

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

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

1a. Type of work: <input type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No.  6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No.  <div style="text-align: center; font-weight: bold;">[331868]</div>
2. Name of Operator <div style="text-align: center; font-weight: bold;">[229137]</div>		9. API Well No. <div style="text-align: center; font-weight: bold;">30-025-49676</div>
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory <div style="text-align: center; font-weight: bold;">[96689]</div>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.  
 Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

**NGMP Rec 12/21/2021**

**SL**

(Continued on page 2)



**KZ**  
12/21/2021

\*(Instructions on page 2)

## DISTRICT I

1825 N. FRENCH DR., HOBBS, NM 88240  
Phone: (575) 383-6161 Fax: (575) 383-0720

## 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) 334-8170

## DISTRICT IV

1220 S. ST. FRANCIS DR., SANTA FE, NM 87505  
Phone: (505) 478-3480 Fax: (505) 478-3482

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 <b>30-025- 49676</b>		Pool Code <b>96689</b>	Pool Name <b>Brinninstool; Wolfcamp, West</b>
Property Code <b>331868</b>	Property Name <b>SUPREME FEDERAL COM</b>		Well Number <b>607H</b>
OGRID No. <b>229137</b>	Operator Name <b>COG OPERATING, LLC</b>		Elevation <b>3691.9'</b>

## Surface Location

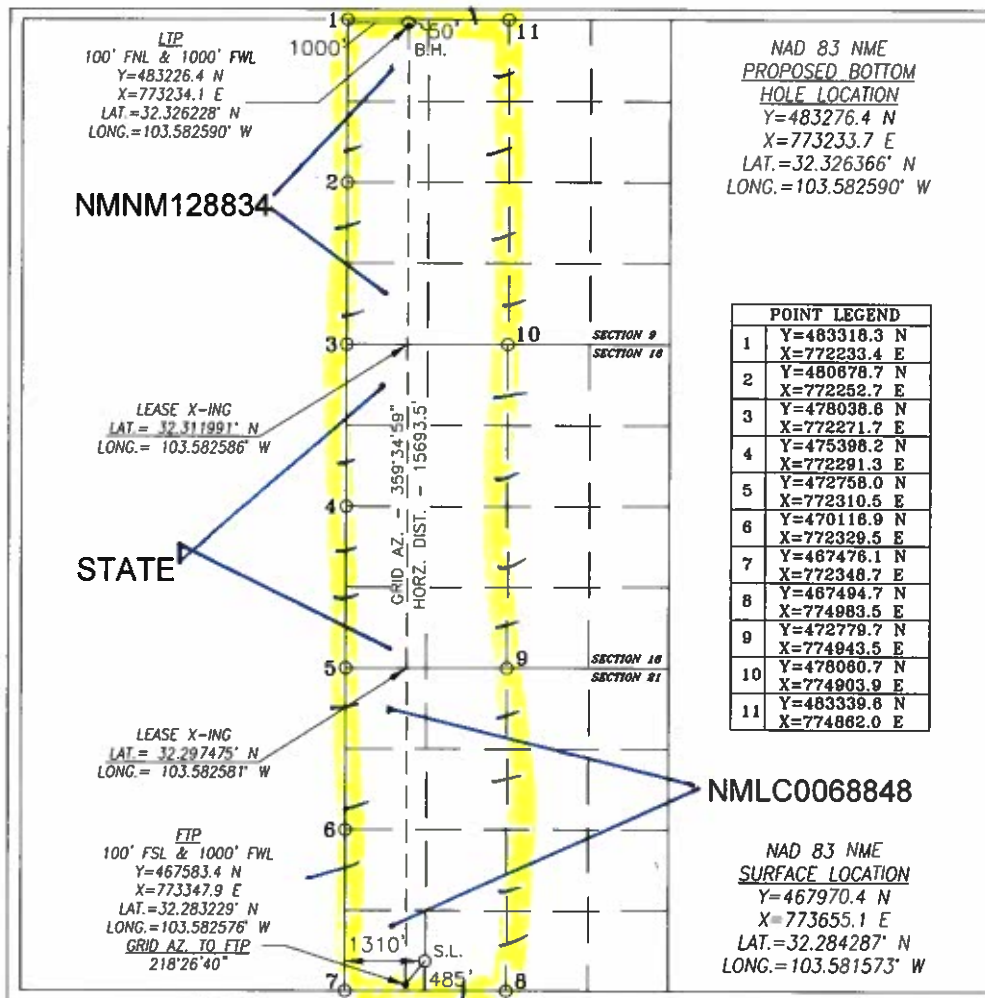
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	21	23-S	33-E		485	SOUTH	1310	WEST	LEA

## 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
D	9	23-S	33-E		50	NORTH	1000	WEST	LEA

Dedicated Acres <b>960</b>	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



## 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** 6-25-2021

Signature Date

**Mayte Reyes**

Printed Name

**mayte.x.reyes@conocophillips.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.

**MAY 13, 2021**

Date of Survey

Signature & Seal of Professional Surveyor



**Chad Hargrow** 5/20/21

Certificate No. **CHAD HARGROW** 17777  
W.O. # 21-488 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:** 06 / 25 / 21

**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
Supreme Federal Com 607H	30-025-	N-21-23S-33E	485 FSL & 1310 FWL	± 1400	± 2240	± 4900
	<b>30-025-49676</b>					

**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
Supreme Federal Com 607H	Pending		± 25 days from spud	TBD	TBD	TBD
	<b>30-025-49676</b>					

**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:

Initial separation equipment will be sized with adequate retention time to effectively separate all phases of production and capture gas prior to liquid phases entering storage tanks.

## **VII. Operational Practices**

Actions Operator will take to comply with the requirements below:

- Install VCU on all vent lines from tanks to combust gas emitted due to normal tank breathing
- All flare stacks are equipped with auto ignition devices and are located at a minimum of 150' from storage tanks and wellheads
- Install meters on all flare lines to quantify volume of gas being flared during an upset condition
- A properly sized mud gas separator and flare stack located a minimum of 100 feet from the nearest surface hole location will be used to combust natural gas from normal drilling operations. Will report natural gas vented or flared due to an emergency or malfunction.

## **VIII. Best Management Practices**

Operator's best management practices to minimize venting during active and planned maintenance:

Operations plan will be to shut in production for planned maintenance activities that may result in venting of natural gas.

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

Signature:
Printed Name: Mayte Reyes
Title: Sr. Regulatory Coordinator
E-mail Address: mayte.x.reyes@conocophillips.com
Date: 6/25/2021
Phone: 575-748-6945
<b>OIL CONSERVATION DIVISION</b> <b>(Only applicable when submitted as a standalone form)</b>
Approved By:
Title:
Approval Date:
Conditions of Approval:





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

# APD Print Report

12/02/2021

APD ID: 10400076517

Submission Date: 06/25/2021

Highlighted data  
reflects the most  
recent changes

Operator Name: COG OPERATING LLC

Federal/Indian APD: FED

Well Name: SUPREME FEDERAL COM

Well Number: 607H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Application

### Section 1 - General

APD ID: 10400076517

Tie to previous NOS?

Submission Date: 06/25/2021

BLM Office: Hobbs

User: MAYTE REYES

Title: Regulatory Analyst

Federal/Indian APD: FED

Is the first lease penetrated for production Federal or Indian? FED

Lease number: NMLC0068848

Lease Acres:

Surface access agreement in place?

Allotted?

Reservation:

Agreement in place? NO

Federal or Indian agreement:

Agreement number:

Agreement name:

Keep application confidential? Y

Permitting Agent? NO

APD Operator: COG OPERATING LLC

Operator letter of designation:

### Operator Info

Operator Organization Name: COG OPERATING LLC

Operator Address: 600 West Illinois Ave

Zip: 79701

Operator PO Box:

Operator City: Midland

State: TX

Operator Phone: (432)683-7443

Operator Internet Address: RODOM@CONCHO.COM

### Section 2 - Well Information

Well in Master Development Plan? EXISTING

Master Development Plan name: No

Well in Master SUPO?

Master SUPO name:

Approval Date: 12/02/2021

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Well in Master Drilling Plan?****Master Drilling Plan name:****Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Well API Number:****Field/Pool or Exploratory?** Field and Pool**Field Name:** BRINNINSTOOL**Pool Name:** WOLFCAMP,  
WEST**Is the proposed well in an area containing other mineral resources?** NATURAL GAS,OIL**Is the proposed well in a Helium production area?** N**Use Existing Well Pad?** N**New surface disturbance?****Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:**  
Supreme FEDERAL COM**Number:** 605H, 606H, 607H,  
608H**Well Class:** HORIZONTAL**Number of Legs:** 1**Well Work Type:** Drill**Well Type:** OIL WELL**Describe Well Type:****Well sub-Type:** EXPLORATORY (WILDCAT)**Describe sub-type:****Distance to town:** 21 Miles**Distance to nearest well:** 30 FT**Distance to lease line:** 50 FT**Reservoir well spacing assigned acres Measurement:** 960 Acres**Well plat:** COG\_Supreme\_607H\_C102\_20210625120016.pdf**Well work start Date:** 12/01/2021**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:****Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	485	FSL	1310	FWL	23S	33E	21	Aliquot SWS W	32.284287	-103.581573	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0068848	3692	0	0	Y
KOP Leg #1	485	FSL	1310	FWL	23S	33E	21	Aliquot SWS W	32.284287	-103.581573	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0068848	3692	0	0	Y

Approval Date: 12/02/2021

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Operator Name: COG OPERATING LLC

Well Name: SUPREME FEDERAL COM

Well Number: 607H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-1	100	FSL	1000	FWL	23S	33E	21	Aliquot SWS W	32.283229	-103.582576	LEA	NEW MEXICO	NEW MEXICO	F	NMLC0068848	-8597	12364	12289	Y
PPP Leg #1-2	1	FSL	1000	FWL	23S	33E	16	Aliquot SWS W	32.297475	-103.582581	LEA	NEW MEXICO	NEW MEXICO	S	STATE	-8722	17820	12414	Y
EXIT Leg #1	100	FNL	1000	FWL	23S	33E	9	Aliquot NWN W	32.326228	-103.58259	LEA	NEW MEXICO	NEW MEXICO	F	NMNM128834	-8655	27890	12347	Y
BHL Leg #1	50	FNL	1000	FWL	23S	33E	9	Aliquot NWN W	32.326366	-103.58259	LEA	NEW MEXICO	NEW MEXICO	F	NMNM128834	-8755	27941	12447	Y

## Drilling Plan

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
6197758	RED BEDS	3692	0	0	ALLUVIUM	NONE	N
6197759	RUSTLER	2374	1318	1318	GYP SUM	NONE	N
6197760	TOP OF SALT	1869	1823	1823	SALT	NONE	N
6197761	BASE OF SALT	-1230	4922	4922	ANHYDRITE, SALT	NONE	N
6197762	LAMAR	-1486	5178	5178	LIMESTONE	NATURAL GAS, OIL	N
6197763	BELL CANYON	-1541	5233	5233	SANDSTONE	NATURAL GAS, OIL	N
6197764	CHERRY CANYON	-2457	6149	6149	SANDSTONE	NATURAL GAS, OIL	N
6197765	BRUSHY CANYON	-3775	7467	7467	SANDSTONE	NATURAL GAS, OIL	N
6197766	BONE SPRING LIME	-5398	9090	9090	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
6197769	BONE SPRING 1ST	-6522	10214	10214	HALITE, SANDSTONE	NATURAL GAS, OIL	N

Approval Date: 12/02/2021

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
6197770	BONE SPRING 2ND	-7119	10811	10811	HALITE, SANDSTONE	NATURAL GAS, OIL	N
6197771	BONE SPRING 3RD	-8294	11986	11986	HALITE, SANDSTONE	NATURAL GAS, OIL	N
6197772	WOLFCAMP	-8666	12358	12358	SHALE, SILTSTONE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

**Pressure Rating (PSI):** 10M**Rating Depth:** 12447

**Equipment:** Accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

**Requesting Variance?** YES

**Variance request:** Request a 5M annular variance on a 10M system. (5M variance attached in section 8). A variance is requested for the use of a flexible choke line from the BOP to the choke manifold. See attached for specs and hydrostatic test chart.

**Testing Procedure:** 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.

**Choke Diagram Attachment:**

COG\_Supreme\_10M\_Choke\_20210625065753.pdf

**BOP Diagram Attachment:**

COG\_Supreme\_10M\_BOP\_20210625065759.pdf

COG\_Supreme\_605H\_606H\_607H\_608H\_Flex\_Hose\_20210625065813.pdf

**Pressure Rating (PSI):** 5M**Rating Depth:** 11800

**Equipment:** Annular, Blind Ram, Pipe Ram. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold

**Requesting Variance?** YES

**Variance request:** A variance is requested for the use of a flexible choke line from the BOP to the choke manifold. See attached for specs and hydrostatic test chart.

**Testing Procedure:** 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.

**Choke Diagram Attachment:**

COG\_Supreme\_5M\_Choke\_20210625065701.pdf

Approval Date: 12/02/2021

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Operator Name: COG OPERATING LLC

Well Name: SUPREME FEDERAL COM

Well Number: 607H

COG\_Supreme\_5M\_Choke\_20210625065701.pdf

**BOP Diagram Attachment:**

COG\_Supreme\_5M\_BOP\_20210625065708.pdf

COG\_Supreme\_605H\_606H\_607H\_608H\_Flex\_Hose\_20210625065717.pdf

**Section 3 - Casing**

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	1350	0	1350	3691	2341	1350	J-55	45.5	OTHER - BTC	3.38	1.14	DRY	12.96	DRY	11.4
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	11800	0	11800	3697	-8109	11800	HCP-110	29.7	OTHER - FJM	1.21	1.38	DRY	1.59	DRY	2.0
3	PRODUCTION	6.75	5.5	NEW	API	Y	0	27941	0	12447	3697	-8756	27941	P-110	23	OTHER - Talon	1.8	2.12	DRY	2.47	DRY	2.0

**Casing Attachments**

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Operator Name: COG OPERATING LLC

Well Name: SUPREME FEDERAL COM

Well Number: 607H

## Casing Attachments

Casing ID: 2 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

COG\_Supreme\_607H\_Casing\_Program\_20210625081152.pdf

Casing Design Assumptions and Worksheet(s):

COG\_Supreme\_607H\_Casing\_Program\_20210625081203.pdf

Casing ID: 3 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

COG\_Supreme\_607H\_Casing\_Program\_20210625081028.pdf

Casing Design Assumptions and Worksheet(s):

COG\_Supreme\_607H\_Casing\_Program\_20210625081047.pdf

## Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1350	644	1.75	13.5	1127	50	Class C + 4% Gel	1% CaCl2
SURFACE	Tail		0	1350	250	1.34	14.8	335	50	Class C	2% CaCl2
INTERMEDIATE	Lead		0	1180 0	840	3.3	10.3	2772	50	Halliburton tunded light	As needed
INTERMEDIATE	Tail		0	1180 0	250	1.35	14.8	337	50	Class H	As needed

Approval Date: 12/02/2021

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead		1244 7	2794 1	524	2	12.7	1048	35	50:50:10 H Blend	As needed
PRODUCTION	Tail		1244 7	2794 1	1569	1.24	14.4	1945	35	50:50:2 Class H Blend	As needed

### Section 5 - Circulating Medium

**Mud System Type:** Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:****Describe what will be on location to control well or mitigate other conditions:** Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times**Describe the mud monitoring system utilized:** PVT/Pason/Visual Monitoring

### Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1350	1180 0	OTHER : Brine Diesel Emulsion	8.4	9							Brine Diesel Emulsion
1180 0	2794 1	OTHER : OBM	9.6	12.5							OBM
0	1350	OTHER : FW Gel	8.6	8.8							FW Gel

**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H

## Section 6 - Test, Logging, Coring

**List of production tests including testing procedures, equipment and safety measures:**

None planned

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

CEMENT BOND LOG, COMPENSATED NEUTRON LOG, GAMMA RAY LOG,

**Coring operation description for the well:**

None planned

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 8095**Anticipated Surface Pressure:** 5356**Anticipated Bottom Hole Temperature(F):** 180**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards attachment:****Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations plan:**

COG\_Supreme\_605H\_606H\_607H\_608H\_H2S\_Schem\_20210623114341.pdf

COG\_Supreme\_H2S\_SUP\_20210623114348.pdf

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

COG\_Supreme\_607H\_Directional\_Plan\_20210625081554.pdf

COG\_Supreme\_607H\_AC\_RPT\_20210625081601.pdf

**Other proposed operations facets description:**

Drilling program attached.

