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. NMNM106909

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. KEG SHELL FEDERAL COM/904H

2. Name of Operator COG OPERATING LLC

9. API Well No. 30-015-54407

3a. Address 600 West Illinois Ave, Midland, TX 79701

3b. Phone No. *(include area code)* (432) 683-7443

10. Field and Pool or Exploratory Area PURPLE SAGE/Wolfcamp (Gas)

4. Location of Well *(Footage, Sec., T.,R.,M., or Survey Description)* SEC 35/T26S/R28E/NMP

11. Country or Parish, State EDDY/NM

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.)

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

Keg Shell Federal Com 904H.

Well number for the Keg Shell Federal Com 904H (30-015-53652) be changed to the 904Y.

We drilled surface section to 777 and then ran 10-3/4 surface casing. We then cemented pipe to surface. Based upon the issues seen on the 901H a casing change is warranted which is the reason for the P&A.

COG Operating LLC requests permission to skid the surface location and redrill as below:
Keg Shell Federal Com 904H replacement well. New SHL 380 ft FSL & 915 ft FEL. Section 35, T26S, R28E Eddy Co. FTP: 330 FSL & 2345 ft FEL Section 35 T26S R28E. LTP: 330 FNL & 2345 ft FEL Section 23 T26S R28E. BHL: 200 FNL, 2345 FEL Section 23, T26S R28E. MD

Continued on page 3 additional information

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

Title Regulatory Analyst

Signature (Electronic Submission)

Date 11/06/2023

THE SPACE FOR FEDERAL OR STATE OFICE USE

Approved by
CHRISTOPHER WALLS / Ph: (575) 234-2234 / Approved

Title Petroleum Engineer

Date 11/20/2023

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)

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) 476-3460 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	Pool Code	Pool Name
30-015-54407	98220	Purple Sage, Wolfcamp, Gas

Property Code	Property Name	Well Number
330693	KEG SHELL FEDERAL COM	904H

OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	2987.1'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	35	26-S	28-E		380	SOUTH	915	EAST	EDDY

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
B	23	26-S	28-E		200	NORTH	2345	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
1535.8			

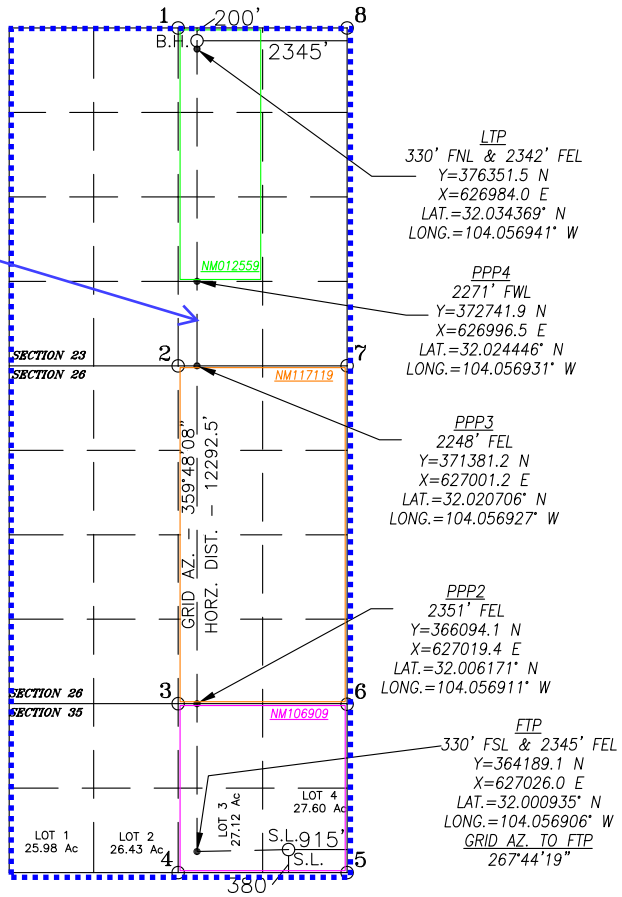
NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

NAD 83 NME
BOTTOM
HOLE LOCATION
Y=376481.6 N
X=626983.5 E
LAT.=32.034727° N
LONG.=104.056941° W

FEE

POINT LEGEND	
1	Y=376674.4 N X=626590.4 E
2	Y=371365.3 N X=628543.8 E
3	Y=366066.4 N X=626603.9 E
4	Y=363857.5 N X=626664.9 E
5	Y=363869.7 N X=629371.9 E
6	Y=366250.2 N X=629365.5 E
7	Y=371459.1 N X=629248.0 E
8	Y=376724.5 N X=629332.8 E

NAD 83 NME
SURFACE LOCATION
Y=364245.6 N
X=628455.8 E
LAT.=32.001080° N
LONG.=104.052293° 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 10/19/23
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.

AUGUST 29, 2023
Date of Survey

Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 8/31/23
Certificate No. CHAD HARCROW 17777
W.O. # 23-694 DRAWN BY: WN

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:** 11/27/2023

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Keg Shell Federal Com 904H	30-015-	4-35-26S-28E	380 FSL & 915 FEL	± 755	± 7775	± 4740

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
Keg Shell Federal Com 904H	Pending	12/2/2023	± 25 days from spud	4/1/2024	4/11/2024	4/16/2024

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:	Mayte Reyes
Printed Name:	Mayte Reyes
Title:	Sr. Regulatory Coodinator
E-mail Address:	mayte.x.reyes@conocophillips.com
Date:	11/27/2023
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 - Keg Shell Federal Com 904H

1. Geologic Formations

TVD of target	10,674' EOL	Pilot hole depth	NA
MD at TD:	23,096'	Deepest expected fresh water:	0'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	NP	Water	
Top of Salt	823	Salt	
Base of Salt	2437	Salt	
Lamar	2602	Salt Water	
Bell Canyon	2687	Salt Water	
Cherry Canyon	3507	Oil/Gas	
Brushy Canyon	5089	Oil/Gas	
Bone Spring	6245	Oil/Gas	
Bone Spring 1st Sand	7163	Oil/Gas	
Bone Spring 2nd Sand	7936	Oil/Gas	
Bone Spring 3rd Carb	8257	Oil/Gas	
Bone Spring 3rd Sand	8993	Oil/Gas	
Wolfcamp A	9525	Oil/Gas	
Wolfcamp B	9756	Oil/Gas	
Wolfcamp C	10268	Target 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	750	13.38"	54.5	J55	BTC	3.29	2.85	20.87	22.24
12.250"	0	2600	10.750"	45.5	J55	BTC-SC	1.72	0.97	6.04	6.73
8.75"	2400	10400	7.625"	29.7	P110-ICY	W513	1.51	1.89	3.46	2.08
6.75"	0	10000	5.5"	23	P110-CY	BTC	2.24	2.64	3.17	3.17
6.75"	10000	23,096	5.5"	23	P110-CY	W441	2.10	2.48	2.97	2.70
					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 - Keg Shell Federal Com 904H

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

COG Operating, LLC - Keg Shell Federal Com 904H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	310	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl2
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Int. #1	310	12.8	1.75	9.21	12	Lead: Class C + 4% Gel + 1% CaCl2
	110	14.8	1.35	6.6	8	Tail: Class C + 2% CaCl2
Inter. #2	610	10.5	3.3	22	24	Halliburton tunded light
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	627	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	980	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%
1st Intermediate	0'	50%
2nd Intermediate	2,400'	20% OH in Lateral (KOP to EOL)
Production	9,500'	% OH in Lateral (KOP to EOL)

COG Operating, LLC - Keg Shell Federal Com 904H

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 - Keg Shell Federal Com 904H

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 - 9	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 - Keg Shell Federal Com 904H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	6940 psi at 10674' TVD
Abnormal Temperature	NO 165 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?
Y	Is casing pre-set?

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

DELAWARE BASIN WEST

ATLAS PROSPECT (DBW)
KEG SHELL FED COM PROJECT
KEG SHELL FEDERAL COM #904H

OWB

Plan: PWP1

Standard Planning Report

11 October, 2023

ConocoPhillips
Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well KEG SHELL FEDERAL COM #904H
Company:	DELAWARE BASIN WEST	**TVD Reference:**	KB=25 @ 3012.0usft
Project:	ATLAS PROSPECT (DBW)	**MD Reference:**	KB=25 @ 3012.0usft
Site:	KEG SHELL FED COM PROJECT	**North Reference:**	Grid
Well:	KEG SHELL FEDERAL COM #904H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Project ATLAS PROSPECT (DBW)

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 KEG SHELL FED COM PROJECT

Site Position:		**Northing:**	363,843.46 usft	**Latitude:**	32° 0' 0.003 N
From:	Map	**Easting:**	588,090.89 usft	**Longitude:**	104° 2' 56.993 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "		

Well KEG SHELL FEDERAL COM #904H

Well Position	**+N/-S**	0.0 usft	**Northing:**	364,188.50 usft	**Latitude:**	32° 0' 3.439 N
	+E/-W	0.0 usft	**Easting:**	587,270.50 usft	**Longitude:**	104° 3' 6.510 W
Position Uncertainty		3.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	2,987.0 usft
Grid Convergence:		0.15 °				

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2023	11/29/2023	6.55	59.52	47,261.30680087

