Fax: (575) 746-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-53389	Pool Code 17644	Pool Name Diamondtail; Bone Sprig
Property Code 329921	Property Name REDTAIL FEDERAL COM	Well Number 602H
OGRID No. 229137	Operator Name COG OPERATING LLC	Elevation 3738.1'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
2	2	23-S	32-E		220	NORTH	1945	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	14	23-S	32-E		50	SOUTH	1460	EAST	LEA

Dedicated Acres 640	Joint or Infill	Consolidation Code	Order No.
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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

NAD 83 NME
SURFACE LOCATION
Y=488245.7 N
X=754485.8 E
LAT.=32.340371° N
LONG.=103.643177° W

51683
Red Tank; Bone Spring

POINT	LEGEND
1	Y=488486.1 N X=756429.8 E
2	Y=485855.9 N X=756440.7 E
3	Y=483219.5 N X=756454.1 E
4	Y=480578.9 N X=756471.8 E
5	Y=477938.3 N X=756489.2 E
6	Y=472655.1 N X=756526.5 E
7	Y=472624.9 N X=753890.9 E
8	Y=477901.7 N X=753854.8 E
9	Y=483190.4 N X=753818.6 E
10	Y=488458.4 N X=753788.5 E

17644
Diamondtail; Bone Spring

NAD 83 NME
PROPOSED BOTTOM HOLE LOCATION
Y=472688.4 N
X=755066.2 E
LAT.=32.297599° N
LONG.=103.641623° W

OPERATOR CERTIFICATION

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

Mayte Reyes 7/17/2024
Signature Date

Mayte Reyes
Printed Name

mayte.x.reyes@cop.com
E-mail Address

SURVEYOR CERTIFICATION

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

APRIL 20, 2023
Date of Survey

Signature & Seal of Professional Surveyor



Chad Harcrow 7/16/24
Certificate No. CHAD HARCROW 17777
W.O. #24-626 DRAWN BY: WN

LOT 4 39.62 Ac, LOT 3 39.62 Ac, LOT 2 39.63 Ac, LOT 1 39.62 Ac

FTP/PPP1
100' FNL & 1460' FEL
Y=488370.7 N
X=754970.2 E
LAT.=32.340706° N
LONG.=103.641606° W
GRID AZ. TO FTP
75°31'21"

PPP2
1455' FEL
Y=485842.0 N
X=754985.7 E
LAT.=32.333755° N
LONG.=103.641609° W

PPP3
1452' FEL
Y=483203.5 N
X=755001.9 E
LAT.=32.326502° N
LONG.=103.641612° W

PPP4
1454' FEL
Y=480564.4 N
X=755018.0 E
LAT.=32.319248° N
LONG.=103.641615° W

PPP5
1455' FEL
Y=477918.1 N
X=755034.2 E
LAT.=32.311974° N
LONG.=103.641617° W

LTP
100' FSL & 1460' FEL
Y=472738.4 N
X=755065.9 E
LAT.=32.297736° N
LONG.=103.641623° W

GRID AZ. - 179°38'58"
HORZ. DIST. - 15682.7'

NM 077062, NM 084728, NM 084729

SECTION 2, SECTION 11, SECTION 14

220', 1945', 1460', 50'

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AMENDED REPORT

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Dedicated Acres 319.23	Joint or Infill	Consolidation Code	Order No.
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X=754485.8 E
LAT.=32.340371° N
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51683
Red Tank; Bone Spring

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9	483190.4 N	753818.6 E
10	488458.4 N	753788.5 E

NAD 83 NME
PROPOSED BOTTOM
HOLE LOCATION
Y=472688.4 N
X=755066.2 E
LAT.=32.297599° N
LONG.=103.641623° W

17644
Diamondtail; Bone Spring

OPERATOR CERTIFICATION

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

Mayte Reyes 7/17/2024
Signature Date

Mayte Reyes
Printed Name

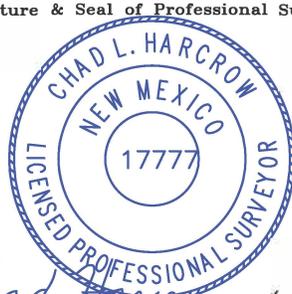
mayte.x.reyes@cop.com
E-mail Address

SURVEYOR CERTIFICATION

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

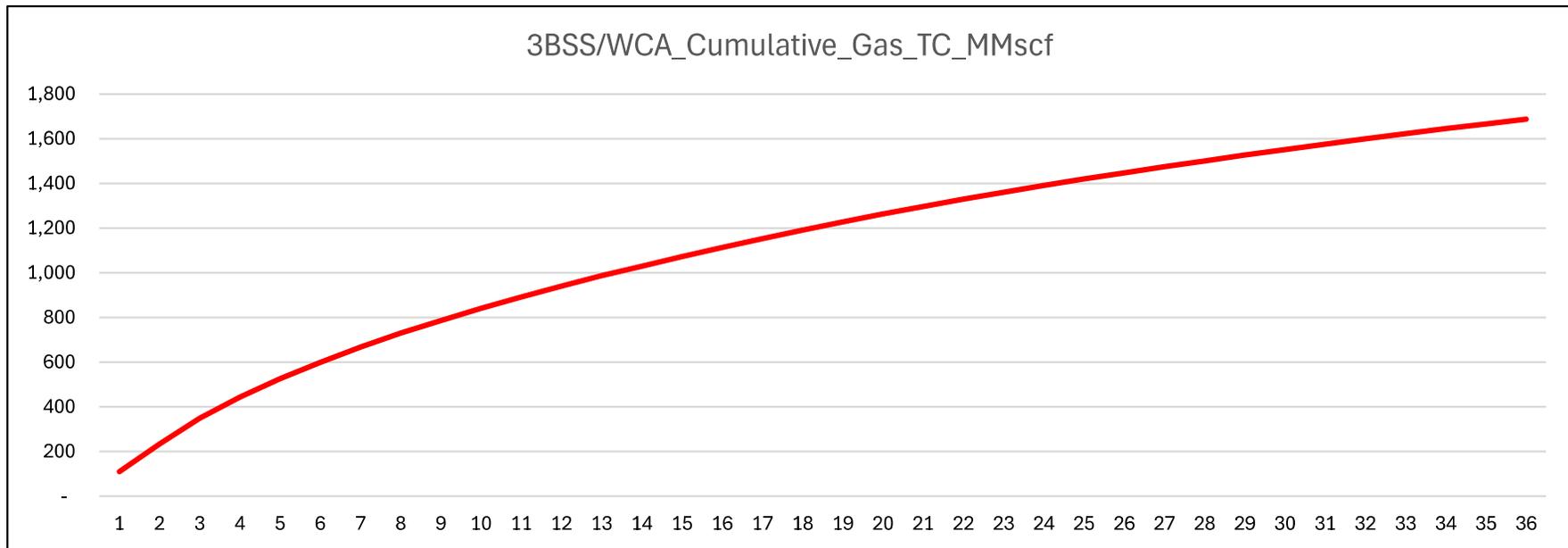
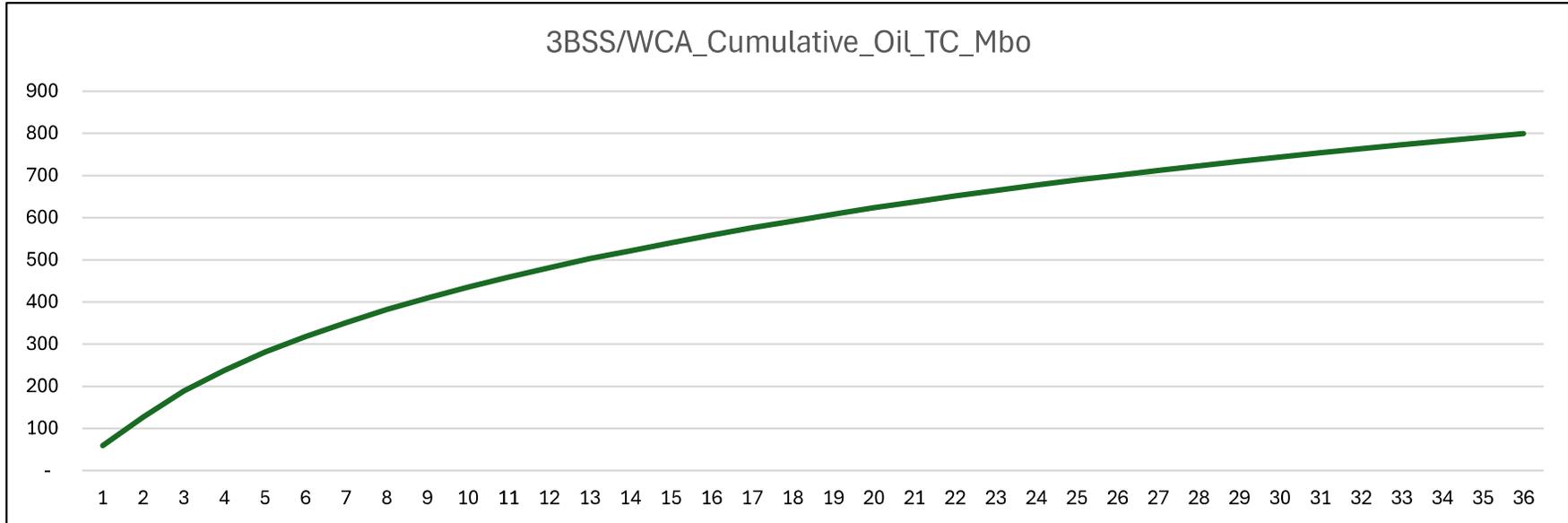
APRIL 20, 2023
Date of Survey

Signature & Seal of Professional Surveyor



Chad Harcrow 7/16/24
Certificate No. CHAD HARCROW 17777
W.O. #24-626 DRAWN BY: WN

Anticipated Production Decline Curve



State of New Mexico
 Energy, Minerals and Natural Resources Department

Submit Electronically
 Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: COG Operating LLC OGRID: 229137 Date: 7 / 18 / 24

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Redtail Federal Com 602H	30-025-	2-2-23S-32E	220 FNL & 1945 FEL	± 1945	± 5429	± 2367

IV. Central Delivery Point Name: _____ [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Redtail Federal Com 602H	Pending	9/16/2024	± 25 days from spud	1/14/2025	1/24/2025	1/29/2025

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

All ConocoPhillips production facility equipment will be sized per industry standards (API 12J) with adequate retention time to effectively separate all phases of production. Each project will take into consideration the number of wells and type curves for each formation pool to ensure adequate facility capacity. Design considerations will also include review of all piping, tanks, VRU's and associated equipment to ensure optimized gas capture minimized risk of release.

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

- During drilling, flare stacks will be located a minimum of 100 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety, and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.