GCP attached.

Cement program attached.

**Other proposed operations facets attachment:**

CDC-HTQ\_RD\_5.5000\_23.0000\_0.4150\_\_P110\_RY\_20210623114527.pdf

LFJM\_7.6250\_29.7000\_0.3750\_\_P110\_HC\_20210623114659.pdf

COG\_Supreme\_607H\_Drilling\_Program\_20210625081616.pdf

COG\_Supreme\_607H\_Cement\_Program\_20210625081622.pdf

COG\_Supreme\_607H\_GCP\_20210625120059.pdf

**Other Variance attachment:**

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H

5M\_Variance\_Well\_Plan\_20200925152216.pdf

## SUPO

**Section 1 - Existing Roads****Will existing roads be used?** YES**Existing Road Map:**

COG\_Supreme\_605H\_606H\_607H\_608H\_Existing\_Road\_20210623121431.pdf

**Existing Road Purpose:** ACCESS**Row(s) Exist?** NO**ROW ID(s)****ID:****Do the existing roads need to be improved?** NO**Existing Road Improvement Description:****Existing Road Improvement Attachment:****Section 2 - New or Reconstructed Access Roads****Will new roads be needed?** YES**New Road Map:**

COG\_Supreme\_605H\_606H\_607H\_608H\_Road\_Plats\_20210623121456.pdf

**New road type:** RESOURCE**Length:** 1579.5 Feet**Width (ft.):** 30**Max slope (%):** 33**Max grade (%):** 1**Army Corp of Engineers (ACOE) permit required?** N**ACOE Permit Number(s):****New road travel width:** 14**New road access erosion control:** Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.**New road access plan or profile prepared?** N**New road access plan attachment:****Access road engineering design?** N**Access road engineering design attachment:**

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Turnout?** N**Access surfacing type:** OTHER**Access topsoil source:** ONSITE**Access surfacing type description:** Caliche**Access onsite topsoil source depth:** 6**Offsite topsoil source description:****Onsite topsoil removal process:** Blading**Access other construction information:** No turnouts are planned**Access miscellaneous information:****Number of access turnouts:****Access turnout map:****Drainage Control****New road drainage crossing:** OTHER**Drainage Control comments:** None necessary**Road Drainage Control Structures (DCS) description:** None needed**Road Drainage Control Structures (DCS) attachment:****Access Additional Attachments****Section 3 - Location of Existing Wells****Existing Wells Map?** YES**Attach Well map:**

COG\_Supreme\_607H\_1\_Mile\_Data\_20210624080542.pdf

**Section 4 - Location of Existing and/or Proposed Production Facilities****Submit or defer a Proposed Production Facilities plan?** SUBMIT

**Production Facilities description:** Supreme Federal 21M CTB. This CTB will be built to accommodate the Supreme Federal Com #605H, #606, #607H and #608. We plan to install (1) buried 4 FP 601HT production flowline from each wellhead to the inlet manifold of the proposed CTB (4 lines total); the route for these flowlines will remain on the pad, as the CTB pad and well pad are adjacent. We will install (1) buried 4 gas line for gas lift supply from the CTB to well pad (1 lines total); the route for the gas lift lines will follow the gas lift route as shown in the attached layout.

**Production Facilities map:**

COG\_Supreme\_Fed\_21\_M\_CTB\_20210623122341.pdf

Operator Name: COG OPERATING LLC

Well Name: SUPREME FEDERAL COM

Well Number: 607H

**Section 5 - Location and Types of Water Supply****Water Source Table****Water source type:** OTHER**Describe type:** Brine Water**Water source use type:** INTERMEDIATE/PRODUCTION  
CASING**Source latitude:****Source longitude:****Source datum:****Water source permit type:** PRIVATE CONTRACT**Water source transport method:** TRUCKING**Source land ownership:** COMMERCIAL**Source transportation land ownership:** COMMERCIAL**Water source volume (barrels):** 30000**Source volume (acre-feet):** 3.86679289**Source volume (gal):** 1260000**Water source type:** OTHER**Describe type:** Fresh Water**Water source use type:** ICE PAD CONSTRUCTION &  
MAINTENANCE  
SURFACE CASING**Source latitude:****Source longitude:****Source datum:****Water source permit type:** PRIVATE CONTRACT**Water source transport method:** PIPELINE**Source land ownership:** PRIVATE**Source transportation land ownership:** PRIVATE**Water source volume (barrels):** 450000**Source volume (acre-feet):** 58.00189335**Source volume (gal):** 18900000

**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Water source and transportation map:**

COG\_Supreme\_605H\_606H\_607H\_608H\_Fresh\_H2O\_20210623122539.pdf

COG\_Supreme\_605H\_606H\_607H\_608H\_Brine\_H2O\_20210623122549.pdf

**Water source comments:** Fresh water will be obtained from the Brininstool Frac Pond located in Section 21. T23S, R33E. Brine water will be obtained from the Malaga II Brine station in Section 12. T23S. R28E.**New water well?** N**New Water Well Info****Well latitude:****Well Longitude:****Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):****Est thickness of aquifer:****Aquifer comments:****Aquifer documentation:****Well depth (ft):****Well casing type:****Well casing outside diameter (in.):****Well casing inside diameter (in.):****New water well casing?****Used casing source:****Drilling method:****Drill material:****Grout material:****Grout depth:****Casing length (ft.):****Casing top depth (ft.):****Well Production type:****Completion Method:****Water well additional information:****State appropriation permit:****Additional information attachment:****Section 6 - Construction Materials****Using any construction materials:** YES**Construction Materials description:** Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from Limestone caliche pit located in Section 8. T23S. R33E.**Construction Materials source location attachment:**

**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Section 7 - Methods for Handling Waste****Waste type:** DRILLING**Waste content description:** Drilling fluids and produced oil and water during drilling and completion operations**Amount of waste:** 6000 barrels**Waste disposal frequency :** One Time Only**Safe containment description:** All drilling waste will be stored safely and disposed of properly**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Trucked to an approved disposal facility**Waste type:** SEWAGE**Waste content description:** Human waste and gray water**Amount of waste:** 250 gallons**Waste disposal frequency :** Weekly**Safe containment description:** Waste will be properly contained and disposed of properly at a state approved disposal facility**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Trucked to an approved disposal facility**Waste type:** GARBAGE**Waste content description:** Garbage and trash produced during drilling and completion operations**Amount of waste:** 125 pounds**Waste disposal frequency :** Weekly**Safe containment description:** Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Trucked to an approved disposal facility

**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Reserve Pit****Reserve Pit being used?** NO**Temporary disposal of produced water into reserve pit?** NO**Reserve pit length (ft.)****Reserve pit width (ft.)****Reserve pit depth (ft.)****Reserve pit volume (cu. yd.)****Is at least 50% of the reserve pit in cut?****Reserve pit liner****Reserve pit liner specifications and installation description****Cuttings Area****Cuttings Area being used?** NO**Are you storing cuttings on location?** Y**Description of cuttings location** Roll off cuttings containers on tracks**Cuttings area length (ft.)****Cuttings area width (ft.)****Cuttings area depth (ft.)****Cuttings area volume (cu. yd.)****Is at least 50% of the cuttings area in cut?****WCuttings area liner****Cuttings area liner specifications and installation description****Section 8 - Ancillary Facilities****Are you requesting any Ancillary Facilities?:** N**Ancillary Facilities attachment:****Comments:****Section 9 - Well Site Layout****Well Site Layout Diagram:**

COG\_Supreme\_605H\_606H\_607H\_608H\_Layout\_20210623122642.pdf

**Comments:**

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Operator Name: COG OPERATING LLC

Well Name: SUPREME FEDERAL COM

Well Number: 607H

**Section 10 - Plans for Surface Reclamation****Type of disturbance:** New Surface Disturbance**Multiple Well Pad Name:** Supreme FEDERAL COM**Multiple Well Pad Number:** 605H, 606H, 607H, 608H**Recontouring attachment:**

COG\_Supreme\_605H\_606H\_607H\_608H\_Reclamation\_20210623122707.pdf

**Drainage/Erosion control construction:** Immediately following construction, straw waddles will be placed as necessary at the well site to reduce sediment impacts to fragile/sensitive soils.**Drainage/Erosion control reclamation:** Immediately following construction, straw waddles will be placed as necessary at the well site to reduce sediment impacts to fragile/sensitive soils.**Well pad proposed disturbance (acres):** 5.74**Road proposed disturbance (acres):** 0.51**Powerline proposed disturbance (acres):** 0**Pipeline proposed disturbance (acres):** 0**Other proposed disturbance (acres):** 3.67**Total proposed disturbance:** 9.92**Well pad interim reclamation (acres):** 0.06**Road interim reclamation (acres):** 0.51**Powerline interim reclamation (acres):** 0**Pipeline interim reclamation (acres):** 0**Other interim reclamation (acres):** 3.67**Total interim reclamation:** 4.24**Well pad long term disturbance (acres):** 5.17**Road long term disturbance (acres):** 0.51**Powerline long term disturbance (acres):** 0**Pipeline long term disturbance (acres):** 0**Other long term disturbance (acres):** 3.67**Total long term disturbance:** 9.35**Disturbance Comments:****Reconstruction method:** If needed, portions of the pad not needed for production operations will be re-contoured to its original state as much as possible. The caliche that is removed will be reused. The stockpiled topsoil will be spread out over reclaimed area and reseeded with BLM approved seed mixture.**Topsoil redistribution:** East**Soil treatment:** None**Existing Vegetation at the well pad:** Shinnery Oak/Mesquite grassland**Existing Vegetation at the well pad attachment:****Existing Vegetation Community at the road:** Shinnery Oak/Mesquite grassland**Existing Vegetation Community at the road attachment:****Existing Vegetation Community at the pipeline:** Shinnery Oak/Mesquite grassland**Existing Vegetation Community at the pipeline attachment:****Existing Vegetation Community at other disturbances:** N/A**Existing Vegetation Community at other disturbances attachment:**

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Non native seed used?** N**Non native seed description:****Seedling transplant description:****Will seedlings be transplanted for this project?** N**Seedling transplant description attachment:****Will seed be harvested for use in site reclamation?** N**Seed harvest description:****Seed harvest description attachment:****Seed Management****Seed Table****Seed Summary****Total pounds/Acre:****Seed Type****Pounds/Acre****Seed reclamation attachment:****Operator Contact/Responsible Official Contact Info****First Name:****Last Name:****Phone:****Email:****Seedbed prep:****Seed BMP:****Seed method:****Existing invasive species?** N**Existing invasive species treatment description:****Existing invasive species treatment attachment:****Weed treatment plan description:** N/A**Weed treatment plan attachment:****Monitoring plan description:** N/A**Monitoring plan attachment:**

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Success standards:** N/A**Pit closure description:** N/A**Pit closure attachment:**

COG\_Supreme\_Closed\_Loop\_20210621135633.pdf

## Section 11 - Surface Ownership

**Disturbance type:** WELL PAD**Describe:****Surface Owner:** PRIVATE OWNERSHIP**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:**

**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Fee Owner:** Fee Owner Depercated**Fee Owner Address:****Phone:** (999)999-9999**Email:** none@aol.com**Surface use plan certification:** NO**Surface use plan certification document:****Surface access agreement or bond:** AGREEMENT**Surface Access Agreement Need description:** Hughes Properties, LLC Attn: Trey Hughes P.O. Box 5097  
Carlsbad, NM 88221 (575) 361-3217 Trey.hcp@gmail.com**Surface Access Bond BLM or Forest Service:****BLM Surface Access Bond number:****USFS Surface access bond number:**

## Section 12 - Other Information

**Right of Way needed?** N**Use APD as ROW?****ROW Type(s):**

## ROW Applications

**SUPO Additional Information:** SUP attached. Onsite was done by Gerald Herrera (COP); Zane Kirsch (BLM); on May 12th, 2021. Private Surface.**Use a previously conducted onsite?** N**Previous Onsite information:**

## Other SUPO Attachment

COG\_Supreme\_605H\_606H\_607H\_608H\_Existing\_Road\_20210623123048.pdf

COG\_Supreme\_605H\_606H\_607H\_608H\_Road\_Plats\_20210623123039.pdf

COG\_Supreme\_Fed\_21\_M\_CTB\_20210623123026.pdf

COG\_Supreme\_607H\_C102\_20210625120118.pdf

COG\_Supreme\_607H\_SUP\_20210625120129.pdf

PWD

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Section 1 - General****Would you like to address long-term produced water disposal?** NO**Section 2 - Lined Pits****Would you like to utilize Lined Pit PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Lined pit PWD on or off channel:****Lined pit PWD discharge volume (bbl/day):****Lined pit specifications:****Pit liner description:****Pit liner manufacturers information:****Precipitated solids disposal:****Describe precipitated solids disposal:****Precipitated solids disposal permit:****Lined pit precipitated solids disposal schedule:****Lined pit precipitated solids disposal schedule attachment:****Lined pit reclamation description:****Lined pit reclamation attachment:****Leak detection system description:****Leak detection system attachment:****Lined pit Monitor description:****Lined pit Monitor attachment:****Lined pit: do you have a reclamation bond for the pit?****Is the reclamation bond a rider under the BLM bond?**

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**Operator Name:** COG OPERATING LLC

**Well Name:** SUPREME FEDERAL COM

**Well Number:** 607H

**Lined pit bond number:**

**Lined pit bond amount:**

**Additional bond information attachment:**

### Section 3 - Unlined Pits

**Would you like to utilize Unlined Pit PWD options?** N

**Produced Water Disposal (PWD) Location:**

**PWD disturbance (acres):**

**PWD surface owner:**

**Unlined pit PWD on or off channel:**

**Unlined pit PWD discharge volume (bbl/day):**

**Unlined pit specifications:**

**Precipitated solids disposal:**

**Describe precipitated solids disposal:**

**Precipitated solids disposal permit:**

**Unlined pit precipitated solids disposal schedule:**

**Unlined pit precipitated solids disposal schedule attachment:**

**Unlined pit reclamation description:**

**Unlined pit reclamation attachment:**

**Unlined pit Monitor description:**

**Unlined pit Monitor attachment:**

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

**Beneficial use user confirmation:**

**Estimated depth of the shallowest aquifer (feet):**

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

**TDS lab results:**

**Geologic and hydrologic evidence:**

**State authorization:**

**Unlined Produced Water Pit Estimated percolation:**

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

**Is the reclamation bond a rider under the BLM bond?**

**Unlined pit bond number:**

**Unlined pit bond amount:**

**Additional bond information attachment:**

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H

#### Section 4 - Injection

**Would you like to utilize Injection PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Injection PWD discharge volume (bbl/day):****Injection well mineral owner:****Injection well type:****Injection well number:****Injection well name:****Assigned injection well API number?****Injection well API number:****Injection well new surface disturbance (acres):****Minerals protection information:****Mineral protection attachment:****Underground Injection Control (UIC) Permit?****UIC Permit attachment:**

