

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 checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. <b>NMNM120908</b> 6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No. <b>AZORES FEDERAL COM</b> <b>[317670]</b> <b>708H</b> 9. API Well No. <b>30-025-51393</b>
2. Name of Operator <b>COG PRODUCTION LLC [217955]</b> 3a. Address <b>2208 West Main Street, Artesia, NM 88210</b> 3b. Phone No. (include area code) <b>(575) 748-6940</b>		10. Field and Pool, or Exploratory <b>[98248]</b> <b>WC-025 G-08 S243217P/UPR WOLFCAM</b> 11. Sec., T. R. M. or Blk. and Survey or Area <b>SEC 29/T24S/R32E/NMP</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>SWSW / 855 FSL / 1225 FWL / LAT 32.183501 / LONG -103.70127</b> At proposed prod. zone <b>NWNW / 50 FNL / 330 FEL / LAT 32.210041 / LONG -103.704222</b>		12. County or Parish <b>LEA</b> 13. State <b>NM</b>
14. Distance in miles and direction from nearest town or post office* <b>21 miles</b>		15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>50 feet</b> 16. No of acres in lease  17. Spacing Unit dedicated to this well <b>320.0</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>30 feet</b> 19. Proposed Depth <b>12125 feet / 22409 feet</b> 20. BLM/BIA Bond No. in file <b>FED:</b>		21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3504 feet</b> 22. Approximate date work will start* <b>04/01/2023</b> 23. Estimated duration <b>30 days</b>
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 (Electronic Submission)  Title <b>Regulatory Analyst</b>	Name (Printed/Typed) <b>MAYTE REYES / Ph: (575) 748-6940</b>	Date <b>06/09/2022</b>
Approved by (Signature) (Electronic Submission)  Title <b>Assistant Field Manager Lands &amp; Minerals</b>	Name (Printed/Typed) <b>CODY LAYTON / Ph: (575) 234-5959</b>  Office <b>Carlsbad Field Office</b>	Date <b>04/17/2023</b>

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 04/21/2023****SL**

(Continued on page 2)

**Approval Date: 04/17/2023**
**KZ**  
**04/25/2023**

\*(Instructions on page 2)

## INSTRUCTIONS

**GENERAL:** This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

**ITEM I:** If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

**ITEM 4:** Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

**ITEM 14:** Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

**ITEMS 15 AND 18:** If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

**ITEM 22:** Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

**ITEM 24:** If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

**PRINCIPAL PURPOSES:** The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

**ROUTINE USE:** Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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

## Additional Operator Remarks

### Location of Well

0. SHL: SWSW / 855 FSL / 1225 FWL / TWSP: 24S / RANGE: 32E / SECTION: 29 / LAT: 32.183501 / LONG: -103.70127 ( TVD: 0 feet, MD: 0 feet )

PPP: SWSW / 100 FSL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 29 / LAT: 32.181413 / LONG: -103.704157 ( TVD: 11987 feet, MD: 12100 feet )

BHL: NWNW / 50 FNL / 330 FEL / TWSP: 24S / RANGE: 32E / SECTION: 20 / LAT: 32.210041 / LONG: -103.704222 ( TVD: 12125 feet, MD: 22409 feet )

### BLM Point of Contact

Name: Gavin Mickwee

Title: Land Law Examiner

Phone: (575) 234-5972

Email: gmickwee@blm.gov

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### **Review and Appeal Rights**

A person contesting a decision shall request a State Director review. This request must be filed within 20 working days of receipt of the Notice with the appropriate State Director (see 43 CFR 3165.3). The State Director review decision may be appealed to the Interior Board of Land Appeals, 801 North Quincy Street, Suite 300, Arlington, VA 22203 (see 43 CFR 3165.4). Contact the above listed Bureau of Land Management office for further information.

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**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	COG Operating LLC
LEASE NO.:	NMNM 108968 and NMNM 120908
COUNTY:	Lea

**Wells:**

**Azores Federal Com 707H**

Surface Hole Location: 855'FSL & 680' FEL, Section 29, T24S, R32E

Bottom Hole Location: 50'FNL & 1650' FEL, Section 20, T24S, R32E

**Azores Federal Com 708H**

Surface Hole Location: 855'FSL & 1225' FWL, Section 29, T24S, R32E

Bottom Hole Location: 50'FNL & 330' FEL, Section 20, T24S, R32E

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Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Range
  - Watershed
  - Lesser Prairie Chicken
- ☒ **Production (Post Drilling)**
  - Well Structures & Facilities
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

#### **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

#### **V. SPECIAL REQUIREMENT(S)**

##### **Watershed:**

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

##### **Range:**

##### **Cattleguards**

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

##### **Fence Requirement**

Where entry granted across a fence line, the fence must be H-braced or angle iron braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall consult with the private surface landowner or the grazing allotment holder prior to cutting any fence(s).



Figure 1. Pipe H-brace specifications

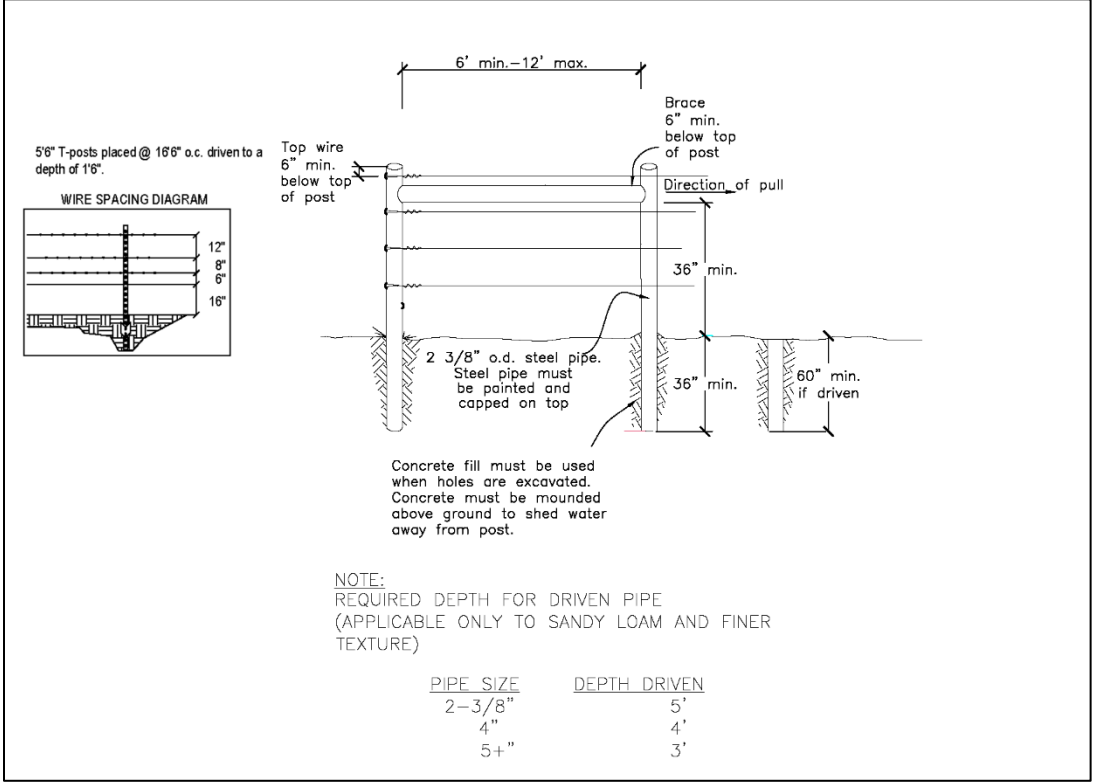
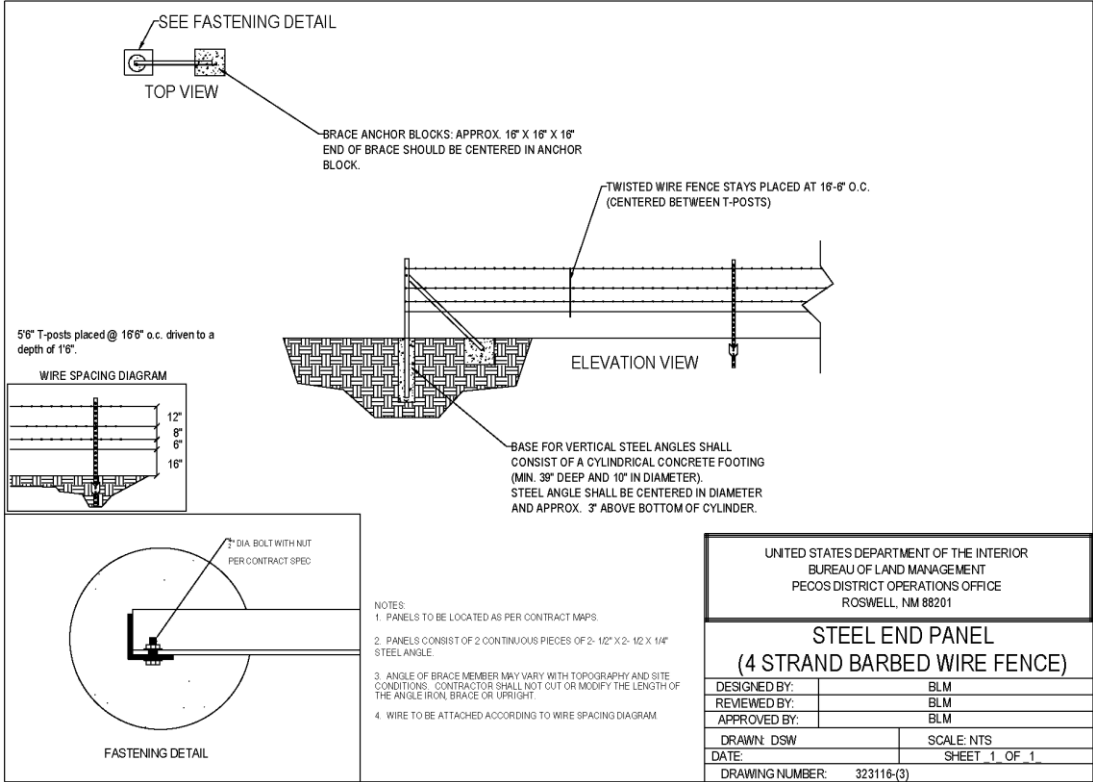


Figure 2. Angle iron brace specifications





**Livestock Water Protection**

Any damage to structures that provide water to livestock (such as windmills, pipelines, drinking troughs, earthen reservoirs) throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. Operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

**Lesser Prairie Chicken:****Ground-level Abandoned Well Marker to avoid raptor perching:**

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

**Lesser Prairie Chicken Timing Stipulation**

As included in the original EA for this project, Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken, to minimize noise associated impacts which could disrupt breeding and nesting activities should be observed:

**Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

**Timing Limitation Exceptions:**

The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

**VI. PRODUCTION (POST DRILLING)****A. WELL STRUCTURES & FACILITIES****Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

**Exclosure Netting (Open-top Tanks)**

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped

tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

#### **Chemical and Fuel Secondary Containment and Enclosure Screening**

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock enclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

### **VII. INTERIM RECLAMATION**

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

### **VIII. FINAL ABANDONMENT & RECLAMATION**

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

**Seed Mixture 2, for Sandy Sites**

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

**Species**

	<u>lb/acre</u>
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sand love grass ( <i>Eragrostis trichodes</i> )	1.0
Plains bristlegrass ( <i>Setaria macrostachya</i> )	2.0

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>COG</b>
<b>LEASE NO.:</b>	<b>NMNM120908</b>
<b>LOCATION:</b>	Section 29, T.24S., R.32 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Azores Fed Com 708H
<b>SURFACE HOLE FOOTAGE:</b>	855'/S & 1225'/W
<b>BOTTOM HOLE FOOTAGE:</b>	50'/N & 330'/E

COA

H <sub>2</sub> S	<input type="radio"/> Yes	<input checked="" 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

Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

### B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **785** 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.
- Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.**
3. The minimum required fill of cement behind the **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).**

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 approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)**

2.
  - 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.

**ZS 041023**

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

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

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

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

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

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

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT**

API Number <b>30-025-51393</b>	Pool Code <b>98248</b>	Pool Name <b>WC-025 G-08 S243217P; UPR Wolfcamp</b>
Property Code <b>317670</b>	Property Name <b>AZORES FEDERAL COM</b>	Well Number <b>708H</b>
OGRID No. <b>217955</b>	Operator Name <b>COG PRODUCTION, LLC</b>	Elevation <b>3503.8'</b>

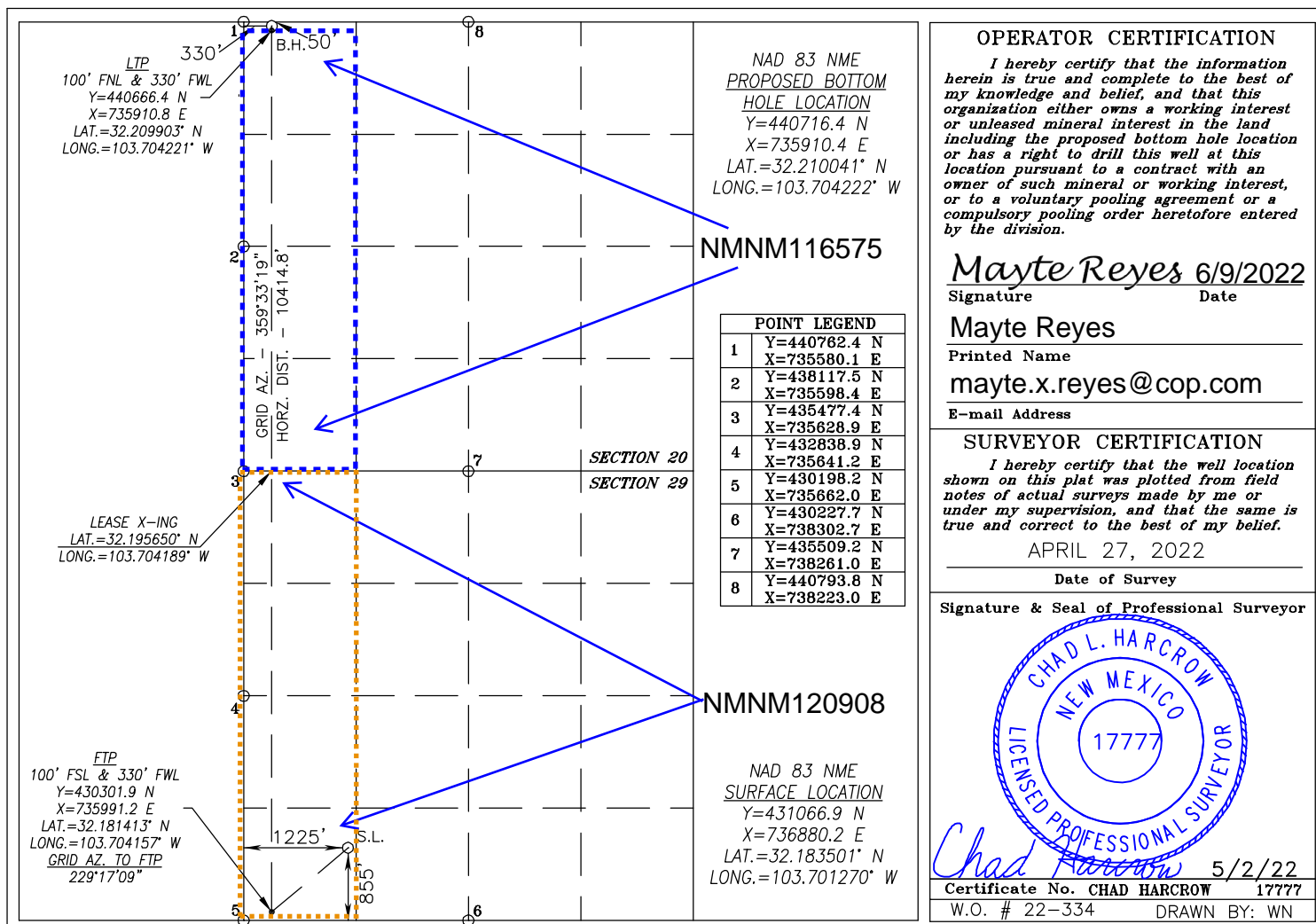
**Surface Location**

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	29	24-S	32-E		855	SOUTH	1225	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	20	24-S	32-E		50	NORTH	330	WEST	LEA
Dedicated Acres <b>320</b>	Joint or Infill	Consolidation Code	Order No.						