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 (°)
	0.0	0.0	0.0	353.14

Plan Survey Tool Program **Date** 10/11/2023

	Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks
1	0.0	800.0	PWP1 (OWB)	r.5 SDI_KPR_WL_NS-CT SDI Keeper Wireline Gyrocomp	
2	800.0	23,096.1	PWP1 (OWB)	r.5 MWD+IFR1+MS OWSG MWD + IFR1 + Multi-St	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well KEG SHELL FEDERAL COM #904H
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Project:	ATLAS PROSPECT (DBW)	**MD Reference:**	KB=25 @ 3012.0usft
Site:	KEG SHELL FED COM PROJECT	**North Reference:**	Grid
Well:	KEG SHELL FEDERAL COM #904H	**Survey Calculation Method:**	Minimum Curvature
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	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,236.4	14.73	256.82	2,228.3	-21.5	-91.7	2.00	2.00	0.00	256.82	
6,904.8	14.73	256.82	6,743.3	-292.1	-1,247.3	0.00	0.00	0.00	0.00	
8,377.6	0.00	0.00	8,200.0	-335.0	-1,430.6	1.00	-1.00	0.00	180.00	
10,252.2	0.00	0.00	10,074.6	-335.0	-1,430.6	0.00	0.00	0.00	0.00	
10,997.7	89.45	359.81	10,552.0	137.9	-1,432.1	12.00	12.00	-0.03	359.81	
23,096.1	89.45	359.81	10,668.0	12,235.7	-1,472.0	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well KEG SHELL FEDERAL COM #904H
Company:	DELAWARE BASIN WEST	**TVD Reference:**	KB=25 @ 3012.0usft
Project:	ATLAS PROSPECT (DBW)	**MD Reference:**	KB=25 @ 3012.0usft
Site:	KEG SHELL FED COM PROJECT	**North Reference:**	Grid
Well:	KEG SHELL FEDERAL COM #904H	**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
Start Build 2.00									
1,600.0	2.00	256.82	1,600.0	-0.4	-1.7	-0.2	2.00	2.00	0.00
1,700.0	4.00	256.82	1,699.8	-1.6	-6.8	-0.8	2.00	2.00	0.00
1,800.0	6.00	256.82	1,799.5	-3.6	-15.3	-1.7	2.00	2.00	0.00
1,900.0	8.00	256.82	1,898.7	-6.4	-27.1	-3.1	2.00	2.00	0.00
2,000.0	10.00	256.82	1,997.5	-9.9	-42.4	-4.8	2.00	2.00	0.00
2,100.0	12.00	256.82	2,095.6	-14.3	-61.0	-6.9	2.00	2.00	0.00
2,200.0	14.00	256.82	2,193.1	-19.4	-82.9	-9.4	2.00	2.00	0.00
2,236.4	14.73	256.82	2,228.3	-21.5	-91.7	-10.4	2.00	2.00	0.00
Start 4668.4 hold at 2236.4 MD									
2,300.0	14.73	256.82	2,289.8	-25.1	-107.4	-12.1	0.00	0.00	0.00
2,400.0	14.73	256.82	2,386.5	-30.9	-132.1	-14.9	0.00	0.00	0.00
2,500.0	14.73	256.82	2,483.3	-36.7	-156.9	-17.7	0.00	0.00	0.00
2,600.0	14.73	256.82	2,580.0	-42.5	-181.7	-20.5	0.00	0.00	0.00
2,700.0	14.73	256.82	2,676.7	-48.3	-206.4	-23.3	0.00	0.00	0.00
2,800.0	14.73	256.82	2,773.4	-54.1	-231.2	-26.1	0.00	0.00	0.00
2,900.0	14.73	256.82	2,870.1	-59.9	-255.9	-28.9	0.00	0.00	0.00
3,000.0	14.73	256.82	2,966.8	-65.7	-280.7	-31.7	0.00	0.00	0.00
3,100.0	14.73	256.82	3,063.5	-71.5	-305.4	-34.5	0.00	0.00	0.00
3,200.0	14.73	256.82	3,160.3	-77.3	-330.2	-37.3	0.00	0.00	0.00
3,300.0	14.73	256.82	3,257.0	-83.1	-354.9	-40.1	0.00	0.00	0.00
3,400.0	14.73	256.82	3,353.7	-88.9	-379.7	-42.9	0.00	0.00	0.00
3,500.0	14.73	256.82	3,450.4	-94.7	-404.4	-45.7	0.00	0.00	0.00
3,600.0	14.73	256.82	3,547.1	-100.5	-429.2	-48.5	0.00	0.00	0.00
3,700.0	14.73	256.82	3,643.8	-106.3	-454.0	-51.3	0.00	0.00	0.00
3,800.0	14.73	256.82	3,740.5	-112.1	-478.7	-54.1	0.00	0.00	0.00
3,900.0	14.73	256.82	3,837.3	-117.9	-503.5	-56.9	0.00	0.00	0.00
4,000.0	14.73	256.82	3,934.0	-123.7	-528.2	-59.7	0.00	0.00	0.00
4,100.0	14.73	256.82	4,030.7	-129.5	-553.0	-62.5	0.00	0.00	0.00
4,200.0	14.73	256.82	4,127.4	-135.3	-577.7	-65.3	0.00	0.00	0.00
4,300.0	14.73	256.82	4,224.1	-141.1	-602.5	-68.1	0.00	0.00	0.00
4,400.0	14.73	256.82	4,320.8	-146.9	-627.2	-70.9	0.00	0.00	0.00
4,500.0	14.73	256.82	4,417.5	-152.7	-652.0	-73.7	0.00	0.00	0.00
4,600.0	14.73	256.82	4,514.3	-158.5	-676.7	-76.5	0.00	0.00	0.00
4,700.0	14.73	256.82	4,611.0	-164.3	-701.5	-79.3	0.00	0.00	0.00
4,800.0	14.73	256.82	4,707.7	-170.1	-726.3	-82.1	0.00	0.00	0.00
4,900.0	14.73	256.82	4,804.4	-175.9	-751.0	-84.9	0.00	0.00	0.00
5,000.0	14.73	256.82	4,901.1	-181.7	-775.8	-87.7	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well KEG SHELL FEDERAL COM #904H
Company:	DELAWARE BASIN WEST	**TVD Reference:**	KB=25 @ 3012.0usft
Project:	ATLAS PROSPECT (DBW)	**MD Reference:**	KB=25 @ 3012.0usft
Site:	KEG SHELL FED COM PROJECT	**North Reference:**	Grid
Well:	KEG SHELL FEDERAL COM #904H	**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)
5,100.0	14.73	256.82	4,997.8	-187.5	-800.5	-90.5	0.00	0.00	0.00
5,200.0	14.73	256.82	5,094.5	-193.3	-825.3	-93.3	0.00	0.00	0.00
5,300.0	14.73	256.82	5,191.3	-199.0	-850.0	-96.1	0.00	0.00	0.00
5,400.0	14.73	256.82	5,288.0	-204.8	-874.8	-98.9	0.00	0.00	0.00
5,500.0	14.73	256.82	5,384.7	-210.6	-899.5	-101.7	0.00	0.00	0.00
5,600.0	14.73	256.82	5,481.4	-216.4	-924.3	-104.5	0.00	0.00	0.00
5,700.0	14.73	256.82	5,578.1	-222.2	-949.0	-107.3	0.00	0.00	0.00
5,800.0	14.73	256.82	5,674.8	-228.0	-973.8	-110.1	0.00	0.00	0.00
5,900.0	14.73	256.82	5,771.5	-233.8	-998.6	-112.9	0.00	0.00	0.00
6,000.0	14.73	256.82	5,868.2	-239.6	-1,023.3	-115.7	0.00	0.00	0.00
6,100.0	14.73	256.82	5,965.0	-245.4	-1,048.1	-118.5	0.00	0.00	0.00
6,200.0	14.73	256.82	6,061.7	-251.2	-1,072.8	-121.3	0.00	0.00	0.00
6,300.0	14.73	256.82	6,158.4	-257.0	-1,097.6	-124.1	0.00	0.00	0.00
6,400.0	14.73	256.82	6,255.1	-262.8	-1,122.3	-126.9	0.00	0.00	0.00
6,500.0	14.73	256.82	6,351.8	-268.6	-1,147.1	-129.7	0.00	0.00	0.00
6,600.0	14.73	256.82	6,448.5	-274.4	-1,171.8	-132.5	0.00	0.00	0.00
6,700.0	14.73	256.82	6,545.2	-280.2	-1,196.6	-135.3	0.00	0.00	0.00
6,800.0	14.73	256.82	6,642.0	-286.0	-1,221.3	-138.1	0.00	0.00	0.00
6,900.0	14.73	256.82	6,738.7	-291.8	-1,246.1	-140.9	0.00	0.00	0.00
6,900.9	14.73	256.82	6,739.6	-291.9	-1,246.3	-140.9	0.00	0.00	0.00
(904H)TNGNT LIMITER:0'A & 50'B X 25' R&L									
6,904.8	14.73	256.82	6,743.3	-292.1	-1,247.3	-141.0	0.00	0.00	0.00
Start Drop -1.00									
7,000.0	13.78	256.82	6,835.6	-297.4	-1,270.1	-143.6	1.00	-1.00	0.00
7,100.0	12.78	256.82	6,932.9	-302.7	-1,292.5	-146.1	1.00	-1.00	0.00
7,200.0	11.78	256.82	7,030.6	-307.5	-1,313.2	-148.5	1.00	-1.00	0.00
7,300.0	10.78	256.82	7,128.7	-312.0	-1,332.2	-150.6	1.00	-1.00	0.00
7,400.0	9.78	256.82	7,227.1	-316.0	-1,349.6	-152.6	1.00	-1.00	0.00
7,500.0	8.78	256.82	7,325.8	-319.7	-1,365.3	-154.3	1.00	-1.00	0.00
7,600.0	7.78	256.82	7,424.7	-323.0	-1,379.3	-155.9	1.00	-1.00	0.00
7,700.0	6.78	256.82	7,523.9	-325.9	-1,391.6	-157.3	1.00	-1.00	0.00
7,800.0	5.78	256.82	7,623.3	-328.4	-1,402.3	-158.5	1.00	-1.00	0.00
7,900.0	4.78	256.82	7,722.9	-330.5	-1,411.2	-159.5	1.00	-1.00	0.00
8,000.0	3.78	256.82	7,822.6	-332.2	-1,418.5	-160.4	1.00	-1.00	0.00
8,100.0	2.78	256.82	7,922.5	-333.5	-1,424.0	-161.0	1.00	-1.00	0.00
8,200.0	1.78	256.82	8,022.4	-334.4	-1,427.9	-161.4	1.00	-1.00	0.00
8,300.0	0.78	256.82	8,122.4	-334.9	-1,430.1	-161.7	1.00	-1.00	0.00
8,377.6	0.00	0.00	8,200.0	-335.0	-1,430.6	-161.7	1.00	-1.00	0.00
Start 1874.6 hold at 8377.6 MD									
8,400.0	0.00	0.00	8,222.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
8,500.0	0.00	0.00	8,322.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
8,600.0	0.00	0.00	8,422.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
8,700.0	0.00	0.00	8,522.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
8,800.0	0.00	0.00	8,622.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
8,900.0	0.00	0.00	8,722.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
9,000.0	0.00	0.00	8,822.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
9,100.0	0.00	0.00	8,922.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
9,200.0	0.00	0.00	9,022.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
9,300.0	0.00	0.00	9,122.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
9,400.0	0.00	0.00	9,222.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
9,500.0	0.00	0.00	9,322.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
9,600.0	0.00	0.00	9,422.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
9,700.0	0.00	0.00	9,522.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well KEG SHELL FEDERAL COM #904H
Company:	DELAWARE BASIN WEST	**TVD Reference:**	KB=25 @ 3012.0usft
Project:	ATLAS PROSPECT (DBW)	**MD Reference:**	KB=25 @ 3012.0usft
Site:	KEG SHELL FED COM PROJECT	**North Reference:**	Grid
Well:	KEG SHELL FEDERAL COM #904H	**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)
9,800.0	0.00	0.00	9,622.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
9,900.0	0.00	0.00	9,722.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
10,000.0	0.00	0.00	9,822.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
10,100.0	0.00	0.00	9,922.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
10,200.0	0.00	0.00	10,022.4	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
10,251.1	0.00	0.00	10,073.5	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
(904H) KOP BOX:50' N & 0'S X 50' E&W									
10,252.2	0.00	0.00	10,074.6	-335.0	-1,430.6	-161.7	0.00	0.00	0.00
Start DLS 12.00 TFO 359.81									
10,300.0	5.73	359.81	10,122.3	-332.6	-1,430.6	-159.4	12.00	12.00	0.00
10,400.0	17.73	359.81	10,220.0	-312.3	-1,430.7	-139.2	12.00	12.00	0.00
10,500.0	29.73	359.81	10,311.4	-272.2	-1,430.8	-99.3	12.00	12.00	0.00
10,600.0	41.73	359.81	10,392.4	-213.9	-1,431.0	-41.4	12.00	12.00	0.00
10,700.0	53.73	359.81	10,459.6	-140.0	-1,431.2	32.0	12.00	12.00	0.00
10,800.0	65.73	359.81	10,509.9	-53.8	-1,431.5	117.6	12.00	12.00	0.00
10,810.7	67.01	359.81	10,514.1	-44.0	-1,431.5	127.3	12.00	12.00	0.00
FTP (KEG SHELL FED COM #904H)									
10,900.0	77.73	359.81	10,541.2	41.0	-1,431.8	211.7	12.00	12.00	0.00
10,997.7	89.45	359.81	10,552.0	137.9	-1,432.1	308.0	12.00	12.00	0.00
Start 12098.4 hold at 10997.7 MD									
11,000.0	89.45	359.81	10,552.1	140.2	-1,432.2	310.3	0.00	0.00	0.00
11,100.0	89.45	359.81	10,553.0	240.2	-1,432.5	409.6	0.00	0.00	0.00
11,200.0	89.45	359.81	10,554.0	340.2	-1,432.8	508.9	0.00	0.00	0.00
11,300.0	89.45	359.81	10,554.9	440.2	-1,433.1	608.2	0.00	0.00	0.00
11,400.0	89.45	359.81	10,555.9	540.2	-1,433.5	707.5	0.00	0.00	0.00
11,500.0	89.45	359.81	10,556.9	640.2	-1,433.8	806.9	0.00	0.00	0.00
11,600.0	89.45	359.81	10,557.8	740.2	-1,434.1	906.2	0.00	0.00	0.00
11,700.0	89.45	359.81	10,558.8	840.2	-1,434.5	1,005.5	0.00	0.00	0.00
11,800.0	89.45	359.81	10,559.7	940.2	-1,434.8	1,104.8	0.00	0.00	0.00
11,900.0	89.45	359.81	10,560.7	1,040.2	-1,435.1	1,204.1	0.00	0.00	0.00
12,000.0	89.45	359.81	10,561.6	1,140.2	-1,435.4	1,303.5	0.00	0.00	0.00
12,100.0	89.45	359.81	10,562.6	1,240.2	-1,435.8	1,402.8	0.00	0.00	0.00
12,200.0	89.45	359.81	10,563.6	1,340.2	-1,436.1	1,502.1	0.00	0.00	0.00
12,300.0	89.45	359.81	10,564.5	1,440.1	-1,436.4	1,601.4	0.00	0.00	0.00
12,400.0	89.45	359.81	10,565.5	1,540.1	-1,436.8	1,700.7	0.00	0.00	0.00
12,500.0	89.45	359.81	10,566.4	1,640.1	-1,437.1	1,800.0	0.00	0.00	0.00
12,600.0	89.45	359.81	10,567.4	1,740.1	-1,437.4	1,899.4	0.00	0.00	0.00
12,700.0	89.45	359.81	10,568.4	1,840.1	-1,437.8	1,998.7	0.00	0.00	0.00
12,708.3	89.45	359.81	10,568.4	1,848.4	-1,437.8	2,006.9	0.00	0.00	0.00
POI #1 (#904H LEASE X-ING)									
12,800.0	89.45	359.81	10,569.3	1,940.1	-1,438.1	2,098.0	0.00	0.00	0.00
12,900.0	89.45	359.81	10,570.3	2,040.1	-1,438.4	2,197.3	0.00	0.00	0.00
13,000.0	89.45	359.81	10,571.2	2,140.1	-1,438.7	2,296.6	0.00	0.00	0.00
13,100.0	89.45	359.81	10,572.2	2,240.1	-1,439.1	2,396.0	0.00	0.00	0.00
13,200.0	89.45	359.81	10,573.2	2,340.1	-1,439.4	2,495.3	0.00	0.00	0.00
13,300.0	89.45	359.81	10,574.1	2,440.1	-1,439.7	2,594.6	0.00	0.00	0.00
13,400.0	89.45	359.81	10,575.1	2,540.1	-1,440.1	2,693.9	0.00	0.00	0.00
13,500.0	89.45	359.81	10,576.0	2,640.1	-1,440.4	2,793.2	0.00	0.00	0.00
13,600.0	89.45	359.81	10,577.0	2,740.1	-1,440.7	2,892.5	0.00	0.00	0.00
13,700.0	89.45	359.81	10,577.9	2,840.1	-1,441.0	2,991.9	0.00	0.00	0.00
13,800.0	89.45	359.81	10,578.9	2,940.1	-1,441.4	3,091.2	0.00	0.00	0.00
13,900.0	89.45	359.81	10,579.9	3,040.1	-1,441.7	3,190.5	0.00	0.00	0.00
14,000.0	89.45	359.81	10,580.8	3,140.1	-1,442.0	3,289.8	0.00	0.00	0.00