#### Section 5 - Surface Discharge

**Would you like to utilize Surface Discharge PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Surface discharge PWD discharge volume (bbl/day):****Surface Discharge NPDES Permit?****Surface Discharge NPDES Permit attachment:****Surface Discharge site facilities information:****Surface discharge site facilities map:**

#### Section 6 - Other

**Would you like to utilize Other PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD discharge volume (bbl/day):****Other PWD type description:**

Approval Date: 12/02/2021

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**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Other PWD type attachment:****Have other regulatory requirements been met?****Other regulatory requirements attachment:****Bond Info****Bond Information****Federal/Indian APD:** FED**BLM Bond number:** NMB000215**BIA Bond number:****Do you have a reclamation bond?** NO**Is the reclamation bond a rider under the BLM bond?****Is the reclamation bond BLM or Forest Service?****BLM reclamation bond number:****Forest Service reclamation bond number:****Forest Service reclamation bond attachment:****Reclamation bond number:****Reclamation bond amount:****Reclamation bond rider amount:****Additional reclamation bond information attachment:****Operator Certification****Operator Certification**

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

**NAME:** MAYTE REYES**Signed on:** 06/24/2021**Title:** Regulatory Analyst**Street Address:** 925 N ELDRIDGE PARKWAY**City:** HOUSTON**State:** TX**Zip:** 77252**Phone:** (281)293-1000**Email address:** MAYTE.X.REYES@CONOCOPHILLIPS.COM

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**Operator Name:** COG OPERATING LLC

**Well Name:** SUPREME FEDERAL COM

**Well Number:** 607H

**Field Representative**

**Representative Name:** Gerald Herrera

**Street Address:** 2208 West Main Street

**City:** Artesia

**State:** NM

**Zip:** 88210

**Phone:** (575)748-6940

**Email address:** Gerald.A.Herrera@conocophillips.com

**Payment Info**

**Payment**

**APD Fee Payment Method:** PAY.GOV

**pay.gov Tracking ID:** 26SGH3T0

Approval Date: 12/02/2021

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

# Drilling Plan Data Report

12/02/2021

APD ID: 10400076517

Submission Date: 06/25/2021

Highlighted data  
reflects the most  
recent changes

Operator Name: COG OPERATING LLC

Well Name: SUPREME FEDERAL COM

Well Number: 607H

[Show Final Text](#)

Well Type: OIL WELL

Well Work Type: Drill

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
6197758	RED BEDS	3692	0	0	ALLUVIUM	NONE	N
6197759	RUSTLER	2374	1318	1318	GYPSUM	NONE	N
6197760	TOP OF SALT	1869	1823	1823	SALT	NONE	N
6197761	BASE OF SALT	-1230	4922	4922	ANHYDRITE, SALT	NONE	N
6197762	LAMAR	-1486	5178	5178	LIMESTONE	NATURAL GAS, OIL	N
6197763	BELL CANYON	-1541	5233	5233	SANDSTONE	NATURAL GAS, OIL	N
6197764	CHERRY CANYON	-2457	6149	6149	SANDSTONE	NATURAL GAS, OIL	N
6197765	BRUSHY CANYON	-3775	7467	7467	SANDSTONE	NATURAL GAS, OIL	N
6197766	BONE SPRING LIME	-5398	9090	9090	LIMESTONE, SANDSTONE	NATURAL GAS, OIL	N
6197769	BONE SPRING 1ST	-6522	10214	10214	HALITE, SANDSTONE	NATURAL GAS, OIL	N
6197770	BONE SPRING 2ND	-7119	10811	10811	HALITE, SANDSTONE	NATURAL GAS, OIL	N
6197771	BONE SPRING 3RD	-8294	11986	11986	HALITE, SANDSTONE	NATURAL GAS, OIL	N
6197772	WOLFCAMP	-8666	12358	12358	SHALE, SILTSTONE	NATURAL GAS, OIL	Y

## Section 2 - Blowout Prevention

**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Pressure Rating (PSI):** 10M**Rating Depth:** 12447

**Equipment:** Accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

**Requesting Variance?** YES

**Variance request:** Request a 5M annular variance on a 10M system. (5M variance attached in section 8). A variance is requested for the use of a flexible choke line from the BOP to the choke manifold. See attached for specs and hydrostatic test chart.

**Testing Procedure:** 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.

**Choke Diagram Attachment:**

COG\_Supreme\_10M\_Choke\_20210625065753.pdf

**BOP Diagram Attachment:**

COG\_Supreme\_10M\_BOP\_20210625065759.pdf

COG\_Supreme\_605H\_606H\_607H\_608H\_Flex\_Hose\_20210625065813.pdf

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**Pressure Rating (PSI):** 5M**Rating Depth:** 11800

**Equipment:** Annular, Blind Ram, Pipe Ram. Other accessories to the BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold

**Requesting Variance?** YES

**Variance request:** A variance is requested for the use of a flexible choke line from the BOP to the choke manifold. See attached for specs and hydrostatic test chart.

**Testing Procedure:** 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.

**Choke Diagram Attachment:**

COG\_Supreme\_5M\_Choke\_20210625065701.pdf

**BOP Diagram Attachment:**

COG\_Supreme\_5M\_BOP\_20210625065708.pdf

COG\_Supreme\_605H\_606H\_607H\_608H\_Flex\_Hose\_20210625065717.pdf

Operator Name: COG OPERATING LLC

Well Name: SUPREME FEDERAL COM

Well Number: 607H

## Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	1350	0	1350	3691	2341	1350	J-55	45.5	OTHER - BTC	3.38	1.14	DRY	12.96	DRY	11.64
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	11800	0	11800	3697	-8109	11800	HCP -110	29.7	OTHER - FJM	1.21	1.38	DRY	1.59	DRY	2.68
3	PRODUCTION	6.75	5.5	NEW	API	Y	0	27941	0	12447	3697	-8756	27941	P-110	23	OTHER - Talon	1.8	2.12	DRY	2.47	DRY	2.55

## Casing Attachments

Casing ID: 1 String Type: SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

Casing ID: 2 String Type: INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

COG\_Supreme\_607H\_Casing\_Program\_20210625081152.pdf

Casing Design Assumptions and Worksheet(s):

COG\_Supreme\_607H\_Casing\_Program\_20210625081203.pdf

Operator Name: COG OPERATING LLC

Well Name: SUPREME FEDERAL COM

Well Number: 607H

## Casing Attachments

Casing ID: 3 String Type: PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

COG\_Supreme\_607H\_Casing\_Program\_20210625081028.pdf

Casing Design Assumptions and Worksheet(s):

COG\_Supreme\_607H\_Casing\_Program\_20210625081047.pdf

## Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1350	644	1.75	13.5	1127	50	Class C + 4% Gel	1% CaCl2
SURFACE	Tail		0	1350	250	1.34	14.8	335	50	Class C	2% CaCl2
INTERMEDIATE	Lead		0	1180 0	840	3.3	10.3	2772	50	Halliburton tunded light	As needed
INTERMEDIATE	Tail		0	1180 0	250	1.35	14.8	337	50	Class H	As needed
PRODUCTION	Lead		1244 7	2794 1	524	2	12.7	1048	35	50:50:10 H Blend	As needed
PRODUCTION	Tail		1244 7	2794 1	1569	1.24	14.4	1945	35	50:50:2 Class H Blend	As needed

**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H**Section 5 - Circulating Medium****Mud System Type:** Closed**Will an air or gas system be Used?** NO**Description of the equipment for the circulating system in accordance with Onshore Order #2:****Diagram of the equipment for the circulating system in accordance with Onshore Order #2:****Describe what will be on location to control well or mitigate other conditions:** Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times**Describe the mud monitoring system utilized:** PVT/Pason/Visual Monitoring**Circulating Medium Table**

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1350	1180 0	OTHER : Brine Diesel Emulsion	8.4	9							Brine Diesel Emulsion
1180 0	2794 1	OTHER : OBM	9.6	12.5							OBM
0	1350	OTHER : FW Gel	8.6	8.8							FW Gel

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

None planned

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

CEMENT BOND LOG, COMPENSATED NEUTRON LOG, GAMMA RAY LOG,

**Coring operation description for the well:**

None planned

**Operator Name:** COG OPERATING LLC**Well Name:** SUPREME FEDERAL COM**Well Number:** 607H

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 8095**Anticipated Surface Pressure:** 5356**Anticipated Bottom Hole Temperature(F):** 180**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards attachment:****Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations plan:**

COG\_Supreme\_605H\_606H\_607H\_608H\_H2S\_Schem\_20210623114341.pdf

COG\_Supreme\_H2S\_SUP\_20210623114348.pdf

## Section 8 - Other Information

**Proposed horizontal/directional/multi-lateral plan submission:**

COG\_Supreme\_607H\_Directional\_Plan\_20210625081554.pdf

COG\_Supreme\_607H\_AC\_RPT\_20210625081601.pdf

**Other proposed operations facets description:**

Drilling program attached.

GCP attached.

Cement program attached.

**Other proposed operations facets attachment:**

CDC\_HTQ\_RD\_5.5000\_23.0000\_0.4150\_\_P110\_RY\_20210623114527.pdf

LFJM\_7.6250\_29.7000\_0.3750\_\_P110\_HC\_20210623114659.pdf

COG\_Supreme\_607H\_Drilling\_Program\_20210625081616.pdf

COG\_Supreme\_607H\_Cement\_Program\_20210625081622.pdf

COG\_Supreme\_607H\_GCP\_20210625120059.pdf

**Other Variance attachment:**

5M\_Variance\_Well\_Plan\_20200925152216.pdf



CONFIDENTIAL

# **DELAWARE BASIN EAST**

**BULLDOG PROSPECT (NM-E)  
SUPREME FED COM PROJECT  
SUPREME FED COM #607H**

**OWB**

**Plan: PWP1**

## **Standard Survey Report**

**08 June, 2021**

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well SUPREME FED COM #607H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Site:</b>	SUPREME FED COM PROJECT	<b>MD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Well:</b>	SUPREME FED COM #607H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

<b>Project</b>	BULLDOG PROSPECT (NM-E)		
<b>Map System:</b>	US State Plane 1927 (Exact solution)	<b>System Datum:</b>	Mean Sea Level
<b>Geo Datum:</b>	NAD 1927 (NADCON CONUS)		
<b>Map Zone:</b>	New Mexico East 3001		

<b>Well</b>	SUPREME FED COM #607H				
<b>Well Position</b>	<b>+N/-S</b>	0.0 usft	<b>Northing:</b>	467,911.00 usft	<b>Latitude:</b> 32° 17' 2.988 N
	<b>+E/-W</b>	0.0 usft	<b>Easting:</b>	732,471.60 usft	<b>Longitude:</b> 103° 34' 51.932 W
<b>Position Uncertainty</b>		3.0 usft	<b>Wellhead Elevation:</b>	usft	<b>Ground Level:</b> 3,691.9 usft

<b>Wellbore</b>	OWB				
<b>Magnetics</b>	<b>Model Name</b>	<b>Sample Date</b>	<b>Declination (°)</b>	<b>Dip Angle (°)</b>	<b>Field Strength (nT)</b>
	IGRF2020	6/7/2021	6.56	59.95	47,528.71196757

<b>Design</b>	PWP1				
<b>Audit Notes:</b>					
<b>Version:</b>	<b>Phase:</b>	PLAN	<b>Tie On Depth:</b>	0.0	
<b>Vertical Section:</b>	<b>Depth From (TVD) (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Direction (°)</b>	
	0.0	0.0	0.0	358.42	

<b>Survey Tool Program</b>	<b>Date</b>	6/8/2021			
<b>From (usft)</b>	<b>To (usft)</b>	<b>Survey (Wellbore)</b>	<b>Tool Name</b>	<b>Description</b>	
0.0	11,900.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,900.0	27,940.9	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

<b>Planned Survey</b>										
<b>Measured Depth (usft)</b>	<b>Inclination (°)</b>	<b>Azimuth (°)</b>	<b>Vertical Depth (usft)</b>	<b>+N/-S (usft)</b>	<b>+E/-W (usft)</b>	<b>Vertical Section (usft)</b>	<b>Dogleg Rate (°/100usft)</b>	<b>Build Rate (°/100usft)</b>	<b>Turn Rate (°/100usft)</b>	
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	

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well SUPREME FED COM #607H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Site:</b>	SUPREME FED COM PROJECT	<b>MD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Well:</b>	SUPREME FED COM #607H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

## 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)
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
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
<b>Start Build 2.00</b>									
2,600.0	2.00	217.00	2,600.0	-1.4	-1.1	-1.4	2.00	2.00	0.00
2,700.0	4.00	217.00	2,699.8	-5.6	-4.2	-5.5	2.00	2.00	0.00
2,800.0	6.00	217.00	2,799.5	-12.5	-9.4	-12.3	2.00	2.00	0.00
<b>Start 4430.7 hold at 2800.0 MD</b>									
2,900.0	6.00	217.00	2,898.9	-20.9	-15.7	-20.4	0.00	0.00	0.00
3,000.0	6.00	217.00	2,998.4	-29.2	-22.0	-28.6	0.00	0.00	0.00
3,100.0	6.00	217.00	3,097.8	-37.6	-28.3	-36.8	0.00	0.00	0.00
3,200.0	6.00	217.00	3,197.3	-45.9	-34.6	-45.0	0.00	0.00	0.00
3,300.0	6.00	217.00	3,296.7	-54.3	-40.9	-53.1	0.00	0.00	0.00
3,400.0	6.00	217.00	3,396.2	-62.6	-47.2	-61.3	0.00	0.00	0.00
3,500.0	6.00	217.00	3,495.6	-71.0	-53.5	-69.5	0.00	0.00	0.00
3,600.0	6.00	217.00	3,595.1	-79.3	-59.8	-77.6	0.00	0.00	0.00
3,700.0	6.00	217.00	3,694.5	-87.7	-66.1	-85.8	0.00	0.00	0.00
3,800.0	6.00	217.00	3,794.0	-96.0	-72.3	-94.0	0.00	0.00	0.00
3,900.0	6.00	217.00	3,893.4	-104.4	-78.6	-102.2	0.00	0.00	0.00
4,000.0	6.00	217.00	3,992.9	-112.7	-84.9	-110.3	0.00	0.00	0.00
4,100.0	6.00	217.00	4,092.3	-121.1	-91.2	-118.5	0.00	0.00	0.00
4,200.0	6.00	217.00	4,191.8	-129.4	-97.5	-126.7	0.00	0.00	0.00
4,300.0	6.00	217.00	4,291.2	-137.8	-103.8	-134.9	0.00	0.00	0.00
4,400.0	6.00	217.00	4,390.7	-146.1	-110.1	-143.0	0.00	0.00	0.00
4,500.0	6.00	217.00	4,490.1	-154.5	-116.4	-151.2	0.00	0.00	0.00
4,600.0	6.00	217.00	4,589.6	-162.8	-122.7	-159.4	0.00	0.00	0.00
4,700.0	6.00	217.00	4,689.0	-171.2	-129.0	-167.5	0.00	0.00	0.00
4,800.0	6.00	217.00	4,788.5	-179.5	-135.2	-175.7	0.00	0.00	0.00
4,900.0	6.00	217.00	4,887.9	-187.9	-141.5	-183.9	0.00	0.00	0.00
5,000.0	6.00	217.00	4,987.4	-196.2	-147.8	-192.1	0.00	0.00	0.00
5,100.0	6.00	217.00	5,086.9	-204.6	-154.1	-200.2	0.00	0.00	0.00
5,200.0	6.00	217.00	5,186.3	-212.9	-160.4	-208.4	0.00	0.00	0.00
5,300.0	6.00	217.00	5,285.8	-221.2	-166.7	-216.6	0.00	0.00	0.00
5,400.0	6.00	217.00	5,385.2	-229.6	-173.0	-224.8	0.00	0.00	0.00
5,500.0	6.00	217.00	5,484.7	-237.9	-179.3	-232.9	0.00	0.00	0.00