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



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 Production LLC **OGRID:** 217955 **Date:** 06 / 09 / 22

**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
Azores Federal Com 708H	30-025-	P-29-24S-32E	855 FSL & 1225 FWL	± 1810	± 5094	± 2007
	30-025-51393					

**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
Azores Federal Com 708H	Pending	7/15/2023	± 25 days from spud	11/12/2023	11/22/2023	11/27/2023
	30-025-51393					

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

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

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

## **Section 2 – Enhanced Plan**

### **EFFECTIVE APRIL 1, 2022**

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

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

#### **IX. Anticipated Natural Gas Production:**

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

#### **X. Natural Gas Gathering System (NGGS):**

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

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

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

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

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

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



### **Section 3 - Certifications**

**Effective May 25, 2021**

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

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

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

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

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

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

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

### **Section 4 - Notices**

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

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

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

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

## VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

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

## VII. Operational Practices

Actions Operator will take to comply with the requirements below:

### B. Drilling Operations

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

### C. Completion Operations

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

### D. Venting and flaring during production operations

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

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

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

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

F. Measurement of vented and flared natural gas.

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

**VIII. Best Management Practices**

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

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

Signature: <i>Mayte Reyes</i>
Printed Name: Mayte Reyes
Title: Sr. Regulatory Coordinator
E-mail Address: mayte.x.reyes@conocophillips.com
Date: 6/09/2022
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

# Drilling Plan Data Report

04/20/2023

APD ID: 10400086015

Submission Date: 06/09/2022

Highlighted data  
reflects the most  
recent changes

Operator Name: COG PRODUCTION LLC

Well Name: AZORES FEDERAL COM

Well Number: 708H

Well Type: OIL WELL

Well Work Type: Drill

[Show Final Text](#)

## Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
8728714	QUATERNARY	3504	0	0	ALLUVIUM	NONE	N
8728693	RUSTLER	2726	778	778	ALLUVIUM	NONE	N
8728694	TOP SALT	2417	1087	1087	SALT	NONE	N
8728695	BASE OF SALT	-943	4447	4447	ANHYDRITE	NONE	N
8728712	LAMAR	-1155	4659	4659	SANDSTONE	NONE	N
8728701	BELL CANYON	-1173	4677	4677	SANDSTONE, SILTSTONE	NONE	N
8728696	CHERRY CANYON	-2091	5595	5595	SANDSTONE, SILTSTONE	NATURAL GAS, OIL	N
8728702	BRUSHY CANYON	-3490	6994	6994	SANDSTONE, SILTSTONE	NATURAL GAS, OIL	N
8728706	BONE SPRING LIME	-5061	8565	8565	LIMESTONE	NATURAL GAS, OIL	N
8728708		-10937	9653	9653			N
8728698	BONE SPRING 1ST	-6149	9653	9653	SANDSTONE	NATURAL GAS, OIL	N
8728699	BONE SPRING 2ND	-6775	10279	10279	SANDSTONE	NATURAL GAS, OIL	N
8728692	BONE SPRING 3RD	-8047	11551	11551	SANDSTONE	NATURAL GAS, OIL	N
8728703	WOLFCAMP	-8505	12009	12009	SHALE	NATURAL GAS, OIL	Y
8728721	WOLFCAMP	-9015	12519	12519	SHALE	NATURAL GAS, OIL	N

## Section 2 - Blowout Prevention

**Operator Name:** COG PRODUCTION LLC**Well Name:** AZORES FEDERAL COM**Well Number:** 708H**Pressure Rating (PSI):** 10M**Rating Depth:** 12125**Equipment:** Annular. 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 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 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 of the components installed will be functional and tested.**Choke Diagram Attachment:**

COG\_Azores\_10M\_Choke\_20210115184014.pdf

**BOP Diagram Attachment:**

COG\_Azores\_10M\_BOP\_20210115184041.pdf

COG\_Azores\_Flex\_Hose\_Variance\_20210115184101.pdf

**Pressure Rating (PSI):** 5M**Rating Depth:** 11521**Equipment:** Annular. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.**Requesting Variance?** NO**Variance request:** 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.**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 of the components installed will be functional and tested.**Choke Diagram Attachment:**

COG\_Azores\_5M\_Choke\_20210115183103.pdf

**BOP Diagram Attachment:**

COG\_Azores\_Flex\_Hose\_Variance\_20210115183807.pdf

COG\_Azores\_5M\_BOP\_V2\_20230110085006.pdf

Operator Name: COG PRODUCTION LLC

Well Name: AZORES FEDERAL COM

Well Number: 708H

## 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	1037	0	1037	3504	2467	1037	J-55	45.5	OTHER - BTC	4.51	1.15	DRY	16.87	DRY	15.15
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	11521	0	11521	-6907	-8017	11521	HCP -110	29.7	OTHER - FJM	1.25	1.49	DRY	1.92	DRY	2.75
3	PRODUCTION	6.75	5.5	NEW	API	Y	0	22409	0	12125	-6907	-8621	22409	P-110	23	OTHER - Talon HTQ	2.02	2.29	DRY	2.54	DRY	2.61

## Casing Attachments

Casing ID: 1 String SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG\_Azores\_708H\_Casing\_20220609173001.pdf



Operator Name: COG PRODUCTION LLC

Well Name: AZORES FEDERAL COM

Well Number: 708H

Casing Attachments

Casing ID: 2StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

COG\_Azores\_708H\_Casing\_20220609173022.pdf

Casing Design Assumptions and Worksheet(s):

COG\_Azores\_708H\_Casing\_20220609173037.pdf

Casing ID: 3StringPRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

COG\_Azores\_708H\_Casing\_20220609173114.pdf

Casing Design Assumptions and Worksheet(s):

COG\_Azores\_708H\_Casing\_20220609173132.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	1037	430	1.75	13.5	752	50	Class C	4% Gel
SURFACE	Tail		0	1037	250	1.34	14.8	335	50	C	2% CaCl2
INTERMEDIATE	Lead		0	1152 1	1000	2.8	11	2800	50	NeoCem	No additives
INTERMEDIATE	Tail		0	1152 1	300	1.1	16.4	330	50	Class H	No additives
PRODUCTION	Lead		1212 5	2240 9	750	2	12.7	1500	35	Lead: 35:65:6 H Blend	No additives

**Operator Name:** COG PRODUCTION LLC**Well Name:** AZORES FEDERAL COM**Well Number:** 708H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		1212 5	2240 9	1000	1.24	14.4	1240	35	Tail: 50:50:2 Class H Blend	No additives

### 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
1037	1152 1	OTHER : Brine Diesel Emulsion	8.6	9.4							Brine Diesel Emulsion
1152 1	2240 9	OIL-BASED MUD	10.5	12							OBM
0	1037	OTHER : Fresh water gel	8.4	8.6							Fresh water gel

**Operator Name:** COG PRODUCTION LLC**Well Name:** AZORES FEDERAL COM**Well Number:** 708H

## 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:**

COMPENSATED NEUTRON LOG,GAMMA RAY LOG,

**Coring operation description for the well:**

None planned

## Section 7 - Pressure

**Anticipated Bottom Hole Pressure:** 7570**Anticipated Surface Pressure:** 4902**Anticipated Bottom Hole Temperature(F):** 175**Anticipated abnormal pressures, temperatures, or potential geologic hazards?** NO**Describe:****Contingency Plans geohazards description:****Contingency Plans geohazards****Hydrogen Sulfide drilling operations plan required?** YES**Hydrogen sulfide drilling operations**

COG\_Azores\_H2S\_SUP\_20220609124428.pdf

COG\_Azores\_708H\_706H\_705H\_H2S\_Shem\_20220609173441.pdf

## Section 8 - Other Information

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

COG\_Azores\_708H\_AC\_RPT\_20220609174542.pdf

COG\_Azores\_708H\_Directional\_Plan\_20220609174543.pdf

**Other proposed operations facets description:**

Drilling Program.

Cement Program.

GCP.

**Other proposed operations facets attachment:**

COG\_Azores\_708H\_Casing\_20220609174559.pdf

COG\_Azores\_708H\_Cement\_20220609174559.pdf

COG\_Azores\_708H\_Drilling\_Program\_20220609174559.pdf

TXP\_\_BTC\_5.500\_0.415\_P110\_CY\_09212021\_20220609174621.pdf

Wedge\_441\_\_5.500\_0.415\_P110\_CY\_09212021\_20220609174621.pdf

Wedge\_513\_\_7.625\_0.375\_P110\_ICY\_04112022\_20220609174622.pdf

COG\_Azores\_708H\_GCP\_20220609174801.pdf

**Other Variance attachment:**

**Operator Name:** COG PRODUCTION LLC

**Well Name:** AZORES FEDERAL COM

**Well Number:** 708H

COG\_6.75\_5M\_Variance\_WCP\_20220609174645.pdf

CONFIDENTIAL

# **DELAWARE BASIN EAST**

**BULLDOG PROSPECT (NM-E)**

**AZORES FEDERAL PROJECT (BULLDOG 2432)**

**AZORES FEDERAL COM #708H**

**OWB**

**Plan: PWP0**

## **Standard Planning Report**

**31 May, 2022**

ConocoPhillips  
Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well AZORES FEDERAL COM #708H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB 32ft + GL 3503.8ft @ 3535.8usft
Project:	BULLDOG PROSPECT (NM-E)	MD Reference:	RKB 32ft + GL 3503.8ft @ 3535.8usft
Site:	AZORES FEDERAL PROJECT (BULLDOG 2432)	North Reference:	Grid
Well:	AZORES FEDERAL COM #708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

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

Site	AZORES FEDERAL PROJECT (BULLDOG 2432)		
Site Position:		Northing:	398,637.10 usft
From:	Map	Easting:	741,887.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 5' 36.820 N
		Longitude:	103° 33' 8.116 W
		Grid Convergence:	0.42 °

Well	AZORES FEDERAL COM #708H		
Well Position	+N/-S	32,371.3 usft	Northing:
	+E/-W	-46,192.0 usft	Easting:
Position Uncertainty		3.0 usft	Wellhead Elevation:
			Latitude:
			Longitude:
			Ground Level:

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	5/31/2022	6.50	59.80	47,556.25378018

Design	PWP0			
Audit Notes:				
Version:	Phase:	PLAN	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	354.26

Plan Survey Tool Program		Date	5/31/2022		
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	2,000.0	PWP0 (OWB)	Standard Keeper 104 Standard Wireline Keeper ver 1	
2	2,000.0	11,722.8	PWP0 (OWB)	MWD+IFR1+MS OWSG MWD + IFR1 + Multi-St	
3	11,722.8	22,409.9	PWP0 (OWB)	MWD+IFR1+MS OWSG MWD + IFR1 + Multi-St	

ConocoPhillips  
Planning Report

Database:	EDT 15 Central Prod	Local Co-ordinate Reference:	Well AZORES FEDERAL COM #708H
Company:	DELAWARE BASIN EAST	TVD Reference:	RKB 32ft + GL 3503.8ft @ 3535.8usft
Project:	BULLDOG PROSPECT (NM-E)	MD Reference:	RKB 32ft + GL 3503.8ft @ 3535.8usft
Site:	AZORES FEDERAL PROJECT (BULLDOG 2432)	North Reference:	Grid
Well:	AZORES FEDERAL COM #708H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Plan Sections										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	TFO (°)	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.00	0.00	0.00	0.00	
2,375.2	7.50	229.29	2,374.1	-16.0	-18.6	2.00	2.00	0.00	229.29	
10,792.4	7.50	229.29	10,719.3	-733.0	-851.8	0.00	0.00	0.00	0.00	
11,542.8	0.00	0.00	11,467.5	-765.0	-889.0	1.00	-1.00	0.00	180.00	
11,722.8	0.00	0.00	11,647.5	-765.0	-889.0	0.00	0.00	0.00	0.00	
12,472.8	90.00	359.56	12,125.0	-287.5	-892.7	12.00	12.00	-0.06	359.56	
22,359.9	90.00	359.56	12,125.0	9,599.2	-969.0	0.00	0.00	0.00	0.00	LTP (AZORES FEDEI
22,409.9	90.00	359.56	12,125.0	9,649.2	-969.4	0.00	0.00	0.00	0.00	PBHL (AZORES FED



## ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 15 Central Prod	<b>Local Co-ordinate Reference:</b>	Well AZORES FEDERAL COM #708H
<b>Company:</b>	DELAWARE BASIN EAST	<b>TVD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>MD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Site:</b>	AZORES FEDERAL PROJECT (BULLDOG 2432)	<b>North Reference:</b>	Grid
<b>Well:</b>	AZORES FEDERAL COM #708H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00	
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00	
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00	
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00	
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00	
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00	
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00	
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00	
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00	
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
Start Build 2.00										
2,100.0	2.00	229.29	2,100.0	-1.1	-1.3	-1.0	2.00	2.00	0.00	
2,200.0	4.00	229.29	2,199.8	-4.6	-5.3	-4.0	2.00	2.00	0.00	
2,300.0	6.00	229.29	2,299.5	-10.2	-11.9	-9.0	2.00	2.00	0.00	
2,375.2	7.50	229.29	2,374.1	-16.0	-18.6	-14.1	2.00	2.00	0.00	
Start 8417.3 hold at 2375.2 MD										
2,400.0	7.50	229.29	2,398.7	-18.1	-21.1	-15.9	0.00	0.00	0.00	
2,500.0	7.50	229.29	2,497.9	-26.6	-31.0	-23.4	0.00	0.00	0.00	
2,600.0	7.50	229.29	2,597.0	-35.2	-40.8	-30.9	0.00	0.00	0.00	
2,700.0	7.50	229.29	2,696.1	-43.7	-50.7	-38.4	0.00	0.00	0.00	
2,800.0	7.50	229.29	2,795.3	-52.2	-60.6	-45.9	0.00	0.00	0.00	
2,900.0	7.50	229.29	2,894.4	-60.7	-70.5	-53.4	0.00	0.00	0.00	
3,000.0	7.50	229.29	2,993.6	-69.2	-80.4	-60.8	0.00	0.00	0.00	
3,100.0	7.50	229.29	3,092.7	-77.7	-90.3	-68.3	0.00	0.00	0.00	
3,200.0	7.50	229.29	3,191.9	-86.3	-100.2	-75.8	0.00	0.00	0.00	
3,300.0	7.50	229.29	3,291.0	-94.8	-110.1	-83.3	0.00	0.00	0.00	
3,400.0	7.50	229.29	3,390.2	-103.3	-120.0	-90.8	0.00	0.00	0.00	
3,500.0	7.50	229.29	3,489.3	-111.8	-129.9	-98.3	0.00	0.00	0.00	
3,600.0	7.50	229.29	3,588.4	-120.3	-139.8	-105.8	0.00	0.00	0.00	
3,700.0	7.50	229.29	3,687.6	-128.9	-149.7	-113.2	0.00	0.00	0.00	
3,800.0	7.50	229.29	3,786.7	-137.4	-159.6	-120.7	0.00	0.00	0.00	
3,900.0	7.50	229.29	3,885.9	-145.9	-169.5	-128.2	0.00	0.00	0.00	
4,000.0	7.50	229.29	3,985.0	-154.4	-179.4	-135.7	0.00	0.00	0.00	
4,100.0	7.50	229.29	4,084.2	-162.9	-189.3	-143.2	0.00	0.00	0.00	
4,200.0	7.50	229.29	4,183.3	-171.4	-199.2	-150.7	0.00	0.00	0.00	
4,300.0	7.50	229.29	4,282.4	-180.0	-209.1	-158.2	0.00	0.00	0.00	
4,400.0	7.50	229.29	4,381.6	-188.5	-219.0	-165.6	0.00	0.00	0.00	
4,500.0	7.50	229.29	4,480.7	-197.0	-228.9	-173.1	0.00	0.00	0.00	
4,600.0	7.50	229.29	4,579.9	-205.5	-238.8	-180.6	0.00	0.00	0.00	
4,700.0	7.50	229.29	4,679.0	-214.0	-248.7	-188.1	0.00	0.00	0.00	
4,800.0	7.50	229.29	4,778.2	-222.6	-258.6	-195.6	0.00	0.00	0.00	
4,900.0	7.50	229.29	4,877.3	-231.1	-268.5	-203.1	0.00	0.00	0.00	

## ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 15 Central Prod	<b>Local Co-ordinate Reference:</b>	Well AZORES FEDERAL COM #708H
<b>Company:</b>	DELAWARE BASIN EAST	<b>TVD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>MD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Site:</b>	AZORES FEDERAL PROJECT (BULLDOG 2432)	<b>North Reference:</b>	Grid
<b>Well:</b>	AZORES FEDERAL COM #708H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

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)	
5,000.0	7.50	229.29	4,976.4	-239.6	-278.4	-210.6	0.00	0.00	0.00	
5,100.0	7.50	229.29	5,075.6	-248.1	-288.3	-218.0	0.00	0.00	0.00	
5,200.0	7.50	229.29	5,174.7	-256.6	-298.2	-225.5	0.00	0.00	0.00	
5,300.0	7.50	229.29	5,273.9	-265.1	-308.1	-233.0	0.00	0.00	0.00	
5,400.0	7.50	229.29	5,373.0	-273.7	-318.0	-240.5	0.00	0.00	0.00	
5,500.0	7.50	229.29	5,472.2	-282.2	-327.9	-248.0	0.00	0.00	0.00	
5,600.0	7.50	229.29	5,571.3	-290.7	-337.8	-255.5	0.00	0.00	0.00	
5,700.0	7.50	229.29	5,670.5	-299.2	-347.7	-263.0	0.00	0.00	0.00	
5,800.0	7.50	229.29	5,769.6	-307.7	-357.6	-270.4	0.00	0.00	0.00	
5,900.0	7.50	229.29	5,868.7	-316.2	-367.5	-277.9	0.00	0.00	0.00	
6,000.0	7.50	229.29	5,967.9	-324.8	-377.4	-285.4	0.00	0.00	0.00	
6,100.0	7.50	229.29	6,067.0	-333.3	-387.3	-292.9	0.00	0.00	0.00	
6,200.0	7.50	229.29	6,166.2	-341.8	-397.2	-300.4	0.00	0.00	0.00	
6,300.0	7.50	229.29	6,265.3	-350.3	-407.1	-307.9	0.00	0.00	0.00	
6,400.0	7.50	229.29	6,364.5	-358.8	-417.0	-315.4	0.00	0.00	0.00	
6,500.0	7.50	229.29	6,463.6	-367.4	-426.9	-322.8	0.00	0.00	0.00	
6,600.0	7.50	229.29	6,562.7	-375.9	-436.8	-330.3	0.00	0.00	0.00	
6,700.0	7.50	229.29	6,661.9	-384.4	-446.7	-337.8	0.00	0.00	0.00	
6,800.0	7.50	229.29	6,761.0	-392.9	-456.6	-345.3	0.00	0.00	0.00	
6,900.0	7.50	229.29	6,860.2	-401.4	-466.5	-352.8	0.00	0.00	0.00	
7,000.0	7.50	229.29	6,959.3	-409.9	-476.4	-360.3	0.00	0.00	0.00	
7,100.0	7.50	229.29	7,058.5	-418.5	-486.3	-367.8	0.00	0.00	0.00	
7,200.0	7.50	229.29	7,157.6	-427.0	-496.2	-375.2	0.00	0.00	0.00	
7,300.0	7.50	229.29	7,256.8	-435.5	-506.1	-382.7	0.00	0.00	0.00	
7,400.0	7.50	229.29	7,355.9	-444.0	-516.0	-390.2	0.00	0.00	0.00	
7,500.0	7.50	229.29	7,455.0	-452.5	-525.9	-397.7	0.00	0.00	0.00	
7,600.0	7.50	229.29	7,554.2	-461.1	-535.8	-405.2	0.00	0.00	0.00	
7,700.0	7.50	229.29	7,653.3	-469.6	-545.7	-412.7	0.00	0.00	0.00	
7,800.0	7.50	229.29	7,752.5	-478.1	-555.6	-420.2	0.00	0.00	0.00	
7,900.0	7.50	229.29	7,851.6	-486.6	-565.5	-427.6	0.00	0.00	0.00	
8,000.0	7.50	229.29	7,950.8	-495.1	-575.4	-435.1	0.00	0.00	0.00	
8,100.0	7.50	229.29	8,049.9	-503.6	-585.3	-442.6	0.00	0.00	0.00	
8,200.0	7.50	229.29	8,149.0	-512.2	-595.2	-450.1	0.00	0.00	0.00	
8,300.0	7.50	229.29	8,248.2	-520.7	-605.1	-457.6	0.00	0.00	0.00	
8,400.0	7.50	229.29	8,347.3	-529.2	-615.0	-465.1	0.00	0.00	0.00	
8,500.0	7.50	229.29	8,446.5	-537.7	-624.9	-472.6	0.00	0.00	0.00	
8,600.0	7.50	229.29	8,545.6	-546.2	-634.8	-480.1	0.00	0.00	0.00	
8,700.0	7.50	229.29	8,644.8	-554.8	-644.7	-487.5	0.00	0.00	0.00	
8,800.0	7.50	229.29	8,743.9	-563.3	-654.6	-495.0	0.00	0.00	0.00	
8,900.0	7.50	229.29	8,843.1	-571.8	-664.5	-502.5	0.00	0.00	0.00	
9,000.0	7.50	229.29	8,942.2	-580.3	-674.4	-510.0	0.00	0.00	0.00	
9,100.0	7.50	229.29	9,041.3	-588.8	-684.3	-517.5	0.00	0.00	0.00	
9,200.0	7.50	229.29	9,140.5	-597.3	-694.2	-525.0	0.00	0.00	0.00	
9,300.0	7.50	229.29	9,239.6	-605.9	-704.1	-532.5	0.00	0.00	0.00	
9,400.0	7.50	229.29	9,338.8	-614.4	-714.0	-539.9	0.00	0.00	0.00	
9,500.0	7.50	229.29	9,437.9	-622.9	-723.9	-547.4	0.00	0.00	0.00	
9,600.0	7.50	229.29	9,537.1	-631.4	-733.8	-554.9	0.00	0.00	0.00	
9,700.0	7.50	229.29	9,636.2	-639.9	-743.7	-562.4	0.00	0.00	0.00	
9,800.0	7.50	229.29	9,735.3	-648.5	-753.6	-569.9	0.00	0.00	0.00	
9,900.0	7.50	229.29	9,834.5	-657.0	-763.5	-577.4	0.00	0.00	0.00	
10,000.0	7.50	229.29	9,933.6	-665.5	-773.4	-584.9	0.00	0.00	0.00	
10,100.0	7.50	229.29	10,032.8	-674.0	-783.3	-592.3	0.00	0.00	0.00	
10,200.0	7.50	229.29	10,131.9	-682.5	-793.2	-599.8	0.00	0.00	0.00	

## ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 15 Central Prod	<b>Local Co-ordinate Reference:</b>	Well AZORES FEDERAL COM #708H
<b>Company:</b>	DELAWARE BASIN EAST	<b>TVD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>MD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Site:</b>	AZORES FEDERAL PROJECT (BULLDOG 2432)	<b>North Reference:</b>	Grid
<b>Well:</b>	AZORES FEDERAL COM #708H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,300.0	7.50	229.29	10,231.1	-691.0	-803.1	-607.3	0.00	0.00	0.00
10,400.0	7.50	229.29	10,330.2	-699.6	-813.0	-614.8	0.00	0.00	0.00
10,500.0	7.50	229.29	10,429.3	-708.1	-822.9	-622.3	0.00	0.00	0.00
10,600.0	7.50	229.29	10,528.5	-716.6	-832.8	-629.8	0.00	0.00	0.00
10,700.0	7.50	229.29	10,627.6	-725.1	-842.7	-637.3	0.00	0.00	0.00
10,792.4	7.50	229.29	10,719.3	-733.0	-851.8	-644.2	0.00	0.00	0.00
Start Drop -1.00									
10,800.0	7.43	229.29	10,726.8	-733.6	-852.6	-644.7	1.00	-1.00	0.00
10,900.0	6.43	229.29	10,826.0	-741.5	-861.7	-651.7	1.00	-1.00	0.00
11,000.0	5.43	229.29	10,925.5	-748.2	-869.5	-657.6	1.00	-1.00	0.00
11,100.0	4.43	229.29	11,025.1	-753.8	-876.0	-662.5	1.00	-1.00	0.00
11,200.0	3.43	229.29	11,124.9	-758.3	-881.2	-666.4	1.00	-1.00	0.00
11,300.0	2.43	229.29	11,224.8	-761.6	-885.1	-669.4	1.00	-1.00	0.00
11,400.0	1.43	229.29	11,324.7	-763.8	-887.7	-671.3	1.00	-1.00	0.00
11,500.0	0.43	229.29	11,424.7	-764.9	-888.9	-672.2	1.00	-1.00	0.00
11,542.8	0.00	0.00	11,467.5	-765.0	-889.0	-672.3	1.00	-1.00	0.00
Start 180.0 hold at 11542.8 MD									
11,600.0	0.00	0.00	11,524.7	-765.0	-889.0	-672.3	0.00	0.00	0.00
11,700.0	0.00	0.00	11,624.7	-765.0	-889.0	-672.3	0.00	0.00	0.00
11,722.8	0.00	0.00	11,647.5	-765.0	-889.0	-672.3	0.00	0.00	0.00
Start DLS 12.00 TFO 359.56									
11,725.0	0.26	359.56	11,649.7	-765.0	-889.0	-672.3	12.00	12.00	0.00
11,750.0	3.26	359.56	11,674.7	-764.2	-889.0	-671.5	12.00	12.00	0.00
11,775.0	6.26	359.56	11,699.6	-762.2	-889.0	-669.5	12.00	12.00	0.00
11,800.0	9.26	359.56	11,724.4	-758.8	-889.0	-666.1	12.00	12.00	0.00
11,825.0	12.26	359.56	11,748.9	-754.1	-889.1	-661.5	12.00	12.00	0.00
11,850.0	15.26	359.56	11,773.2	-748.2	-889.1	-655.5	12.00	12.00	0.00
11,875.0	18.26	359.56	11,797.1	-741.0	-889.2	-648.4	12.00	12.00	0.00
11,900.0	21.26	359.56	11,820.7	-732.5	-889.3	-639.9	12.00	12.00	0.00
11,925.0	24.26	359.56	11,843.7	-722.8	-889.3	-630.3	12.00	12.00	0.00
11,950.0	27.26	359.56	11,866.2	-712.0	-889.4	-619.5	12.00	12.00	0.00
11,975.0	30.26	359.56	11,888.1	-699.9	-889.5	-607.5	12.00	12.00	0.00
12,000.0	33.26	359.56	11,909.4	-686.8	-889.6	-594.4	12.00	12.00	0.00
12,025.0	36.26	359.56	11,929.9	-672.5	-889.7	-580.2	12.00	12.00	0.00
12,050.0	39.26	359.56	11,949.7	-657.2	-889.8	-565.0	12.00	12.00	0.00
12,075.0	42.26	359.56	11,968.6	-640.9	-890.0	-548.7	12.00	12.00	0.00
12,100.0	45.26	359.56	11,986.7	-623.6	-890.1	-531.5	12.00	12.00	0.00
12,125.0	48.26	359.56	12,003.8	-605.4	-890.2	-513.4	12.00	12.00	0.00
12,150.0	51.26	359.56	12,020.0	-586.3	-890.4	-494.4	12.00	12.00	0.00
12,175.0	54.26	359.56	12,035.1	-566.4	-890.5	-474.6	12.00	12.00	0.00
12,200.0	57.26	359.56	12,049.1	-545.8	-890.7	-454.0	12.00	12.00	0.00
12,225.0	60.26	359.56	12,062.1	-524.4	-890.9	-432.7	12.00	12.00	0.00
12,250.0	63.26	359.56	12,073.9	-502.4	-891.0	-410.8	12.00	12.00	0.00
12,275.0	66.26	359.56	12,084.6	-479.8	-891.2	-388.3	12.00	12.00	0.00
12,300.0	69.26	359.56	12,094.1	-456.6	-891.4	-365.2	12.00	12.00	0.00
12,325.0	72.26	359.56	12,102.3	-433.0	-891.6	-341.7	12.00	12.00	0.00
12,350.0	75.26	359.56	12,109.3	-409.0	-891.7	-317.8	12.00	12.00	0.00
12,375.0	78.26	359.56	12,115.0	-384.7	-891.9	-293.6	12.00	12.00	0.00
12,400.0	81.26	359.56	12,119.5	-360.1	-892.1	-269.1	12.00	12.00	0.00
12,425.0	84.26	359.56	12,122.6	-335.3	-892.3	-244.4	12.00	12.00	0.00
12,450.0	87.26	359.56	12,124.5	-310.4	-892.5	-219.6	12.00	12.00	0.00
12,472.8	90.00	359.56	12,125.0	-287.5	-892.7	-196.9	12.00	12.00	0.00

## ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 15 Central Prod	<b>Local Co-ordinate Reference:</b>	Well AZORES FEDERAL COM #708H
<b>Company:</b>	DELAWARE BASIN EAST	<b>TVD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>MD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Site:</b>	AZORES FEDERAL PROJECT (BULLDOG 2432)	<b>North Reference:</b>	Grid
<b>Well:</b>	AZORES FEDERAL COM #708H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

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)
Start 9887.0 hold at 12472.8 MD									
12,500.0	90.00	359.56	12,125.0	-260.4	-892.9	-169.8	0.00	0.00	0.00
12,600.0	90.00	359.56	12,125.0	-160.4	-893.7	-70.3	0.00	0.00	0.00
12,700.0	90.00	359.56	12,125.0	-60.4	-894.4	29.3	0.00	0.00	0.00
12,800.0	90.00	359.56	12,125.0	39.6	-895.2	128.9	0.00	0.00	0.00
12,900.0	90.00	359.56	12,125.0	139.6	-896.0	228.5	0.00	0.00	0.00
13,000.0	90.00	359.56	12,125.0	239.6	-896.8	328.0	0.00	0.00	0.00
13,100.0	90.00	359.56	12,125.0	339.6	-897.5	427.6	0.00	0.00	0.00
13,200.0	90.00	359.56	12,125.0	439.6	-898.3	527.2	0.00	0.00	0.00
13,300.0	90.00	359.56	12,125.0	539.6	-899.1	626.8	0.00	0.00	0.00
13,400.0	90.00	359.56	12,125.0	639.6	-899.8	726.3	0.00	0.00	0.00
13,500.0	90.00	359.56	12,125.0	739.6	-900.6	825.9	0.00	0.00	0.00
13,600.0	90.00	359.56	12,125.0	839.6	-901.4	925.5	0.00	0.00	0.00
13,700.0	90.00	359.56	12,125.0	939.6	-902.2	1,025.1	0.00	0.00	0.00
13,800.0	90.00	359.56	12,125.0	1,039.6	-902.9	1,124.6	0.00	0.00	0.00
13,900.0	90.00	359.56	12,125.0	1,139.6	-903.7	1,224.2	0.00	0.00	0.00
14,000.0	90.00	359.56	12,125.0	1,239.6	-904.5	1,323.8	0.00	0.00	0.00
14,100.0	90.00	359.56	12,125.0	1,339.6	-905.2	1,423.3	0.00	0.00	0.00
14,200.0	90.00	359.56	12,125.0	1,439.6	-906.0	1,522.9	0.00	0.00	0.00
14,300.0	90.00	359.56	12,125.0	1,539.6	-906.8	1,622.5	0.00	0.00	0.00
14,400.0	90.00	359.56	12,125.0	1,639.6	-907.6	1,722.1	0.00	0.00	0.00
14,500.0	90.00	359.56	12,125.0	1,739.6	-908.3	1,821.6	0.00	0.00	0.00
14,600.0	90.00	359.56	12,125.0	1,839.6	-909.1	1,921.2	0.00	0.00	0.00
14,700.0	90.00	359.56	12,125.0	1,939.5	-909.9	2,020.8	0.00	0.00	0.00
14,800.0	90.00	359.56	12,125.0	2,039.5	-910.6	2,120.4	0.00	0.00	0.00
14,900.0	90.00	359.56	12,125.0	2,139.5	-911.4	2,219.9	0.00	0.00	0.00
15,000.0	90.00	359.56	12,125.0	2,239.5	-912.2	2,319.5	0.00	0.00	0.00
15,100.0	90.00	359.56	12,125.0	2,339.5	-913.0	2,419.1	0.00	0.00	0.00
15,200.0	90.00	359.56	12,125.0	2,439.5	-913.7	2,518.7	0.00	0.00	0.00
15,300.0	90.00	359.56	12,125.0	2,539.5	-914.5	2,618.2	0.00	0.00	0.00
15,400.0	90.00	359.56	12,125.0	2,639.5	-915.3	2,717.8	0.00	0.00	0.00
15,500.0	90.00	359.56	12,125.0	2,739.5	-916.1	2,817.4	0.00	0.00	0.00
15,600.0	90.00	359.56	12,125.0	2,839.5	-916.8	2,916.9	0.00	0.00	0.00
15,700.0	90.00	359.56	12,125.0	2,939.5	-917.6	3,016.5	0.00	0.00	0.00
15,800.0	90.00	359.56	12,125.0	3,039.5	-918.4	3,116.1	0.00	0.00	0.00
15,900.0	90.00	359.56	12,125.0	3,139.5	-919.1	3,215.7	0.00	0.00	0.00
16,000.0	90.00	359.56	12,125.0	3,239.5	-919.9	3,315.2	0.00	0.00	0.00
16,100.0	90.00	359.56	12,125.0	3,339.5	-920.7	3,414.8	0.00	0.00	0.00
16,200.0	90.00	359.56	12,125.0	3,439.5	-921.5	3,514.4	0.00	0.00	0.00
16,300.0	90.00	359.56	12,125.0	3,539.5	-922.2	3,614.0	0.00	0.00	0.00
16,400.0	90.00	359.56	12,125.0	3,639.5	-923.0	3,713.5	0.00	0.00	0.00
16,500.0	90.00	359.56	12,125.0	3,739.5	-923.8	3,813.1	0.00	0.00	0.00
16,600.0	90.00	359.56	12,125.0	3,839.5	-924.5	3,912.7	0.00	0.00	0.00
16,700.0	90.00	359.56	12,125.0	3,939.5	-925.3	4,012.3	0.00	0.00	0.00
16,800.0	90.00	359.56	12,125.0	4,039.5	-926.1	4,111.8	0.00	0.00	0.00
16,900.0	90.00	359.56	12,125.0	4,139.5	-926.9	4,211.4	0.00	0.00	0.00
17,000.0	90.00	359.56	12,125.0	4,239.5	-927.6	4,311.0	0.00	0.00	0.00
17,100.0	90.00	359.56	12,125.0	4,339.5	-928.4	4,410.5	0.00	0.00	0.00
17,200.0	90.00	359.56	12,125.0	4,439.5	-929.2	4,510.1	0.00	0.00	0.00
17,300.0	90.00	359.56	12,125.0	4,539.5	-929.9	4,609.7	0.00	0.00	0.00
17,400.0	90.00	359.56	12,125.0	4,639.5	-930.7	4,709.3	0.00	0.00	0.00
17,500.0	90.00	359.56	12,125.0	4,739.5	-931.5	4,808.8	0.00	0.00	0.00
17,600.0	90.00	359.56	12,125.0	4,839.5	-932.3	4,908.4	0.00	0.00	0.00

## ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 15 Central Prod	<b>Local Co-ordinate Reference:</b>	Well AZORES FEDERAL COM #708H
<b>Company:</b>	DELAWARE BASIN EAST	<b>TVD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>MD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Site:</b>	AZORES FEDERAL PROJECT (BULLDOG 2432)	<b>North Reference:</b>	Grid
<b>Well:</b>	AZORES FEDERAL COM #708H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

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)
17,700.0	90.00	359.56	12,125.0	4,939.5	-933.0	5,008.0	0.00	0.00	0.00
17,800.0	90.00	359.56	12,125.0	5,039.5	-933.8	5,107.6	0.00	0.00	0.00
17,900.0	90.00	359.56	12,125.0	5,139.5	-934.6	5,207.1	0.00	0.00	0.00
18,000.0	90.00	359.56	12,125.0	5,239.5	-935.3	5,306.7	0.00	0.00	0.00
18,100.0	90.00	359.56	12,125.0	5,339.4	-936.1	5,406.3	0.00	0.00	0.00
18,200.0	90.00	359.56	12,125.0	5,439.4	-936.9	5,505.9	0.00	0.00	0.00
18,300.0	90.00	359.56	12,125.0	5,539.4	-937.7	5,605.4	0.00	0.00	0.00
18,400.0	90.00	359.56	12,125.0	5,639.4	-938.4	5,705.0	0.00	0.00	0.00
18,500.0	90.00	359.56	12,125.0	5,739.4	-939.2	5,804.6	0.00	0.00	0.00
18,600.0	90.00	359.56	12,125.0	5,839.4	-940.0	5,904.1	0.00	0.00	0.00
18,700.0	90.00	359.56	12,125.0	5,939.4	-940.8	6,003.7	0.00	0.00	0.00
18,800.0	90.00	359.56	12,125.0	6,039.4	-941.5	6,103.3	0.00	0.00	0.00
18,900.0	90.00	359.56	12,125.0	6,139.4	-942.3	6,202.9	0.00	0.00	0.00
19,000.0	90.00	359.56	12,125.0	6,239.4	-943.1	6,302.4	0.00	0.00	0.00
19,100.0	90.00	359.56	12,125.0	6,339.4	-943.8	6,402.0	0.00	0.00	0.00
19,200.0	90.00	359.56	12,125.0	6,439.4	-944.6	6,501.6	0.00	0.00	0.00
19,300.0	90.00	359.56	12,125.0	6,539.4	-945.4	6,601.2	0.00	0.00	0.00
19,400.0	90.00	359.56	12,125.0	6,639.4	-946.2	6,700.7	0.00	0.00	0.00
19,500.0	90.00	359.56	12,125.0	6,739.4	-946.9	6,800.3	0.00	0.00	0.00
19,600.0	90.00	359.56	12,125.0	6,839.4	-947.7	6,899.9	0.00	0.00	0.00
19,700.0	90.00	359.56	12,125.0	6,939.4	-948.5	6,999.5	0.00	0.00	0.00
19,800.0	90.00	359.56	12,125.0	7,039.4	-949.2	7,099.0	0.00	0.00	0.00
19,900.0	90.00	359.56	12,125.0	7,139.4	-950.0	7,198.6	0.00	0.00	0.00
20,000.0	90.00	359.56	12,125.0	7,239.4	-950.8	7,298.2	0.00	0.00	0.00
20,100.0	90.00	359.56	12,125.0	7,339.4	-951.6	7,397.7	0.00	0.00	0.00
20,200.0	90.00	359.56	12,125.0	7,439.4	-952.3	7,497.3	0.00	0.00	0.00
20,300.0	90.00	359.56	12,125.0	7,539.4	-953.1	7,596.9	0.00	0.00	0.00
20,400.0	90.00	359.56	12,125.0	7,639.4	-953.9	7,696.5	0.00	0.00	0.00
20,500.0	90.00	359.56	12,125.0	7,739.4	-954.6	7,796.0	0.00	0.00	0.00
20,600.0	90.00	359.56	12,125.0	7,839.4	-955.4	7,895.6	0.00	0.00	0.00
20,700.0	90.00	359.56	12,125.0	7,939.4	-956.2	7,995.2	0.00	0.00	0.00
20,800.0	90.00	359.56	12,125.0	8,039.4	-957.0	8,094.8	0.00	0.00	0.00
20,900.0	90.00	359.56	12,125.0	8,139.4	-957.7	8,194.3	0.00	0.00	0.00
21,000.0	90.00	359.56	12,125.0	8,239.4	-958.5	8,293.9	0.00	0.00	0.00
21,100.0	90.00	359.56	12,125.0	8,339.4	-959.3	8,393.5	0.00	0.00	0.00
21,200.0	90.00	359.56	12,125.0	8,439.4	-960.0	8,493.1	0.00	0.00	0.00
21,300.0	90.00	359.56	12,125.0	8,539.4	-960.8	8,592.6	0.00	0.00	0.00
21,400.0	90.00	359.56	12,125.0	8,639.3	-961.6	8,692.2	0.00	0.00	0.00
21,500.0	90.00	359.56	12,125.0	8,739.3	-962.4	8,791.8	0.00	0.00	0.00
21,600.0	90.00	359.56	12,125.0	8,839.3	-963.1	8,891.3	0.00	0.00	0.00
21,700.0	90.00	359.56	12,125.0	8,939.3	-963.9	8,990.9	0.00	0.00	0.00
21,800.0	90.00	359.56	12,125.0	9,039.3	-964.7	9,090.5	0.00	0.00	0.00
21,900.0	90.00	359.56	12,125.0	9,139.3	-965.5	9,190.1	0.00	0.00	0.00
22,000.0	90.00	359.56	12,125.0	9,239.3	-966.2	9,289.6	0.00	0.00	0.00
22,100.0	90.00	359.56	12,125.0	9,339.3	-967.0	9,389.2	0.00	0.00	0.00
22,200.0	90.00	359.56	12,125.0	9,439.3	-967.8	9,488.8	0.00	0.00	0.00
22,300.0	90.00	359.56	12,125.0	9,539.3	-968.5	9,588.4	0.00	0.00	0.00
22,359.9	90.00	359.56	12,125.0	9,599.2	-969.0	9,648.0	0.00	0.00	0.00
Start 50.0 hold at 22359.9 MD									
22,409.9	90.00	359.56	12,125.0	9,649.2	-969.4	9,697.8	0.00	0.00	0.00
TD at 22409.9									

## ConocoPhillips

## Planning Report

<b>Database:</b>	EDT 15 Central Prod	<b>Local Co-ordinate Reference:</b>	Well AZORES FEDERAL COM #708H
<b>Company:</b>	DELAWARE BASIN EAST	<b>TVD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Project:</b>	BULLDOG PROSPECT (NM-E)	<b>MD Reference:</b>	RKB 32ft + GL 3503.8ft @ 3535.8usft
<b>Site:</b>	AZORES FEDERAL PROJECT (BULLDOG 2432)	<b>North Reference:</b>	Grid
<b>Well:</b>	AZORES FEDERAL COM #708H	<b>Survey Calculation Method:</b>	Minimum Curvature
<b>Wellbore:</b>	OWB		
<b>Design:</b>	PWP0		

