

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. NMNM82926 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. ORE DIGGER FEDERAL 601H
2. Name of Operator COG OPERATING LLC		9. API Well No. 30-025-55056
3a. Address 600 West Illinois Ave, Midland, TX 79701	3b. Phone No. (include area code) (432) 683-7443	10. Field and Pool, or Exploratory Teas/Bone Spring
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface SESW / 405 FSL / 1830 FWL / LAT 32.523457 / LONG -103.636558 At proposed prod. zone NWNW / 50 FNL / 1000 FWL / LAT 32.551248 / LONG -103.639236		11. Sec., T. R. M. or Blk. and Survey or Area SEC 35/T20S/R33E/NMP
14. Distance in miles and direction from nearest town or post office* 24 miles		12. County or Parish LEA
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 50 feet		16. No of acres in lease 17. Spacing Unit dedicated to this well 1280.0
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 30 feet		20. BLM/BIA Bond No. in file FED: NMB000125
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 3689 feet	22. Approximate date work will start* 04/01/2026	23. Estimated duration 30 days
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.
2. A Drilling Plan.
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).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature (Electronic Submission)	Name (Printed/Typed) MAYTE REYES / Ph: (432) 683-7443	Date 09/09/2024
Title Regulatory Analyst		
Approved by (Signature) (Electronic Submission)	Name (Printed/Typed) CODY LAYTON / Ph: (575) 234-5959	Date 06/10/2025
Title Assistant Field Manager Lands & Minerals		
Office Carlsbad Field Office		

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

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

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 06/10/2025

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 a new 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: SESW / 405 FSL / 1830 FWL / TWSP: 20S / RANGE: 33E / SECTION: 35 / LAT: 32.523457 / LONG: -103.636558 (TVD: 0 feet, MD: 0 feet)

PPP: SWSW / 100 FSL / 1000 FWL / TWSP: 20S / RANGE: 33E / SECTION: 35 / LAT: 32.522619 / LONG: -103.63925 (TVD: 11075 feet, MD: 11197 feet)

BHL: NWNW / 50 FNL / 1000 FWL / TWSP: 20S / RANGE: 33E / SECTION: 26 / LAT: 32.551248 / LONG: -103.639236 (TVD: 11315 feet, MD: 21532 feet)

BLM Point of Contact

Name: JANET D ESTES

Title: ADJUDICATOR

Phone: (575) 234-6233

Email: JESTES@BLM.GOV

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.

C-102 Submit Electronically Via OCD Permitting	State of New Mexico Energy, Minerals & Natural Resources Department OIL CONSERVATION DIVISION	Revised July 9, 2024	
		Submittal Type:	<input checked="" type="checkbox"/> Initial Submittal
			<input type="checkbox"/> Amended Report
			<input type="checkbox"/> As Drilled

WELL LOCATION INFORMATION

API Number 30-025-55056	Pool Code 58960	Pool Name Teas; Bone Spring
Property Code 337303	Property Name ORE DIGGER FEDERAL	Well Number 601H
OGRID No. 229137	Operator Name COG OPERATING LLC	Ground Level Elevation 3689.0'
Surface Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal		Mineral Owner: <input type="checkbox"/> State <input type="checkbox"/> Fee <input type="checkbox"/> Tribal <input checked="" type="checkbox"/> Federal

Surface Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
N	35	20-S	33-E		405 FSL	1830 FWL	32.523457°N	103.636558°W	LEA

Bottom Hole Location

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	26	20-S	33-E		50 FNL	1000 FWL	32.551248°N	103.639236°W	LEA

Dedicated Acres 1280	Infill or Defining Well Infill	Defining Well API Pending 501H	Overlapping Spacing Unit (Y/N) N	Consolidation Code
Order Numbers.			Well setbacks are under Common Ownership: <input type="checkbox"/> Yes <input type="checkbox"/> No	

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
N	35	20-S	33-E		405 FSL	1830 FWL	32.523457°N	103.636558°W	LEA


First Take Point (FTP)

UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
M	35	20-S	33-E		100 FSL	1000 FWL	32.522619°N	103.639250°W	LEA

Last Take Point (LTP)