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well SUPREME FED COM #607H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Site:</b>	SUPREME FED COM PROJECT	<b>MD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Well:</b>	SUPREME FED COM #607H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

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)
5,600.0	6.00	217.00	5,584.1	-246.3	-185.6	-241.1	0.00	0.00	0.00
5,700.0	6.00	217.00	5,683.6	-254.6	-191.9	-249.3	0.00	0.00	0.00
5,800.0	6.00	217.00	5,783.0	-263.0	-198.1	-257.4	0.00	0.00	0.00
5,900.0	6.00	217.00	5,882.5	-271.3	-204.4	-265.6	0.00	0.00	0.00
6,000.0	6.00	217.00	5,981.9	-279.7	-210.7	-273.8	0.00	0.00	0.00
6,100.0	6.00	217.00	6,081.4	-288.0	-217.0	-282.0	0.00	0.00	0.00
6,200.0	6.00	217.00	6,180.8	-296.4	-223.3	-290.1	0.00	0.00	0.00
6,300.0	6.00	217.00	6,280.3	-304.7	-229.6	-298.3	0.00	0.00	0.00
6,400.0	6.00	217.00	6,379.7	-313.1	-235.9	-306.5	0.00	0.00	0.00
6,500.0	6.00	217.00	6,479.2	-321.4	-242.2	-314.6	0.00	0.00	0.00
6,600.0	6.00	217.00	6,578.6	-329.8	-248.5	-322.8	0.00	0.00	0.00
6,700.0	6.00	217.00	6,678.1	-338.1	-254.8	-331.0	0.00	0.00	0.00
6,800.0	6.00	217.00	6,777.5	-346.5	-261.0	-339.2	0.00	0.00	0.00
6,900.0	6.00	217.00	6,877.0	-354.8	-267.3	-347.3	0.00	0.00	0.00
7,000.0	6.00	217.00	6,976.4	-363.2	-273.6	-355.5	0.00	0.00	0.00
7,100.0	6.00	217.00	7,075.9	-371.5	-279.9	-363.7	0.00	0.00	0.00
7,200.0	6.00	217.00	7,175.3	-379.9	-286.2	-371.9	0.00	0.00	0.00
7,230.7	6.00	217.00	7,205.9	-382.4	-288.1	-374.4	0.00	0.00	0.00
<b>Start Drop -1.00</b>									
7,300.0	5.31	217.00	7,274.8	-387.9	-292.2	-379.7	1.00	-1.00	0.00
7,400.0	4.31	217.00	7,374.5	-394.6	-297.3	-386.3	1.00	-1.00	0.00
7,500.0	3.31	217.00	7,474.3	-399.9	-301.3	-391.4	1.00	-1.00	0.00
7,600.0	2.31	217.00	7,574.1	-403.8	-304.2	-395.3	1.00	-1.00	0.00
7,700.0	1.31	217.00	7,674.1	-406.3	-306.1	-397.7	1.00	-1.00	0.00
7,800.0	0.31	217.00	7,774.1	-407.4	-307.0	-398.8	1.00	-1.00	0.00
7,830.7	0.00	0.00	7,804.8	-407.5	-307.0	-398.9	1.00	-1.00	465.91
<b>Start 4069.3 hold at 7830.7 MD</b>									
7,900.0	0.00	0.00	7,874.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,974.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,100.0	0.00	0.00	8,074.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,200.0	0.00	0.00	8,174.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,300.0	0.00	0.00	8,274.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,400.0	0.00	0.00	8,374.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,500.0	0.00	0.00	8,474.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,600.0	0.00	0.00	8,574.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,700.0	0.00	0.00	8,674.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,800.0	0.00	0.00	8,774.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
8,900.0	0.00	0.00	8,874.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
9,000.0	0.00	0.00	8,974.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
9,100.0	0.00	0.00	9,074.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
9,200.0	0.00	0.00	9,174.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
9,300.0	0.00	0.00	9,274.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
9,400.0	0.00	0.00	9,374.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
9,500.0	0.00	0.00	9,474.1	-407.5	-307.0	-398.9	0.00	0.00	0.00

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well SUPREME FED COM #607H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Site:</b>	SUPREME FED COM PROJECT	<b>MD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Well:</b>	SUPREME FED COM #607H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

## 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)
9,600.0	0.00	0.00	9,574.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
9,700.0	0.00	0.00	9,674.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
9,800.0	0.00	0.00	9,774.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
9,900.0	0.00	0.00	9,874.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,000.0	0.00	0.00	9,974.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,100.0	0.00	0.00	10,074.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,200.0	0.00	0.00	10,174.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,300.0	0.00	0.00	10,274.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,400.0	0.00	0.00	10,374.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,500.0	0.00	0.00	10,474.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,600.0	0.00	0.00	10,574.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,700.0	0.00	0.00	10,674.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,800.0	0.00	0.00	10,774.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
10,900.0	0.00	0.00	10,874.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,000.0	0.00	0.00	10,974.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,100.0	0.00	0.00	11,074.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,200.0	0.00	0.00	11,174.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,300.0	0.00	0.00	11,274.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,400.0	0.00	0.00	11,374.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,500.0	0.00	0.00	11,474.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,600.0	0.00	0.00	11,574.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,700.0	0.00	0.00	11,674.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,800.0	0.00	0.00	11,774.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
11,900.0	0.00	0.00	11,874.1	-407.5	-307.0	-398.9	0.00	0.00	0.00
<b>Start DLS 10.00 TFO 359.58</b>									
12,000.0	10.00	359.58	11,973.6	-398.8	-307.1	-390.2	10.00	10.00	0.00
12,100.0	20.00	359.58	12,070.0	-373.0	-307.3	-364.4	10.00	10.00	0.00
12,200.0	30.00	359.58	12,160.6	-330.7	-307.6	-322.2	10.00	10.00	0.00
12,300.0	40.00	359.58	12,242.4	-273.5	-308.0	-264.9	10.00	10.00	0.00
12,400.0	50.00	359.58	12,313.0	-202.8	-308.5	-194.3	10.00	10.00	0.00
12,500.0	60.00	359.58	12,370.3	-121.0	-309.1	-112.5	10.00	10.00	0.00
12,600.0	70.00	359.58	12,412.5	-30.5	-309.8	-22.0	10.00	10.00	0.00
12,700.0	80.00	359.58	12,438.4	65.9	-310.5	74.5	10.00	10.00	0.00
12,800.0	90.00	359.58	12,447.1	165.4	-311.2	173.9	10.00	10.00	0.00
12,803.8	90.38	359.58	12,447.0	169.2	-311.2	177.7	10.00	10.00	0.00
<b>Start 15137.1 hold at 12803.8 MD</b>									
12,900.0	90.38	359.58	12,446.4	265.4	-311.9	273.9	0.00	0.00	0.00
13,000.0	90.38	359.58	12,445.7	365.4	-312.6	373.9	0.00	0.00	0.00
13,100.0	90.38	359.58	12,445.1	465.4	-313.4	473.9	0.00	0.00	0.00
13,200.0	90.38	359.58	12,444.4	565.4	-314.1	573.8	0.00	0.00	0.00
13,300.0	90.38	359.58	12,443.8	665.4	-314.8	673.8	0.00	0.00	0.00
13,400.0	90.38	359.58	12,443.1	765.4	-315.5	773.8	0.00	0.00	0.00
13,500.0	90.38	359.58	12,442.4	865.4	-316.3	873.8	0.00	0.00	0.00
13,600.0	90.38	359.58	12,441.8	965.4	-317.0	973.7	0.00	0.00	0.00

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well SUPREME FED COM #607H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Site:</b>	SUPREME FED COM PROJECT	<b>MD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Well:</b>	SUPREME FED COM #607H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

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)
13,700.0	90.38	359.58	12,441.1	1,065.4	-317.7	1,073.7	0.00	0.00	0.00
13,800.0	90.38	359.58	12,440.5	1,165.4	-318.4	1,173.7	0.00	0.00	0.00
13,900.0	90.38	359.58	12,439.8	1,265.4	-319.2	1,273.7	0.00	0.00	0.00
14,000.0	90.38	359.58	12,439.1	1,365.4	-319.9	1,373.7	0.00	0.00	0.00
14,100.0	90.38	359.58	12,438.5	1,465.4	-320.6	1,473.6	0.00	0.00	0.00
14,200.0	90.38	359.58	12,437.8	1,565.4	-321.3	1,573.6	0.00	0.00	0.00
14,300.0	90.38	359.58	12,437.2	1,665.4	-322.1	1,673.6	0.00	0.00	0.00
14,400.0	90.38	359.58	12,436.5	1,765.3	-322.8	1,773.6	0.00	0.00	0.00
14,500.0	90.38	359.58	12,435.8	1,865.3	-323.5	1,873.5	0.00	0.00	0.00
14,600.0	90.38	359.58	12,435.2	1,965.3	-324.2	1,973.5	0.00	0.00	0.00
14,700.0	90.38	359.58	12,434.5	2,065.3	-325.0	2,073.5	0.00	0.00	0.00
14,800.0	90.38	359.58	12,433.9	2,165.3	-325.7	2,173.5	0.00	0.00	0.00
14,900.0	90.38	359.58	12,433.2	2,265.3	-326.4	2,273.4	0.00	0.00	0.00
15,000.0	90.38	359.58	12,432.5	2,365.3	-327.2	2,373.4	0.00	0.00	0.00
15,100.0	90.38	359.58	12,431.9	2,465.3	-327.9	2,473.4	0.00	0.00	0.00
15,200.0	90.38	359.58	12,431.2	2,565.3	-328.6	2,573.4	0.00	0.00	0.00
15,300.0	90.38	359.58	12,430.5	2,665.3	-329.3	2,673.4	0.00	0.00	0.00
15,400.0	90.38	359.58	12,429.9	2,765.3	-330.1	2,773.3	0.00	0.00	0.00
15,500.0	90.38	359.58	12,429.2	2,865.3	-330.8	2,873.3	0.00	0.00	0.00
15,600.0	90.38	359.58	12,428.6	2,965.3	-331.5	2,973.3	0.00	0.00	0.00
15,700.0	90.38	359.58	12,427.9	3,065.3	-332.2	3,073.3	0.00	0.00	0.00
15,800.0	90.38	359.58	12,427.2	3,165.3	-333.0	3,173.2	0.00	0.00	0.00
15,900.0	90.38	359.58	12,426.6	3,265.3	-333.7	3,273.2	0.00	0.00	0.00
16,000.0	90.38	359.58	12,425.9	3,365.3	-334.4	3,373.2	0.00	0.00	0.00
16,100.0	90.38	359.58	12,425.3	3,465.3	-335.1	3,473.2	0.00	0.00	0.00
16,200.0	90.38	359.58	12,424.6	3,565.3	-335.9	3,573.2	0.00	0.00	0.00
16,300.0	90.38	359.58	12,423.9	3,665.3	-336.6	3,673.1	0.00	0.00	0.00
16,400.0	90.38	359.58	12,423.3	3,765.3	-337.3	3,773.1	0.00	0.00	0.00
16,500.0	90.38	359.58	12,422.6	3,865.2	-338.0	3,873.1	0.00	0.00	0.00
16,600.0	90.38	359.58	12,422.0	3,965.2	-338.8	3,973.1	0.00	0.00	0.00
16,700.0	90.38	359.58	12,421.3	4,065.2	-339.5	4,073.0	0.00	0.00	0.00
16,800.0	90.38	359.58	12,420.6	4,165.2	-340.2	4,173.0	0.00	0.00	0.00
16,900.0	90.38	359.58	12,420.0	4,265.2	-340.9	4,273.0	0.00	0.00	0.00
17,000.0	90.38	359.58	12,419.3	4,365.2	-341.7	4,373.0	0.00	0.00	0.00
17,100.0	90.38	359.58	12,418.7	4,465.2	-342.4	4,472.9	0.00	0.00	0.00
17,200.0	90.38	359.58	12,418.0	4,565.2	-343.1	4,572.9	0.00	0.00	0.00
17,300.0	90.38	359.58	12,417.3	4,665.2	-343.9	4,672.9	0.00	0.00	0.00
17,400.0	90.38	359.58	12,416.7	4,765.2	-344.6	4,772.9	0.00	0.00	0.00
17,500.0	90.38	359.58	12,416.0	4,865.2	-345.3	4,872.9	0.00	0.00	0.00
17,600.0	90.38	359.58	12,415.3	4,965.2	-346.0	4,972.8	0.00	0.00	0.00
17,700.0	90.38	359.58	12,414.7	5,065.2	-346.8	5,072.8	0.00	0.00	0.00
17,800.0	90.38	359.58	12,414.0	5,165.2	-347.5	5,172.8	0.00	0.00	0.00
17,900.0	90.38	359.58	12,413.4	5,265.2	-348.2	5,272.8	0.00	0.00	0.00

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well SUPREME FED COM #607H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Site:</b>	SUPREME FED COM PROJECT	<b>MD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Well:</b>	SUPREME FED COM #607H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