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Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well KEG SHELL FEDERAL COM #904H
Company:	DELAWARE BASIN WEST	**TVD Reference:**	KB=25 @ 3012.0usft
Project:	ATLAS PROSPECT (DBW)	**MD Reference:**	KB=25 @ 3012.0usft
Site:	KEG SHELL FED COM PROJECT	**North Reference:**	Grid
Well:	KEG SHELL FEDERAL COM #904H	**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)
14,100.0	89.45	359.81	10,581.8	3,240.1	-1,442.4	3,389.1	0.00	0.00	0.00
14,200.0	89.45	359.81	10,582.7	3,340.0	-1,442.7	3,488.5	0.00	0.00	0.00
14,300.0	89.45	359.81	10,583.7	3,440.0	-1,443.0	3,587.8	0.00	0.00	0.00
14,400.0	89.45	359.81	10,584.7	3,540.0	-1,443.4	3,687.1	0.00	0.00	0.00
14,500.0	89.45	359.81	10,585.6	3,640.0	-1,443.7	3,786.4	0.00	0.00	0.00
14,600.0	89.45	359.81	10,586.6	3,740.0	-1,444.0	3,885.7	0.00	0.00	0.00
14,700.0	89.45	359.81	10,587.5	3,840.0	-1,444.3	3,985.0	0.00	0.00	0.00
14,800.0	89.45	359.81	10,588.5	3,940.0	-1,444.7	4,084.4	0.00	0.00	0.00
14,900.0	89.45	359.81	10,589.4	4,040.0	-1,445.0	4,183.7	0.00	0.00	0.00
15,000.0	89.45	359.81	10,590.4	4,140.0	-1,445.3	4,283.0	0.00	0.00	0.00
15,100.0	89.45	359.81	10,591.4	4,240.0	-1,445.7	4,382.3	0.00	0.00	0.00
15,200.0	89.45	359.81	10,592.3	4,340.0	-1,446.0	4,481.6	0.00	0.00	0.00
15,300.0	89.45	359.81	10,593.3	4,440.0	-1,446.3	4,581.0	0.00	0.00	0.00
15,400.0	89.45	359.81	10,594.2	4,540.0	-1,446.6	4,680.3	0.00	0.00	0.00
15,500.0	89.45	359.81	10,595.2	4,640.0	-1,447.0	4,779.6	0.00	0.00	0.00
15,600.0	89.45	359.81	10,596.2	4,740.0	-1,447.3	4,878.9	0.00	0.00	0.00
15,700.0	89.45	359.81	10,597.1	4,840.0	-1,447.6	4,978.2	0.00	0.00	0.00
15,800.0	89.45	359.81	10,598.1	4,940.0	-1,448.0	5,077.6	0.00	0.00	0.00
15,900.0	89.45	359.81	10,599.0	5,040.0	-1,448.3	5,176.9	0.00	0.00	0.00
16,000.0	89.45	359.81	10,600.0	5,140.0	-1,448.6	5,276.2	0.00	0.00	0.00
16,100.0	89.45	359.81	10,600.9	5,240.0	-1,449.0	5,375.5	0.00	0.00	0.00
16,200.0	89.45	359.81	10,601.9	5,339.9	-1,449.3	5,474.8	0.00	0.00	0.00
16,300.0	89.45	359.81	10,602.9	5,439.9	-1,449.6	5,574.1	0.00	0.00	0.00
16,400.0	89.45	359.81	10,603.8	5,539.9	-1,449.9	5,673.5	0.00	0.00	0.00
16,500.0	89.45	359.81	10,604.8	5,639.9	-1,450.3	5,772.8	0.00	0.00	0.00
16,600.0	89.45	359.81	10,605.7	5,739.9	-1,450.6	5,872.1	0.00	0.00	0.00
16,700.0	89.45	359.81	10,606.7	5,839.9	-1,450.9	5,971.4	0.00	0.00	0.00
16,800.0	89.45	359.81	10,607.7	5,939.9	-1,451.3	6,070.7	0.00	0.00	0.00
16,900.0	89.45	359.81	10,608.6	6,039.9	-1,451.6	6,170.1	0.00	0.00	0.00
17,000.0	89.45	359.81	10,609.6	6,139.9	-1,451.9	6,269.4	0.00	0.00	0.00
17,100.0	89.45	359.81	10,610.5	6,239.9	-1,452.2	6,368.7	0.00	0.00	0.00
17,200.0	89.45	359.81	10,611.5	6,339.9	-1,452.6	6,468.0	0.00	0.00	0.00
17,300.0	89.45	359.81	10,612.4	6,439.9	-1,452.9	6,567.3	0.00	0.00	0.00
17,400.0	89.45	359.81	10,613.4	6,539.9	-1,453.2	6,666.6	0.00	0.00	0.00
17,500.0	89.45	359.81	10,614.4	6,639.9	-1,453.6	6,766.0	0.00	0.00	0.00
17,600.0	89.45	359.81	10,615.3	6,739.9	-1,453.9	6,865.3	0.00	0.00	0.00
17,700.0	89.45	359.81	10,616.3	6,839.9	-1,454.2	6,964.6	0.00	0.00	0.00
17,800.0	89.45	359.81	10,617.2	6,939.9	-1,454.6	7,063.9	0.00	0.00	0.00
17,900.0	89.45	359.81	10,618.2	7,039.9	-1,454.9	7,163.2	0.00	0.00	0.00
17,995.5	89.45	359.81	10,619.1	7,135.4	-1,455.2	7,258.1	0.00	0.00	0.00
POI #2 (#904H LEASE X-ING)									
18,000.0	89.45	359.81	10,619.2	7,139.9	-1,455.2	7,262.6	0.00	0.00	0.00
18,100.0	89.45	359.81	10,620.1	7,239.8	-1,455.5	7,361.9	0.00	0.00	0.00
18,200.0	89.45	359.81	10,621.1	7,339.8	-1,455.9	7,461.2	0.00	0.00	0.00
18,300.0	89.45	359.81	10,622.0	7,439.8	-1,456.2	7,560.5	0.00	0.00	0.00
18,400.0	89.45	359.81	10,623.0	7,539.8	-1,456.5	7,659.8	0.00	0.00	0.00
18,500.0	89.45	359.81	10,623.9	7,639.8	-1,456.9	7,759.1	0.00	0.00	0.00
18,600.0	89.45	359.81	10,624.9	7,739.8	-1,457.2	7,858.5	0.00	0.00	0.00
18,700.0	89.45	359.81	10,625.9	7,839.8	-1,457.5	7,957.8	0.00	0.00	0.00
18,800.0	89.45	359.81	10,626.8	7,939.8	-1,457.8	8,057.1	0.00	0.00	0.00
18,900.0	89.45	359.81	10,627.8	8,039.8	-1,458.2	8,156.4	0.00	0.00	0.00
19,000.0	89.45	359.81	10,628.7	8,139.8	-1,458.5	8,255.7	0.00	0.00	0.00
19,100.0	89.45	359.81	10,629.7	8,239.8	-1,458.8	8,355.1	0.00	0.00	0.00
19,200.0	89.45	359.81	10,630.7	8,339.8	-1,459.2	8,454.4	0.00	0.00	0.00