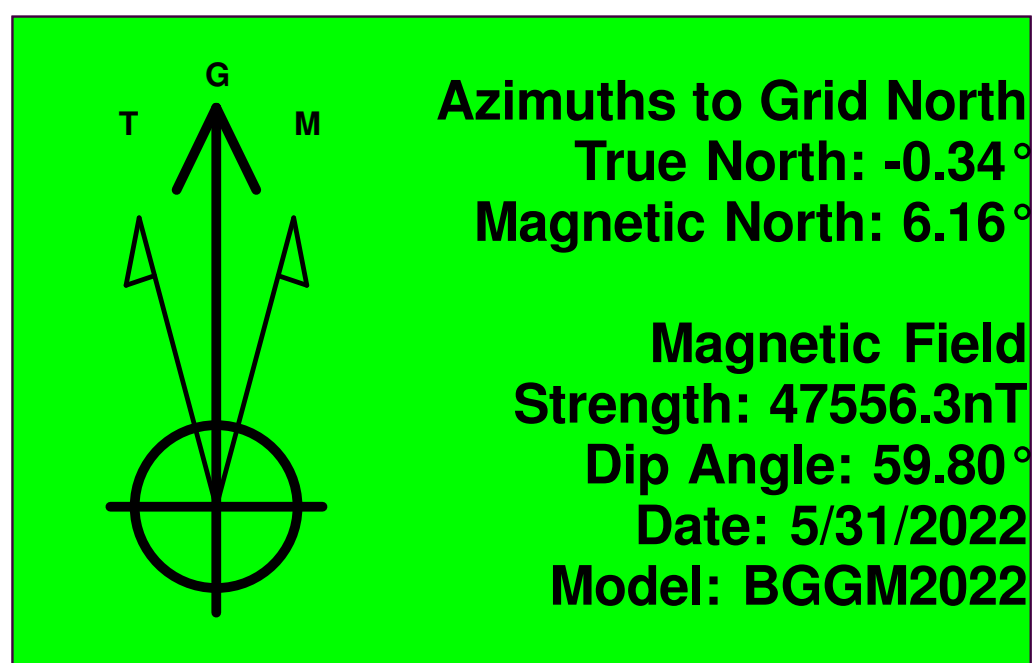
Design Targets									
Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (AZORES FEDERA - plan misses target center by 197.8usft at 12100.0usft MD (11986.7 TVD, -623.6 N, -890.1 E) - Circle (radius 50.0)	0.00	0.00	12,125.0	-765.0	-889.0	430,243.40	694,806.40	32° 10' 52.640 N	103° 42' 13.242 W
PBHL (AZORES FEDEF - plan hits target center - Rectangle (sides W100.0 H10,500.0 D20.0)	0.00	359.56	12,125.0	9,649.2	-969.4	440,657.60	694,726.00	32° 12' 35.702 N	103° 42' 13.468 W
LTP (AZORES FEDERA - plan hits target center - Point	0.00	0.00	12,125.0	9,599.2	-969.0	440,607.60	694,726.40	32° 12' 35.207 N	103° 42' 13.467 W

Plan Annotations					
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates			
		+N/-S (usft)	+E/-W (usft)	Comment	
2,000.0	2,000.0	0.0	0.0	Start Build 2.00	
2,375.2	2,374.1	-16.0	-18.6	Start 8417.3 hold at 2375.2 MD	
10,792.4	10,719.3	-733.0	-851.8	Start Drop -1.00	
11,542.8	11,467.5	-765.0	-889.0	Start 180.0 hold at 11542.8 MD	
11,722.8	11,647.5	-765.0	-889.0	Start DLS 12.00 TFO 359.56	
12,472.8	12,125.0	-287.5	-892.7	Start 9887.0 hold at 12472.8 MD	
22,359.9	12,125.0	9,599.2	-969.0	Start 50.0 hold at 22359.9 MD	
22,409.9	12,125.0	9,649.2	-969.4	TD at 22409.9	



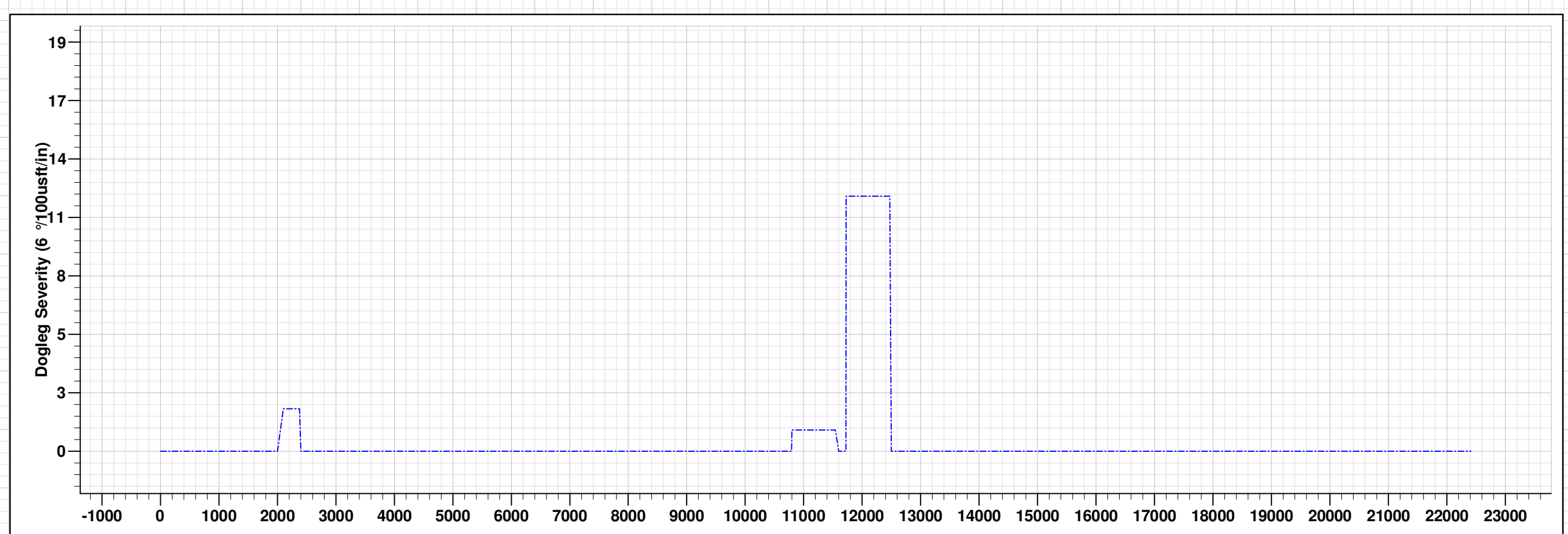
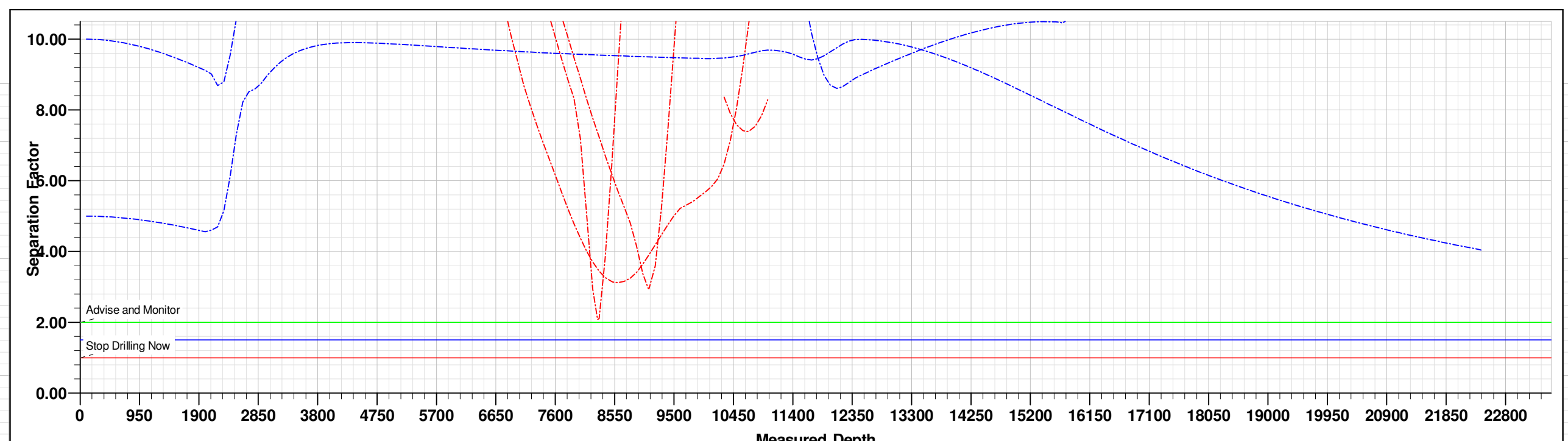


Project: BULLDOG PROSPECT (NM-E)  
Site: AZORES FEDERAL PROJECT (BULLDOG 2432)  
Well: AZORES FEDERAL COM #708H  
Wellbore: OWB  
Design: PWP0  
GL: 3503.8  
RKB 32ft + GL 3503.8ft @ 3535.8usft

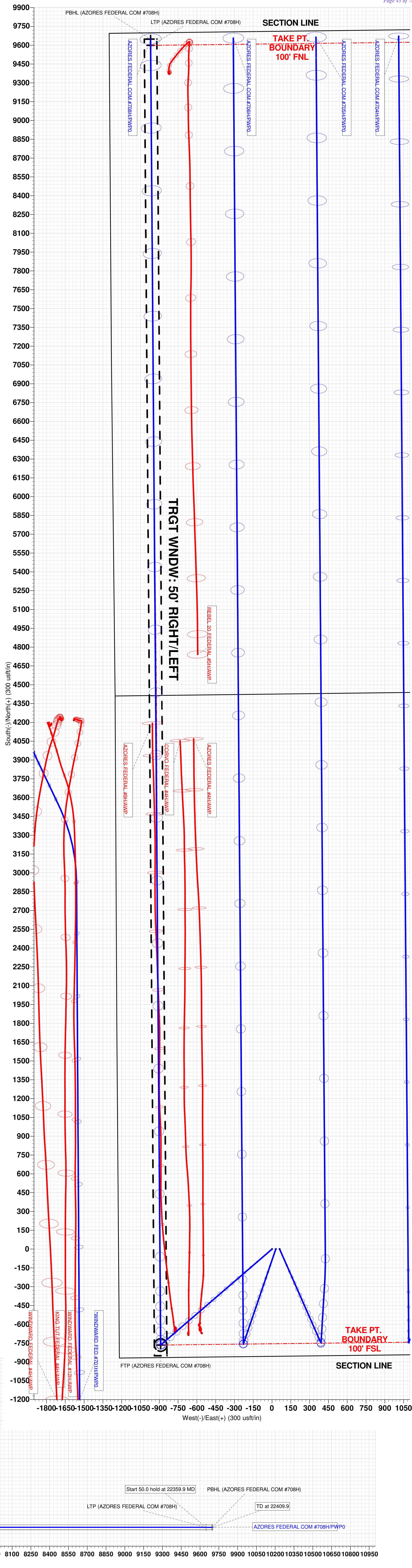
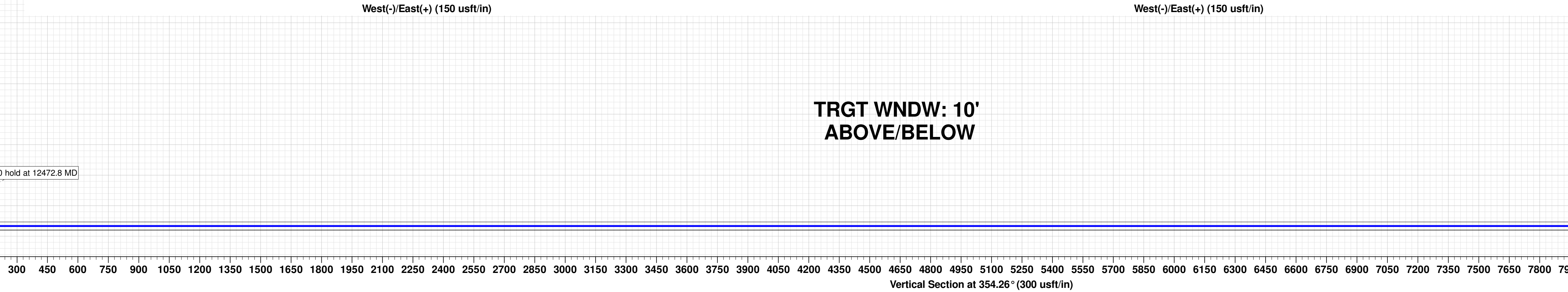
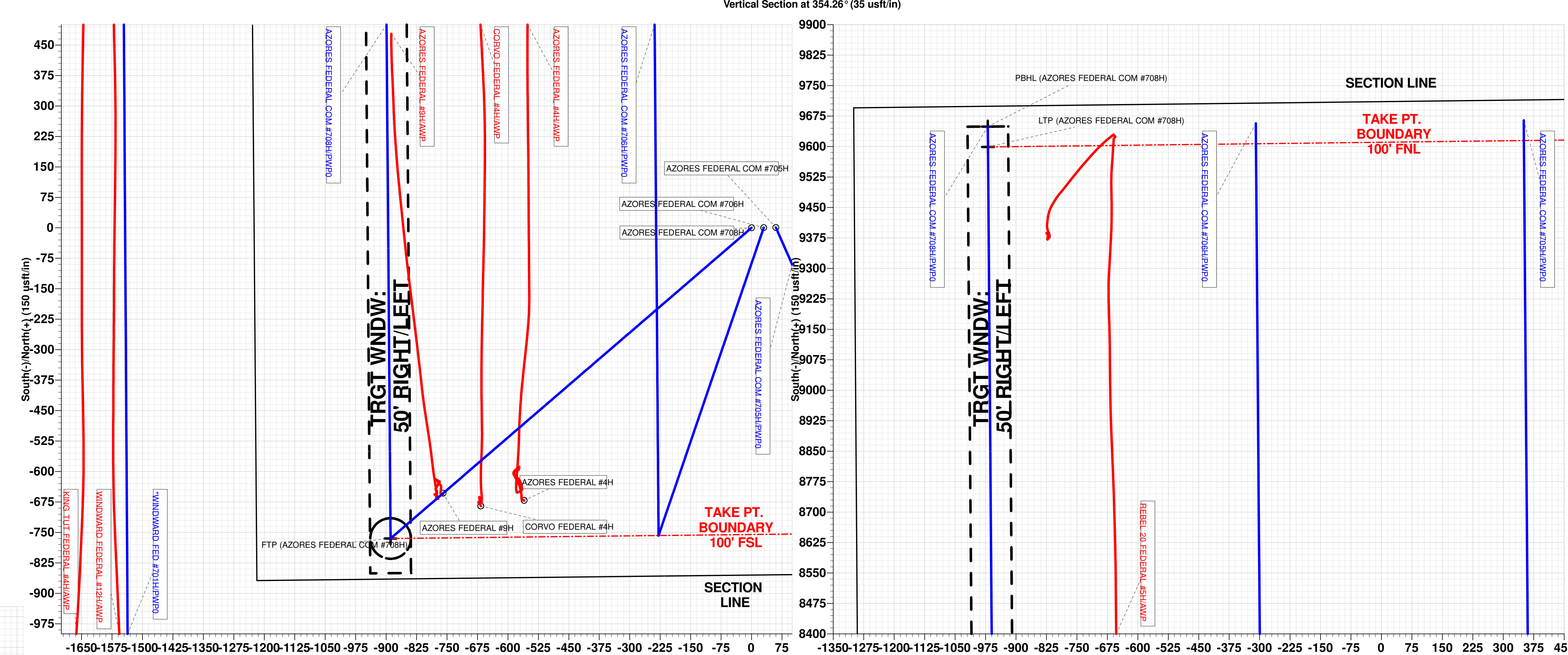
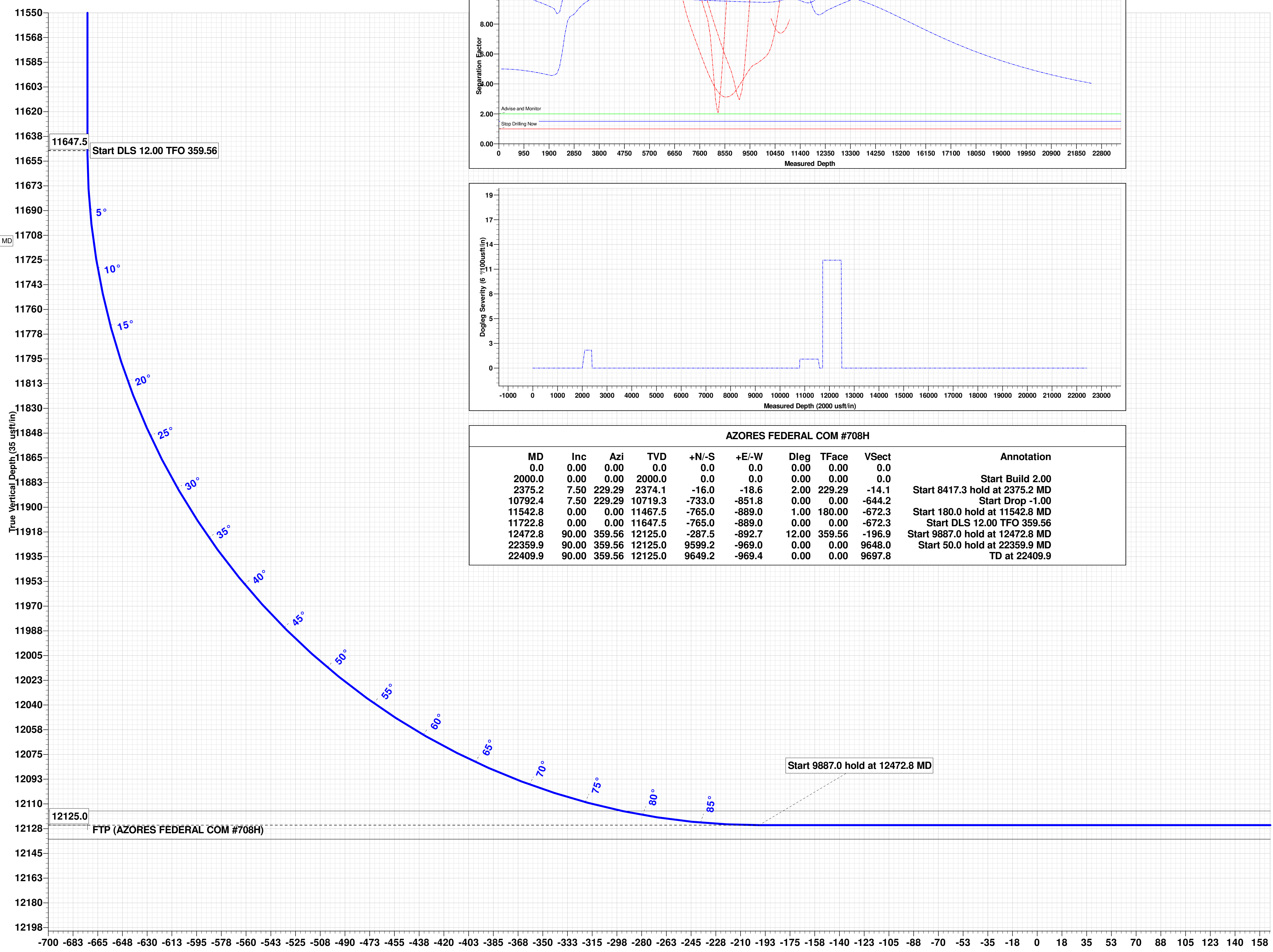