C. Completion Operations

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
- Individual well test separators will be set to properly separate gas and liquids. A temporary test separator will be utilized initially to process volumes. In addition, separators will be tied into flowback tanks which will be tied into the gas processing equipment for sales down a pipeline.

D. Venting and flaring during production operations

- During each phase of well life (drilling, completion and production) of a ConocoPhillips well, COP personnel will follow all necessary procedures to ensure both the operation and the equipment are within the NMAC 19.15.27.8 Subsection D guidelines.
- During well operations that require unloading of the well to atmospheric pressure, all reasonable actions will be taken to minimize vented gas
- Through the life of the well all flaring shall be measured, and venting events quantified using the data available and industry best practice.

E. Performance standards for separation, storage tank and flare equipment

- All storage tanks and separation equipment are designed minimize risk of liquid or vapor release and optimize gas capture. This includes automation for automatic gauging and pressure monitoring.

- All flare stacks are equipped with auto ignition devices and/or continuous pilots and are designed to operate at maximum combustion efficiency pursuant NMAC 19.15.27.8 Subsection E. Flares will follow COP spacing guidelines to ensure they are a safe distance from combustibles and operations equipment.
- COP personnel will conduct routine AVO inspections on a regular basis per NMAC 19.15.27.8 Subsection E guidelines.

F. Measurement of vented and flared natural gas.

- Measurement equipment will be installed to quantify gas flared during drilling, completion and production of the well.
- All measurement devices installed will meet accuracy ratings per AGA and API standards.
- Measurement devices will be installed without manifolds that allow diversion of gas around the metering element, except for the sole purpose of inspection of servicing the measurement device.

VIII. Best Management Practices

- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize blowdowns to atmosphere
- When feasible, Operator will use electric or air actuated equipment to reduce bleed emissions

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

Signature: <i>Mayte Reyes</i>
Printed Name: Mayte Reyes
Title: Sr. Regulatory Coordinator
E-mail Address: mayte.x.reyes@conocophillips.com
Date: 7/18/2024
Phone: 575-748-6945
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

COG Operating, LLC - Redtail Federal Com 602H

1. Geologic Formations

TVD of target	11,190' EOL	Pilot hole depth	NA
MD at TD:	27,425'	Deepest expected fresh water:	713'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1225	Water	
Top of Salt	1688	Salt	
Base of Salt	4648	Salt	
Lamar	4942	Salt Water	
Bell Canyon	5017	Salt Water	
Cherry Canyon	5875	Oil/Gas	
Brushy Canyon	7128	Oil/Gas	
Bone Spring	8793	Oil/Gas	
Bone Spring 1st Sand	9925	Oil/Gas	
Bone Spring 1st Shale	10217	Oil/Gas	
Bone Spring 2nd Sand	10231	Oil/Gas	
Bone Spring 3rd Carb	11087	Oil/Gas	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
17.50"	0	1638	13.38"	54.5	J55	BTC	1.51	1.33	9.56	10.18
12.250"	0	4892	9.625"	40	L80-ICY	BTC	1.52	1.43	4.68	4.84
8.75"	4642	11350	7.625"	29.7	P110-ICY	W513	1.25	1.80	3.17	1.90
6.75"	0	11150	5.5"	23	P110-CY	BTC	2.01	2.37	2.84	2.84
6.75"	11150	27,425	5.5"	23	P110-CY	W441	2.00	2.36	2.83	2.57
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Surface burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface and All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

The 5 1/2" W441 casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

COG Operating, LLC - Redtail Federal Com 602H

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

COG Operating, LLC - Redtail Federal Com 602H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	310	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Int. #1	310	12.8	1.75	9.21	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	110	14.8	1.35	6.6	8	Tail: Class C + 2% CaCl ₂
Inter. #2	610	10.5	3.3	22	24	Halliburton tunded light
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	699	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	1217	13.2	1.34	5.7	19	Tail: 50:50:2 Class H Blend

If losses are encountered in the intermediate section a DV/ECP tool will be run ~50' above the Lamar Lime top, cement will be adjusted accordingly if this contingency is necessary.

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
2nd Intermediate	4,642'	20% OH in Lateral (KOP to EOL)
Production	10,650'	% OH in Lateral (KOP to EOL)

COG Operating, LLC - Redtail Federal Com 602H

4. Pressure Control Equipment

N	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	x	Tested to:
9-7/8"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4"	13-5/8"	10M	5M Annular	x	5000psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	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.
Y	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?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

COG Operating, LLC - Redtail Federal Com 602H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	7-5/8" Int shoe	Brine	8.4 - 10	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9.6 - 12.5	35-45	<20

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

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

COG Operating, LLC - Redtail Federal Com 602H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7275 psi at 11190' TVD
Abnormal Temperature	NO 170 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

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.	
N	H2S is present
Y	H2S Plan attached

8. Other Facets of Operation

Y	Is it a walking operation?
N	Is casing pre-set?

x	H2S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

DELAWARE BASIN EAST

**LEA COUNTY SOUTHEAST
REDTAIL FED COM PROJECT
REDTAIL FEDERAL COM 602H**

OWB

Plan: PWP1

Standard Planning Report

16 July, 2024

ConocoPhillips Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well REDTAIL FEDERAL COM 602H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=27 @ 3763.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=27 @ 3763.0usft
Site:	REDTAIL FED COM PROJECT	North Reference:	Grid
Well:	REDTAIL FEDERAL COM 602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Project LEA COUNTY SOUTHEAST			
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site REDTAIL FED COM PROJECT			
Site Position:		Northing:	483,131.39 usft
Latitude:		Longitude:	32° 19' 34.919 N
From:	Map	Easting:	712,636.84 usft
Position Uncertainty:	3.0 usft	Slot Radius:	13-3/16 "
			103° 38' 41.834 W

Well REDTAIL FEDERAL COM 602H			
Well Position	+N/-S	0.0 usft	Northing: 488,185.70 usft
	+E/-W	0.0 usft	Latitude: 32° 20' 24.892 N
			Easting: 713,302.80 usft
Position Uncertainty		0.0 usft	Longitude: 103° 38' 33.694 W
Grid Convergence:		0.37 °	Wellhead Elevation: usft
			Ground Level: 3,736.0 usft

Wellbore OWB					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2024	7/16/2024	6.37	59.97	47,441.43935854

Design PWP1				
Audit Notes:				
Version:		Phase:	PLAN	Tie On Depth: 0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	11,990.2	0.0	0.0	177.86

Plan Survey Tool Program		Date 7/16/2024		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	11,400.0 PWP1 (OWB)	r.5 MWD+IFR1 OWSG MWD + IFR1 rev.5	
2	11,400.0	27,425.3 PWP1 (OWB)	r.5 MWD+IFR1+SAG+FDIR ISCWSA MWD + IFR1 + SAG	

ConocoPhillips

Planning Report

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Wellbore:	OWB		
Design:	PWP1		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,505.7	10.11	79.98	2,503.0	7.7	43.8	2.00	2.00	0.00	79.98	
4,528.0	10.11	79.98	4,493.9	69.5	393.5	0.00	0.00	0.00	0.00	
5,539.3	0.00	0.00	5,500.0	85.0	481.2	1.00	-1.00	0.00	180.00	
11,456.3	0.00	0.00	11,417.0	85.0	481.2	0.00	0.00	0.00	0.00	
12,356.3	90.00	179.65	11,990.0	-487.9	484.7	10.00	10.00	19.96	179.65	
27,425.3	90.00	179.65	11,990.0	-15,556.7	576.8	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

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Well:	REDTAIL FEDERAL COM 602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,100.0	2.00	79.98	2,100.0	0.3	1.7	-0.2	2.00	2.00	0.00
2,200.0	4.00	79.98	2,199.8	1.2	6.9	-1.0	2.00	2.00	0.00
2,300.0	6.00	79.98	2,299.5	2.7	15.5	-2.2	2.00	2.00	0.00
2,400.0	8.00	79.98	2,398.7	4.8	27.5	-3.8	2.00	2.00	0.00
2,500.0	10.00	79.98	2,497.5	7.6	42.9	-6.0	2.00	2.00	0.00
2,505.7	10.11	79.98	2,503.0	7.7	43.8	-6.1	2.00	2.00	0.00
Start 2022.3 hold at 2505.7 MD									
2,600.0	10.11	79.98	2,595.9	10.6	60.1	-8.4	0.00	0.00	0.00
2,700.0	10.11	79.98	2,694.4	13.7	77.4	-10.8	0.00	0.00	0.00
2,800.0	10.11	79.98	2,792.8	16.7	94.7	-13.2	0.00	0.00	0.00
2,900.0	10.11	79.98	2,891.3	19.8	112.0	-15.6	0.00	0.00	0.00
3,000.0	10.11	79.98	2,989.7	22.8	129.3	-18.0	0.00	0.00	0.00
3,100.0	10.11	79.98	3,088.1	25.9	146.6	-20.4	0.00	0.00	0.00
3,200.0	10.11	79.98	3,186.6	29.0	163.9	-22.8	0.00	0.00	0.00
3,300.0	10.11	79.98	3,285.0	32.0	181.2	-25.2	0.00	0.00	0.00
3,400.0	10.11	79.98	3,383.5	35.1	198.5	-27.6	0.00	0.00	0.00
3,500.0	10.11	79.98	3,481.9	38.1	215.8	-30.0	0.00	0.00	0.00
3,600.0	10.11	79.98	3,580.4	41.2	233.1	-32.5	0.00	0.00	0.00
3,700.0	10.11	79.98	3,678.8	44.2	250.4	-34.9	0.00	0.00	0.00
3,800.0	10.11	79.98	3,777.3	47.3	267.6	-37.3	0.00	0.00	0.00
3,900.0	10.11	79.98	3,875.7	50.3	284.9	-39.7	0.00	0.00	0.00
4,000.0	10.11	79.98	3,974.2	53.4	302.2	-42.1	0.00	0.00	0.00
4,100.0	10.11	79.98	4,072.6	56.4	319.5	-44.5	0.00	0.00	0.00
4,200.0	10.11	79.98	4,171.1	59.5	336.8	-46.9	0.00	0.00	0.00
4,300.0	10.11	79.98	4,269.5	62.6	354.1	-49.3	0.00	0.00	0.00
4,400.0	10.11	79.98	4,367.9	65.6	371.4	-51.7	0.00	0.00	0.00
4,500.0	10.11	79.98	4,466.4	68.7	388.7	-54.1	0.00	0.00	0.00
4,528.0	10.11	79.98	4,493.9	69.5	393.5	-54.8	0.00	0.00	0.00
Start Drop -1.00									
4,600.0	9.39	79.98	4,564.9	71.6	405.5	-56.5	1.00	-1.00	0.00
4,700.0	8.39	79.98	4,663.7	74.3	420.8	-58.6	1.00	-1.00	0.00