ConocoPhillips

Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well KEG SHELL FEDERAL COM #904H
Company:	DELAWARE BASIN WEST	**TVD Reference:**	KB=25 @ 3012.0usft
Project:	ATLAS PROSPECT (DBW)	**MD Reference:**	KB=25 @ 3012.0usft
Site:	KEG SHELL FED COM PROJECT	**North Reference:**	Grid
Well:	KEG SHELL FEDERAL COM #904H	**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)
19,300.0	89.45	359.81	10,631.6	8,439.8	-1,459.5	8,553.7	0.00	0.00	0.00
19,356.3	89.45	359.81	10,632.2	8,496.1	-1,459.7	8,609.6	0.00	0.00	0.00
POI #3 (#904H LEASE X-ING)									
19,400.0	89.45	359.81	10,632.6	8,539.8	-1,459.8	8,653.0	0.00	0.00	0.00
19,500.0	89.45	359.81	10,633.5	8,639.8	-1,460.2	8,752.3	0.00	0.00	0.00
19,600.0	89.45	359.81	10,634.5	8,739.8	-1,460.5	8,851.6	0.00	0.00	0.00
19,700.0	89.45	359.81	10,635.4	8,839.8	-1,460.8	8,951.0	0.00	0.00	0.00
19,800.0	89.45	359.81	10,636.4	8,939.8	-1,461.1	9,050.3	0.00	0.00	0.00
19,900.0	89.45	359.81	10,637.4	9,039.8	-1,461.5	9,149.6	0.00	0.00	0.00
20,000.0	89.45	359.81	10,638.3	9,139.8	-1,461.8	9,248.9	0.00	0.00	0.00
20,100.0	89.45	359.81	10,639.3	9,239.7	-1,462.1	9,348.2	0.00	0.00	0.00
20,200.0	89.45	359.81	10,640.2	9,339.7	-1,462.5	9,447.6	0.00	0.00	0.00
20,300.0	89.45	359.81	10,641.2	9,439.7	-1,462.8	9,546.9	0.00	0.00	0.00
20,400.0	89.45	359.81	10,642.2	9,539.7	-1,463.1	9,646.2	0.00	0.00	0.00
20,500.0	89.45	359.81	10,643.1	9,639.7	-1,463.4	9,745.5	0.00	0.00	0.00
20,600.0	89.45	359.81	10,644.1	9,739.7	-1,463.8	9,844.8	0.00	0.00	0.00
20,700.0	89.45	359.81	10,645.0	9,839.7	-1,464.1	9,944.1	0.00	0.00	0.00
20,800.0	89.45	359.81	10,646.0	9,939.7	-1,464.4	10,043.5	0.00	0.00	0.00
20,900.0	89.45	359.81	10,647.0	10,039.7	-1,464.8	10,142.8	0.00	0.00	0.00
21,000.0	89.45	359.81	10,647.9	10,139.7	-1,465.1	10,242.1	0.00	0.00	0.00
21,100.0	89.45	359.81	10,648.9	10,239.7	-1,465.4	10,341.4	0.00	0.00	0.00
21,200.0	89.45	359.81	10,649.8	10,339.7	-1,465.8	10,440.7	0.00	0.00	0.00
21,300.0	89.45	359.81	10,650.8	10,439.7	-1,466.1	10,540.1	0.00	0.00	0.00
21,400.0	89.45	359.81	10,651.7	10,539.7	-1,466.4	10,639.4	0.00	0.00	0.00
21,500.0	89.45	359.81	10,652.7	10,639.7	-1,466.7	10,738.7	0.00	0.00	0.00
21,600.0	89.45	359.81	10,653.7	10,739.7	-1,467.1	10,838.0	0.00	0.00	0.00
21,700.0	89.45	359.81	10,654.6	10,839.7	-1,467.4	10,937.3	0.00	0.00	0.00
21,800.0	89.45	359.81	10,655.6	10,939.7	-1,467.7	11,036.7	0.00	0.00	0.00
21,900.0	89.45	359.81	10,656.5	11,039.7	-1,468.1	11,136.0	0.00	0.00	0.00
22,000.0	89.45	359.81	10,657.5	11,139.6	-1,468.4	11,235.3	0.00	0.00	0.00
22,100.0	89.45	359.81	10,658.5	11,239.6	-1,468.7	11,334.6	0.00	0.00	0.00
22,200.0	89.45	359.81	10,659.4	11,339.6	-1,469.0	11,433.9	0.00	0.00	0.00
22,300.0	89.45	359.81	10,660.4	11,439.6	-1,469.4	11,533.2	0.00	0.00	0.00
22,400.0	89.45	359.81	10,661.3	11,539.6	-1,469.7	11,632.6	0.00	0.00	0.00
22,500.0	89.45	359.81	10,662.3	11,639.6	-1,470.0	11,731.9	0.00	0.00	0.00
22,600.0	89.45	359.81	10,663.2	11,739.6	-1,470.4	11,831.2	0.00	0.00	0.00
22,700.0	89.45	359.81	10,664.2	11,839.6	-1,470.7	11,930.5	0.00	0.00	0.00
22,800.0	89.45	359.81	10,665.2	11,939.6	-1,471.0	12,029.8	0.00	0.00	0.00
22,900.0	89.45	359.81	10,666.1	12,039.6	-1,471.4	12,129.2	0.00	0.00	0.00
22,966.1	89.45	359.81	10,666.8	12,105.7	-1,471.6	12,194.8	0.00	0.00	0.00
LTP (KEG SHELL FED COM #904H)									
23,000.0	89.45	359.81	10,667.1	12,139.6	-1,471.7	12,228.5	0.00	0.00	0.00
23,096.1	89.45	359.81	10,668.0	12,235.7	-1,472.0	12,323.9	0.00	0.00	0.00
TD at 23096.1 - PBHL (KEG SHELL FED COM #904H)									

ConocoPhillips
Planning Report

Database:	EDT 17 Central Planning Prod	**Local Co-ordinate Reference:**	Well KEG SHELL FEDERAL COM #904H
Company:	DELAWARE BASIN WEST	**TVD Reference:**	KB=25 @ 3012.0usft
Project:	ATLAS PROSPECT (DBW)	**MD Reference:**	KB=25 @ 3012.0usft
Site:	KEG SHELL FED COM PROJECT	**North Reference:**	Grid
Well:	KEG SHELL FEDERAL COM #904H	**Survey Calculation Method:**	Minimum Curvature
Wellbore:	OWB		
Design:	PWP1		