WELL DETAILS: AZORES FEDERAL COM #708H					
+N-S	+E-W	Northing	Easting	Latitude	Longitude
0.0	0.0	431008.40	695695.40	32° 11' 0.159 N	103° 42' 2.846 W

DESIGN TARGET DETAILS							
Name	TVD	+N-S	+E-W	Northing	Easting	Latitude	Longitude
FTP (AZORES FEDERAL COM #708H)	12125.0	-765.0	-889.0	430243.40	694806.40	32° 10' 52.640 N	103° 42' 13.242 W
LTP (AZORES FEDERAL COM #708H)	12125.0	9599.2	-969.0	440607.60	694726.40	32° 12' 35.207 N	103° 42' 13.467 W
PBHL (AZORES FEDERAL COM #708H)	12125.0	9649.2	-969.4	440657.60	694726.00	32° 12' 35.702 N	103° 42' 13.468 W



AZORES FEDERAL COM #708H									
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	Start Build 2.00
2000.0	0.00	0.00	2000.0	0.0	0.0	0.00	0.00	0.0	Start 8417.3 hold at 2375.2 MD
2375.2	7.50	229.29	2374.1	-16.0	-18.6	2.00	229.29	-14.1	Start Drop -1.00
10792.4	7.50	229.29	10719.3	-733.0	-851.8	0.00	0.00	-644.2	Start DLS 12.00 TFO 359.56
11542.8	0.00	0.00	11467.5	-765.0	-889.0	1.00	180.00	-672.3	Start 180.0 hold at 11542.8 MD
11722.8	0.00	0.00	11647.5	-765.0	-889.0	0.00	0.00	-672.3	Start DLS 12.00 TFO 359.56
12472.8	90.00	359.56	12125.0	-287.5	-892.7	12.00	359.56	-196.9	Start 9887.0 hold at 12472.8 MD
22359.9	90.00	359.56	12125.0	9599.2	-969.0	0.00	0.00	9648.0	Start 50.0 hold at 22359.9 MD
22409.9	90.00	359.56	12125.0	9649.2	-969.4	0.00	0.00	9697.8	TD at 22409.9





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 checked="" type="checkbox"/> DRILL <input type="checkbox"/> REENTER 1b. Type of Well: <input checked="" type="checkbox"/> Oil Well <input type="checkbox"/> Gas Well <input type="checkbox"/> Other 1c. Type of Completion: <input type="checkbox"/> Hydraulic Fracturing <input checked="" type="checkbox"/> Single Zone <input type="checkbox"/> Multiple Zone		5. Lease Serial No. <b>NMNM120908</b> 6. If Indian, Allottee or Tribe Name  7. If Unit or CA Agreement, Name and No.  8. Lease Name and Well No. <b>AZORES FEDERAL COM</b> <b>708H</b> 9. API Well No.
2. Name of Operator <b>COG PRODUCTION LLC</b> 3a. Address <b>2208 West Main Street, Artesia, NM 88210</b> 3b. Phone No. (include area code) <b>(575) 748-6940</b>		10. Field and Pool, or Exploratory <b>WC-025 G-08 S243217P/UPR WOLFCAM</b> 11. Sec., T. R. M. or Blk. and Survey or Area <b>SEC 29/T24S/R32E/NMP</b>
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface <b>SWSW / 855 FSL / 1225 FWL / LAT 32.183501 / LONG -103.70127</b> At proposed prod. zone <b>NWNW / 50 FNL / 330 FEL / LAT 32.210041 / LONG -103.704222</b>		12. County or Parish <b>LEA</b> 13. State <b>NM</b>
14. Distance in miles and direction from nearest town or post office* <b>21 miles</b>	15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) <b>50 feet</b>	16. No of acres in lease  17. Spacing Unit dedicated to this well <b>320.0</b>
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. <b>30 feet</b>	19. Proposed Depth <b>12125 feet / 22409 feet</b>	20. BLM/BIA Bond No. in file <b>FED:</b>
21. Elevations (Show whether DF, KDB, RT, GL, etc.) <b>3504 feet</b>	22. Approximate date work will start* <b>04/01/2023</b>	23. Estimated duration <b>30 days</b>
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 (Electronic Submission)  Title <b>Regulatory Analyst</b>	Name (Printed/Typed) <b>MAYTE REYES / Ph: (575) 748-6940</b>	Date <b>06/09/2022</b>
Approved by (Signature) (Electronic Submission)  Title <b>Assistant Field Manager Lands &amp; Minerals</b>	Name (Printed/Typed) <b>CODY LAYTON / Ph: (575) 234-5959</b>	Date <b>04/17/2023</b>
Office <b>Carlsbad Field Office</b>		

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.

(Continued on page 2)

\*(Instructions on page 2)



Approval Date: 04/17/2023



## INSTRUCTIONS

**GENERAL:** This form is designed for submitting proposals to perform certain well operations, as indicated on Federal and Indian lands and leases for action by appropriate Federal agencies, pursuant to applicable Federal laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from local Federal offices.

**ITEM I:** If the proposal is to redrill to the same reservoir at a different subsurface location or to a new reservoir, use this form with appropriate notations. Consult applicable Federal regulations concerning subsequent work proposals or reports on the well.

**ITEM 4:** Locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local Federal offices for specific instructions.

**ITEM 14:** Needed only when location of well cannot readily be found by road from the land or lease description. A plat, or plats, separate or on the reverse side, showing the roads to, and the surveyed location of, the well, and any other required information, should be furnished when required by Federal agency offices.

**ITEMS 15 AND 18:** If well is to be, or has been directionally drilled, give distances for subsurface location of hole in any present or objective productive zone.

**ITEM 22:** Consult applicable Federal regulations, or appropriate officials, concerning approval of the proposal before operations are started.

**ITEM 24:** If the proposal will involve hydraulic fracturing operations, you must comply with 43 CFR 3162.3-3, including providing information about the protection of usable water. Operators should provide the best available information about all formations containing water and their depths. This information could include data and interpretation of resistivity logs run on nearby wells. Information may also be obtained from state or tribal regulatory agencies and from local BLM offices.

## NOTICES

The Privacy Act of 1974 and regulation in 43 CFR 2.48(d) provide that you be furnished the following information in connection with information required by this application.

**AUTHORITY:** 30 U.S.C. 181 et seq., 25 U.S.C. 396; 43 CFR 3160

**PRINCIPAL PURPOSES:** The information will be used to: (1) process and evaluate your application for a permit to drill a new oil, gas, or service well or to reenter a plugged and abandoned well; and (2) document, for administrative use, information for the management, disposal and use of National Resource Lands and resources including (a) analyzing your proposal to discover and extract the Federal or Indian resources encountered; (b) reviewing procedures and equipment and the projected impact on the land involved; and (c) evaluating the effects of the proposed operation on the surface and subsurface water and other environmental impacts.

**ROUTINE USE:** Information from the record and/or the record will be transferred to appropriate Federal, State, and local or foreign agencies, when relevant to civil, criminal or regulatory investigations or prosecution, in connection with congressional inquiries and for regulatory responsibilities.

**EFFECT OF NOT PROVIDING INFORMATION:** Filing of this application and disclosure of the information is mandatory only if you elect to initiate a drilling or reentry operation on an oil and gas lease.

The Paperwork Reduction Act of 1995 requires us to inform you that:

The BLM connects this information to an evaluation of the technical, safety, and environmental factors involved with drilling for oil and/or gas on Federal and Indian oil and gas leases. This information will be used to analyze and approve applications. Response to this request is mandatory only if the operator elects to initiate drilling or reentry operations on an oil and gas lease. The BLM would like you to know that you do not have to respond to this or any other Federal agency-sponsored information collection unless it displays a currently valid OMB control number.

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





**PECOS DISTRICT  
SURFACE USE  
CONDITIONS OF APPROVAL**

OPERATOR'S NAME:	COG Operating LLC
LEASE NO.:	NMNM 108968 and NMNM 120908
COUNTY:	Lea

**Wells:**

**Azores Federal Com 707H**

Surface Hole Location: 855'FSL & 680' FEL, Section 29, T24S, R32E

Bottom Hole Location: 50'FNL & 1650' FEL, Section 20, T24S, R32E

**Azores Federal Com 708H**

Surface Hole Location: 855'FSL & 1225' FWL, Section 29, T24S, R32E

Bottom Hole Location: 50'FNL & 330' FEL, Section 20, T24S, R32E

**TABLE OF CONTENTS**

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.

- ☐ **General Provisions**
- ☐ **Permit Expiration**
- ☐ **Archaeology, Paleontology, and Historical Sites**
- ☐ **Noxious Weeds**
- ☒ **Special Requirements**
  - Range
  - Watershed
  - Lesser Prairie Chicken
- ☒ **Production (Post Drilling)**
  - Well Structures & Facilities
- ☐ **Interim Reclamation**
- ☐ **Final Abandonment & Reclamation**

## **I. GENERAL PROVISIONS**

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## **II. PERMIT EXPIRATION**

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## **III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES**

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

#### **IV. NOXIOUS WEEDS**

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

#### **V. SPECIAL REQUIREMENT(S)**

##### **Watershed:**

The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The top soil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control.

##### **Range:**

##### **Cattleguards**

Where a permanent cattleguard is approved, an appropriately sized cattleguard(s) sufficient to carry out the project shall be installed and maintained at fence crossing(s). Any existing cattleguard(s) on the access road shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattleguard(s) that are in place and are utilized during lease operations. A gate shall be constructed on one side of the cattleguard and fastened securely to H-braces.

##### **Fence Requirement**

Where entry granted across a fence line, the fence must be H-braced or angle iron braced and tied off on both sides of the passageway prior to cutting. Once the work is completed, the fence will be restored to its prior condition, or better. The operator shall consult with the private surface landowner or the grazing allotment holder prior to cutting any fence(s).