ConocoPhillips Planning Report

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Site:	REDTAIL FED COM PROJECT	North Reference:	Grid
Well:	REDTAIL FEDERAL COM 602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
4,800.0	7.39	79.98	4,762.8	76.7	434.3	-60.5	1.00	-1.00	0.00	
4,900.0	6.39	79.98	4,862.0	78.8	446.1	-62.1	1.00	-1.00	0.00	
5,000.0	5.39	79.98	4,961.5	80.6	456.2	-63.5	1.00	-1.00	0.00	
5,100.0	4.39	79.98	5,061.1	82.1	464.6	-64.7	1.00	-1.00	0.00	
5,200.0	3.39	79.98	5,160.9	83.3	471.3	-65.6	1.00	-1.00	0.00	
5,300.0	2.39	79.98	5,260.8	84.1	476.3	-66.3	1.00	-1.00	0.00	
5,400.0	1.39	79.98	5,360.7	84.7	479.5	-66.8	1.00	-1.00	0.00	
5,500.0	0.39	79.98	5,460.7	85.0	481.1	-67.0	1.00	-1.00	0.00	
5,539.3	0.00	0.00	5,500.0	85.0	481.2	-67.0	1.00	-1.00	0.00	
Start 5917.0 hold at 5539.3 MD										
5,600.0	0.00	0.00	5,560.7	85.0	481.2	-67.0	0.00	0.00	0.00	
5,700.0	0.00	0.00	5,660.7	85.0	481.2	-67.0	0.00	0.00	0.00	
5,800.0	0.00	0.00	5,760.7	85.0	481.2	-67.0	0.00	0.00	0.00	
5,900.0	0.00	0.00	5,860.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,000.0	0.00	0.00	5,960.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,060.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,160.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,260.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,360.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,460.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,560.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,660.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,760.7	85.0	481.2	-67.0	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,860.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,960.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,060.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,160.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,260.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,360.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,460.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,560.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,660.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,760.7	85.0	481.2	-67.0	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,860.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,960.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,060.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,160.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,260.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,360.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,460.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,560.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,660.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,760.7	85.0	481.2	-67.0	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,860.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,960.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,060.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,160.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,260.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,360.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,460.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,560.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,660.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,760.7	85.0	481.2	-67.0	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,860.7	85.0	481.2	-67.0	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well REDTAIL FEDERAL COM 602H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=27 @ 3763.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=27 @ 3763.0usft
Site:	REDTAIL FED COM PROJECT	North Reference:	Grid
Well:	REDTAIL FEDERAL COM 602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
10,000.0	0.00	0.00	9,960.7	85.0	481.2	-67.0	0.00	0.00	0.00	
10,100.0	0.00	0.00	10,060.7	85.0	481.2	-67.0	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,160.7	85.0	481.2	-67.0	0.00	0.00	0.00	
10,300.0	0.00	0.00	10,260.7	85.0	481.2	-67.0	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,360.7	85.0	481.2	-67.0	0.00	0.00	0.00	
10,500.0	0.00	0.00	10,460.7	85.0	481.2	-67.0	0.00	0.00	0.00	
10,600.0	0.00	0.00	10,560.7	85.0	481.2	-67.0	0.00	0.00	0.00	
10,700.0	0.00	0.00	10,660.7	85.0	481.2	-67.0	0.00	0.00	0.00	
10,800.0	0.00	0.00	10,760.7	85.0	481.2	-67.0	0.00	0.00	0.00	
10,900.0	0.00	0.00	10,860.7	85.0	481.2	-67.0	0.00	0.00	0.00	
11,000.0	0.00	0.00	10,960.7	85.0	481.2	-67.0	0.00	0.00	0.00	
11,100.0	0.00	0.00	11,060.7	85.0	481.2	-67.0	0.00	0.00	0.00	
11,200.0	0.00	0.00	11,160.7	85.0	481.2	-67.0	0.00	0.00	0.00	
11,300.0	0.00	0.00	11,260.7	85.0	481.2	-67.0	0.00	0.00	0.00	
11,400.0	0.00	0.00	11,360.7	85.0	481.2	-67.0	0.00	0.00	0.00	
11,456.3	0.00	0.00	11,417.0	85.0	481.2	-67.0	0.00	0.00	0.00	
Start DLS 10.00 TFO 179.65										
11,500.0	4.37	179.65	11,460.7	83.3	481.2	-65.3	10.00	10.00	0.00	
11,600.0	14.37	179.65	11,559.2	67.1	481.3	-49.1	10.00	10.00	0.00	
11,700.0	24.37	179.65	11,653.4	33.9	481.5	-16.0	10.00	10.00	0.00	
11,800.0	34.37	179.65	11,740.5	-15.0	481.8	33.0	10.00	10.00	0.00	
11,900.0	44.37	179.65	11,817.7	-78.4	482.2	96.3	10.00	10.00	0.00	
FTP (REDTAIL FED COM 602H)										
12,000.0	54.37	179.65	11,882.7	-154.2	482.6	172.1	10.00	10.00	0.00	
12,100.0	64.37	179.65	11,933.6	-240.1	483.2	258.0	10.00	10.00	0.00	
12,200.0	74.37	179.65	11,968.8	-333.6	483.7	351.4	10.00	10.00	0.00	
12,300.0	84.37	179.65	11,987.2	-431.8	484.3	449.5	10.00	10.00	0.00	
12,356.3	90.00	179.65	11,990.0	-487.9	484.7	505.7	10.00	10.00	0.00	
Start 15069.1 hold at 12356.3 MD										
12,400.0	90.00	179.65	11,990.0	-531.7	485.0	549.4	0.00	0.00	0.00	
12,500.0	90.00	179.65	11,990.0	-631.7	485.6	649.3	0.00	0.00	0.00	
12,600.0	90.00	179.65	11,990.0	-731.7	486.2	749.3	0.00	0.00	0.00	
12,700.0	90.00	179.65	11,990.0	-831.7	486.8	849.2	0.00	0.00	0.00	
12,800.0	90.00	179.65	11,990.0	-931.7	487.4	949.2	0.00	0.00	0.00	
12,900.0	90.00	179.65	11,990.0	-1,031.7	488.0	1,049.1	0.00	0.00	0.00	
13,000.0	90.00	179.65	11,990.0	-1,131.6	488.6	1,149.1	0.00	0.00	0.00	
13,100.0	90.00	179.65	11,990.0	-1,231.6	489.2	1,249.0	0.00	0.00	0.00	
13,200.0	90.00	179.65	11,990.0	-1,331.6	489.8	1,349.0	0.00	0.00	0.00	
13,300.0	90.00	179.65	11,990.0	-1,431.6	490.5	1,448.9	0.00	0.00	0.00	
13,400.0	90.00	179.65	11,990.0	-1,531.6	491.1	1,548.9	0.00	0.00	0.00	
13,500.0	90.00	179.65	11,990.0	-1,631.6	491.7	1,648.8	0.00	0.00	0.00	
13,600.0	90.00	179.65	11,990.0	-1,731.6	492.3	1,748.8	0.00	0.00	0.00	
13,700.0	90.00	179.65	11,990.0	-1,831.6	492.9	1,848.7	0.00	0.00	0.00	
13,800.0	90.00	179.65	11,990.0	-1,931.6	493.5	1,948.7	0.00	0.00	0.00	
13,900.0	90.00	179.65	11,990.0	-2,031.6	494.1	2,048.6	0.00	0.00	0.00	
14,000.0	90.00	179.65	11,990.0	-2,131.6	494.7	2,148.6	0.00	0.00	0.00	
14,100.0	90.00	179.65	11,990.0	-2,231.6	495.3	2,248.5	0.00	0.00	0.00	
14,200.0	90.00	179.65	11,990.0	-2,331.6	496.0	2,348.5	0.00	0.00	0.00	
14,300.0	90.00	179.65	11,990.0	-2,431.6	496.6	2,448.4	0.00	0.00	0.00	
14,400.0	90.00	179.65	11,990.0	-2,531.6	497.2	2,548.4	0.00	0.00	0.00	
14,500.0	90.00	179.65	11,990.0	-2,631.6	497.8	2,648.3	0.00	0.00	0.00	
14,600.0	90.00	179.65	11,990.0	-2,731.6	498.4	2,748.3	0.00	0.00	0.00	
14,700.0	90.00	179.65	11,990.0	-2,831.6	499.0	2,848.2	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well REDTAIL FEDERAL COM 602H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=27 @ 3763.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=27 @ 3763.0usft
Site:	REDTAIL FED COM PROJECT	North Reference:	Grid
Well:	REDTAIL FEDERAL COM 602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
14,800.0	90.00	179.65	11,990.0	-2,931.6	499.6	2,948.2	0.00	0.00	0.00	
14,900.0	90.00	179.65	11,990.0	-3,031.6	500.2	3,048.1	0.00	0.00	0.00	
15,000.0	90.00	179.65	11,990.0	-3,131.6	500.8	3,148.1	0.00	0.00	0.00	
15,100.0	90.00	179.65	11,990.0	-3,231.6	501.5	3,248.1	0.00	0.00	0.00	
15,200.0	90.00	179.65	11,990.0	-3,331.6	502.1	3,348.0	0.00	0.00	0.00	
15,300.0	90.00	179.65	11,990.0	-3,431.6	502.7	3,448.0	0.00	0.00	0.00	
15,400.0	90.00	179.65	11,990.0	-3,531.6	503.3	3,547.9	0.00	0.00	0.00	
15,500.0	90.00	179.65	11,990.0	-3,631.6	503.9	3,647.9	0.00	0.00	0.00	
15,600.0	90.00	179.65	11,990.0	-3,731.6	504.5	3,747.8	0.00	0.00	0.00	
15,700.0	90.00	179.65	11,990.0	-3,831.6	505.1	3,847.8	0.00	0.00	0.00	
15,800.0	90.00	179.65	11,990.0	-3,931.6	505.7	3,947.7	0.00	0.00	0.00	
15,900.0	90.00	179.65	11,990.0	-4,031.6	506.3	4,047.7	0.00	0.00	0.00	
16,000.0	90.00	179.65	11,990.0	-4,131.6	507.0	4,147.6	0.00	0.00	0.00	
16,100.0	90.00	179.65	11,990.0	-4,231.6	507.6	4,247.6	0.00	0.00	0.00	
16,200.0	90.00	179.65	11,990.0	-4,331.6	508.2	4,347.5	0.00	0.00	0.00	
16,300.0	90.00	179.65	11,990.0	-4,431.6	508.8	4,447.5	0.00	0.00	0.00	
16,400.0	90.00	179.65	11,990.0	-4,531.6	509.4	4,547.4	0.00	0.00	0.00	