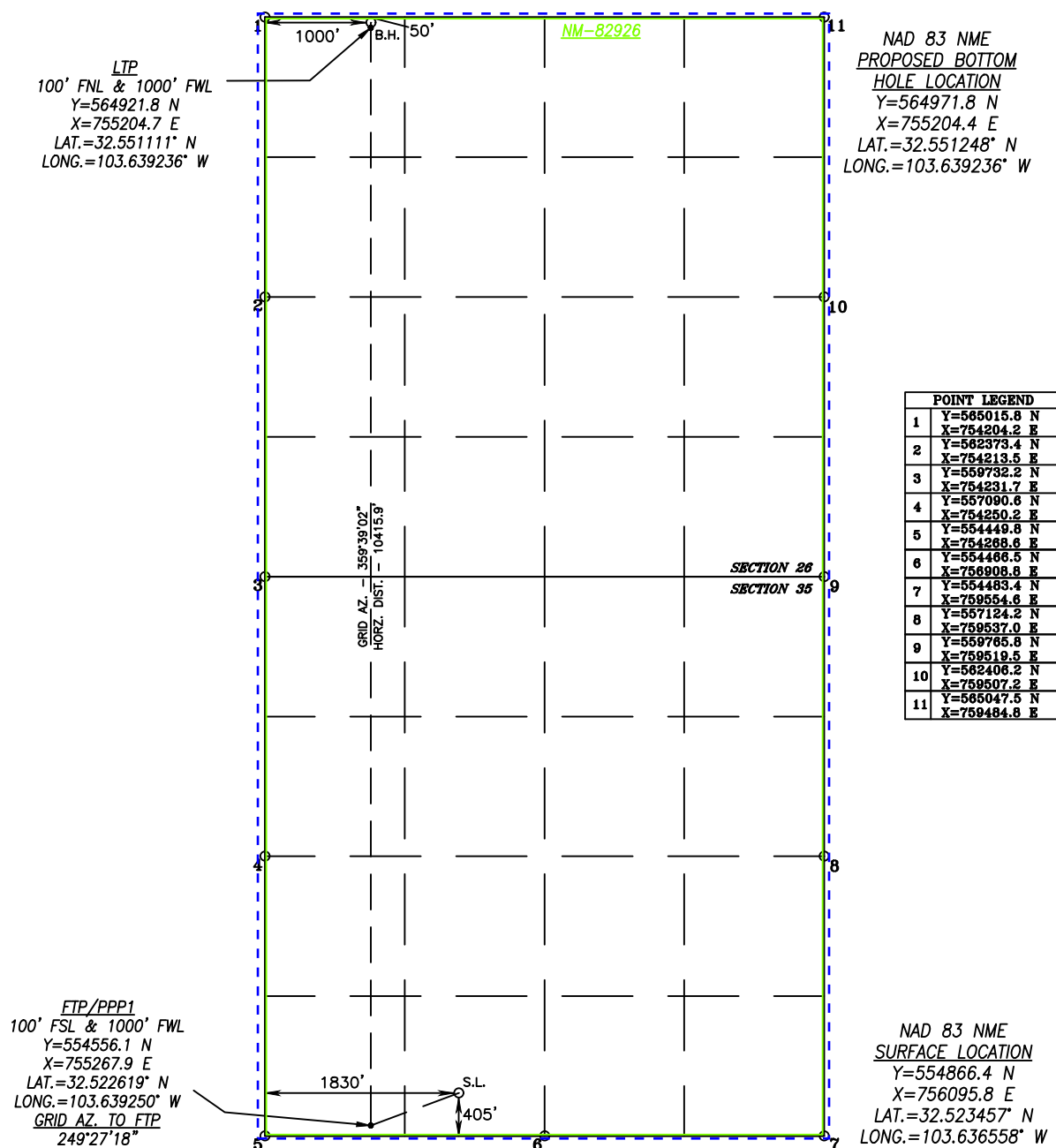
UL	Section	Township	Range	Lot	Ft. from N/S	Ft. from E/W	Latitude	Longitude	County
D	26	20-S	33-E		100 FNL	1000 FWL	32.551111°N	103.639236°W	LEA