Figure 1. Pipe H-brace specifications

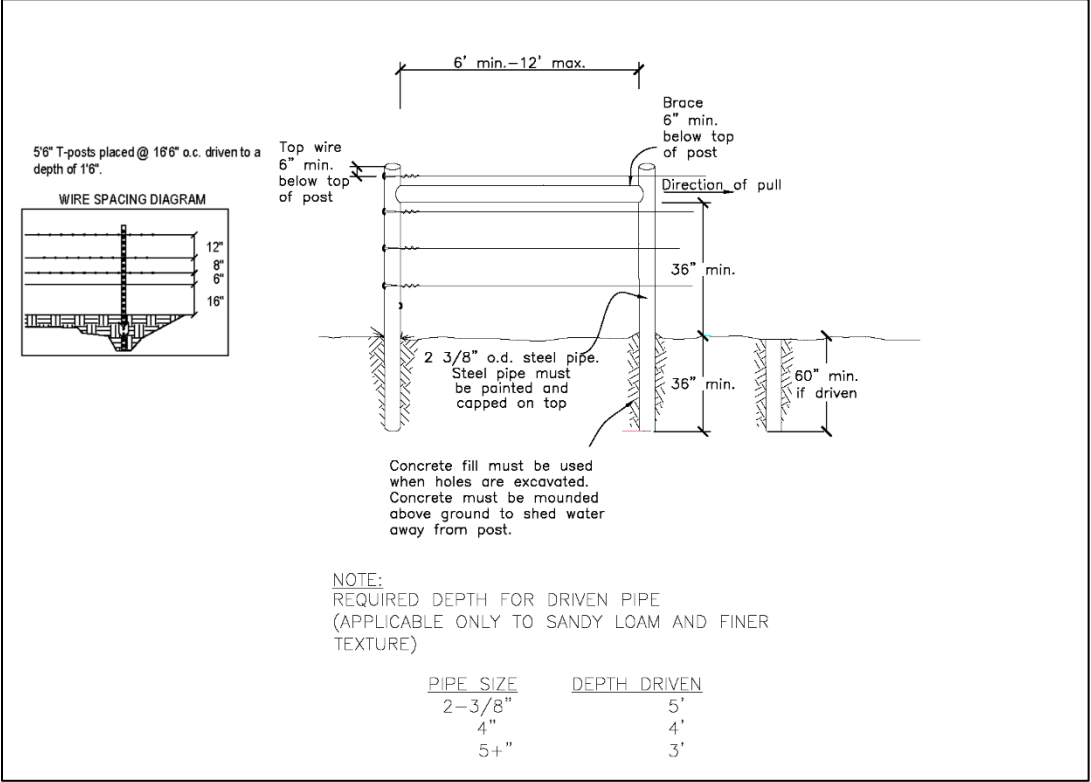
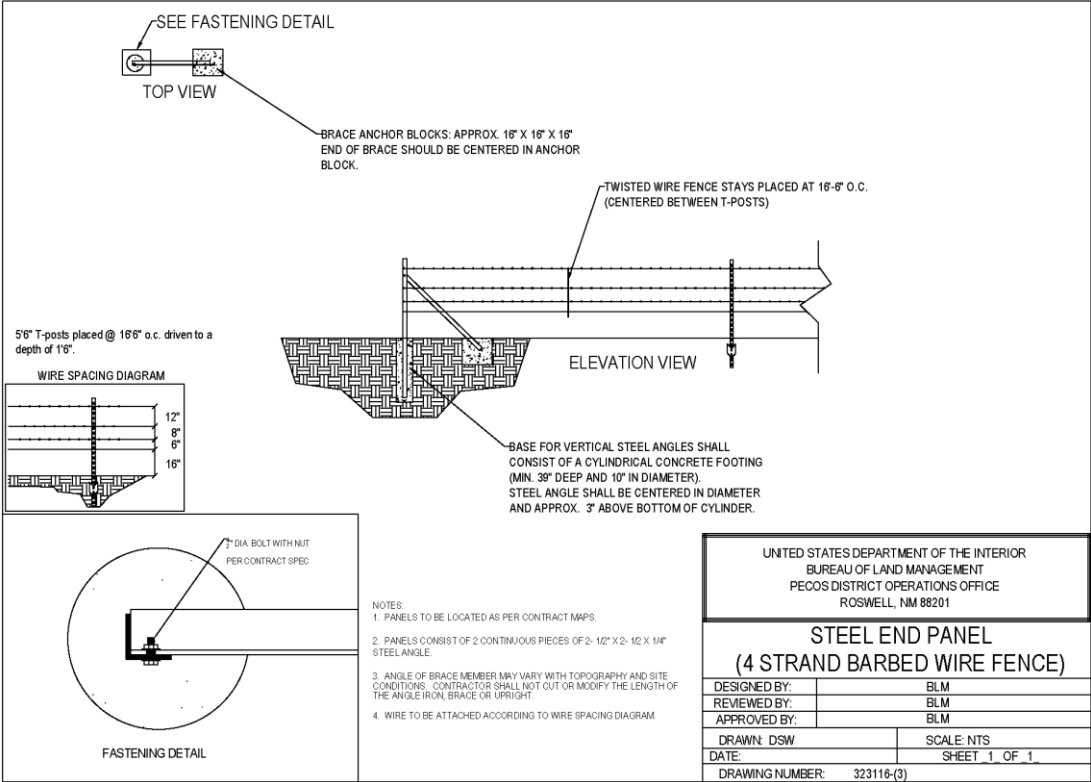


Figure 2. Angle iron brace specifications



**Livestock Water Protection**

Any damage to structures that provide water to livestock (such as windmills, pipelines, drinking troughs, earthen reservoirs) throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. Operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

**Lesser Prairie Chicken:****Ground-level Abandoned Well Marker to avoid raptor perching:**

Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

**Lesser Prairie Chicken Timing Stipulation**

As included in the original EA for this project, Timing Limitation Stipulation / Condition of Approval for lesser prairie-chicken, to minimize noise associated impacts which could disrupt breeding and nesting activities should be observed:

**Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:**

Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

**Timing Limitation Exceptions:**

The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

**VI. PRODUCTION (POST DRILLING)****A. WELL STRUCTURES & FACILITIES****Placement of Production Facilities**

Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

**Exclosure Netting (Open-top Tanks)**

Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped



tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1 ½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

#### **Chemical and Fuel Secondary Containment and Enclosure Screening**

The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock enclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1 ½ inches.

### **VII. INTERIM RECLAMATION**

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

### **VIII. FINAL ABANDONMENT & RECLAMATION**

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

**Seed Mixture 2, for Sandy Sites**

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)\* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed\* per acre:

**Species**

	<u>lb/acre</u>
Sand dropseed ( <i>Sporobolus cryptandrus</i> )	1.0
Sand love grass ( <i>Eragrostis trichodes</i> )	1.0
Plains bristlegrass ( <i>Setaria macrostachya</i> )	2.0

\*Pounds of pure live seed:

Pounds of seed x percent purity x percent germination = pounds pure live seed

## PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

<b>OPERATOR'S NAME:</b>	<b>COG</b>
<b>LEASE NO.:</b>	<b>NMNM120908</b>
<b>LOCATION:</b>	Section 29, T.24S., R.32 E., NMPM
<b>COUNTY:</b>	Lea County, New Mexico

<b>WELL NAME &amp; NO.:</b>	Azores Fed Com 708H
<b>SURFACE HOLE FOOTAGE:</b>	855'/S & 1225'/W
<b>BOTTOM HOLE FOOTAGE:</b>	50'/N & 330'/E

COA

H <sub>2</sub> S	<input type="radio"/> Yes	<input checked="" 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

Hydrogen Sulfide (H<sub>2</sub>S) monitors shall be installed prior to drilling out the surface shoe. If H<sub>2</sub>S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

### B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **785** 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.

**Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.**
  3. The minimum required fill of cement behind the **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).**

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 approved to use a 5M annular. The annular must be tested to full working pressure (5000 psi.)**

2.
  - 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.

**ZS 041023**

**COG PRODUCTION 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 PRODUCTION 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 PRODUCTION LLC**

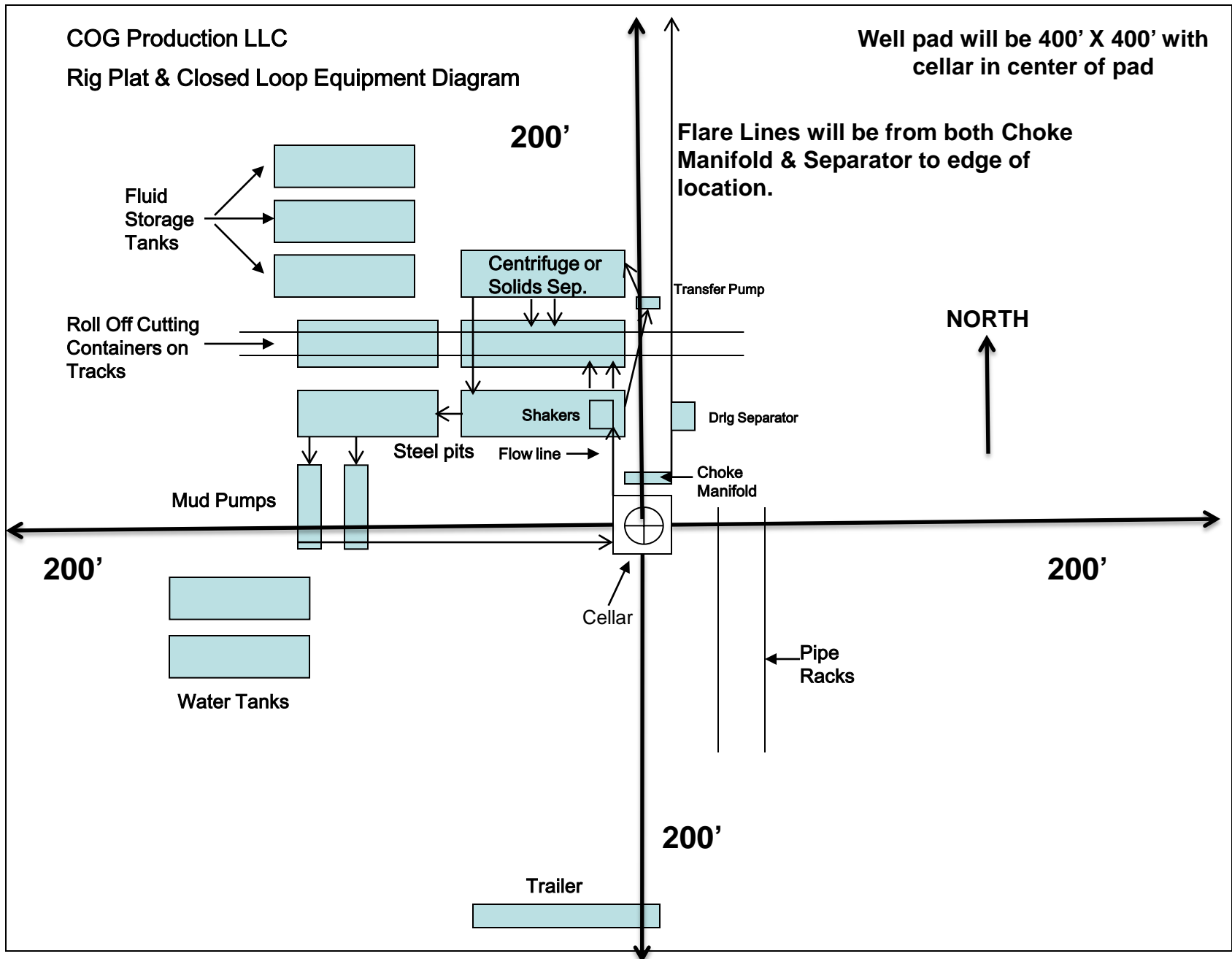
**1-575-748-6940**

## **EMERGENCY CALL LIST**

	<b><u>OFFICE</u></b>	<b><u>MOBILE</u></b>
COG PRODUCTION 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



## COG Production, LLC - Azores Federal Com #708H

## 1. Geologic Formations

TVD of target	12,125' EOL	Pilot hole depth	NA
MD at TD:	22,409'	Deepest expected fresh water:	380'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	778	Water	
Top of Salt	1087	Salt	
Base of Salt	4447	Salt	
Lamar	4659	Salt Water	
Bell Canyon	4677	Salt Water	
Cherry Canyon	5595	Oil/Gas	
Brushy Canyon	6994	Oil/Gas	
Bone Spring Lime	8565	Oil/Gas	
1st Bone Spring Sand	9653	Oil/Gas	
2nd Bone Spring Sand	10279	Oil/Gas	
3rd Bone Spring Sand	11551	Oil/Gas	
Wolfcamp	12009	Oil/Gas	
Wolfcamp B	12519	Oil/Gas	

## 2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	1037	10.75"	45.5	J-55	BTC	4.51	1.15	15.15	16.87
9.875"	0	8000	7.625"	29.7	HCL80	BTC	1.59	1.15	3.06	3.09
8.750"	8000	11521	7.625"	29.7	HCP 110	FJM	1.25	1.49	2.75	1.92
6.75"	0	11321	5.5"	23	P110	CDC-HTQ	2.02	2.29	2.61	2.72
6.75"	11321	22,409	5.5"	23	P110	Talon HTQ	2.02	2.29	2.61	2.54
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. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.

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



## COG Production, LLC - Azores Federal Com #708H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
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?	

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## 3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft <sup>3</sup> / sack	H <sub>2</sub> O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	430	13.5	1.75	9	12	Lead: Class C + 4% Gel
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl <sub>2</sub>
Inter.	1000	11	2.8	19	48	Lead: NeoCem
	300	16.4	1.1	5	8	Tail: Class H
5.5 Prod	750	12.7	2	10.6	16	Lead: 35:65:6 H Blend
	1000	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

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	7,500'	35%

## COG Production, LLC - Azores Federal Com #708H

## 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	3500 psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

BOP and BOPE will be installed per Onshore Order #2 requirements prior to drilling below the surface casing and will be rated to the above pressure rating or greater, see attached diagrams. Required safety valves, with appropriate wrenches and subs for the drill string being utilized, will be in the open position and accessible on the rig floor. 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 valves (inside BOP and full-opening valve) with appropriate wrenches 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 Production, LLC - Azores Federal Com #708H

## 5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.4 - 8.6	28-29	N/C
Surf csg	Int shoe	Diesel Brine Emul	8.6 - 9.4	30-40	N/C
Int shoe	Lateral TD	OBM	10.5 - 12	30-40	20

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

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
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## 6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
N	Are 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 Production, LLC - Azores Federal Com #708H****7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7570 psi at 12125' TVD
Abnormal Temperature	NO 175 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.