16,500.0	90.00	179.65	11,990.0	-4,631.6	510.0	4,647.4	0.00	0.00	0.00	
16,600.0	90.00	179.65	11,990.0	-4,731.6	510.6	4,747.3	0.00	0.00	0.00	
16,700.0	90.00	179.65	11,990.0	-4,831.6	511.2	4,847.3	0.00	0.00	0.00	
16,800.0	90.00	179.65	11,990.0	-4,931.6	511.8	4,947.2	0.00	0.00	0.00	
16,900.0	90.00	179.65	11,990.0	-5,031.6	512.5	5,047.2	0.00	0.00	0.00	
17,000.0	90.00	179.65	11,990.0	-5,131.6	513.1	5,147.1	0.00	0.00	0.00	
17,100.0	90.00	179.65	11,990.0	-5,231.6	513.7	5,247.1	0.00	0.00	0.00	
17,200.0	90.00	179.65	11,990.0	-5,331.6	514.3	5,347.0	0.00	0.00	0.00	
17,300.0	90.00	179.65	11,990.0	-5,431.6	514.9	5,447.0	0.00	0.00	0.00	
17,400.0	90.00	179.65	11,990.0	-5,531.6	515.5	5,546.9	0.00	0.00	0.00	
17,500.0	90.00	179.65	11,990.0	-5,631.6	516.1	5,646.9	0.00	0.00	0.00	
17,600.0	90.00	179.65	11,990.0	-5,731.6	516.7	5,746.8	0.00	0.00	0.00	
17,700.0	90.00	179.65	11,990.0	-5,831.6	517.3	5,846.8	0.00	0.00	0.00	
17,800.0	90.00	179.65	11,990.0	-5,931.6	518.0	5,946.7	0.00	0.00	0.00	
17,900.0	90.00	179.65	11,990.0	-6,031.6	518.6	6,046.7	0.00	0.00	0.00	
18,000.0	90.00	179.65	11,990.0	-6,131.6	519.2	6,146.6	0.00	0.00	0.00	
18,100.0	90.00	179.65	11,990.0	-6,231.6	519.8	6,246.6	0.00	0.00	0.00	
18,200.0	90.00	179.65	11,990.0	-6,331.6	520.4	6,346.5	0.00	0.00	0.00	
18,300.0	90.00	179.65	11,990.0	-6,431.6	521.0	6,446.5	0.00	0.00	0.00	
18,400.0	90.00	179.65	11,990.0	-6,531.5	521.6	6,546.4	0.00	0.00	0.00	
18,500.0	90.00	179.65	11,990.0	-6,631.5	522.2	6,646.4	0.00	0.00	0.00	
18,600.0	90.00	179.65	11,990.0	-6,731.5	522.8	6,746.4	0.00	0.00	0.00	
18,700.0	90.00	179.65	11,990.0	-6,831.5	523.5	6,846.3	0.00	0.00	0.00	
18,800.0	90.00	179.65	11,990.0	-6,931.5	524.1	6,946.3	0.00	0.00	0.00	
18,900.0	90.00	179.65	11,990.0	-7,031.5	524.7	7,046.2	0.00	0.00	0.00	
19,000.0	90.00	179.65	11,990.0	-7,131.5	525.3	7,146.2	0.00	0.00	0.00	
19,100.0	90.00	179.65	11,990.0	-7,231.5	525.9	7,246.1	0.00	0.00	0.00	
19,200.0	90.00	179.65	11,990.0	-7,331.5	526.5	7,346.1	0.00	0.00	0.00	
19,300.0	90.00	179.65	11,990.0	-7,431.5	527.1	7,446.0	0.00	0.00	0.00	
19,400.0	90.00	179.65	11,990.0	-7,531.5	527.7	7,546.0	0.00	0.00	0.00	
19,500.0	90.00	179.65	11,990.0	-7,631.5	528.3	7,645.9	0.00	0.00	0.00	
19,600.0	90.00	179.65	11,990.0	-7,731.5	529.0	7,745.9	0.00	0.00	0.00	
19,700.0	90.00	179.65	11,990.0	-7,831.5	529.6	7,845.8	0.00	0.00	0.00	
19,800.0	90.00	179.65	11,990.0	-7,931.5	530.2	7,945.8	0.00	0.00	0.00	
19,900.0	90.00	179.65	11,990.0	-8,031.5	530.8	8,045.7	0.00	0.00	0.00	
20,000.0	90.00	179.65	11,990.0	-8,131.5	531.4	8,145.7	0.00	0.00	0.00	
20,100.0	90.00	179.65	11,990.0	-8,231.5	532.0	8,245.6	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well REDTAIL FEDERAL COM 602H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=27 @ 3763.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=27 @ 3763.0usft
Site:	REDTAIL FED COM PROJECT	North Reference:	Grid
Well:	REDTAIL FEDERAL COM 602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
20,200.0	90.00	179.65	11,990.0	-8,331.5	532.6	8,345.6	0.00	0.00	0.00	
20,300.0	90.00	179.65	11,990.0	-8,431.5	533.2	8,445.5	0.00	0.00	0.00	
20,400.0	90.00	179.65	11,990.0	-8,531.5	533.9	8,545.5	0.00	0.00	0.00	
20,500.0	90.00	179.65	11,990.0	-8,631.5	534.5	8,645.4	0.00	0.00	0.00	
20,600.0	90.00	179.65	11,990.0	-8,731.5	535.1	8,745.4	0.00	0.00	0.00	
20,700.0	90.00	179.65	11,990.0	-8,831.5	535.7	8,845.3	0.00	0.00	0.00	
20,800.0	90.00	179.65	11,990.0	-8,931.5	536.3	8,945.3	0.00	0.00	0.00	
20,900.0	90.00	179.65	11,990.0	-9,031.5	536.9	9,045.2	0.00	0.00	0.00	
21,000.0	90.00	179.65	11,990.0	-9,131.5	537.5	9,145.2	0.00	0.00	0.00	
21,100.0	90.00	179.65	11,990.0	-9,231.5	538.1	9,245.1	0.00	0.00	0.00	
21,200.0	90.00	179.65	11,990.0	-9,331.5	538.7	9,345.1	0.00	0.00	0.00	
21,300.0	90.00	179.65	11,990.0	-9,431.5	539.4	9,445.0	0.00	0.00	0.00	
21,400.0	90.00	179.65	11,990.0	-9,531.5	540.0	9,545.0	0.00	0.00	0.00	
21,500.0	90.00	179.65	11,990.0	-9,631.5	540.6	9,644.9	0.00	0.00	0.00	
21,600.0	90.00	179.65	11,990.0	-9,731.5	541.2	9,744.9	0.00	0.00	0.00	
21,700.0	90.00	179.65	11,990.0	-9,831.5	541.8	9,844.8	0.00	0.00	0.00	
21,800.0	90.00	179.65	11,990.0	-9,931.5	542.4	9,944.8	0.00	0.00	0.00	
21,900.0	90.00	179.65	11,990.0	-10,031.5	543.0	10,044.8	0.00	0.00	0.00	
22,000.0	90.00	179.65	11,990.0	-10,131.5	543.6	10,144.7	0.00	0.00	0.00	
22,100.0	90.00	179.65	11,990.0	-10,231.5	544.2	10,244.7	0.00	0.00	0.00	
22,200.0	90.00	179.65	11,990.0	-10,331.5	544.9	10,344.6	0.00	0.00	0.00	
22,300.0	90.00	179.65	11,990.0	-10,431.5	545.5	10,444.6	0.00	0.00	0.00	
22,400.0	90.00	179.65	11,990.0	-10,531.5	546.1	10,544.5	0.00	0.00	0.00	
22,500.0	90.00	179.65	11,990.0	-10,631.5	546.7	10,644.5	0.00	0.00	0.00	
22,600.0	90.00	179.65	11,990.0	-10,731.5	547.3	10,744.4	0.00	0.00	0.00	
22,700.0	90.00	179.65	11,990.0	-10,831.5	547.9	10,844.4	0.00	0.00	0.00	
22,800.0	90.00	179.65	11,990.0	-10,931.5	548.5	10,944.3	0.00	0.00	0.00	
22,900.0	90.00	179.65	11,990.0	-11,031.5	549.1	11,044.3	0.00	0.00	0.00	
23,000.0	90.00	179.65	11,990.0	-11,131.5	549.7	11,144.2	0.00	0.00	0.00	
23,100.0	90.00	179.65	11,990.0	-11,231.5	550.4	11,244.2	0.00	0.00	0.00	
23,200.0	90.00	179.65	11,990.0	-11,331.5	551.0	11,344.1	0.00	0.00	0.00	
23,300.0	90.00	179.65	11,990.0	-11,431.5	551.6	11,444.1	0.00	0.00	0.00	
23,400.0	90.00	179.65	11,990.0	-11,531.5	552.2	11,544.0	0.00	0.00	0.00	
23,500.0	90.00	179.65	11,990.0	-11,631.5	552.8	11,644.0	0.00	0.00	0.00	
23,600.0	90.00	179.65	11,990.0	-11,731.5	553.4	11,743.9	0.00	0.00	0.00	
23,700.0	90.00	179.65	11,990.0	-11,831.4	554.0	11,843.9	0.00	0.00	0.00	
23,800.0	90.00	179.65	11,990.0	-11,931.4	554.6	11,943.8	0.00	0.00	0.00	
23,900.0	90.00	179.65	11,990.0	-12,031.4	555.2	12,043.8	0.00	0.00	0.00	
24,000.0	90.00	179.65	11,990.0	-12,131.4	555.9	12,143.7	0.00	0.00	0.00	
24,100.0	90.00	179.65	11,990.0	-12,231.4	556.5	12,243.7	0.00	0.00	0.00	
24,200.0	90.00	179.65	11,990.0	-12,331.4	557.1	12,343.6	0.00	0.00	0.00	
24,300.0	90.00	179.65	11,990.0	-12,431.4	557.7	12,443.6	0.00	0.00	0.00	
24,400.0	90.00	179.65	11,990.0	-12,531.4	558.3	12,543.5	0.00	0.00	0.00	
24,500.0	90.00	179.65	11,990.0	-12,631.4	558.9	12,643.5	0.00	0.00	0.00	
24,600.0	90.00	179.65	11,990.0	-12,731.4	559.5	12,743.4	0.00	0.00	0.00	
24,700.0	90.00	179.65	11,990.0	-12,831.4	560.1	12,843.4	0.00	0.00	0.00	
24,800.0	90.00	179.65	11,990.0	-12,931.4	560.7	12,943.3	0.00	0.00	0.00	
24,900.0	90.00	179.65	11,990.0	-13,031.4	561.4	13,043.3	0.00	0.00	0.00	
25,000.0	90.00	179.65	11,990.0	-13,131.4	562.0	13,143.2	0.00	0.00	0.00	
25,100.0	90.00	179.65	11,990.0	-13,231.4	562.6	13,243.2	0.00	0.00	0.00	
25,200.0	90.00	179.65	11,990.0	-13,331.4	563.2	13,343.1	0.00	0.00	0.00	
25,300.0	90.00	179.65	11,990.0	-13,431.4	563.8	13,443.1	0.00	0.00	0.00	
25,400.0	90.00	179.65	11,990.0	-13,531.4	564.4	13,543.1	0.00	0.00	0.00	
25,500.0	90.00	179.65	11,990.0	-13,631.4	565.0	13,643.0	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well REDTAIL FEDERAL COM 602H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=27 @ 3763.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=27 @ 3763.0usft
Site:	REDTAIL FED COM PROJECT	North Reference:	Grid
Well:	REDTAIL FEDERAL COM 602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
25,600.0	90.00	179.65	11,990.0	-13,731.4	565.6	13,743.0	0.00	0.00	0.00	
25,700.0	90.00	179.65	11,990.0	-13,831.4	566.2	13,842.9	0.00	0.00	0.00	
25,800.0	90.00	179.65	11,990.0	-13,931.4	566.9	13,942.9	0.00	0.00	0.00	
25,900.0	90.00	179.65	11,990.0	-14,031.4	567.5	14,042.8	0.00	0.00	0.00	
26,000.0	90.00	179.65	11,990.0	-14,131.4	568.1	14,142.8	0.00	0.00	0.00	
26,100.0	90.00	179.65	11,990.0	-14,231.4	568.7	14,242.7	0.00	0.00	0.00	
26,200.0	90.00	179.65	11,990.0	-14,331.4	569.3	14,342.7	0.00	0.00	0.00	
26,300.0	90.00	179.65	11,990.0	-14,431.4	569.9	14,442.6	0.00	0.00	0.00	
26,400.0	90.00	179.65	11,990.0	-14,531.4	570.5	14,542.6	0.00	0.00	0.00	
26,500.0	90.00	179.65	11,990.0	-14,631.4	571.1	14,642.5	0.00	0.00	0.00	
26,600.0	90.00	179.65	11,990.0	-14,731.4	571.7	14,742.5	0.00	0.00	0.00	
26,700.0	90.00	179.65	11,990.0	-14,831.4	572.4	14,842.4	0.00	0.00	0.00	
26,800.0	90.00	179.65	11,990.0	-14,931.4	573.0	14,942.4	0.00	0.00	0.00	
26,900.0	90.00	179.65	11,990.0	-15,031.4	573.6	15,042.3	0.00	0.00	0.00	
27,000.0	90.00	179.65	11,990.0	-15,131.4	574.2	15,142.3	0.00	0.00	0.00	
27,100.0	90.00	179.65	11,990.0	-15,231.4	574.8	15,242.2	0.00	0.00	0.00	
27,200.0	90.00	179.65	11,990.0	-15,331.4	575.4	15,342.2	0.00	0.00	0.00	
27,300.0	90.00	179.65	11,990.0	-15,431.4	576.0	15,442.1	0.00	0.00	0.00	
27,375.5	90.00	179.65	11,990.0	-15,506.9	576.5	15,517.6	0.00	0.00	0.00	
LTP (REDTAIL FED COM 602H)										
27,400.0	90.00	179.65	11,990.0	-15,531.4	576.6	15,542.1	0.00	0.00	0.00	
27,425.3	90.00	179.65	11,990.0	-15,556.7	576.8	15,567.4	0.00	0.00	0.00	
TD at 27425.3 - PBHL (REDTAIL FED COM 602H)										