Unitized Area or Area of Uniform Interest	Spacing Unit Type <input checked="" type="checkbox"/> Horizontal <input type="checkbox"/> Vertical	Ground Floor Elevation: 3689.0'
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OPERATOR CERTIFICATIONS <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and, if the well is a vertical or directional well, that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of a working interest or unleased mineral interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.</i> <i>If this well is a horizontal well, I further certify that this organization has received the consent of at least one lessee or owner of a working interest or unleased mineral interest in each tract (in the target pool or formation) in which any part of the well's completed interval will be located or obtained a compulsory pooling order from the division.</i>		SURVEYOR CERTIFICATIONS <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i>	
Signature Mayte Reyes	Date 9/4/2024	Signature and Seal of Professional Surveyor  Chad Hargrow 8/7/24	
Printed Name Mayte Reyes	Email Address mayte.x.reyes@conocophillips.com	Certificate Number 17777	Date of Survey JULY 27, 2024
		W.O.#24-651	DRAWN BY: WN
		PAGE 1 OF 2	

Note: No allowable will be assigned to this completion until all interests have been consolidated or a non-standard unit has been approved by the division.

Surveyors shall use the latest United States government survey or dependent resurvey. Well locations will be in reference to the New Mexico Principal Meridian. If the land is not surveyed, contact the OCD Engineering Bureau. Independent subdivision surveys will not be acceptable.



State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: COG Operating LLC **OGRID:** 229137 **Date:** 9 / 4 / 2024

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
Ore Digger Federal Com 601H	30-025-	N-35-20S-33E	405 FSL & 1830 FWL	± 1276	± 1589	± 3681

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
Ore Digger Federal Com 601H	Pending	8/12/2025	± 25 days from spud	12/10/2025	12/20/2025	12/25/2025