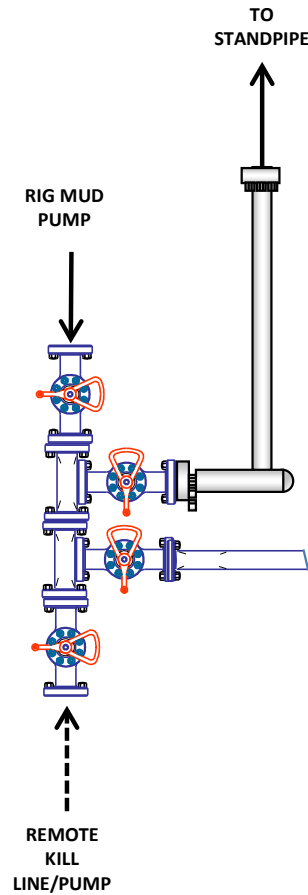
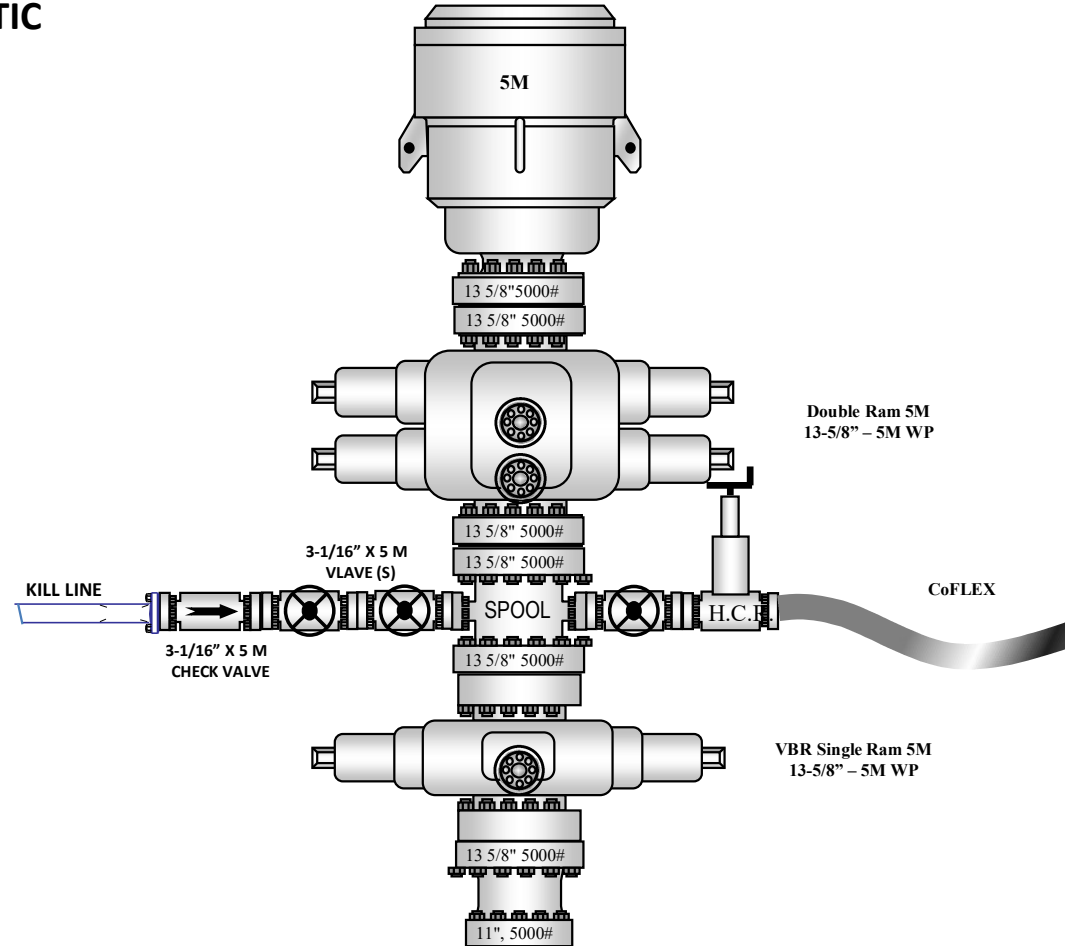
N H<sub>2</sub>S is present

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

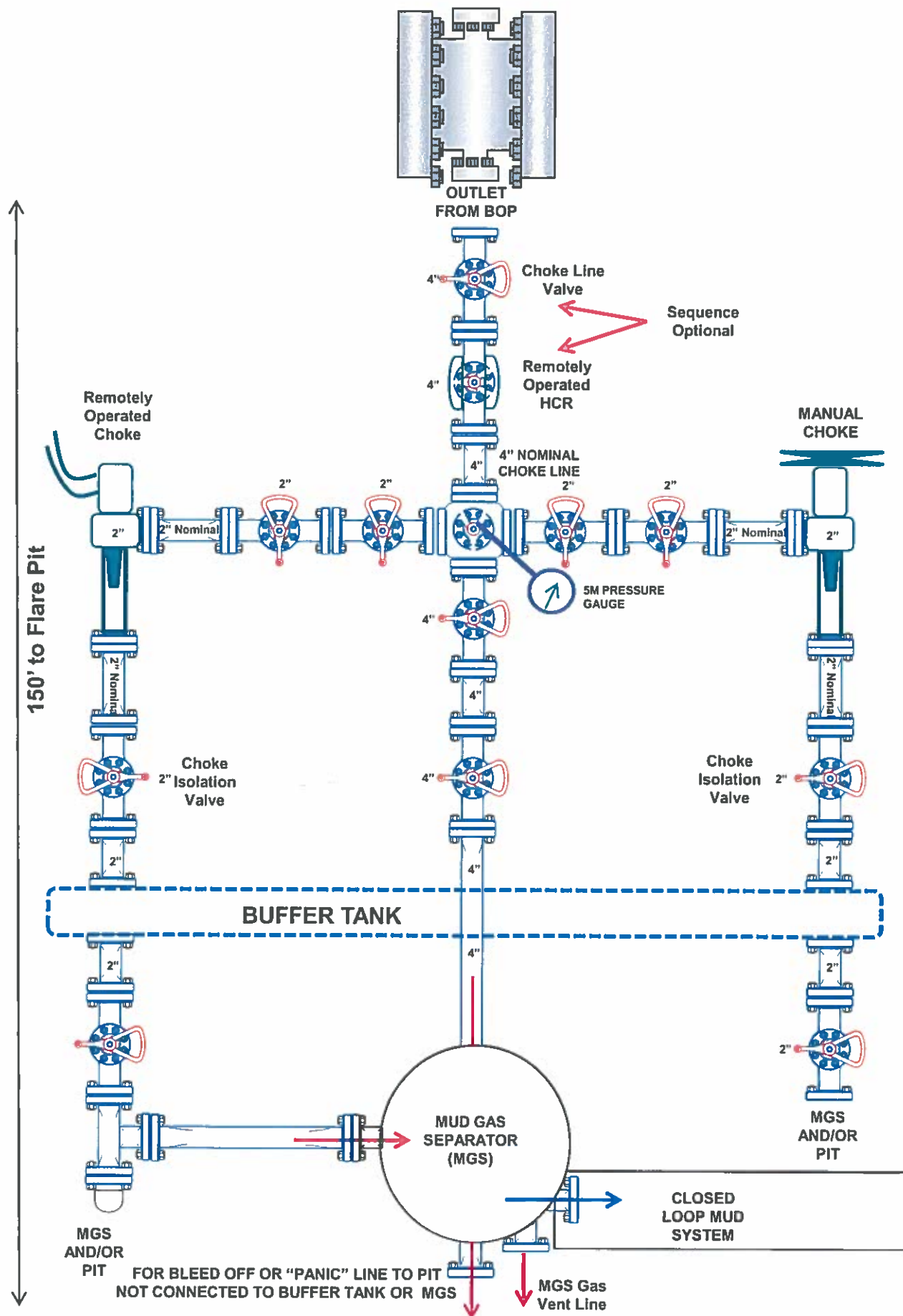
**8. Other Facets of Operation**

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

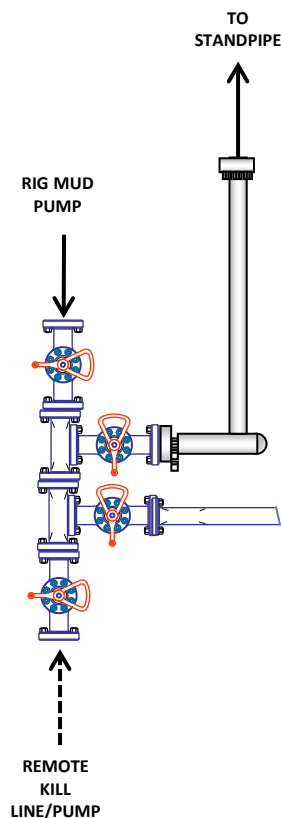
x	H <sub>2</sub> S Plan.
x	BOP & Choke Schematics.
x	Directional Plan
x	5M Annular Variance

**5M BOP Stack****10M REMOTE KILL SCHEMATIC****5M BOP Stack  
(2.5M Annular)**

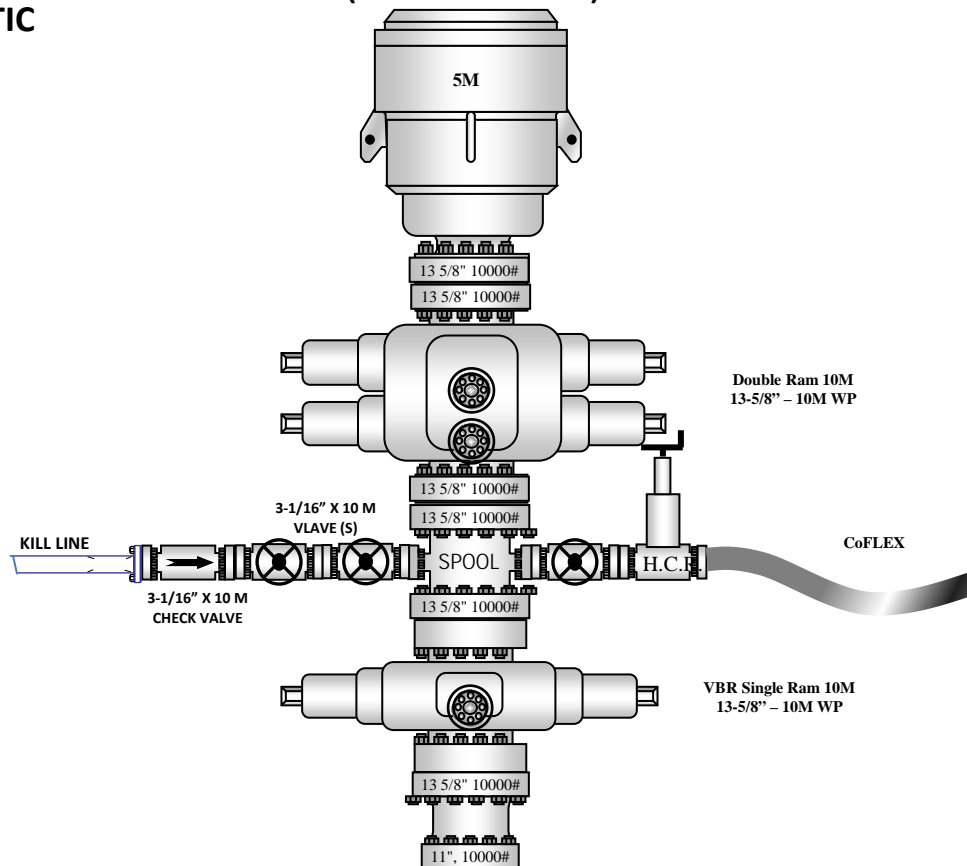
# 5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



## 10M REMOTE KILL SCHEMATIC

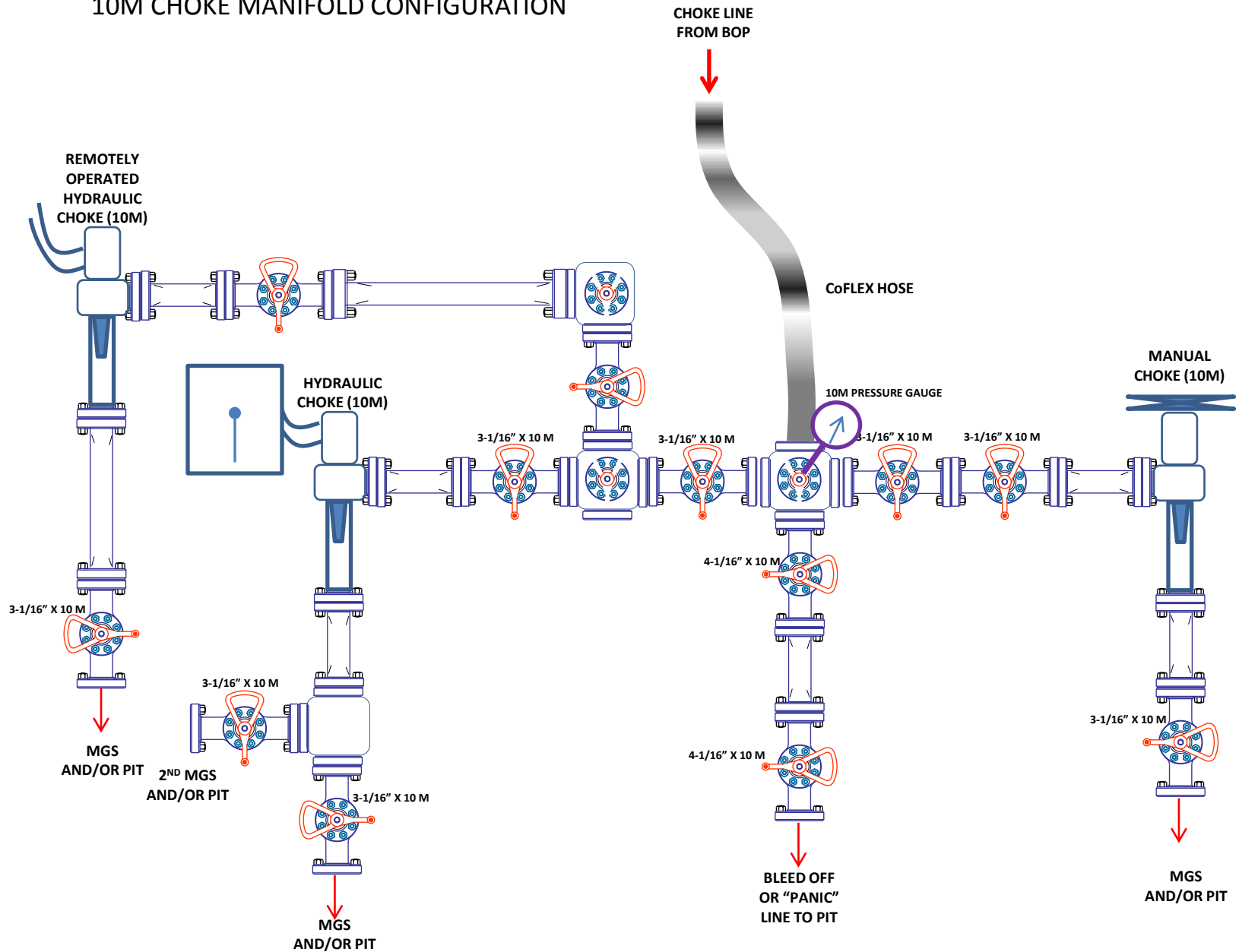


## 10M BOP Stack (5M Annular)





## 10M CHOKE MANIFOLD CONFIGURATION



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

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

CONDITIONS  
  
Action 209512

CONDITIONS

Operator:  COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID:  217955
	Action Number:  209512
	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	4/25/2023
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	4/25/2023
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	4/25/2023
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	4/25/2023