Design Targets										
Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude	
LTP (REDTAIL FED COI - hit/miss target - Shape	90.00	179.68	11,990.2	-15,506.9	579.8	472,678.80	713,882.60	32° 17' 51.406 N	103° 38' 28.103 W	
- plan misses target center by 3.3usft at 27375.5usft MD (11990.0 TVD, -15506.9 N, 576.5 E)										
- Circle (radius 50.0)										
PBHL (REDTAIL FED COI - hit/miss target - Shape	0.00	359.65	11,990.2	-15,556.9	580.1	472,628.80	713,882.90	32° 17' 50.911 N	103° 38' 28.104 W	
- plan misses target center by 3.3usft at 27425.3usft MD (11990.0 TVD, -15556.7 N, 576.8 E)										
- Rectangle (sides W100.0 H15,680.0 D20.0)										
FTP (REDTAIL FED COI - hit/miss target - Shape	0.00	0.00	11,990.2	125.1	484.5	488,310.80	713,787.30	32° 20' 26.099 N	103° 38' 28.037 W	
- plan misses target center by 266.8usft at 11900.0usft MD (11817.7 TVD, -78.4 N, 482.2 E)										
- Circle (radius 50.0)										

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
27,425.4	11,990.0	5-1/2" Production Casing	5-1/2	6-3/4	

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well REDTAIL FEDERAL COM 602H
Company:	DELAWARE BASIN EAST	TVD Reference:	KB=27 @ 3763.0usft
Project:	LEA COUNTY SOUTHEAST	MD Reference:	KB=27 @ 3763.0usft
Site:	REDTAIL FED COM PROJECT	North Reference:	Grid
Well:	REDTAIL FEDERAL COM 602H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

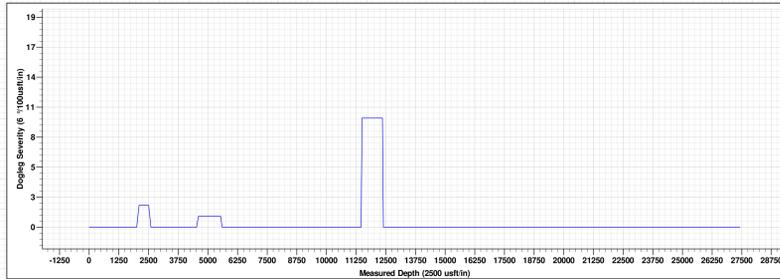
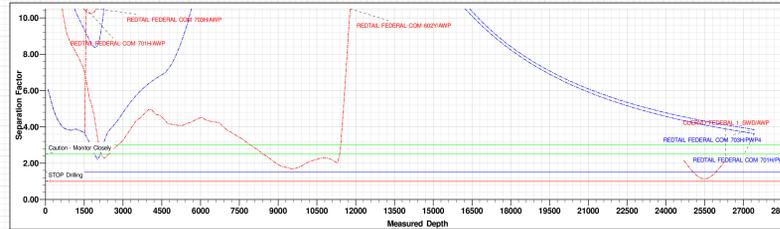
Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment	
		+N/-S (usft)	+E/-W (usft)		
2,000.0	2,000.0	0.0	0.0	Start Build 2.00	
2,505.7	2,503.0	7.7	43.8	Start 2022.3 hold at 2505.7 MD	
4,528.0	4,493.9	69.5	393.5	Start Drop -1.00	
5,539.3	5,500.0	85.0	481.2	Start 5917.0 hold at 5539.3 MD	
11,456.3	11,417.0	85.0	481.2	Start DLS 10.00 TFO 179.65	
12,356.3	11,990.0	-487.9	484.7	Start 15069.1 hold at 12356.3 MD	
27,425.3	11,990.0	-15,556.7	576.8	TD at 27425.3	

WELL DETAILS: REDTAIL FEDERAL COM 602H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	488185.70	713302.80	32° 20' 24.892 N	103° 38' 33.694 W