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)
18,000.0	90.38	359.58	12,412.7	5,365.2	-348.9	5,372.7	0.00	0.00	0.00
18,100.0	90.38	359.58	12,412.0	5,465.2	-349.7	5,472.7	0.00	0.00	0.00
18,200.0	90.38	359.58	12,411.4	5,565.2	-350.4	5,572.7	0.00	0.00	0.00
18,300.0	90.38	359.58	12,410.7	5,665.2	-351.1	5,672.7	0.00	0.00	0.00
18,400.0	90.38	359.58	12,410.1	5,765.2	-351.8	5,772.7	0.00	0.00	0.00
18,500.0	90.38	359.58	12,409.4	5,865.2	-352.6	5,872.6	0.00	0.00	0.00
18,600.0	90.38	359.58	12,408.7	5,965.1	-353.3	5,972.6	0.00	0.00	0.00
18,700.0	90.38	359.58	12,408.1	6,065.1	-354.0	6,072.6	0.00	0.00	0.00
18,800.0	90.38	359.58	12,407.4	6,165.1	-354.7	6,172.6	0.00	0.00	0.00
18,900.0	90.38	359.58	12,406.8	6,265.1	-355.5	6,272.5	0.00	0.00	0.00
19,000.0	90.38	359.58	12,406.1	6,365.1	-356.2	6,372.5	0.00	0.00	0.00
19,100.0	90.38	359.58	12,405.4	6,465.1	-356.9	6,472.5	0.00	0.00	0.00
19,200.0	90.38	359.58	12,404.8	6,565.1	-357.6	6,572.5	0.00	0.00	0.00
19,300.0	90.38	359.58	12,404.1	6,665.1	-358.4	6,672.4	0.00	0.00	0.00
19,400.0	90.38	359.58	12,403.4	6,765.1	-359.1	6,772.4	0.00	0.00	0.00
19,500.0	90.38	359.58	12,402.8	6,865.1	-359.8	6,872.4	0.00	0.00	0.00
19,600.0	90.38	359.58	12,402.1	6,965.1	-360.5	6,972.4	0.00	0.00	0.00
19,700.0	90.38	359.58	12,401.5	7,065.1	-361.3	7,072.4	0.00	0.00	0.00
19,800.0	90.38	359.58	12,400.8	7,165.1	-362.0	7,172.3	0.00	0.00	0.00
19,900.0	90.38	359.58	12,400.1	7,265.1	-362.7	7,272.3	0.00	0.00	0.00
20,000.0	90.38	359.58	12,399.5	7,365.1	-363.5	7,372.3	0.00	0.00	0.00
20,100.0	90.38	359.58	12,398.8	7,465.1	-364.2	7,472.3	0.00	0.00	0.00
20,200.0	90.38	359.58	12,398.2	7,565.1	-364.9	7,572.2	0.00	0.00	0.00
20,300.0	90.38	359.58	12,397.5	7,665.1	-365.6	7,672.2	0.00	0.00	0.00
20,400.0	90.38	359.58	12,396.8	7,765.1	-366.4	7,772.2	0.00	0.00	0.00
20,500.0	90.38	359.58	12,396.2	7,865.1	-367.1	7,872.2	0.00	0.00	0.00
20,600.0	90.38	359.58	12,395.5	7,965.1	-367.8	7,972.2	0.00	0.00	0.00
20,700.0	90.38	359.58	12,394.9	8,065.0	-368.5	8,072.1	0.00	0.00	0.00
20,800.0	90.38	359.58	12,394.2	8,165.0	-369.3	8,172.1	0.00	0.00	0.00
20,900.0	90.38	359.58	12,393.5	8,265.0	-370.0	8,272.1	0.00	0.00	0.00
21,000.0	90.38	359.58	12,392.9	8,365.0	-370.7	8,372.1	0.00	0.00	0.00
21,100.0	90.38	359.58	12,392.2	8,465.0	-371.4	8,472.0	0.00	0.00	0.00
21,200.0	90.38	359.58	12,391.6	8,565.0	-372.2	8,572.0	0.00	0.00	0.00
21,300.0	90.38	359.58	12,390.9	8,665.0	-372.9	8,672.0	0.00	0.00	0.00
21,400.0	90.38	359.58	12,390.2	8,765.0	-373.6	8,772.0	0.00	0.00	0.00
21,500.0	90.38	359.58	12,389.6	8,865.0	-374.3	8,871.9	0.00	0.00	0.00
21,600.0	90.38	359.58	12,388.9	8,965.0	-375.1	8,971.9	0.00	0.00	0.00
21,700.0	90.38	359.58	12,388.2	9,065.0	-375.8	9,071.9	0.00	0.00	0.00
21,800.0	90.38	359.58	12,387.6	9,165.0	-376.5	9,171.9	0.00	0.00	0.00
21,900.0	90.38	359.58	12,386.9	9,265.0	-377.2	9,271.9	0.00	0.00	0.00
22,000.0	90.38	359.58	12,386.3	9,365.0	-378.0	9,371.8	0.00	0.00	0.00
22,100.0	90.38	359.58	12,385.6	9,465.0	-378.7	9,471.8	0.00	0.00	0.00
22,200.0	90.38	359.58	12,384.9	9,565.0	-379.4	9,571.8	0.00	0.00	0.00



## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well SUPREME FED COM #607H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Site:</b>	SUPREME FED COM PROJECT	<b>MD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Well:</b>	SUPREME FED COM #607H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

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)
22,300.0	90.38	359.58	12,384.3	9,665.0	-380.1	9,671.8	0.00	0.00	0.00
22,400.0	90.38	359.58	12,383.6	9,765.0	-380.9	9,771.7	0.00	0.00	0.00
22,500.0	90.38	359.58	12,383.0	9,865.0	-381.6	9,871.7	0.00	0.00	0.00
22,600.0	90.38	359.58	12,382.3	9,965.0	-382.3	9,971.7	0.00	0.00	0.00
22,700.0	90.38	359.58	12,381.6	10,064.9	-383.1	10,071.7	0.00	0.00	0.00
22,800.0	90.38	359.58	12,381.0	10,164.9	-383.8	10,171.7	0.00	0.00	0.00
22,900.0	90.38	359.58	12,380.3	10,264.9	-384.5	10,271.6	0.00	0.00	0.00
23,000.0	90.38	359.58	12,379.7	10,364.9	-385.2	10,371.6	0.00	0.00	0.00
23,100.0	90.38	359.58	12,379.0	10,464.9	-386.0	10,471.6	0.00	0.00	0.00
23,200.0	90.38	359.58	12,378.3	10,564.9	-386.7	10,571.6	0.00	0.00	0.00
23,300.0	90.38	359.58	12,377.7	10,664.9	-387.4	10,671.5	0.00	0.00	0.00
23,400.0	90.38	359.58	12,377.0	10,764.9	-388.1	10,771.5	0.00	0.00	0.00
23,500.0	90.38	359.58	12,376.4	10,864.9	-388.9	10,871.5	0.00	0.00	0.00
23,600.0	90.38	359.58	12,375.7	10,964.9	-389.6	10,971.5	0.00	0.00	0.00
23,700.0	90.38	359.58	12,375.0	11,064.9	-390.3	11,071.5	0.00	0.00	0.00
23,800.0	90.38	359.58	12,374.4	11,164.9	-391.0	11,171.4	0.00	0.00	0.00
23,900.0	90.38	359.58	12,373.7	11,264.9	-391.8	11,271.4	0.00	0.00	0.00
24,000.0	90.38	359.58	12,373.0	11,364.9	-392.5	11,371.4	0.00	0.00	0.00
24,100.0	90.38	359.58	12,372.4	11,464.9	-393.2	11,471.4	0.00	0.00	0.00
24,200.0	90.38	359.58	12,371.7	11,564.9	-393.9	11,571.3	0.00	0.00	0.00
24,300.0	90.38	359.58	12,371.1	11,664.9	-394.7	11,671.3	0.00	0.00	0.00
24,400.0	90.38	359.58	12,370.4	11,764.9	-395.4	11,771.3	0.00	0.00	0.00
24,500.0	90.38	359.58	12,369.7	11,864.9	-396.1	11,871.3	0.00	0.00	0.00
24,600.0	90.38	359.58	12,369.1	11,964.9	-396.8	11,971.2	0.00	0.00	0.00
24,700.0	90.38	359.58	12,368.4	12,064.9	-397.6	12,071.2	0.00	0.00	0.00
24,800.0	90.38	359.58	12,367.8	12,164.8	-398.3	12,171.2	0.00	0.00	0.00
24,900.0	90.38	359.58	12,367.1	12,264.8	-399.0	12,271.2	0.00	0.00	0.00
25,000.0	90.38	359.58	12,366.4	12,364.8	-399.7	12,371.2	0.00	0.00	0.00
25,100.0	90.38	359.58	12,365.8	12,464.8	-400.5	12,471.1	0.00	0.00	0.00
25,200.0	90.38	359.58	12,365.1	12,564.8	-401.2	12,571.1	0.00	0.00	0.00
25,300.0	90.38	359.58	12,364.5	12,664.8	-401.9	12,671.1	0.00	0.00	0.00
25,400.0	90.38	359.58	12,363.8	12,764.8	-402.7	12,771.1	0.00	0.00	0.00
25,500.0	90.38	359.58	12,363.1	12,864.8	-403.4	12,871.0	0.00	0.00	0.00
25,600.0	90.38	359.58	12,362.5	12,964.8	-404.1	12,971.0	0.00	0.00	0.00
25,700.0	90.38	359.58	12,361.8	13,064.8	-404.8	13,071.0	0.00	0.00	0.00
25,800.0	90.38	359.58	12,361.1	13,164.8	-405.6	13,171.0	0.00	0.00	0.00
25,900.0	90.38	359.58	12,360.5	13,264.8	-406.3	13,271.0	0.00	0.00	0.00
26,000.0	90.38	359.58	12,359.8	13,364.8	-407.0	13,370.9	0.00	0.00	0.00
26,100.0	90.38	359.58	12,359.2	13,464.8	-407.7	13,470.9	0.00	0.00	0.00
26,200.0	90.38	359.58	12,358.5	13,564.8	-408.5	13,570.9	0.00	0.00	0.00
26,300.0	90.38	359.58	12,357.8	13,664.8	-409.2	13,670.9	0.00	0.00	0.00
26,400.0	90.38	359.58	12,357.2	13,764.8	-409.9	13,770.8	0.00	0.00	0.00
26,500.0	90.38	359.58	12,356.5	13,864.8	-410.6	13,870.8	0.00	0.00	0.00
26,600.0	90.38	359.58	12,355.9	13,964.8	-411.4	13,970.8	0.00	0.00	0.00

## ConocoPhillips

## Survey Report

<b>Company:</b>	DELAWARE BASIN EAST	<b>Local Co-ordinate Reference:</b>	Well SUPREME FED COM #607H
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>TVD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Site:</b>	SUPREME FED COM PROJECT	<b>MD Reference:</b>	KB=30' @ 3721.9usft (SCAN QUEST)
<b>Well:</b>	SUPREME FED COM #607H	<b>North Reference:</b>	Grid
<b>Wellbore:</b>	OWB	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Design:</b>	PWP1	<b>Database:</b>	EDT 15 Central Prod

## 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)
26,700.0	90.38	359.58	12,355.2	14,064.8	-412.1	14,070.8	0.00	0.00	0.00
26,800.0	90.38	359.58	12,354.5	14,164.8	-412.8	14,170.7	0.00	0.00	0.00
26,900.0	90.38	359.58	12,353.9	14,264.7	-413.5	14,270.7	0.00	0.00	0.00
27,000.0	90.38	359.58	12,353.2	14,364.7	-414.3	14,370.7	0.00	0.00	0.00
27,100.0	90.38	359.58	12,352.6	14,464.7	-415.0	14,470.7	0.00	0.00	0.00
27,200.0	90.38	359.58	12,351.9	14,564.7	-415.7	14,570.7	0.00	0.00	0.00
27,300.0	90.38	359.58	12,351.2	14,664.7	-416.4	14,670.6	0.00	0.00	0.00
27,400.0	90.38	359.58	12,350.6	14,764.7	-417.2	14,770.6	0.00	0.00	0.00
27,500.0	90.38	359.58	12,349.9	14,864.7	-417.9	14,870.6	0.00	0.00	0.00
27,600.0	90.38	359.58	12,349.3	14,964.7	-418.6	14,970.6	0.00	0.00	0.00
27,700.0	90.38	359.58	12,348.6	15,064.7	-419.4	15,070.5	0.00	0.00	0.00
27,800.0	90.38	359.58	12,347.9	15,164.7	-420.1	15,170.5	0.00	0.00	0.00
27,900.0	90.38	359.58	12,347.3	15,264.7	-420.8	15,270.5	0.00	0.00	0.00
27,940.9	90.38	359.58	12,347.0	15,305.6	-421.1	15,311.4	0.00	0.00	0.00
TD at 27940.9									

## Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL (SUPREME FE	0.38	179.58	12,347.0	15,305.6	-421.1	483,216.60	732,050.50	32° 19' 34.472 N	103° 34' 55.588 W
- plan hits target center									
- Rectangle (sides W100.0 H15,736.0 D20.0)									
LTP (SUPREME FED	0.00	0.00	12,347.0	15,255.6	-420.7	483,166.60	732,050.90	32° 19' 33.977 N	103° 34' 55.587 W
- plan misses target center by 0.3usft at 27890.9usft MD (12347.3 TVD, 15255.6 N, -420.7 E)									
- Point									
FTP (SUPREME FED	0.00	0.00	12,447.0	-387.0	-307.2	467,524.00	732,164.40	32° 16' 59.179 N	103° 34' 55.542 W
- plan misses target center by 223.0usft at 12364.5usft MD (12289.4 TVD, -229.3 N, -308.3 E)									
- Circle (radius 50.0)									

## Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
2500	2500	0	0	Start Build 2.00
2800	2799	-13	-9	Start 4430.7 hold at 2800.0 MD
7231	7206	-382	-288	Start Drop -1.00
7831	7805	-407	-307	Start 4069.3 hold at 7830.7 MD
11,900	11,874	-407	-307	Start DLS 10.00 TFO 359.58
12,804	12,447	169	-311	Start 15137.1 hold at 12803.8 MD
27,941	12,347	15,306	-421	TD at 27940.9

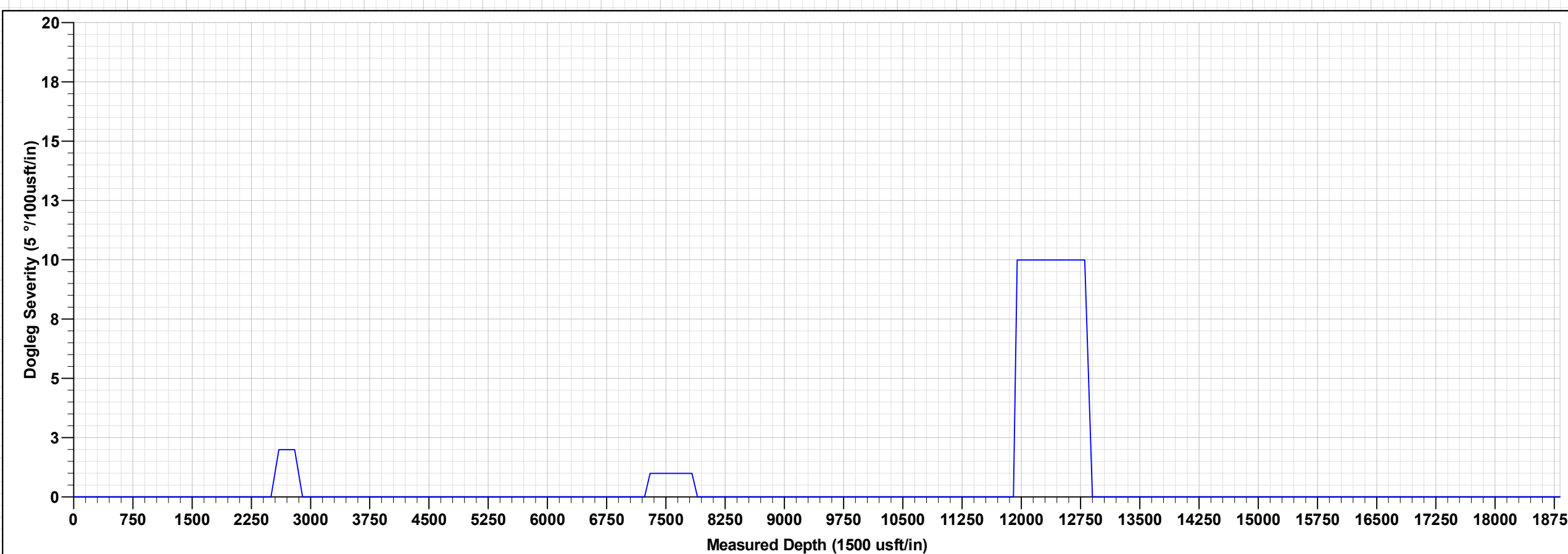
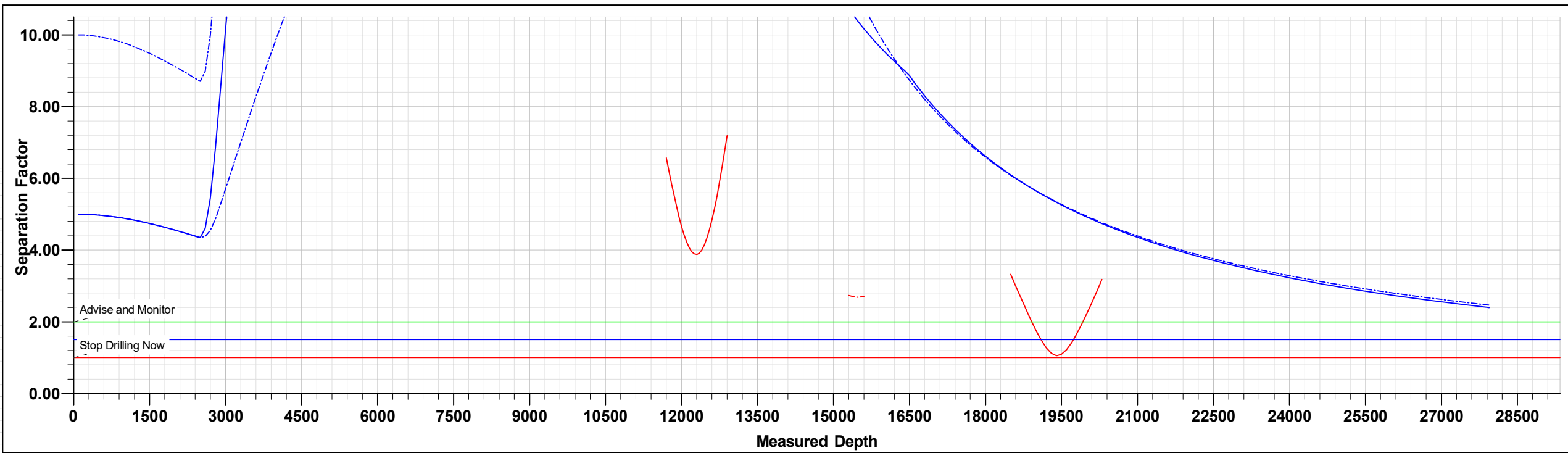
Checked By: \_\_\_\_\_ Approved By: \_\_\_\_\_ Date: \_\_\_\_\_