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

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

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

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

C. Completion Operations

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

D. Venting and flaring during production operations

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

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

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

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

F. Measurement of vented and flared natural gas.

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

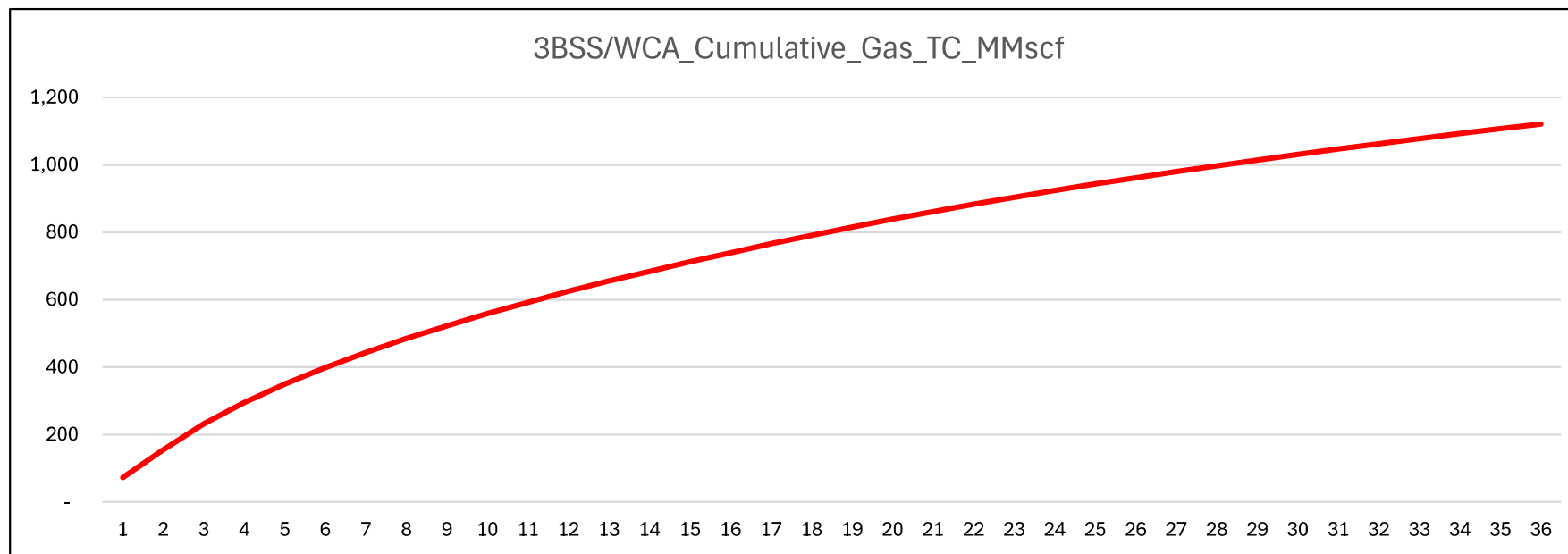
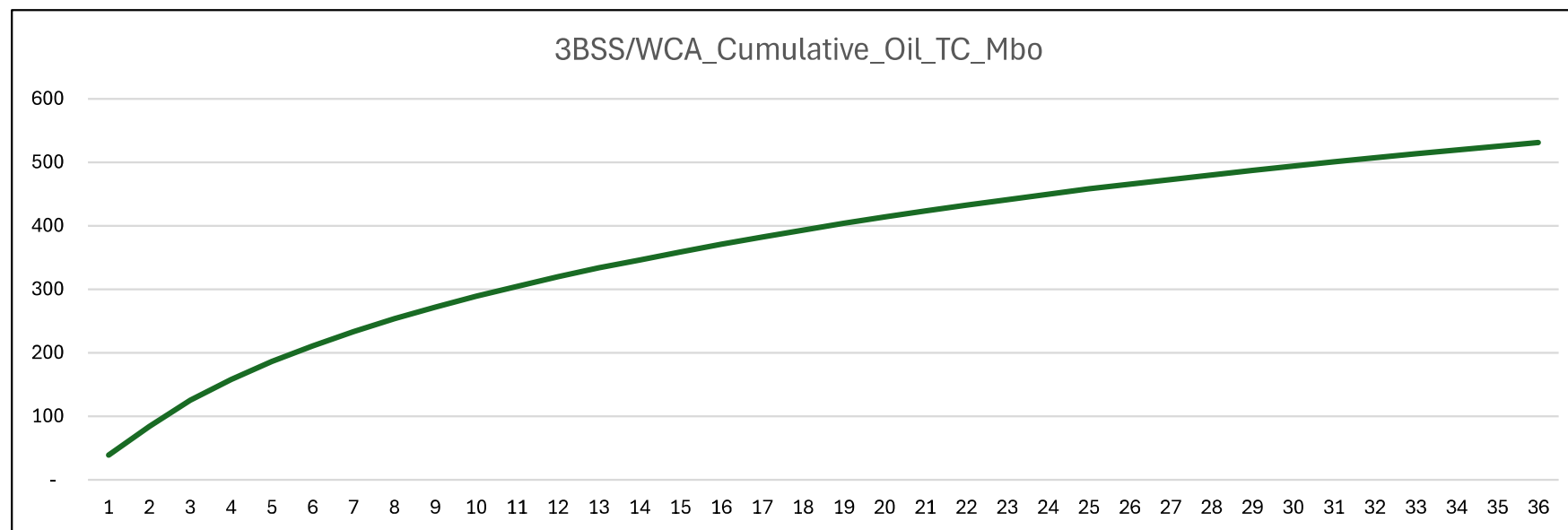
VIII. Best Management Practices