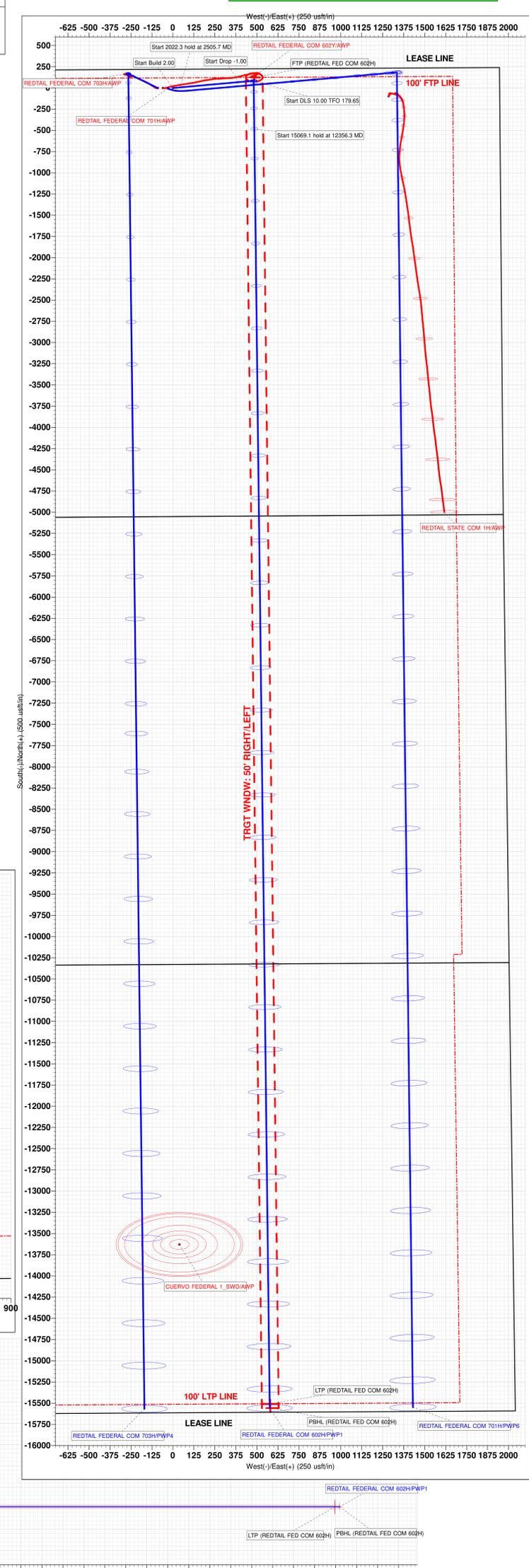
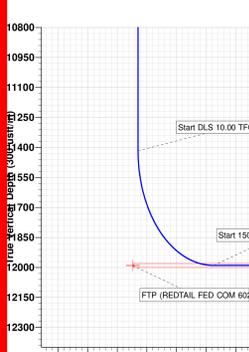
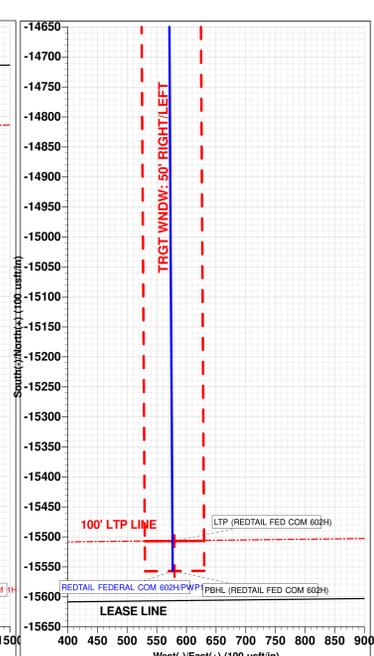
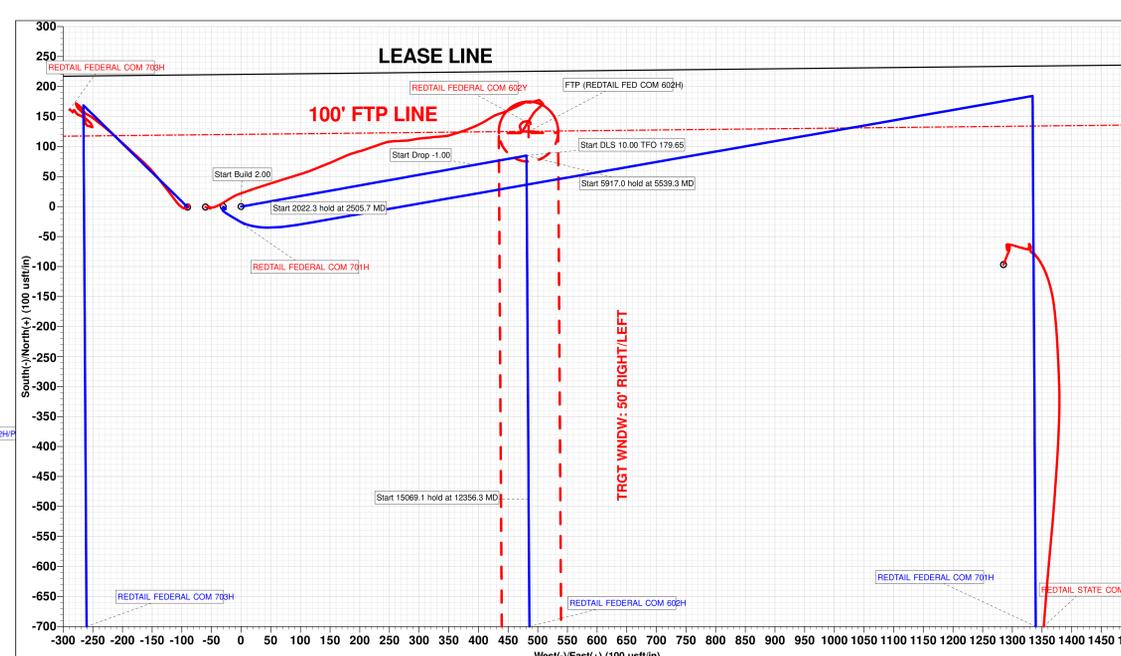
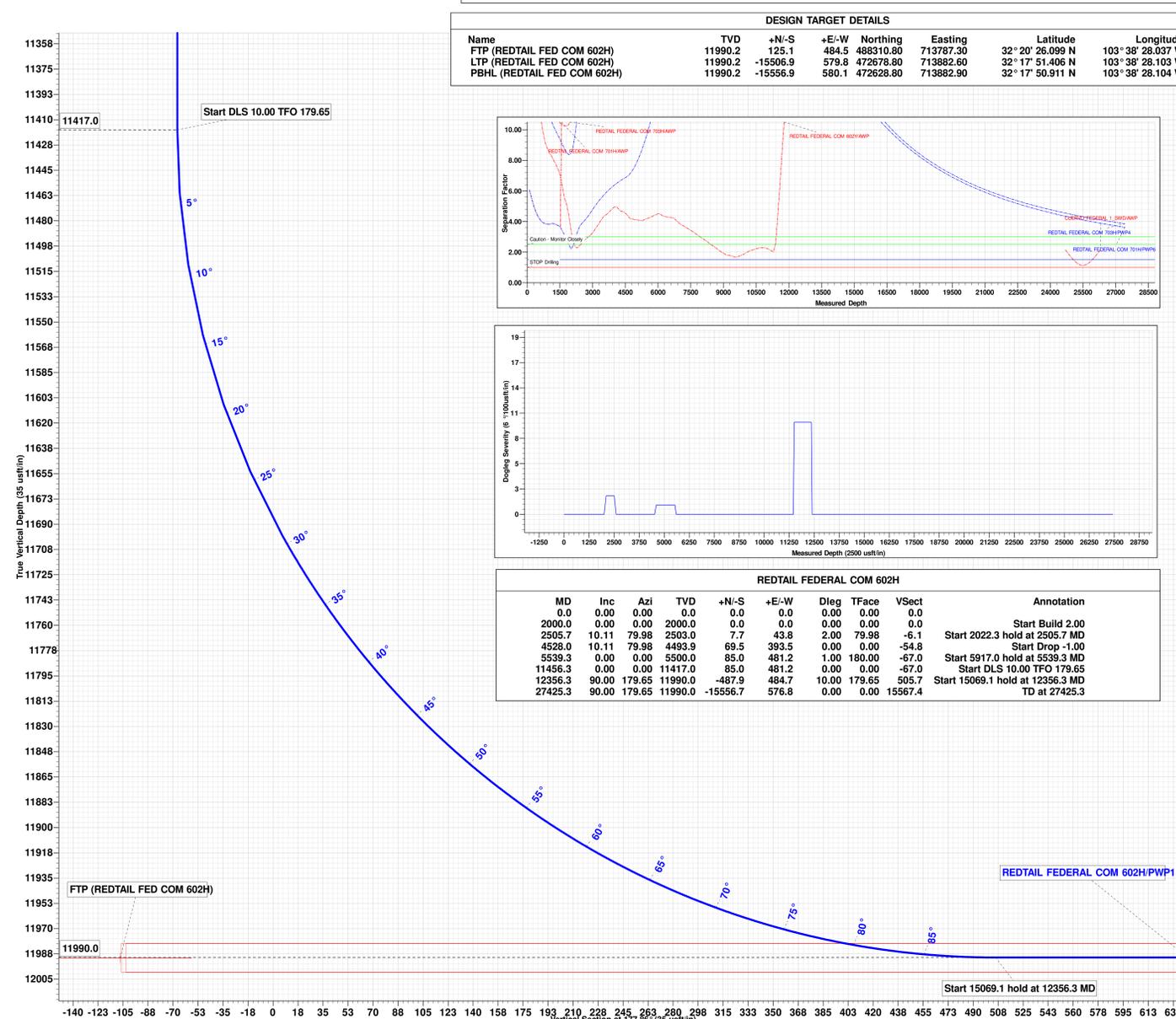
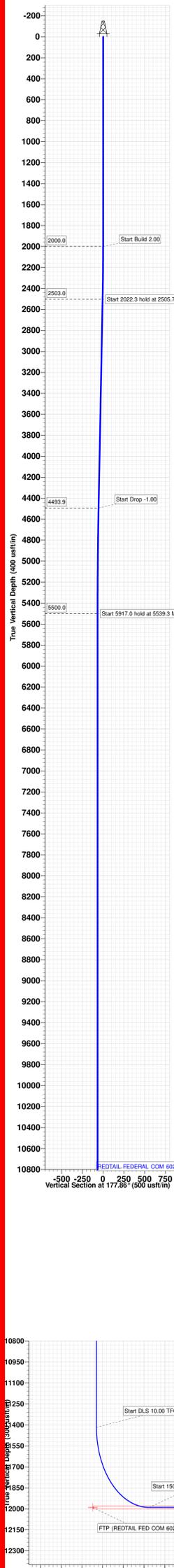
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (REDTAIL FED COM 602H)	11990.2	125.1	484.5	488310.80	713787.30	32° 20' 26.099 N	103° 38' 28.037 W
LTP (REDTAIL FED COM 602H)	11990.2	-15506.9	579.8	472678.80	713882.60	32° 17' 51.406 N	103° 38' 28.103 W
PBHL (REDTAIL FED COM 602H)	11990.2	-15556.9	580.1	472628.80	713882.90	32° 17' 50.911 N	103° 38' 28.104 W



REDTAIL FEDERAL COM 602H

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2505.7	10.11	79.98	2503.0	7.7	43.8	2.00	79.98	-6.1	Start 2022.3 hold at 2505.7 MD
4528.0	10.11	79.98	4493.9	69.5	393.5	0.00	0.00	-54.8	Start Drop -1.00
5539.3	0.00	0.00	5500.0	85.0	481.2	1.00	180.00	-67.0	Start 5917.0 hold at 5539.3 MD
11456.3	0.00	0.00	11417.0	85.0	481.2	0.00	0.00	-67.0	Start DLS 10.00 TFO 179.65
12356.3	90.00	179.65	11990.0	-487.9	484.7	10.00	179.65	505.7	Start 15069.1 hold at 12356.3 MD
27425.3	90.00	179.65	11990.0	-15556.7	576.8	0.00	0.00	15567.4	TD at 27425.3



TRGT WNDW: 10' ABOVE/BELOW

TRGT WNDW: 50' RIGHT/LEFT

TRGT WNDW: 50' RIGHT/LEFT

COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- a. The hazards and characteristics of hydrogen sulfide (H₂S).
- b. The proper use and maintenance of personal protective equipment and life support systems.
- c. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- a. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- c. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S. If H₂S greater than 100 ppm is encountered in the gas stream we will shut in and install H₂S equipment.

- a. Well Control Equipment:
 - Flare line.
 - Choke manifold with remotely operated choke.
 - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 - Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

- b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
- c. H2S detection and monitoring equipment:
2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.
- d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.
- e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.
- f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- g. Communication:
Company vehicles equipped with cellular telephone.

COG OPERATING LLC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H2S contingency plan is necessary.