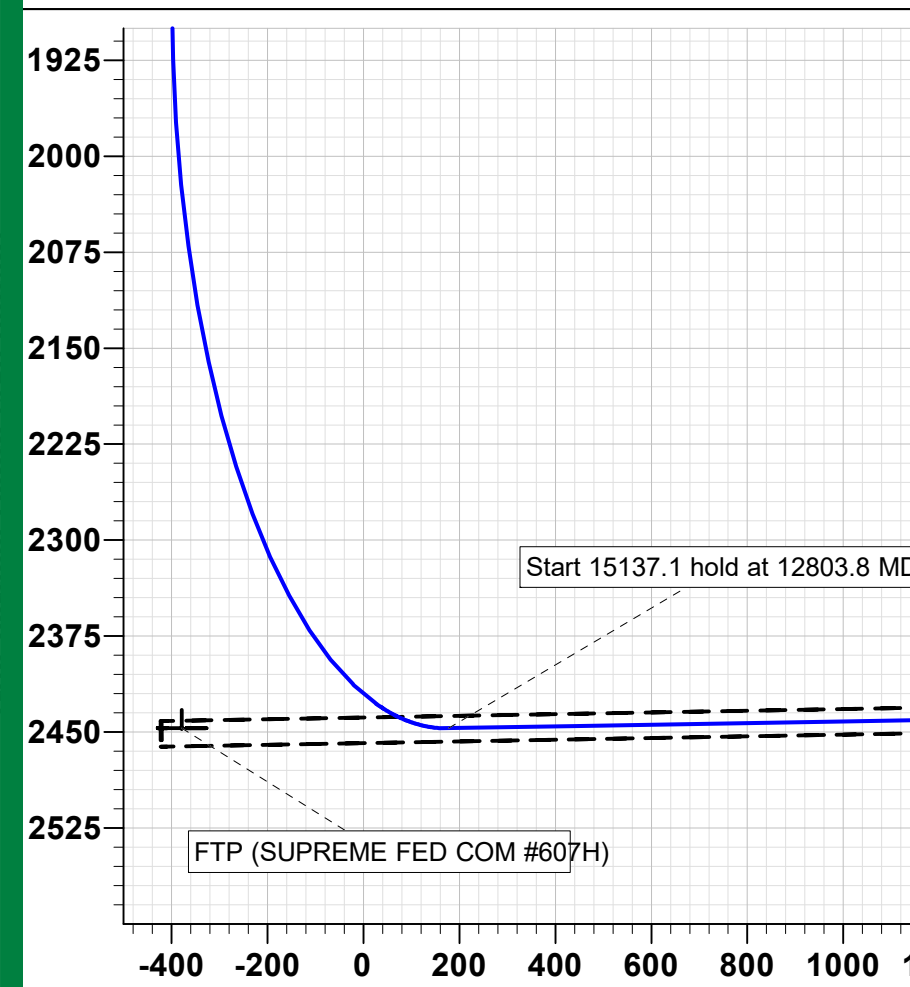
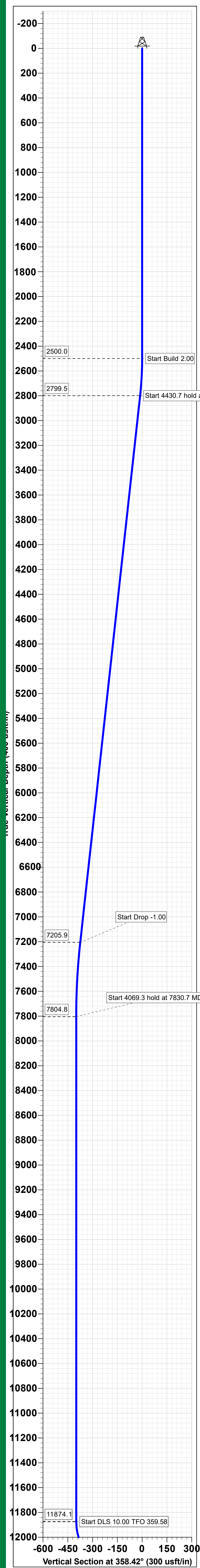
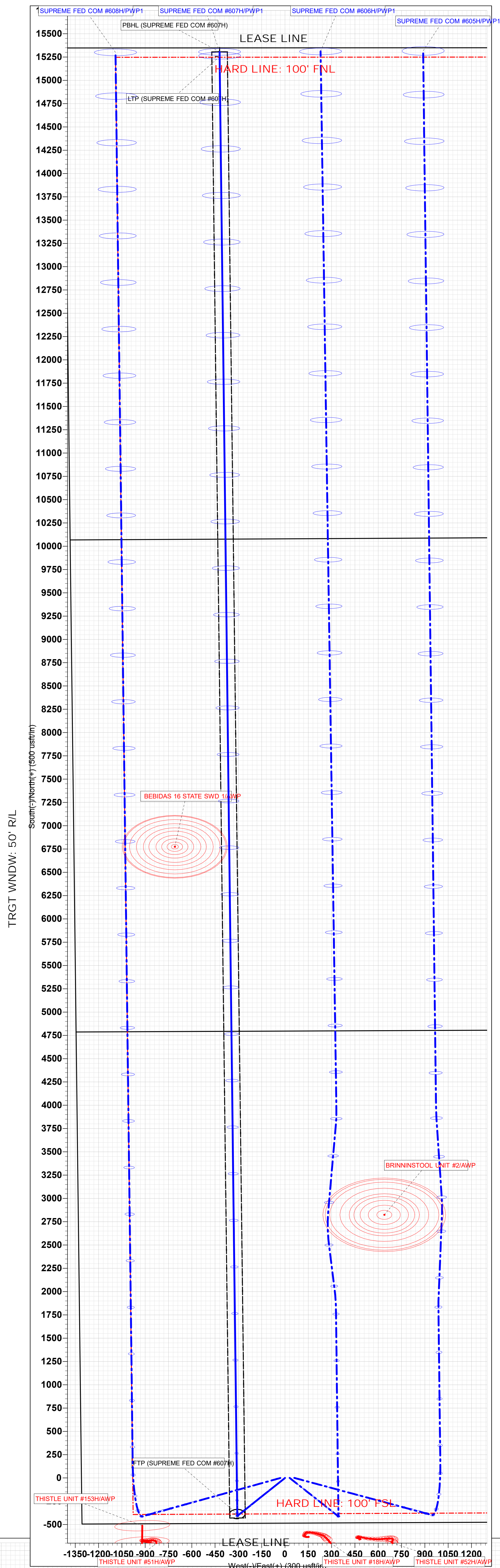
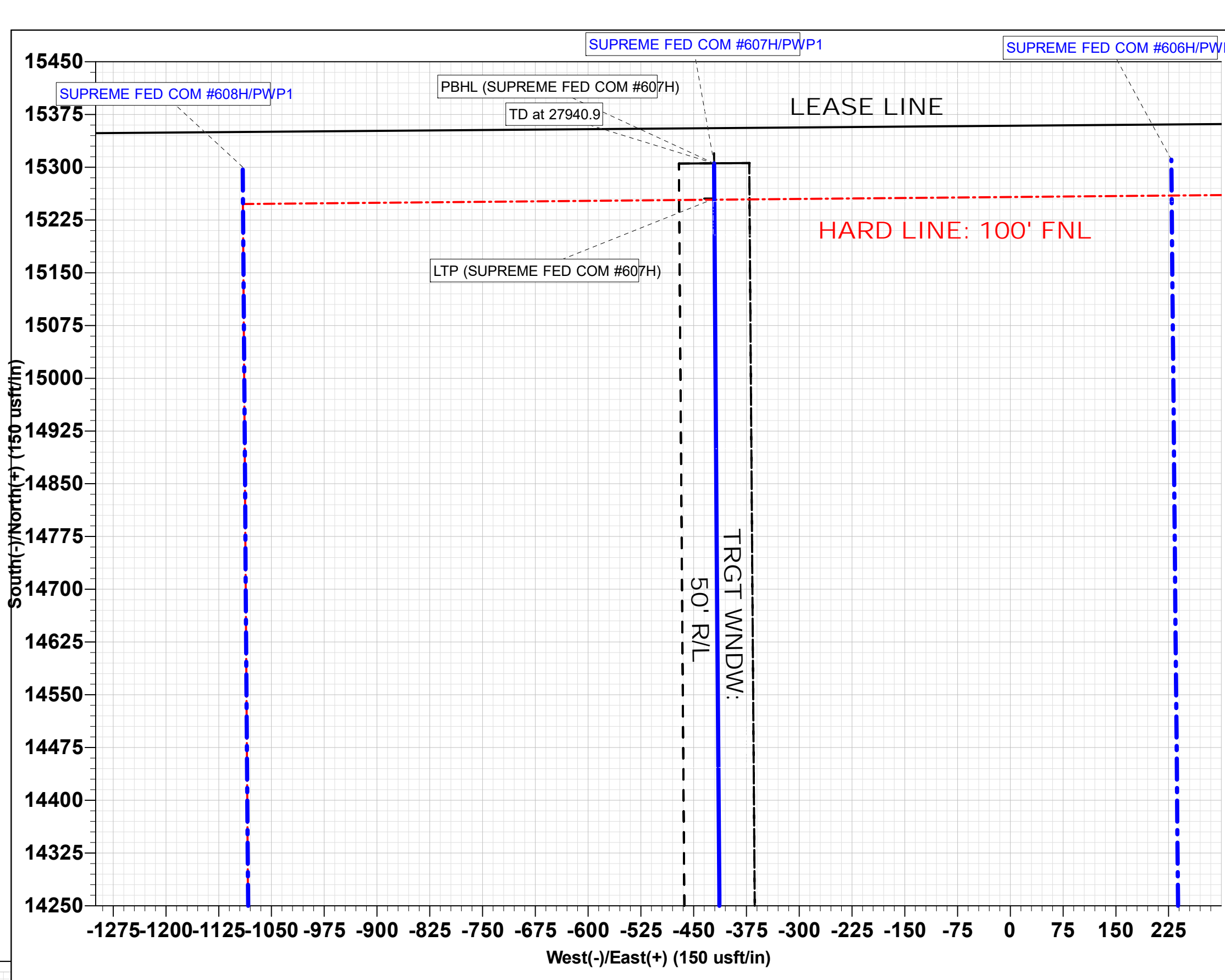
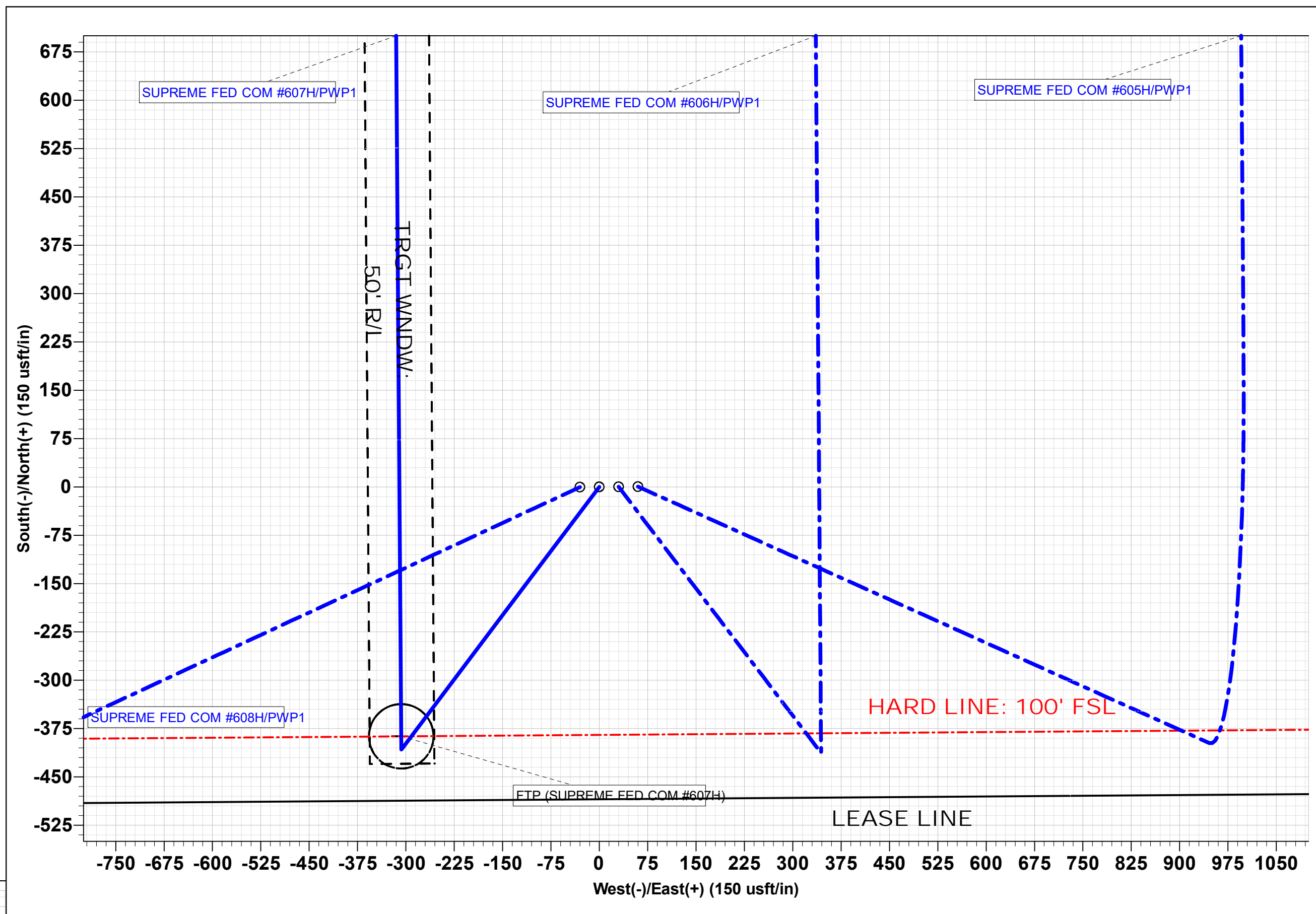
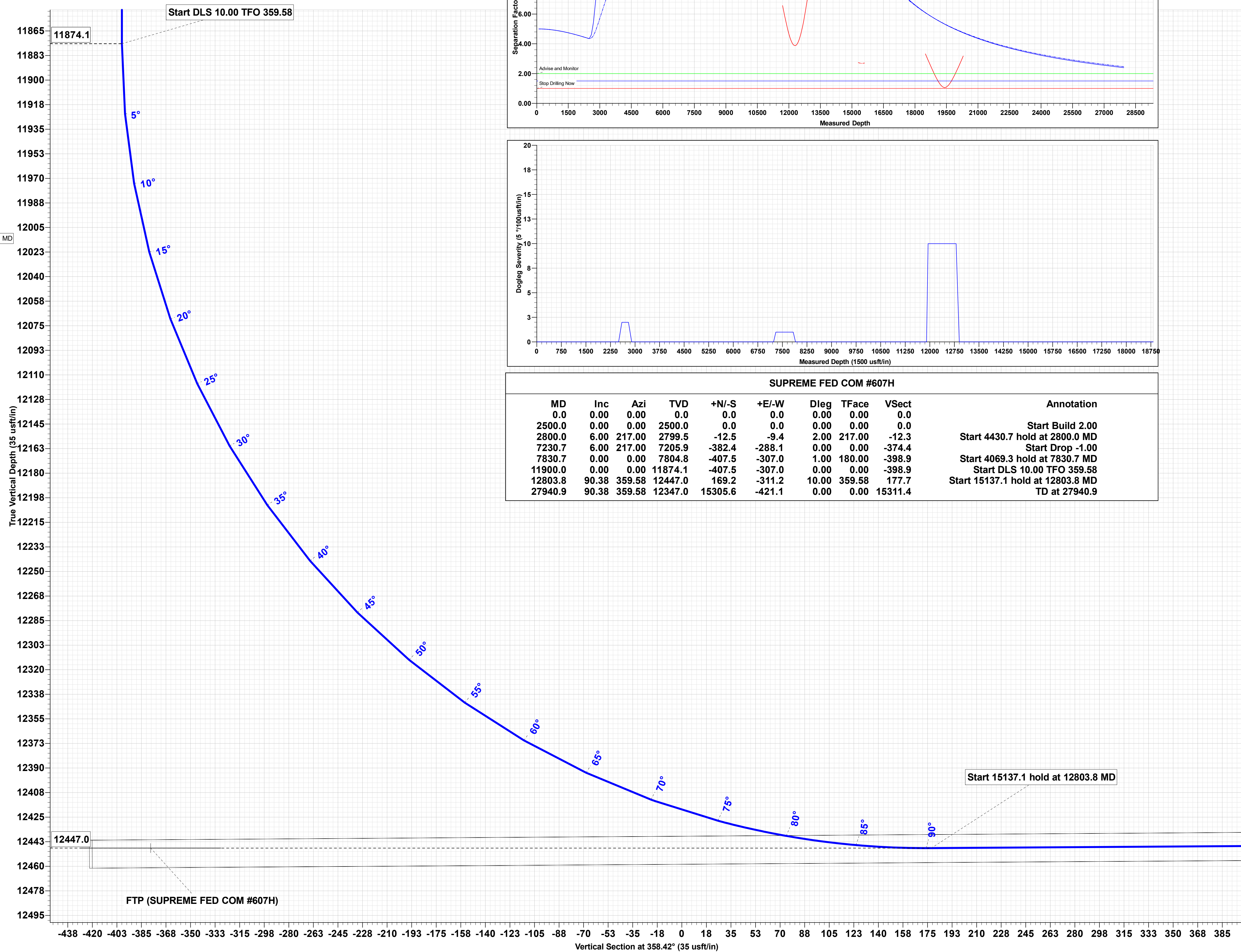