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

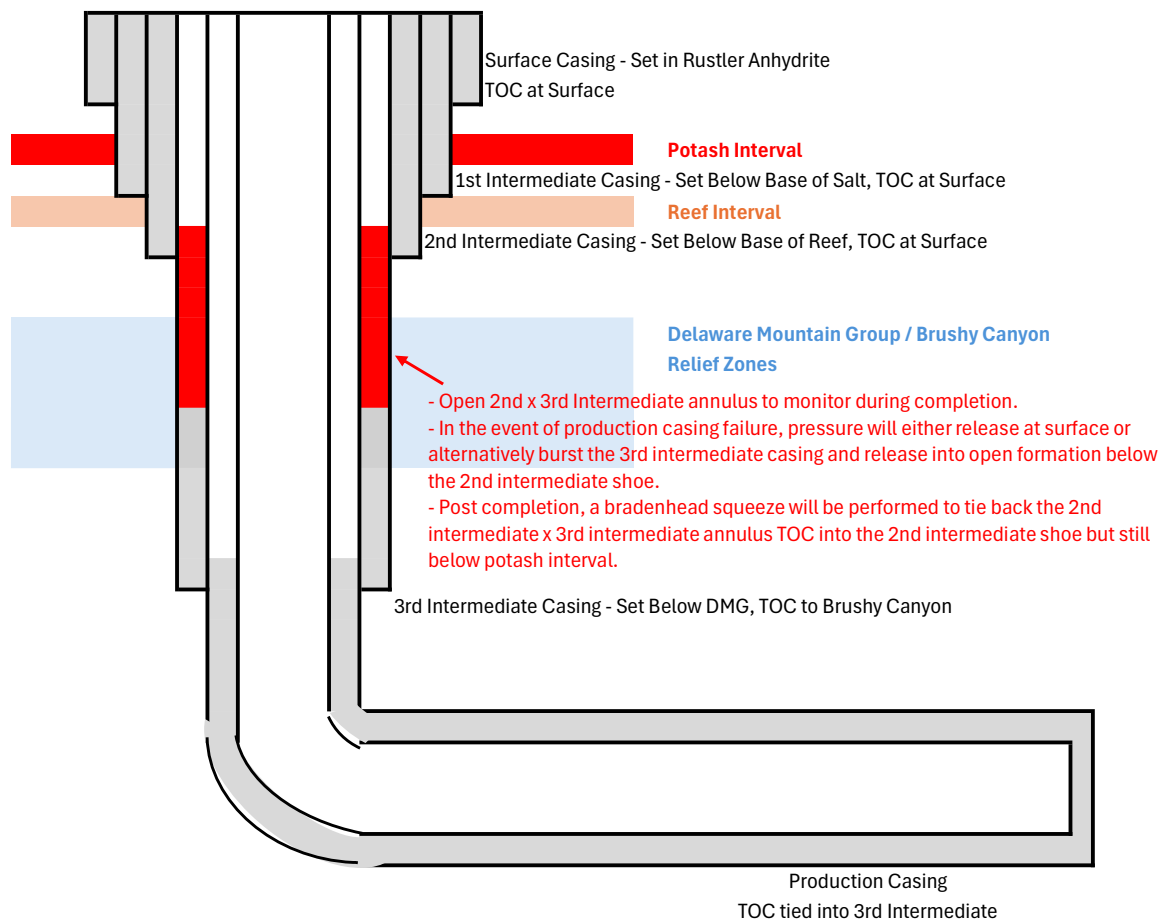
I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature:	<i>Mayte Reyes</i>
Printed Name:	Mayte Reyes
Title:	Sr. Regulatory Coordinator
E-mail Address:	mayte.x.reyes@conocophillips.com
Date:	9/4/2024
Phone:	575-748-6945
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)	
Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

Anticipated Production Decline Curve



5-String Design - Open 2nd Intermediate x 3rd Intermediate Annulus (ICP 2 below relief zone)



- ConocoPhillips is aware of R111Q order update and proposed well complied with the requirements in the order
- Uses above figure as design
- All casing run will be new that meets API standards
- Fluids will be diverted away from the salt interval via the 2nd intermediate x 3rd intermediate annulus in case of production casing failure and the annulus will be monitored during frac
- As in the schematic above, intermediate 3 cement and production cement will not be brought to surface (0% excess on intermediate 3 with TOC 1000' into previous casing)
- Completions will bradenhead 2nd intermediate x 3rd intermediate annulus within 180 days of frac, tying back at a minimum 500' into previous casing but not above Marker Bed 126
- No anticollision risks < 1.5 SF will be present in salt interval

Casing Program:

Depth	No. Sacks	Wt. ppg	Yld Ft3/sk	Slurry Description
11,945' 9-7/8"	465	15.6	1.196	1st Stage: Halliburton Halcem (TOC @ Brushy Canyon)
	1000	14.8	1.519	2nd Stage (Bradenhead squeeze): Halliburton Thixotropic Halcem + 5% Cal-Seal 60, .6% HR-800 + 10% Salt + 3% Microbond
	400	14.8	1.332	Top out Slurry: Halliburton Halcem (TOC @ surface)