W A R N I N G

**YOU ARE ENTERING AN H₂S AREA
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED**
- 2. HARD HATS REQUIRED**
- 3. SMOKING IN DESIGNATED AREAS ONLY**
- 4. BE WIND CONSCIOUS AT ALL TIMES**
- 5. CK WITH COG OPERATING LLC FOREMAN AT MAIN OFFICE**

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

OFFICE

COG OPERATING LLC OFFICE	575-748-6940
CHAD GREGORY	432-894-5590

EMERGENCY RESPONSE NUMBERS

OFFICE

STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

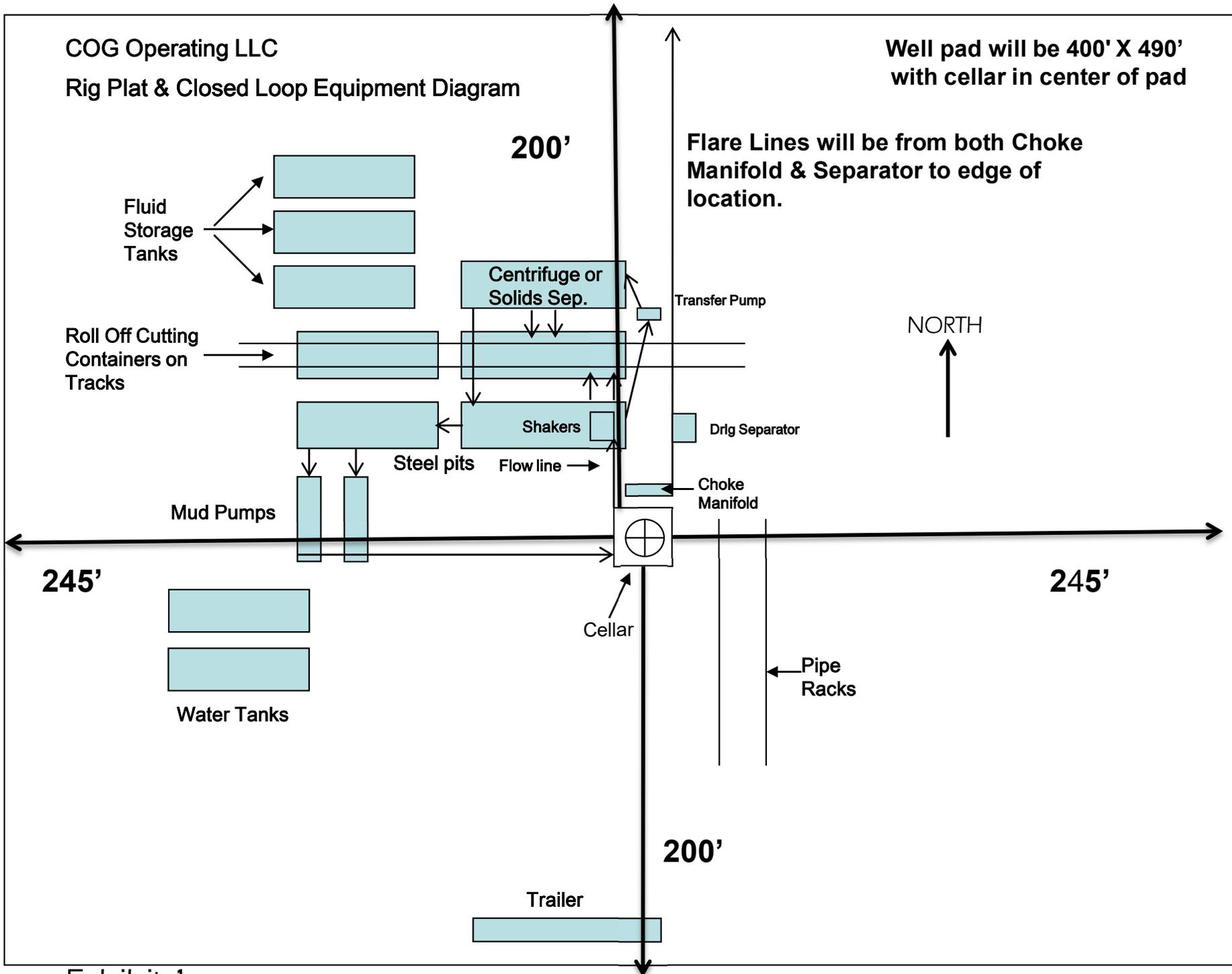


Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."

COG Operating, LLC - Redtail Federal Com 602H

1. Geologic Formations

TVD of target	11,190' EOL	Pilot hole depth	NA
MD at TD:	27,425'	Deepest expected fresh water:	713'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1225	Water	
Top of Salt	1688	Salt	
Base of Salt	4648	Salt	
Lamar	4942	Salt Water	
Bell Canyon	5017	Salt Water	
Cherry Canyon	5875	Oil/Gas	
Brushy Canyon	7128	Oil/Gas	
Bone Spring	8793	Oil/Gas	
Bone Spring 1st Sand	9925	Oil/Gas	
Bone Spring 1st Shale	10217	Oil/Gas	
Bone Spring 2nd Sand	10231	Oil/Gas	
Bone Spring 3rd Carb	11087	Oil/Gas	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
17.50"	0	1638	13.38"	54.5	J55	BTC	1.51	1.33	9.56	10.18
12.250"	0	4892	9.625"	40	L80-ICY	BTC	1.52	1.43	4.68	4.84
8.75"	4642	11350	7.625"	29.7	P110-ICY	W513	1.25	1.80	3.17	1.90
6.75"	0	11150	5.5"	23	P110-CY	BTC	2.01	2.37	2.84	2.84
6.75"	11150	27,425	5.5"	23	P110-CY	W441	2.00	2.36	2.83	2.57
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Surface burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface and All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

The 5 1/2" W441 casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

COG Operating, LLC - Redtail Federal Com 602H

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

COG Operating, LLC - Redtail Federal Com 602H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	310	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Int. #1	310	12.8	1.75	9.21	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	110	14.8	1.35	6.6	8	Tail: Class C + 2% CaCl ₂
Inter. #2	610	10.5	3.3	22	24	Halliburton tunded light
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	699	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	1217	13.2	1.34	5.7	19	Tail: 50:50:2 Class H Blend

If losses are encountered in the intermediate section a DV/ECP tool will be run ~50' above the Lamar Lime top, cement will be adjusted accordingly if this contingency is necessary.

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
2nd Intermediate	4,642'	20% OH in Lateral (KOP to EOL)
Production	10,650'	% OH in Lateral (KOP to EOL)

COG Operating, LLC - Redtail Federal Com 602H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
9-7/8"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	
			Pipe Ram	x	5000psi
			Double Ram	x	
			Other*		
6-3/4"	13-5/8"	10M	5M Annular	x	5000psi
			Blind Ram	x	
			Pipe Ram	x	10000psi
			Double Ram	x	
			Other*		

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold. See attached schematics.

Y	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.
Y	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?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

COG Operating, LLC - Redtail Federal Com 602H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	7-5/8" Int shoe	Brine	8.4 - 10	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9.6 - 12.5	35-45	<20

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
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6. Logging and Testing Procedures

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

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

COG Operating, LLC - Redtail Federal Com 602H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7275 psi at 11190' TVD
Abnormal Temperature	NO 170 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

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.	
N	H2S is present
Y	H2S Plan attached

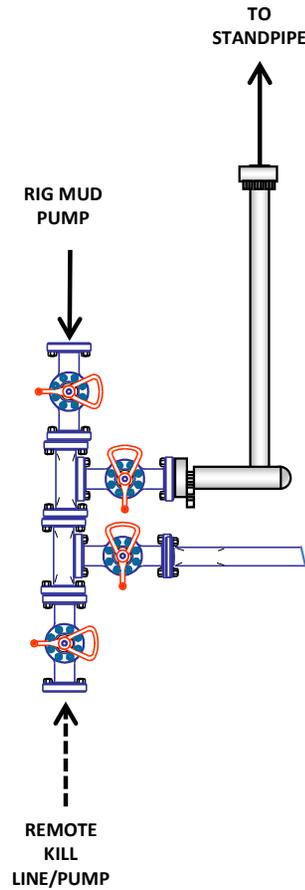
8. Other Facets of Operation

Y	Is it a walking operation?
N	Is casing pre-set?

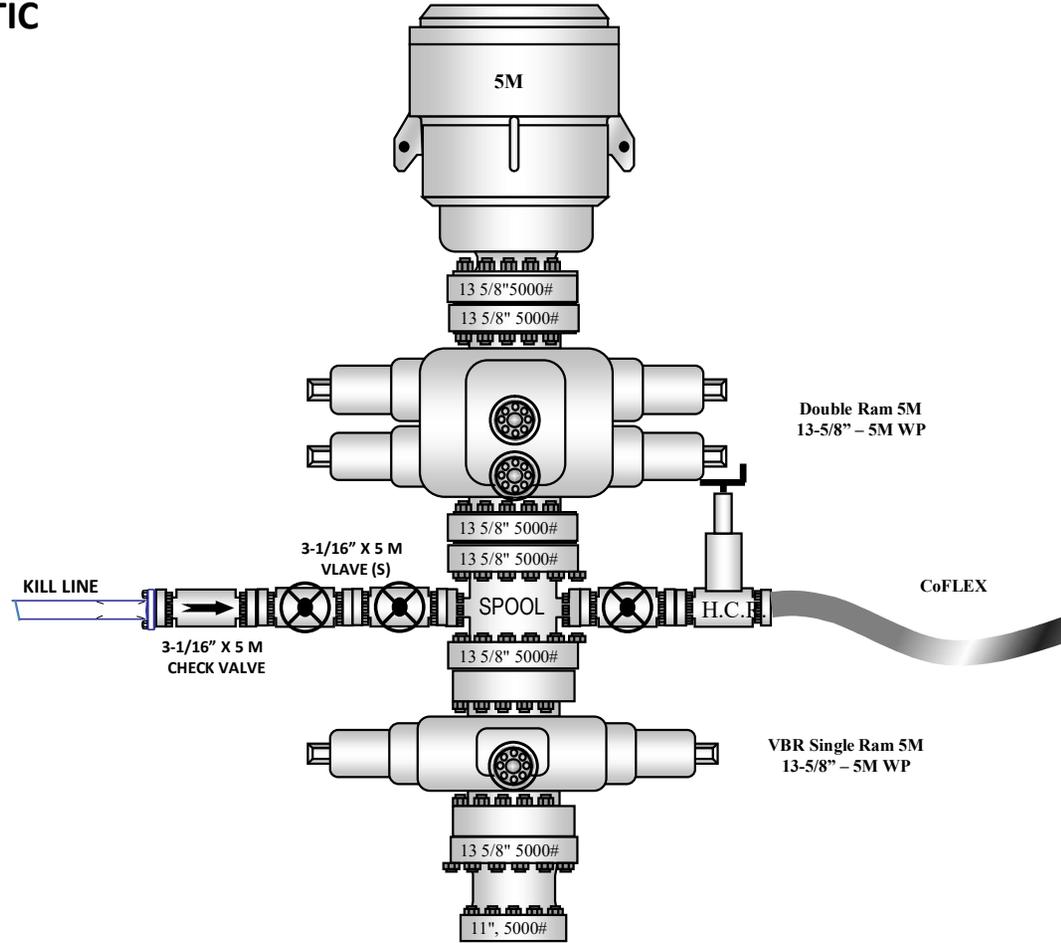
x	H2S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