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
(904H)TNGNT LIMITER - plan misses target center by 1.1usft at 6900.9usft MD (6739.6 TVD, -291.9 N, -1246.3 E) - Rectangle (sides W50.0 H50.0 D4,515.0)	346.10	256.82	6,739.3	-292.1	-1,247.3	363,896.43	586,023.15	32° 0' 0.581 N	104° 3' 21.004 W
(904H) KOP BOX:50' N - plan misses target center by 0.1usft at 10251.1usft MD (10073.5 TVD, -335.0 N, -1430.6 E) - Rectangle (sides W100.0 H50.0 D1,873.5)	0.00	179.86	10,073.5	-335.0	-1,430.6	363,853.53	585,839.85	32° 0' 0.161 N	104° 3' 23.134 W
FTP (KEG SHELL FED - plan misses target center by 39.9usft at 10810.7usft MD (10514.1 TVD, -44.0 N, -1431.5 E) - Circle (radius 50.0)	0.00	0.00	10,552.0	-56.5	-1,429.8	364,132.00	585,840.70	32° 0' 2.917 N	104° 3' 23.116 W
POI #1 (#904H LEASE - plan misses target center by 1.7usft at 12708.3usft MD (10568.4 TVD, 1848.4 N, -1437.8 E) - Point	0.00	0.01	10,567.5	1,848.4	-1,436.4	366,036.90	585,834.10	32° 0' 21.769 N	104° 3' 23.136 W
POI #2 (#904H LEASE - plan misses target center by 1.2usft at 17995.5usft MD (10619.1 TVD, 7135.4 N, -1455.2 E) - Point	0.00	0.00	10,618.1	7,135.4	-1,454.5	371,323.90	585,816.00	32° 1' 14.093 N	104° 3' 23.189 W
POI #3 (#904H LEASE - plan misses target center by 2.2usft at 19356.3usft MD (10632.2 TVD, 8496.1 N, -1459.7 E) - Point	0.00	0.00	10,630.0	8,496.1	-1,459.2	372,684.60	585,811.30	32° 1' 27.559 N	104° 3' 23.203 W
LTP (KEG SHELL FED - plan misses target center by 1.2usft at 22966.1usft MD (10666.8 TVD, 12105.7 N, -1471.6 E) - Circle (radius 50.0)	90.00	359.86	10,668.0	12,105.7	-1,471.6	376,294.20	585,798.90	32° 2' 3.282 N	104° 3' 23.240 W
PBHL (KEG SHELL FEI - plan hits target center - Rectangle (sides W100.0 H12,292.2 D20.0)	0.55	359.84	10,668.0	12,235.7	-1,472.0	376,424.20	585,798.50	32° 2' 4.569 N	104° 3' 23.240 W

Casing Points

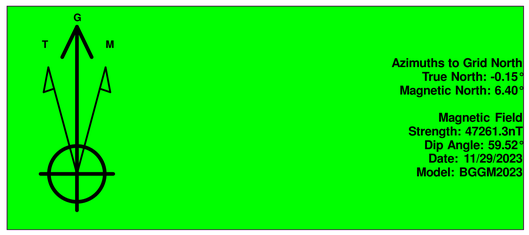
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
23,096.2	10,668.0	5-1/2" Production Casing	5-1/2	6-3/4

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
1,500.0	1,500.0	0.0	0.0	Start Build 2.00
2,236.4	2,228.3	-21.5	-91.7	Start 4668.4 hold at 2236.4 MD
6,904.8	6,743.3	-292.1	-1,247.3	Start Drop -1.00
8,377.6	8,200.0	-335.0	-1,430.6	Start 1874.6 hold at 8377.6 MD
10,252.2	10,074.6	-335.0	-1,430.6	Start DLS 12.00 TFO 359.81
10,997.7	10,552.0	137.9	-1,432.1	Start 12098.4 hold at 10997.7 MD
23,096.1	10,668.0	12,235.7	-1,472.0	TD at 23096.1

ConocoPhillips

Project:	ATLAS PROSPECT (DBW)
Site:	KEG SHELL FED COM PROJECT
Well:	KEG SHELL FEDERAL COM #904H
Wellbore:	OWB
Design:	PWP1
GL:	2987.0
KB=25 @ 3012.0usft	



Azimuths to Grid North
True North: -0.15°
Magnetic North: 6.40°

Magnetic Field
Strength: 47261.3nT
Dip Angle: 59.52°
Date: 11/29/2023
Model: BGGM2023

WELL DETAILS: KEG SHELL FEDERAL COM #904H

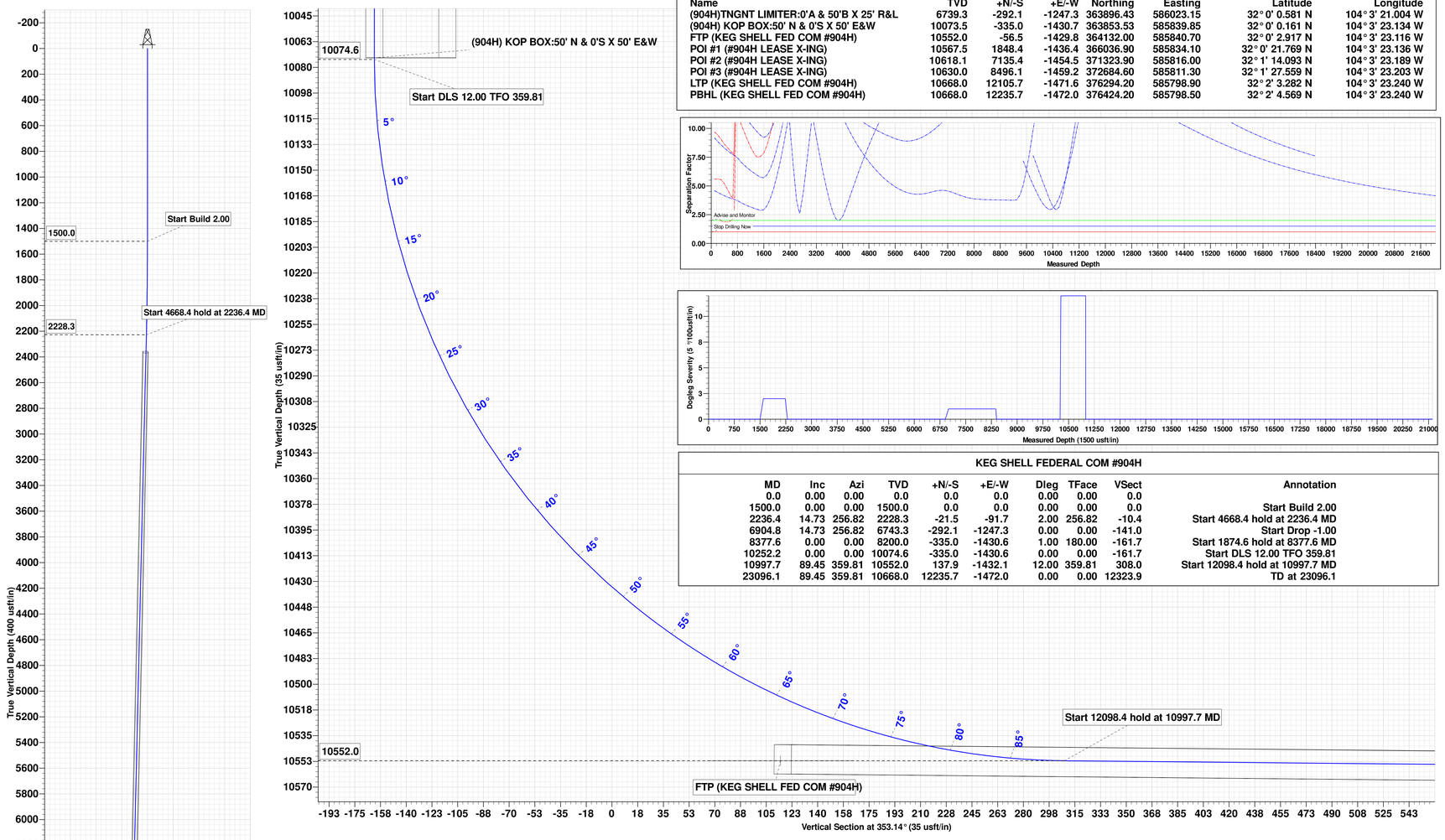
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	364188.50	587270.50	32° 0' 3.439 N	104° 3' 6.510 W