COG Production LLC requests variance from minimum standards to pump a two stage cement job on the 7-5/8" intermediate casing string with the first stage being pumped conventionally with the calculated top of cement at the Brushy Canyon and the second stage performed as a 1000 sack bradenhead squeeze with planned cement from the Brushy Canyon to surface. After the bradenhead squeeze, 50 sacks of the 14.8 ppg top out slurry will be pumped followed by shutting down and waiting on cement (WOC) 2 hours. After 2 hours, if necessary, a top out consisting of 350 sacks of Halliburton's Halcem at 14.8 ppg (1.332 yld) will be executed as a contingency. When washing valves, 2 bbls of water will be utilized. If the valves still contain cement, washing will occur in 1 bbl increments up to a maximum of 5 bbls.

COG Production will run a cement bond log (CBL) after the cement job is performed to evaluate the quality of the cement job.

Wellhead & Offline Cementing:

COG Production LLC respectfully requests a variance from the minimum standards for well control equipment testing of Onshore Order No. 2 (item III.A.2.a.i) to allow a testing schedule of the blow out preventer (BOP) and blow out prevention equipment (BOPE) along with Batch Drilling & Offline cement operations to include the following:

- Full BOPE test at first installation on the pad.
- Full BOPE test every 21 days per Onshore Order No. 2.
- Function test BOP elements per Onshore Order No. 2.
- After the well section is secured, the BOP will be disconnected from the wellhead and walked with the rig to another well on the pad.
- TA cap will also be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.
- See attached "Offline Cement Intermediate Operational Procedure"

COG Production LLC believes that the combination of drilling fluid inside the casing, the abandonment plug with BPV, casing and annular valves and the TA cap provide multiple barriers to ensure complete closure of the wellbore prior to skidding/walking the rig.

Bradenhead Cementing Procedure for Intermediate Casing

1. R/U cement head and test lines
2. Pump first stage conventionally down the 7-5/8" intermediate casing
 - a. 15.6 ppg slurry with TOC @ the Brushy Canyon
3. Displace with drilling fluid and bump plug
4. Bump at 500 psi over FCP, hold 5 mins.
5. Bleed back to cement truck to check floats
6. Rig up on 10-3/4" x 7-5/8" annulus by lining up to pump down both valves.
7. Establish injection rate and displace annulus with FW
8. Pump bradenhead squeeze with 14.8 ppg thixotropic slurry
 - a. Limit pressure to 1500 psi (10-3/4" surf csg test)
9. After pumping 14.8 ppg thixotropic slurry, pump 50 sacks of 14.8 ppg top out slurry to flush valves of thixotropic cement.
10. WOC 2 hours
11. Top out with 350 sacks of 14.8 ppg top out slurry. If more cement is necessary, note in report and notify BLM.
12. Displace cement with fresh water and clear valves. Start with 2 bbls of fresh water. If more water is necessary, 1 bbl increments will be used to a maximum of 5 bbls.
13. Shut down and monitor the shut-in pressure on the 10-3/4" x 7-5/8" annulus.

Summarized Operational Procedure for Intermediate Casing

1. Run casing as per normal operations.
 - a. Float equipment is equipped with two back pressure valves rated to a minimum of 5,000 psi.
2. Land intermediate casing on mandrel hanger through BOP.
 - a. If casing is unable to be landed with a mandrel hanger, then the **casing will be cemented online.**
 - b. If time from landing mandrel hanger to skidding/walking rig off well exceeds 8 hours, BLM will be notified.
3. Break circulation and confirm no restrictions.
 - a. Ensure no blockage of float equipment and appropriate annular returns.
 - b. Perform flow check to confirm well is static.
4. Set pack-off
 - a. If utilizing a fluted/ported mandrel hanger, ensure well is static on the annulus and inside the casing by ensuring pipe is full of drilling fluid, remove landing joint, and set annular packoff through BOP. Pressure test to 5,000 psi for 10 min.
 - b. If utilizing a solid mandrel hanger, ensure well is static on the annulus and inside the casing by ensuring pipe is full of drilling fluid. Pressure test seals to 5,000 psi for 10 min. Remove landing joint through BOP.
5. After confirmation of both annular barriers and the two casing barriers, install TA plug/BPV and pressure test to 5,000 psi for 10 min. Notify the BLM with intent to proceed with nipple down and offline cementing.