5M BOP Stack

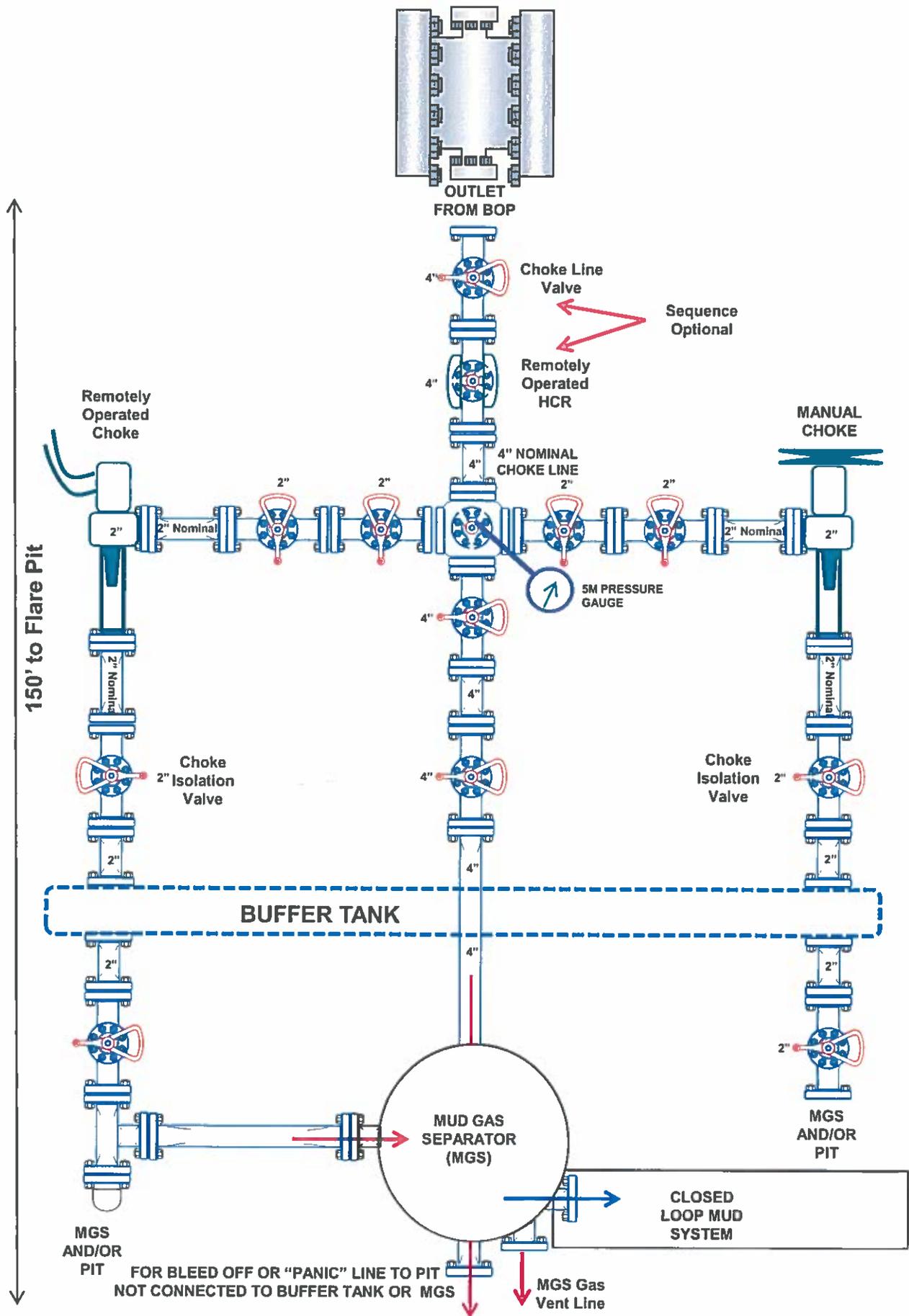
10M REMOTE KILL SCHEMATIC



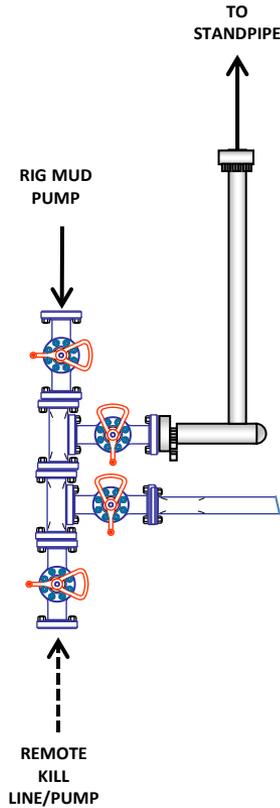
5M BOP Stack (2.5M Annular)



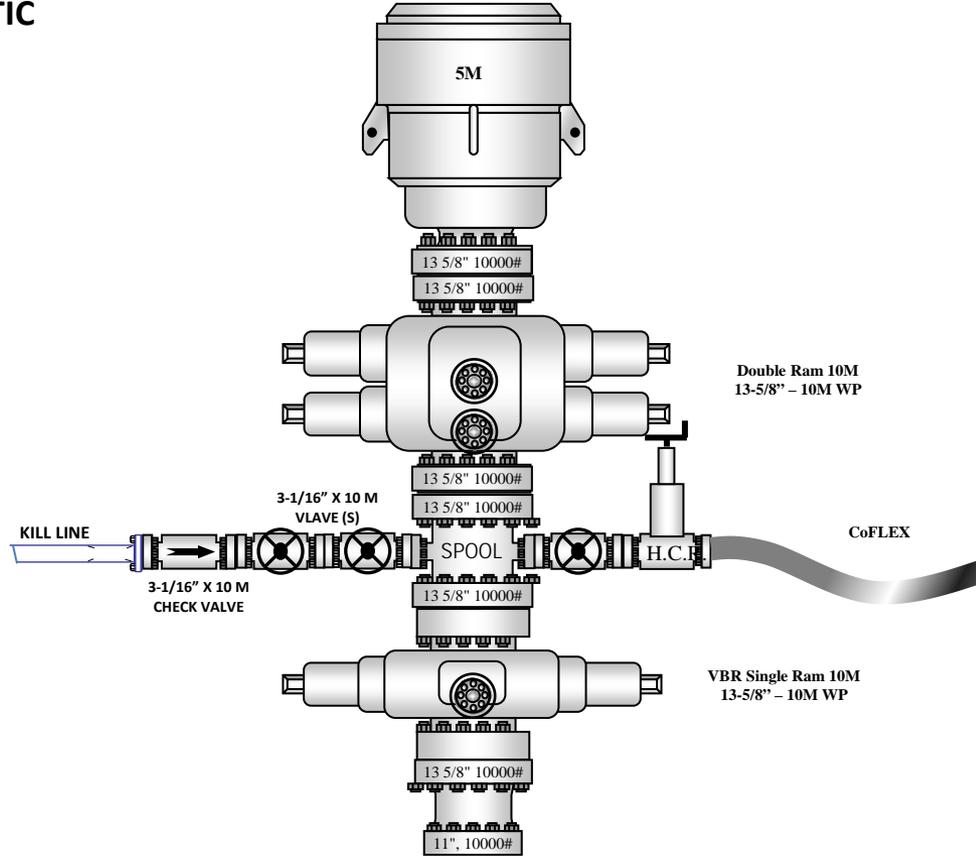
5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



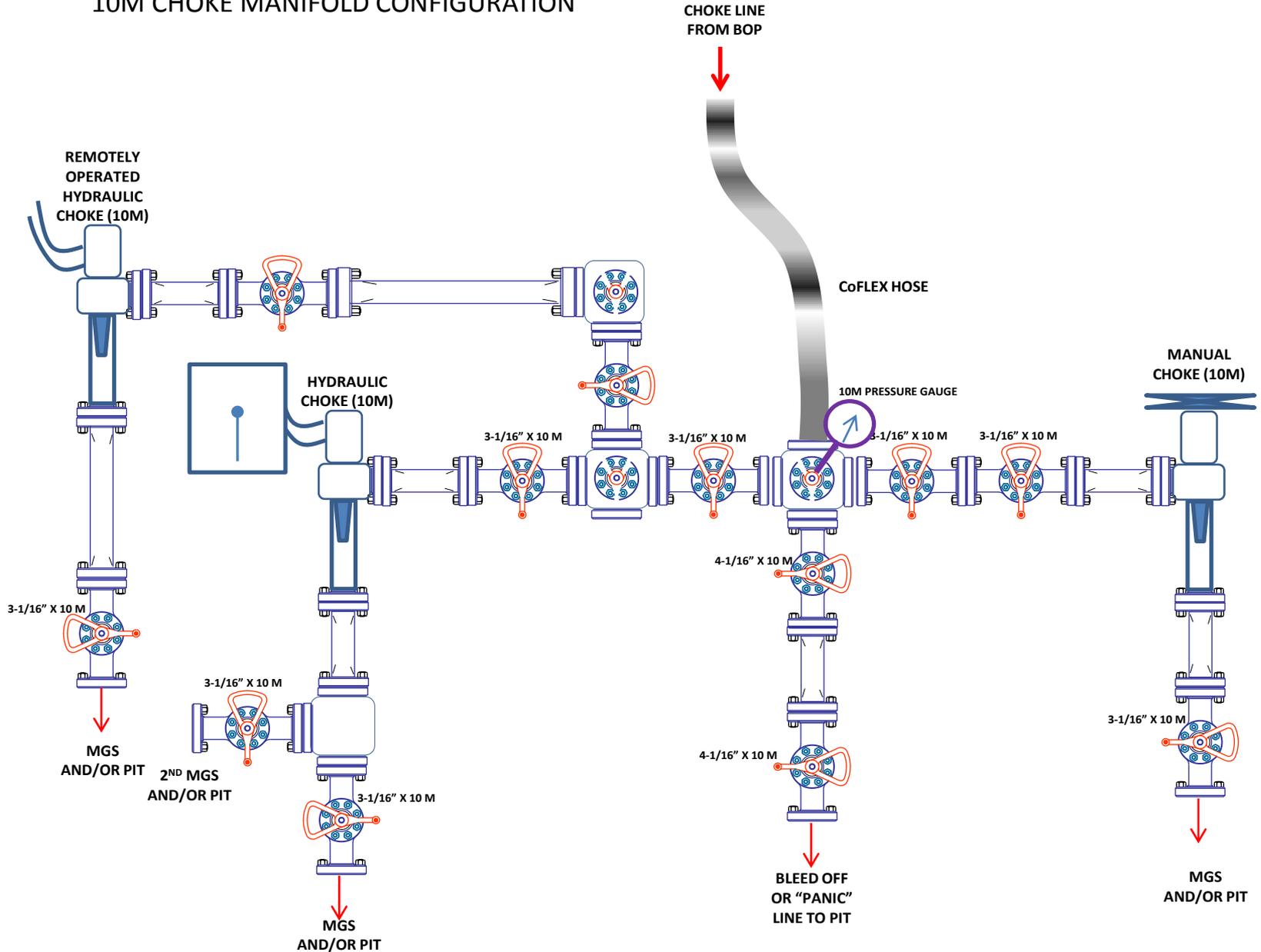
10M REMOTE KILL SCHEMATIC



10M BOP Stack (5M Annular)



10M CHOKE MANIFOLD CONFIGURATION



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

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

CONDITIONS
 Action 372623

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 372623
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/15/2024
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	8/15/2024
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	8/15/2024
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	8/15/2024
pkautz	If cement does not circulate on any string, a CBL is required for that string of casing	8/15/2024