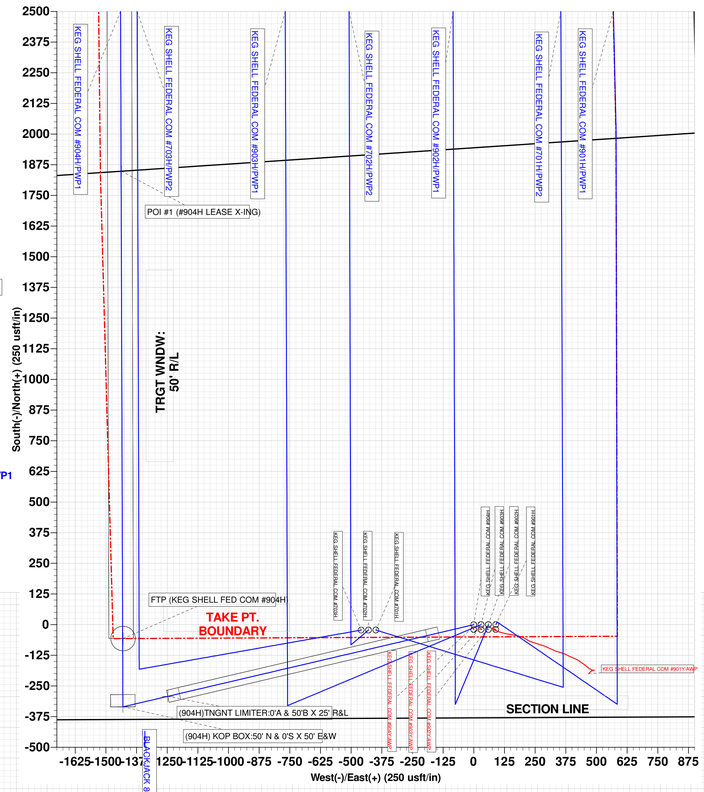
DESIGN TARGET DETAILS

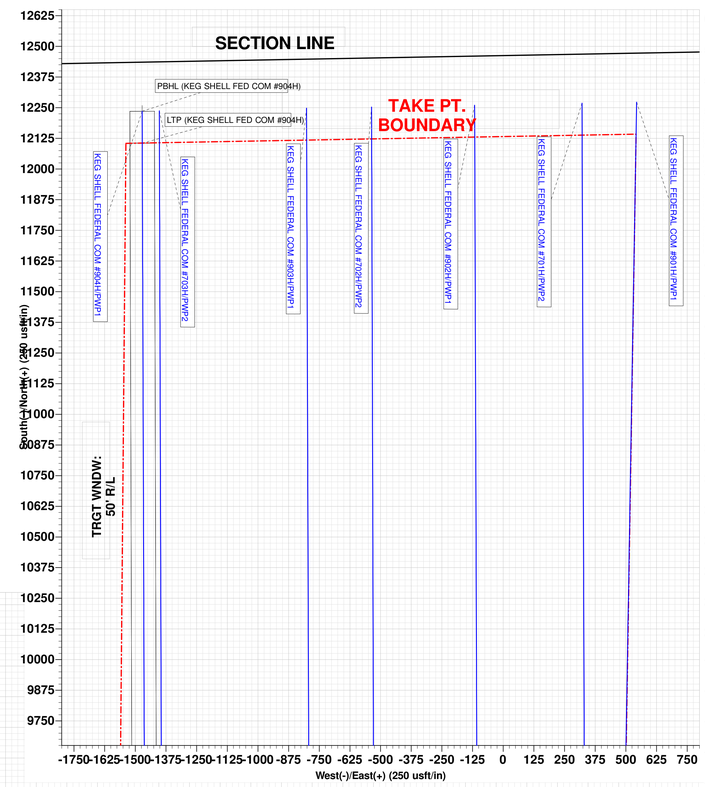
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
(904H)TNGNT LIMITER:0'A & 50'B X 25' R&L	6739.3	-292.1	-1247.3	363896.43	586023.15	32° 0' 0.581 N	104° 3' 21.004 W
(904H) KOP BOX:50' N & 0'S X 50' E&W	10073.5	-335.0	-1430.7	363853.53	585839.85	32° 0' 0.161 N	104° 3' 23.134 W
FTP (KEG SHELL FED COM #904H)	10552.0	-56.5	-1429.8	364132.00	585840.70	32° 0' 2.917 N	104° 3' 23.116 W
POI #1 (#904H LEASE X-ING)	10567.5	1848.4	-1436.4	366036.90	585834.10	32° 0' 21.769 N	104° 3' 23.136 W
POI #2 (#904H LEASE X-ING)	10618.1	7135.4	-1454.5	371323.90	585816.00	32° 1' 14.093 N	104° 3' 23.189 W
POI #3 (#904H LEASE X-ING)	10630.0	8496.1	-1459.2	372684.60	585811.30	32° 1' 27.559 N	104° 3' 23.203 W
LTP (KEG SHELL FED COM #904H)	10668.0	12105.7	-1471.6	376294.20	585798.90	32° 2' 3.282 N	104° 3' 23.240 W
PBHL (KEG SHELL FED COM #904H)	10668.0	12235.7	-1472.0	376424.20	585798.50	32° 2' 4.569 N	104° 3' 23.240 W

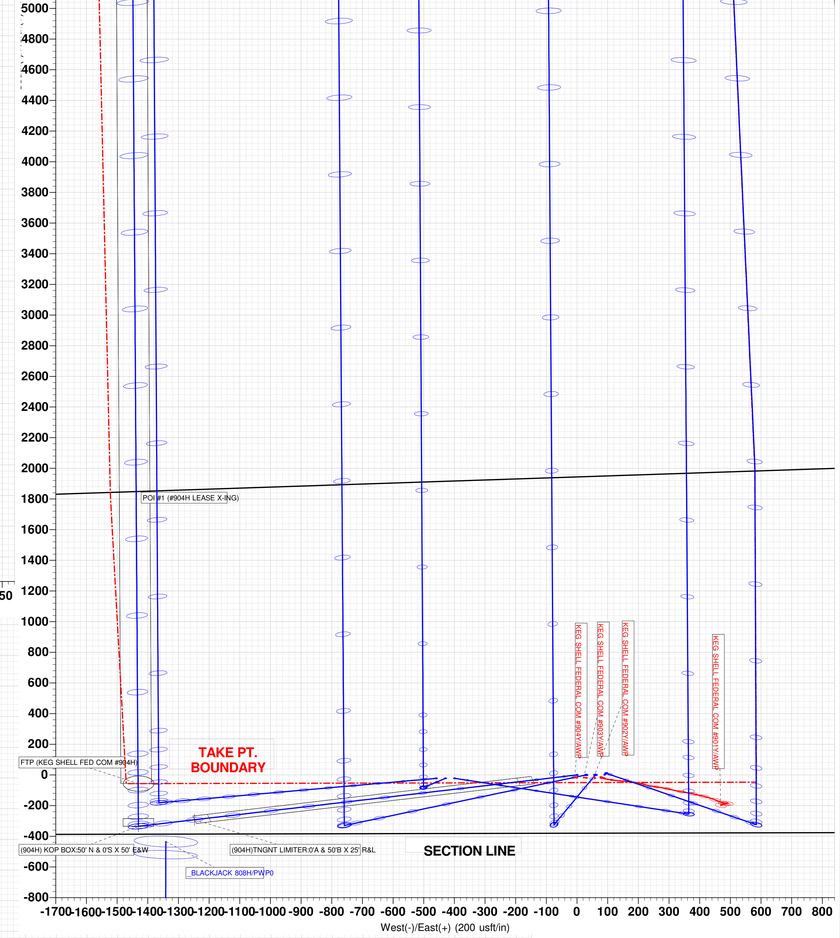
KEG SHELL FEDERAL COM #904H

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	
1500.0	0.00	0.00	1500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2236.4	14.73	256.82	2228.3	-21.5	-91.7	2.00	256.82	-10.4	Start 4668.4 hold at 2236.4 MD
6904.8	14.73	256.82	6743.3	-292.1	-1247.3	0.00	0.00	-141.0	Start Drop -1.00
8377.6	0.00	0.00	8200.0	-335.0	-1430.6	1.00	180.00	-161.7	Start 1874.6 hold at 8377.6 MD
10252.2	0.00	0.00	10074.6	-335.0	-1430.6	0.00	0.00	-161.7	Start DLS 12.00 TFO 359.81
10997.7	89.45	359.81	10552.0	137.9	-1432.1	12.00	359.81	308.0	Start 12098.4 hold at 10997.7 MD
23096.1	89.45	359.81	10668.0	12235.7	-1472.0	0.00	0.00	12323.9	TD at 23096.1









TRGT WNDW: 10' A/B

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG
LEASE NO.:	**NMNM106909**
LOCATION:	Section 35, T.26 S, R.28 E., NMPM
COUNTY:	Eddy County, New Mexico
WELL NAME & NO.:	Keg Shell Fed Com 901H
SURFACE HOLE FOOTAGE:	380'/S & 825'/E
BOTTOM HOLE FOOTAGE:	200'/N & 330'/E

WELL NAME & NO.:	Keg Shell Fed Com 902H
SURFACE HOLE FOOTAGE:	380'/S & 855'/E
BOTTOM HOLE FOOTAGE:	200'/N & 990'/E

WELL NAME & NO.:	Keg Shell Fed Com 903H
SURFACE HOLE FOOTAGE:	380'/S & 885'/E
BOTTOM HOLE FOOTAGE:	200'/N & 1675'/E

WELL NAME & NO.:	Keg Shell Fed Com 904H
SURFACE HOLE FOOTAGE:	380'/S & 915'/E
BOTTOM HOLE FOOTAGE:	200'/N & 2345'/E

*Changes approved through engineering via **Sundry 2757362,2757361,2757357,2757359** on **11-17-2023**. Any previous COAs not addressed within the updated COAs still apply.*

COA

H_2S	○ Yes	◉ No		
Potash / WIPP	◉ None	○ Secretary	○ R-111-P	☐ WIPP
Cave / Karst	○ Low	◉ Medium	○ High	○ Critical
Wellhead	○ Conventional	◉ Multibowl	○ Both	○ Diverter
Cementing	☐ Primary Squeeze	☐ Cont. Squeeze	☐ EchoMeter	☐ DV Tool
Special Req	☐ Break Testing	☐ Water Disposal	☑ COM	☐ Unit
Variance	☑ Flex Hose	☐ Casing Clearance	☐ Pilot Hole	☐ Capitan Reef
Variance	☐ Four-String	☐ Offline Cementing	☑ Fluid-Filled	☐ Open Annulus
☐ **Batch APD / Sundry**				

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area must meet all requirements from **43 CFR 3176**, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **13-3/8** inch surface casing shall be set at approximately **400** feet (a minimum of 70 feet (Eddy County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.

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

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

2. The minimum required fill of cement behind the **10-3/4** 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.

    ❖ In Medium Cave/Karst 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 **7-5/8** inch production liner is:
    - Cement should tie-back at least **100 feet** into previous casing string. 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.

4. The minimum required fill of cement behind the **5-1/2** inch production casing is:
   - Cement should tie-back **100 feet** into the previous casing. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'

2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the 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 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 3171 and 3172.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

GENERAL REQUIREMENTS

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

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

☒ Eddy County
Email **or** call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220, **BLM_NM_CFO_DrillingNotifications@BLM.GOV**
(575) 361-2822

☒ Lea County
Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240,
(575) 689-5981

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per **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.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a

digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

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

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

3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing 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 part 3170 Subpart 3172** 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 water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

e. The results of the test shall be reported to the appropriate BLM office.

f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **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.

ZS 11/17/2023

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 (H_2S).
b. The proper use and maintenance of personal protective equipment and life support systems.
c. The proper use of H_2S 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 H_2S 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. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S 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 H_2S 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
DALLAS DALEY	432-818-2329

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

COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

Well pad will be 490' X 400' with cellar in center of pad

Flare Lines will be from both Choke Manifold & Separator to edge of location.