- a. Minimum 4 hrs notice.
6. With the well secured and BLM notified, nipple down BOP and secure on BOP handler.
 - a. **Note, if any of the barriers fail to test, the BOP stack will not be nipped down until after the cement job has concluded and tail cement has reached 500 psi**
7. Skid/Walk rig off current well.
8. Confirm well is static before removing TA Plug.
 - a. Cementing operations will not proceed until well is under control. (If well is not static, notify BLM and proceed to kill)
 - b. Casing outlet valves will provide access to both the casing ID and annulus. Rig or third party pump truck will kill well prior to cementing, if needed.
 - c. Well control plan can be seen in Section B, Well Control Procedures.
 - d. If need be, rig can be moved back over well and BOP nipped back up for any further remediation.
9. Rig up return lines to take returns from wellhead to pits and rig choke.
 - a. Test all connections and lines from wellhead to choke manifold to 5,000 psi high for 10 min.
 - b. If either test fails, perform corrections and retest before proceeding.
 - c. Return line schematics can be seen in Figure 2.
10. Remove TA Plug/BPV from the casing.
11. Install offline cement tool.
 - a. Current offline cement tool schematics can be seen in Figure 1 (Streamflo)
12. Rig up cement head and cementing lines.
 - a. Pressure test cement lines against cement head to 80% of casing burst for 10 min.
13. Break circulation on well to confirm no restrictions.
 - a. If gas is present on circulation, well will be shut in and returns rerouted through gas buster.
 - b. Max anticipated time before circulating with cement truck is 6 hrs.
14. Pump cement job as per plan.
 - a. At plug bump, test casing to 0.22 psi/ft or 1500 psi, whichever is greater.
 - b. If plug does not bump on calculated displacement, shut down and wait 8 hrs or 500 psi compressive strength, whichever is greater before testing casing.
15. Confirm well is static and floats are holding after cement job.
 - a. With floats holding and backside static:
 - i. Remove cement head.
 - b. If floats are leaking:
 - i. Shut-in well and WOC (Wait on Cement) until tail slurry reaches 500 psi compressive strength and the casing is static prior to removing cement head.
 - c. If there is flow on the backside:
 - i. Shut in well and WOC until tail slurry reaches 500 psi compressive strength. Ensure that the casing is static prior to removing cement head.
16. Remove offline cement tool.
17. Install night cap with pressure gauge for monitoring.
18. Test night cap to 5,000 psi for 10 min.

Example Well Control Plan Content

A. Well Control Component Table

The table below, which covers the cementing of the **5M MASP (Maximum Allowable Surface Pressure) portion of the well**, outlines the well control component rating in use. This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the BOP nipped up to the wellhead.

Intermediate hole section, 5M requirement

Component	RWP
Pack-off	10M
Casing Wellhead Valves	10M
Annular Wellhead Valves	5M
TA Plug	10M
Float Valves	5M
2" 1502 Lo-Torque Valves	10M

B. Well Control Procedures

Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while circulating and cementing through the Offline Cement Adapter.

General Procedure While Circulating

1. Sound alarm (alert crew).
2. Shut down pumps.
3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
4. Confirm shut-in.
5. Notify tool pusher/company representative.
6. Read and record the following:
 - a. SICP (Shut in Casing Pressure) and AP (Annular Pressure)
 - b. Pit gain
 - c. Time
 - d. Regroup and identify forward plan to continue circulating out kick via rig choke and mud/gas separator. Circulate and adjust mud density as needed to control well.