WELL DETAILS: SUPREME FED COM #607H					
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.0	0.0	467911.00	732471.60	32° 17' 2.988 N	103° 34' 51.932 W

DESIGN TARGET DETAILS						
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude
LTP (SUPREME FED COM #607H)	12347.0	15255.6	-420.7	483166.60	732050.90	32° 19' 33.977 N
PBHL (SUPREME FED COM #607H)	12347.0	15305.6	-421.1	483216.60	732050.50	32° 19' 34.472 N
FTP (SUPREME FED COM #607H)	12447.0	-387.0	-307.2	467524.00	732164.40	32° 16' 59.179 N



SUPREME FED COM #607H									
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSecl	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2800.0	6.00	217.00	2799.5	-12.5	-9.4	2.00	217.00	-12.3	Start 4430.7 hold at 2800.0 MD
7230.7	6.00	217.00	7205.9	-382.4	-288.1	0.00	0.00	-374.4	Start Drop -1.00
7830.7	0.00	0.00	7804.8	-407.5	-307.0	1.00	180.00	-398.9	Start 4069.3 hold at 7830.7 MD
11900.0	0.00	0.00	11874.1	-407.5	-307.0	0.00	0.00	-398.9	Start DLS 10.00 TFO 359.58
12803.8	90.38	359.58	12447.0	169.2	-311.2	10.00	359.58	177.7	Start 15137.1 hold at 12803.8 MD
27940.9	90.38	359.58	12347.0	15305.6	-421.1	0.00	0.00	15311.4	TD at 27940.9



TRGT WNDW:  
10 A/B



## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>COG</b>
<b>LEASE NO.:</b>	<b>NMLC0068848</b>
<b>LOCATION:</b>	Section 21, T.23 S., R.33 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Supreme Fed Com 608H
<b>SURFACE HOLE FOOTAGE:</b>	485'/S & 1280'/W
<b>BOTTOM HOLE FOOTAGE:</b>	50'/N & 330'/W

COA

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

### A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H2S) Drilling Plan shall be activated 500 feet prior to drilling into the **Delaware Group** formation. As a result, the Hydrogen Sulfide area must meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

### B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **1385** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
  - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
  - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8**

- hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
  - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is: Cement to surface. If cement does not circulate see B.1.a, c-d above. **Excess calculates to 22%. Additional cement maybe required.**  
**Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

### C. PRESSURE CONTROL

1. **Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).**
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 5000 (5M) psi.**
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
  - c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
  - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

**D. SPECIAL REQUIREMENT (S)****Communitization Agreement**

- The operator will submit a Communitization Agreement to the Santa Fe Office, 301 Dinosaur Trail Santa Fe, New Mexico 87508, at least 90 days before the anticipated date of first production from a well subject to a spacing order issued by the New Mexico Oil Conservation Division. The Communitization Agreement will include the signatures of all working interest owners in all Federal and Indian leases subject to the Communitization Agreement (i.e., operating rights owners and lessees of record), or certification that the operator has obtained the written signatures of all such owners and will make those signatures available to the BLM immediately upon request.
- If the operator does not comply with this condition of approval, the BLM may take enforcement actions that include, but are not limited to, those specified in 43 CFR 3163.1.
- In addition, the well sign shall include the surface and bottom hole lease numbers. When the Communitization Agreement number is known, it shall also be on the sign.

**GENERAL REQUIREMENTS**

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

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

☒ Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,  
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)  
393-3612

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

#### A. CASING

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

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

**B. PRESSURE CONTROL**

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
  - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
  - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.



- c. Manufacturer representative shall install the test plug for the initial BOP test.
  - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
  - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), 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 plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
  - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
  - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
  - e. The results of the test shall be reported to the appropriate BLM office.

- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

#### C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

#### D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

**ZS110821**

**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<sub>2</sub>S).
- b. The proper use and maintenance of personal protective equipment and life support systems.
- c. The proper use of H<sub>2</sub>S 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 H<sub>2</sub>S 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<sub>2</sub>S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H<sub>2</sub>S zone (within 3 days or 500 feet) and weekly H<sub>2</sub>S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H<sub>2</sub>S 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<sub>2</sub>S SAFETY EQUIPMENT AND SYSTEMS**

Note: All H<sub>2</sub>S 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 H<sub>2</sub>S. If H<sub>2</sub>S greater than 100 ppm is encountered in the gas stream we will shut in and install H<sub>2</sub>S 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<sub>2</sub>S 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**

	<b><u>OFFICE</u></b>	<b><u>MOBILE</u></b>
COG OPERATING LLC OFFICE	575-748-6940	
SETH WILD	432-683-7443	432-528-3633
WALTER ROYE	575-748-6940	432-934-1886

## **EMERGENCY RESPONSE NUMBERS**

	<b><u>OFFICE</u></b>
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

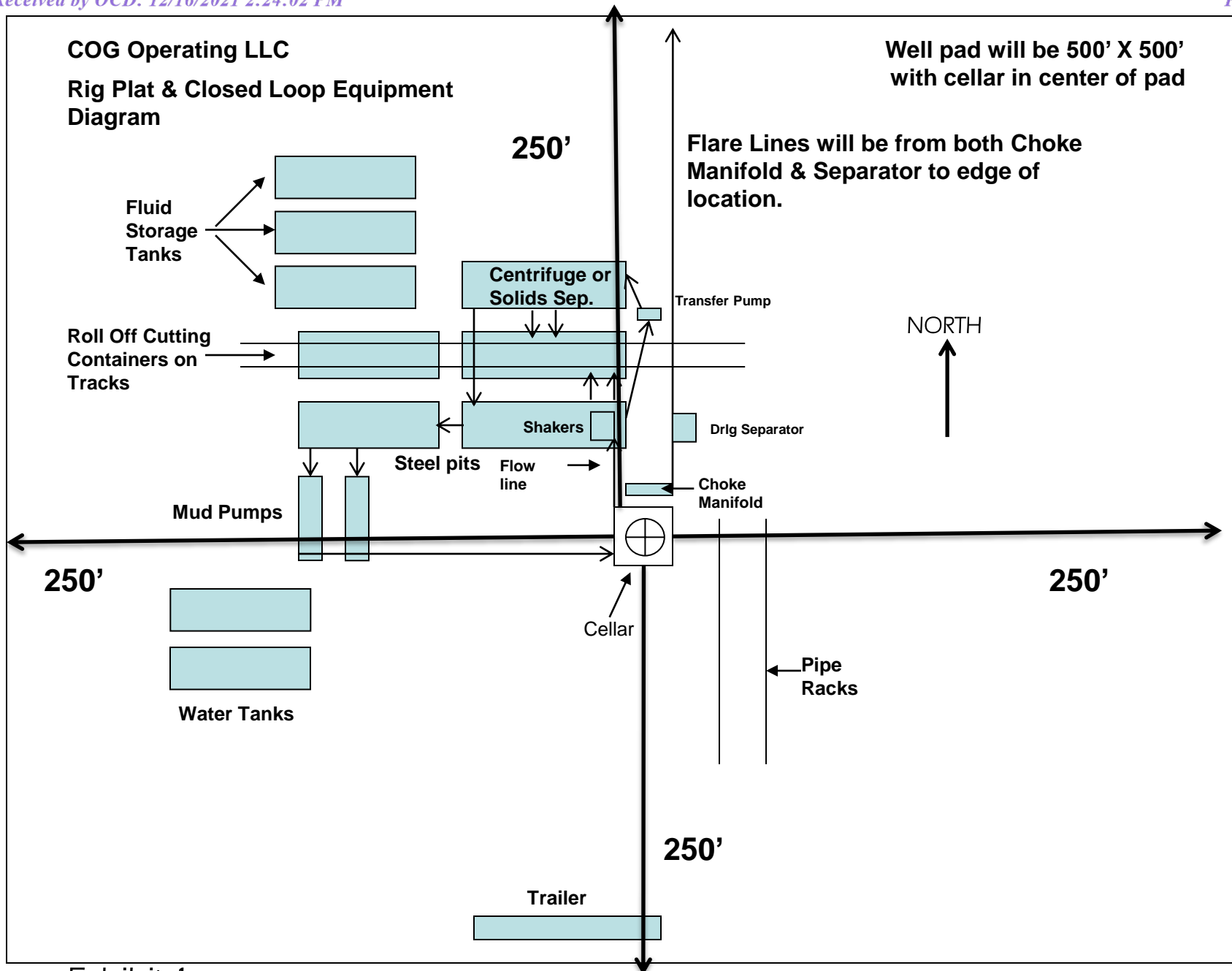


Exhibit 1

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

## Kick Off Point (KOP)

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

## First Take Point (FTP)

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

## Last Take Point (LTP)

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

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

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

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018



## COG Operating, LLC - Supreme Federal Com 607H

## 1. Geologic Formations

TVD of target	12,447' EOL	Pilot hole depth	NA
MD at TD:	27,941'	Deepest expected fresh water:	345'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1318	Water	
Top of Salt	1823	Salt	
Base of Salt	4922	Salt	
Lamar	5178	Salt Water	
Bell Canyon	5233	Salt Water	
Cherry Canyon	6149	Oil/Gas	
Brushy Canyon	7467	Oil/Gas	
Bone Spring Lime	9090	Oil/Gas	
1st Bone Spring Sand	10214	Oil/Gas	
2nd Bone Spring Sand	10811	Oil/Gas	
3rd Bone Spring Sand	11986	Oil/Gas	
Wolfcamp A	12358	Target	
Wolfcamp B	0	Not Penetrated	
Wolfcamp D	0	Not Penetrated	

## 2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	1350	10.75"	45.5	J55	BTC	3.38	1.14	11.64	12.96
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.56	1.00	2.71	2.90
8.750"	8500	11800	7.625"	29.7	HCP110	FJM	1.21	1.38	2.68	1.59
6.75"	0	11300	5.5"	23	P110	BTC	1.98	2.34	2.80	2.79
6.75"	11300	27,941	5.5"	23	P110	Talon	1.80	2.12	2.55	2.47
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" talon 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 - Supreme Federal Com 607H

	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 3 <sup>rd</sup> 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 2 <sup>nd</sup> 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 - Supreme Federal Com 607H

## 3. Cementing Program

Casing	# Skis	Wt. lb/ gal	Yld ft3/ sack	H <sub>2</sub> O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	644	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl <sub>2</sub>
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl <sub>2</sub>
Inter. Stage 1	840	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	524	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	1569	14.4	1.24	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 <sup>st</sup> Intermediate	0'	50%
Production	11,300'	35% OH in Lateral (KOP to EOL)

## COG Operating, LLC - Supreme Federal Com 607H

## 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	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 - Supreme Federal Com 607H