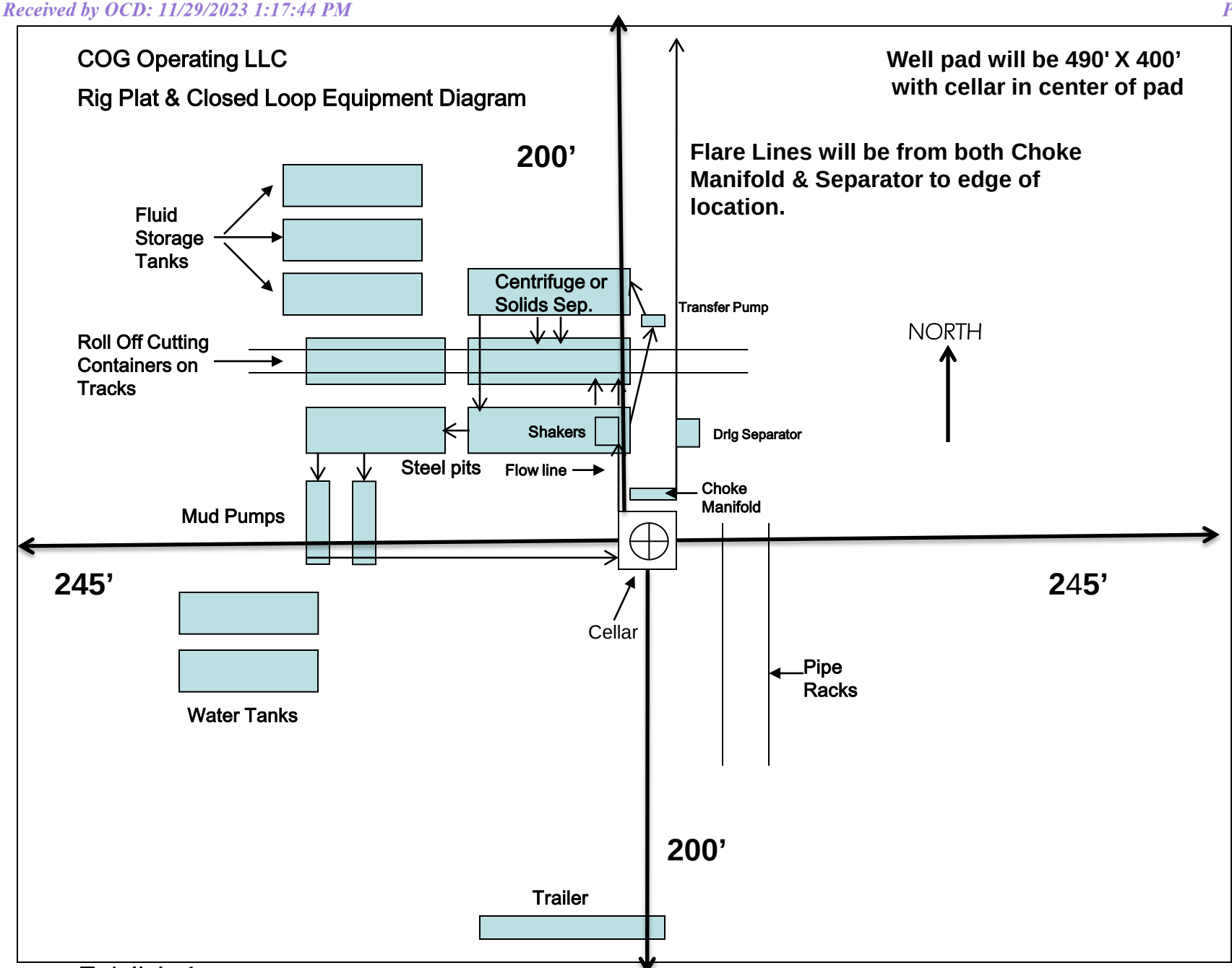


Exhibit 1

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

COG Operating, LLC - Keg Shell Federal Com 904H

1. Geologic Formations

TVD of target	10,674' EOL	Pilot hole depth	NA
MD at TD:	23,096'	Deepest expected fresh water:	0'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	NP	Water	
Top of Salt	823	Salt	
Base of Salt	2437	Salt	
Lamar	2602	Salt Water	
Bell Canyon	2687	Salt Water	
Cherry Canyon	3507	Oil/Gas	
Brushy Canyon	5089	Oil/Gas	
Bone Spring	6245	Oil/Gas	
Bone Spring 1st Sand	7163	Oil/Gas	
Bone Spring 2nd Sand	7936	Oil/Gas	
Bone Spring 3rd Carb	8257	Oil/Gas	
Bone Spring 3rd Sand	8993	Oil/Gas	
Wolfcamp A	9525	Oil/Gas	
Wolfcamp B	9756	Oil/Gas	
Wolfcamp C	10268	Target 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	750	13.38"	54.5	J55	BTC	3.29	2.85	20.87	22.24
12.250"	0	2600	10.750"	45.5	J55	BTC-SC	1.72	0.97	6.04	6.73
8.75"	2400	10400	7.625"	29.7	P110-ICY	W513	1.51	1.89	3.46	2.08
6.75"	0	10000	5.5"	23	P110-CY	BTC	2.24	2.64	3.17	3.17
6.75"	10000	23,096	5.5"	23	P110-CY	W441	2.10	2.48	2.97	2.70
					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.

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

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3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	310	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl2
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Int. #1	310	12.8	1.75	9.21	12	Lead: Class C + 4% Gel + 1% CaCl2
	110	14.8	1.35	6.6	8	Tail: Class C + 2% CaCl2
Inter. #2	610	10.5	3.3	22	24	Halliburton tunded light
	120	14.8	1.35	6.6	8	Tail: Class H
Prod	627	12.5	1.48	10.7	72	Lead: 50:50:10 H Blend
	980	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%
1st Intermediate	0’	50%
2nd Intermediate	2,400'	20% OH in Lateral (KOP to EOL)
Production	9,500'	% OH in Lateral (KOP to EOL)

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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.

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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 - 9	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 - Keg Shell Federal Com 904H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	6940 psi at 10674' TVD
Abnormal Temperature	NO 165 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

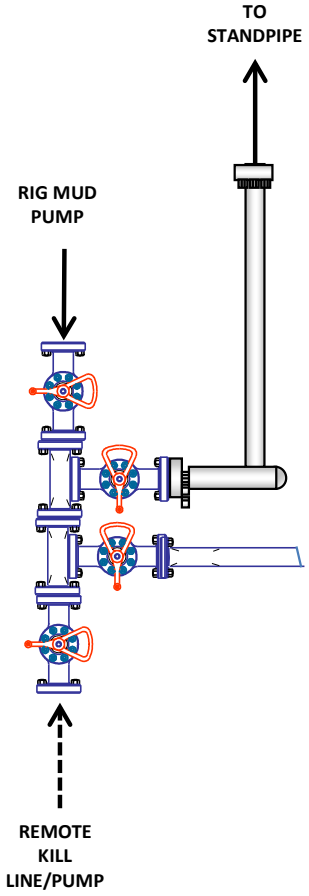
8. Other Facets of Operation

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

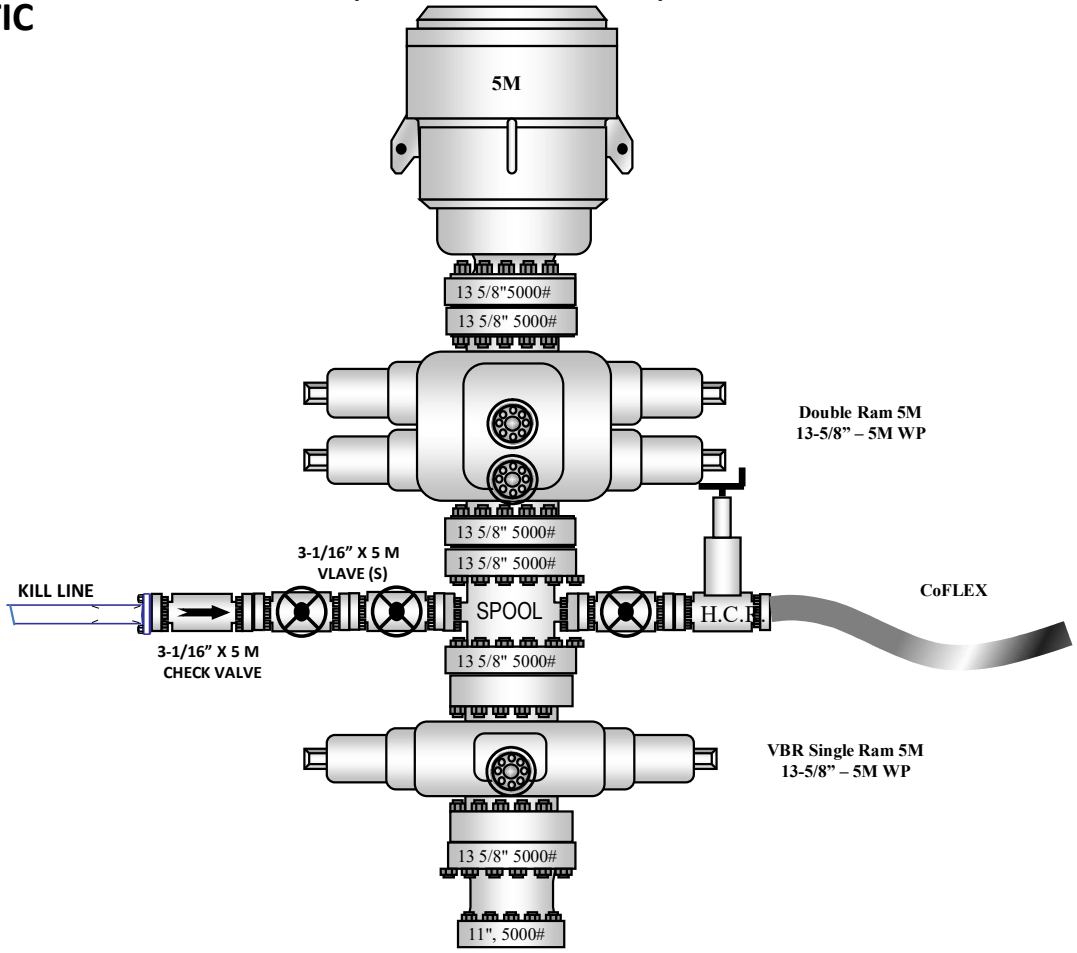
x	H2S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

5M BOP Stack

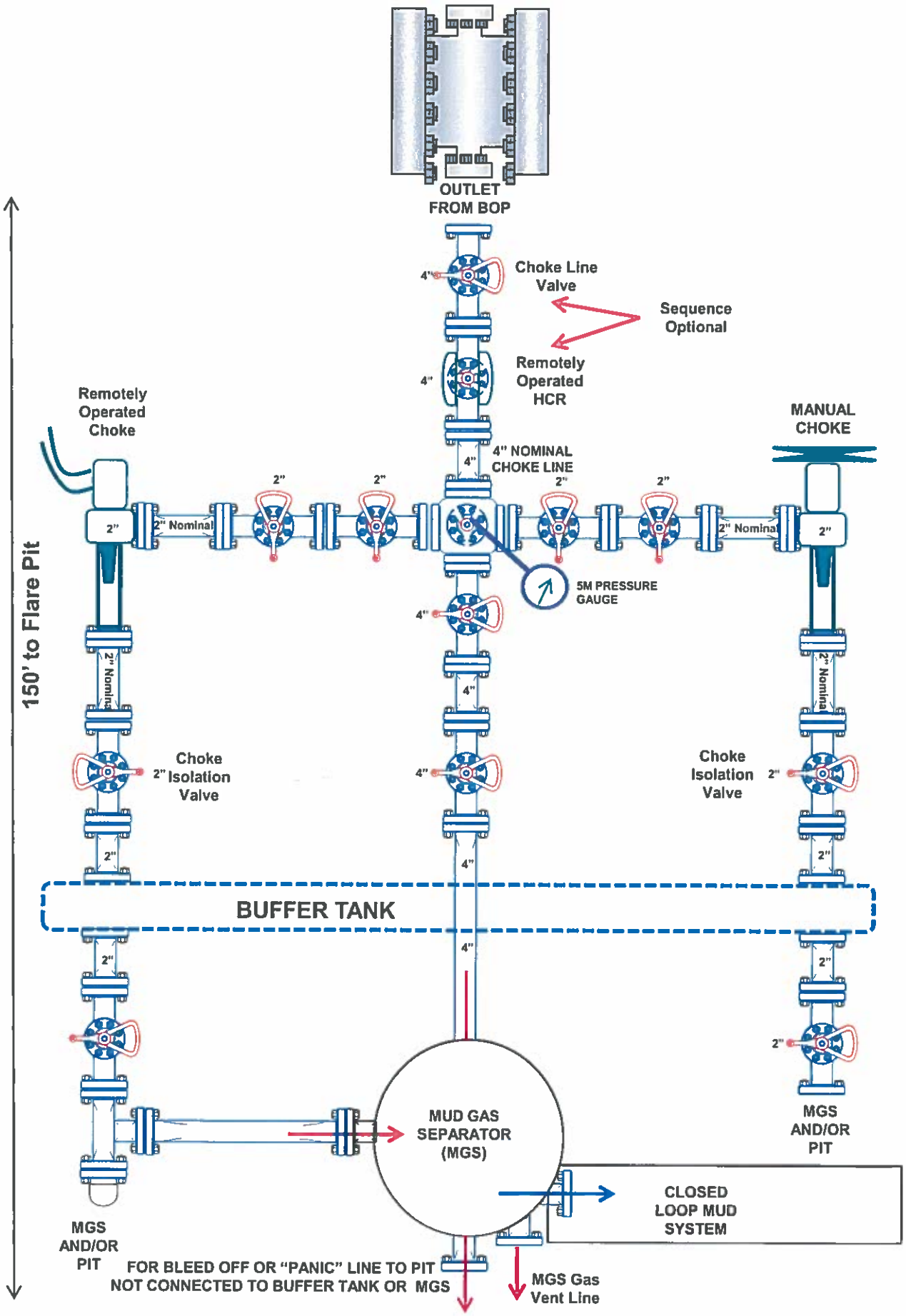
10M REMOTE KILL SCHEMATIC



5M BOP Stack
(2.5M Annular)

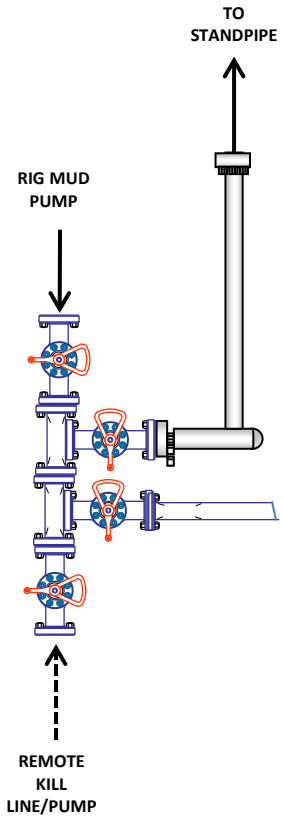


5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)

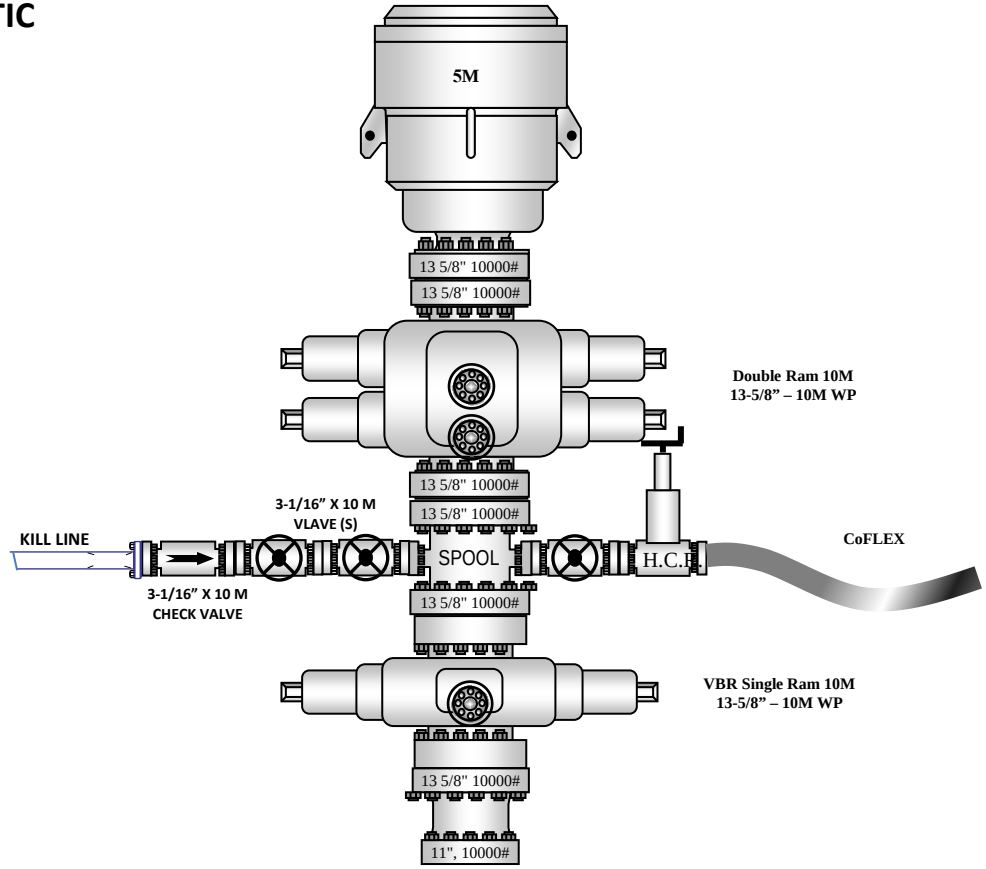


10M BOP Stack

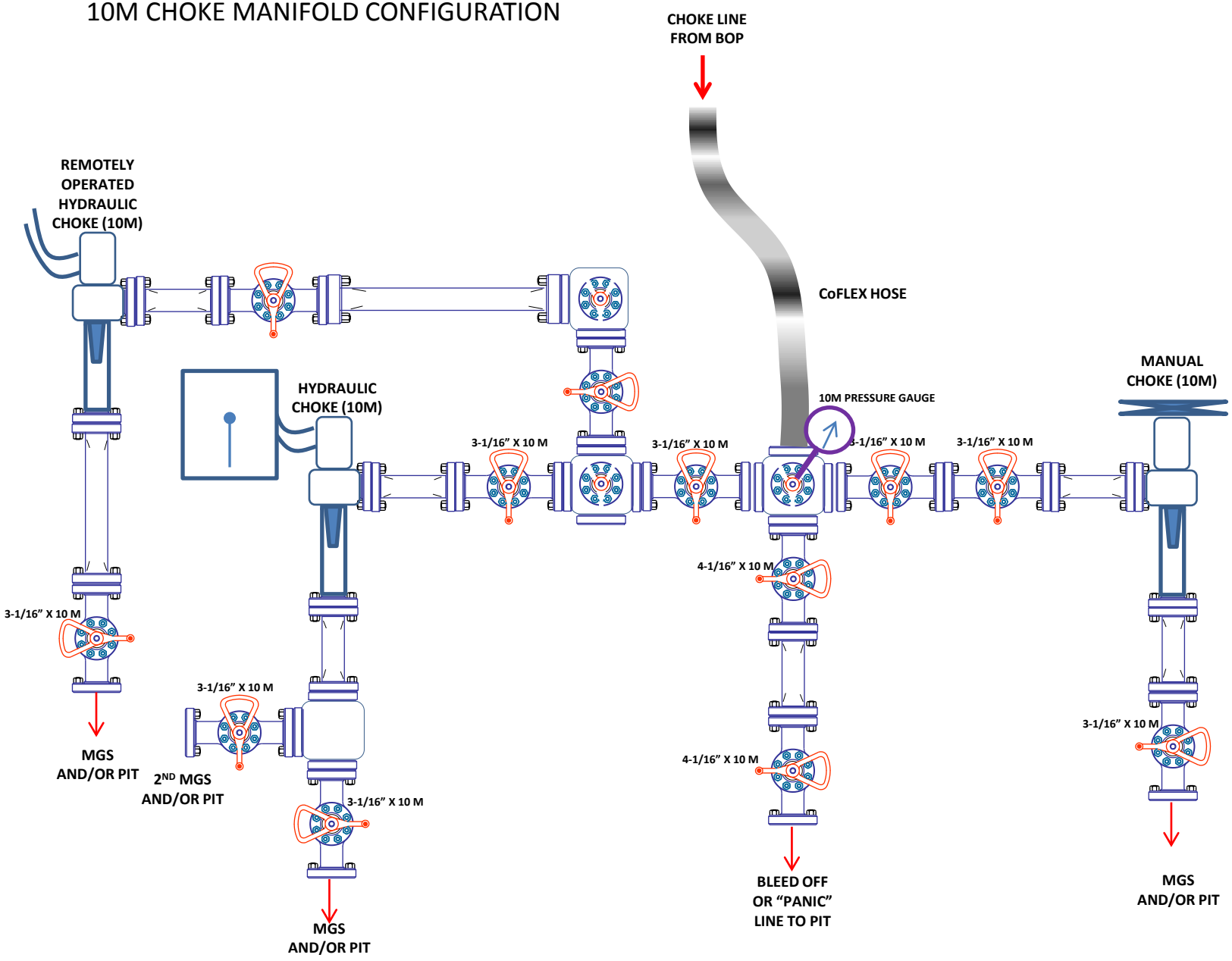
10M REMOTE KILL SCHEMATIC



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 289402

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 289402
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
ward.rikala	Notify OCD 24 hours prior to casing & cement	12/1/2023
ward.rikala	Will require a File As Drilled C-102 and a Directional Survey with the C-104	12/1/2023
ward.rikala	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	12/1/2023
ward.rikala	Cement is required to circulate on both surface and intermediate1 strings of casing	12/1/2023
ward.rikala	If cement does not circulate on any string, a CBL is required for that string of casing	12/1/2023
ward.rikala	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	12/1/2023