## 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 Diesel Emulsion	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 - Supreme Federal Com 607H

## 7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8095 psi at 12447' TVD
Abnormal Temperature	NO 180 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 (H<sub>2</sub>S) monitors will be installed prior to drilling out the surface shoe. If H<sub>2</sub>S 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 H<sub>2</sub>S is present

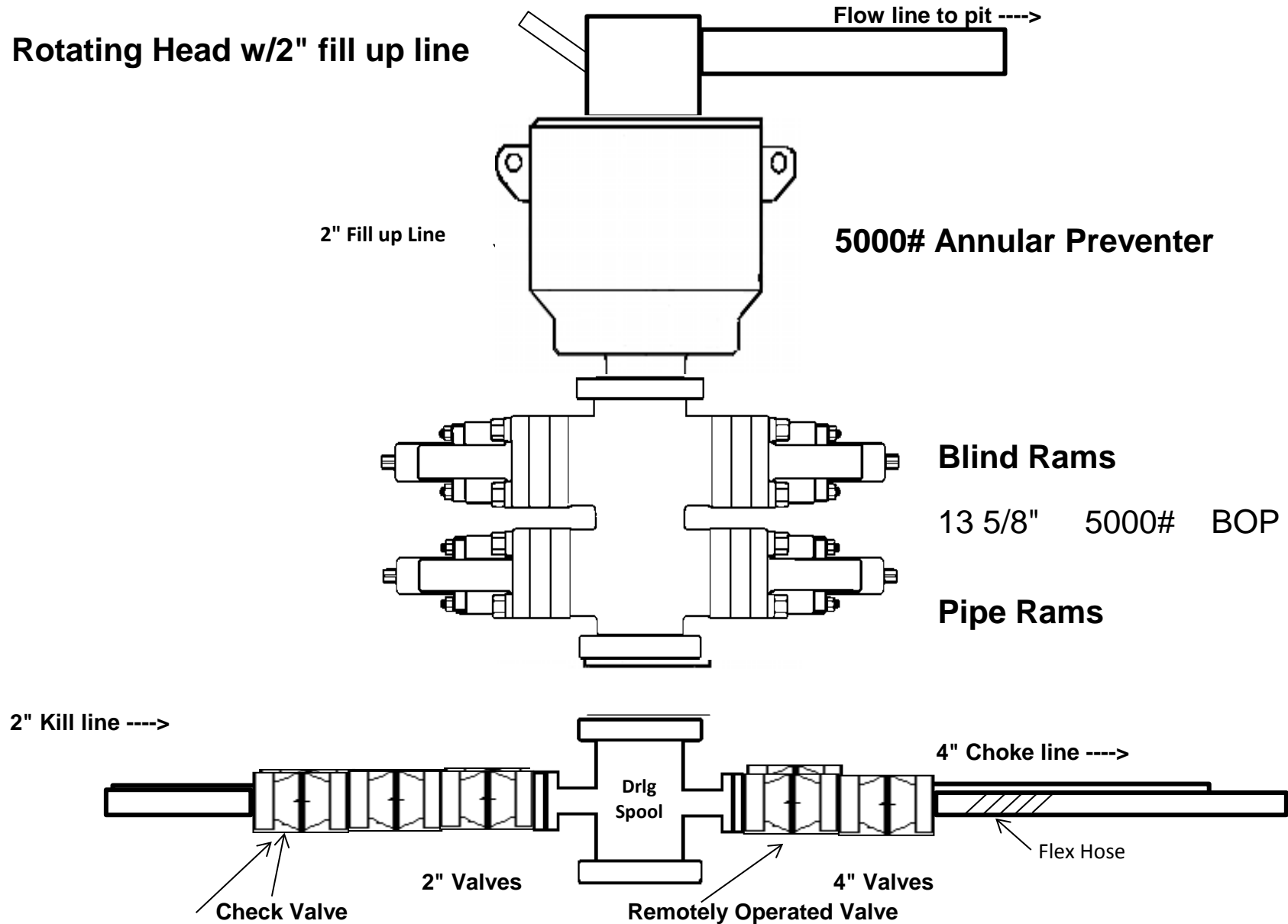
Y H<sub>2</sub>S Plan attached

## 8. Other Facets of Operation

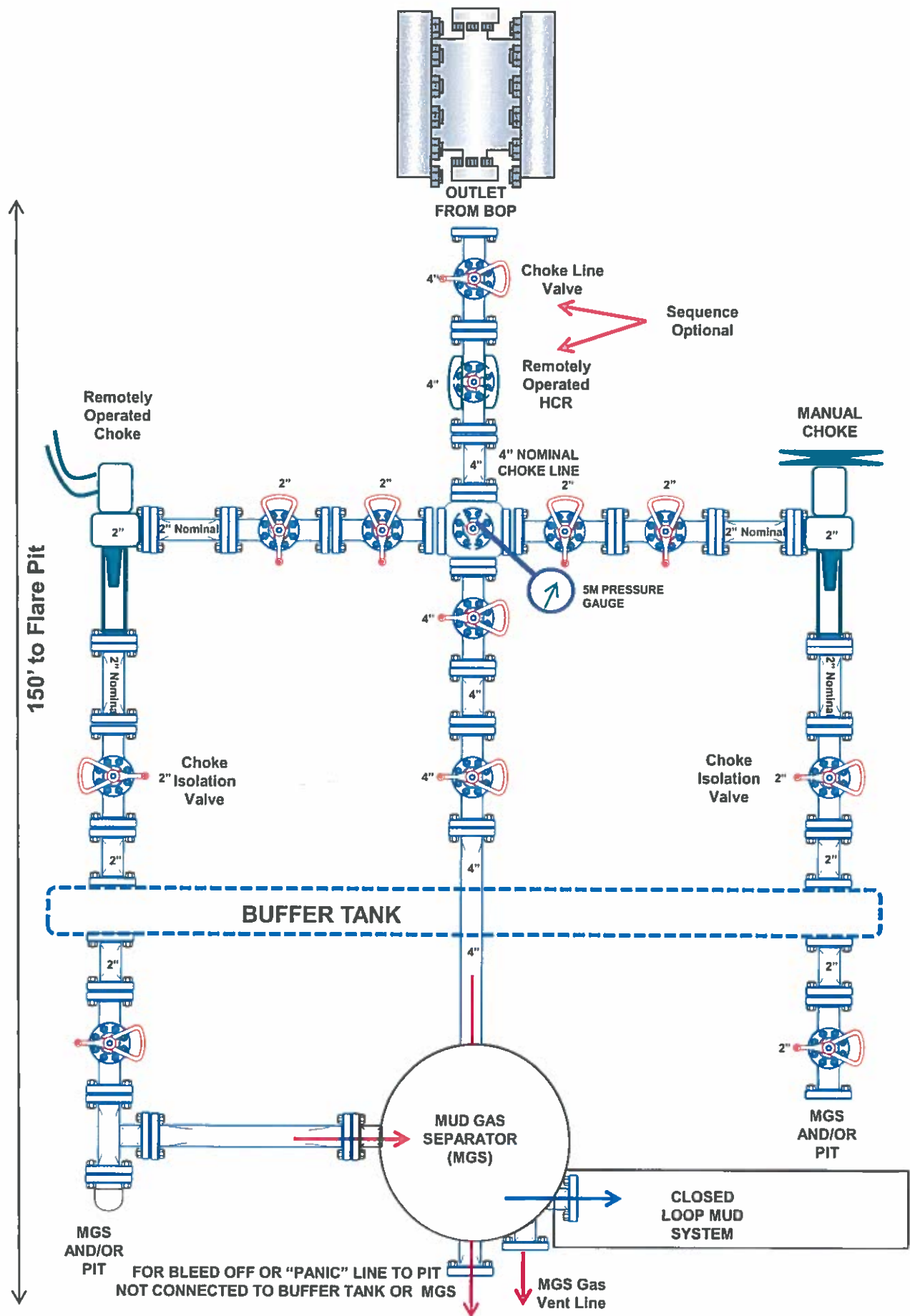
Y	Is it a walking operation?
Y	Is casing pre-set?

x	H <sub>2</sub> S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

# 5,000 psi BOP Schematic

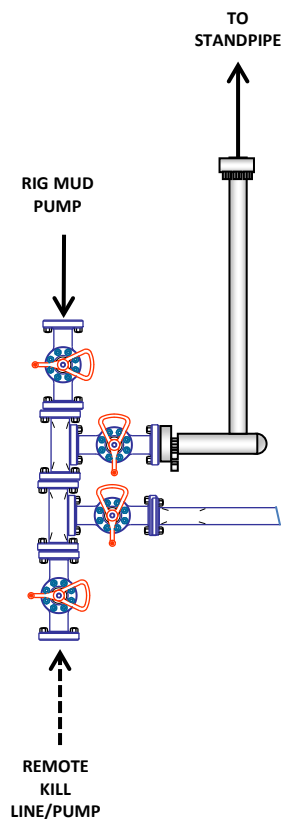


# 5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)

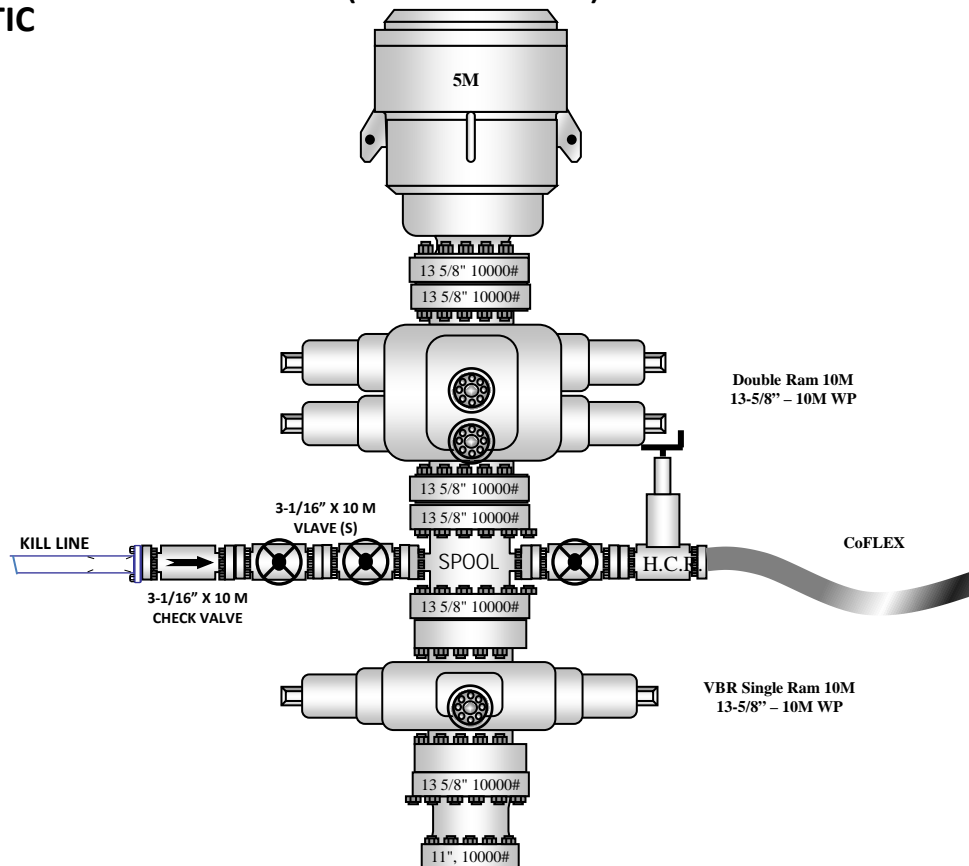




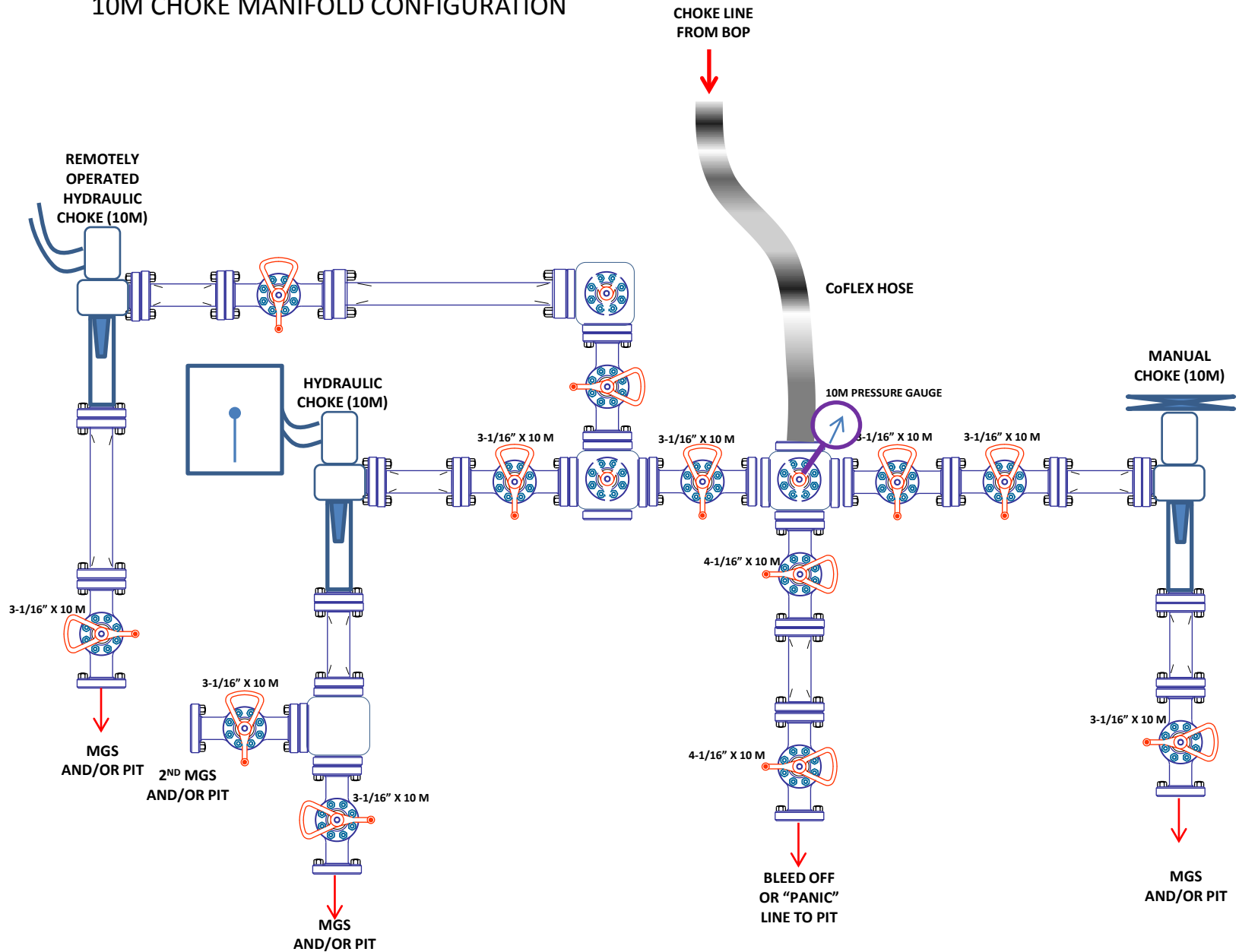
## 10M REMOTE KILL SCHEMATIC



## 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 67543

**CONDITIONS**

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 67543
	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	12/21/2021
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	12/21/2021
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	12/21/2021
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	12/21/2021