General Procedure While Cementing

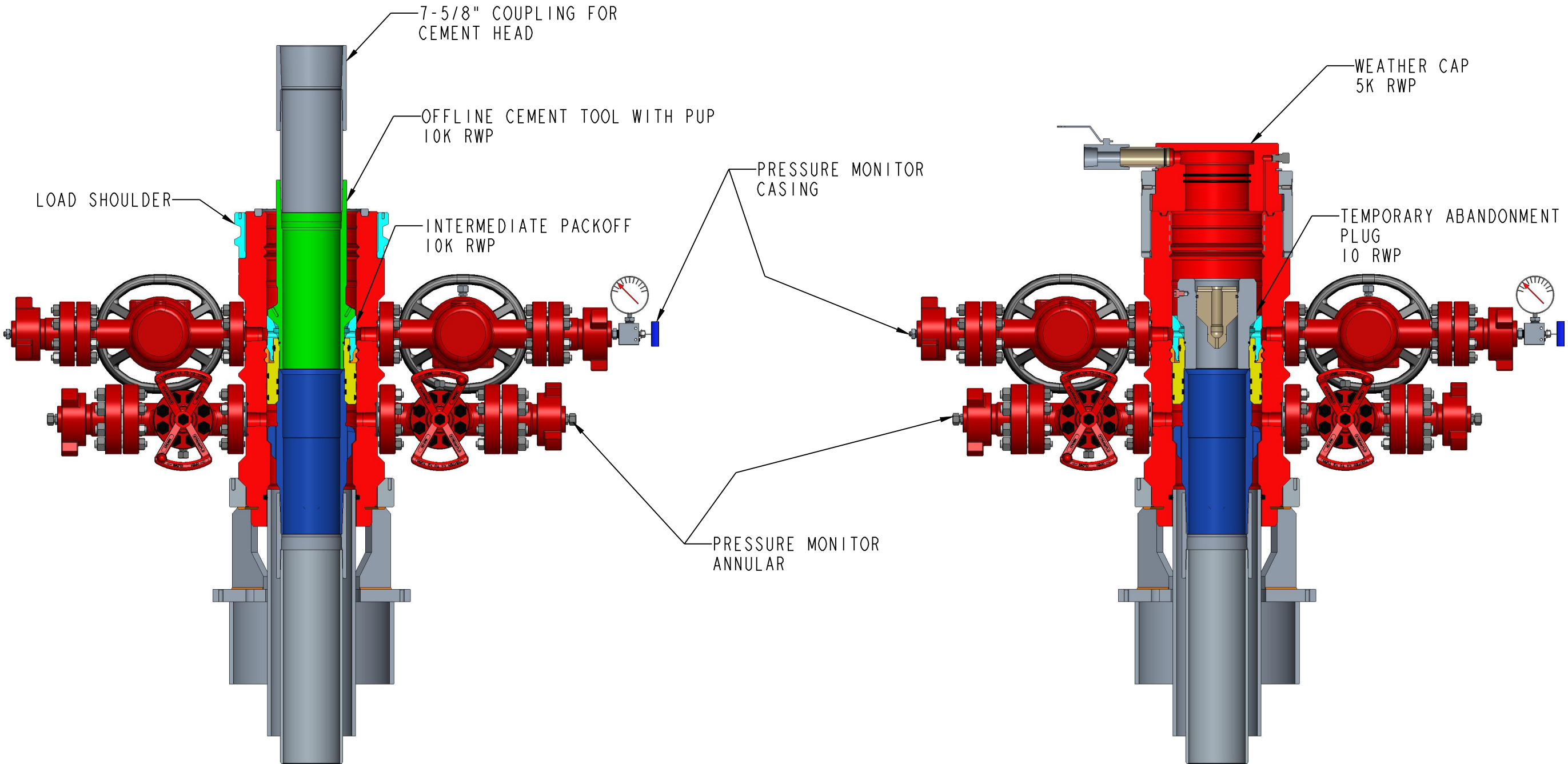
1. Sound alarm (alert crew).
2. Shut down pumps.
3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
4. Confirm shut-in.
5. Notify tool pusher/company representative.
6. Open rig choke and begin pumping again taking returns through choke manifold and mud/gas separator.

7. Continue to place cement until plug bumps.
8. At plug bump close rig choke and cement head.
9. Read and record the following
 - a. SICP and AP
 - b. Pit gain
 - c. Time
 - d. Shut-in annulus valves on wellhead

General Procedure After Cementing

1. Sound alarm (alert crew).
2. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
3. Confirm shut-in.
4. Notify tool pusher/company representative.
5. Read and record the following:
 - a. SICP and AP
 - b. Pit gain
 - c. Time
 - d. Shut-in annulus valves on wellhead

Figure 1: Offline Cement Tool Schematics




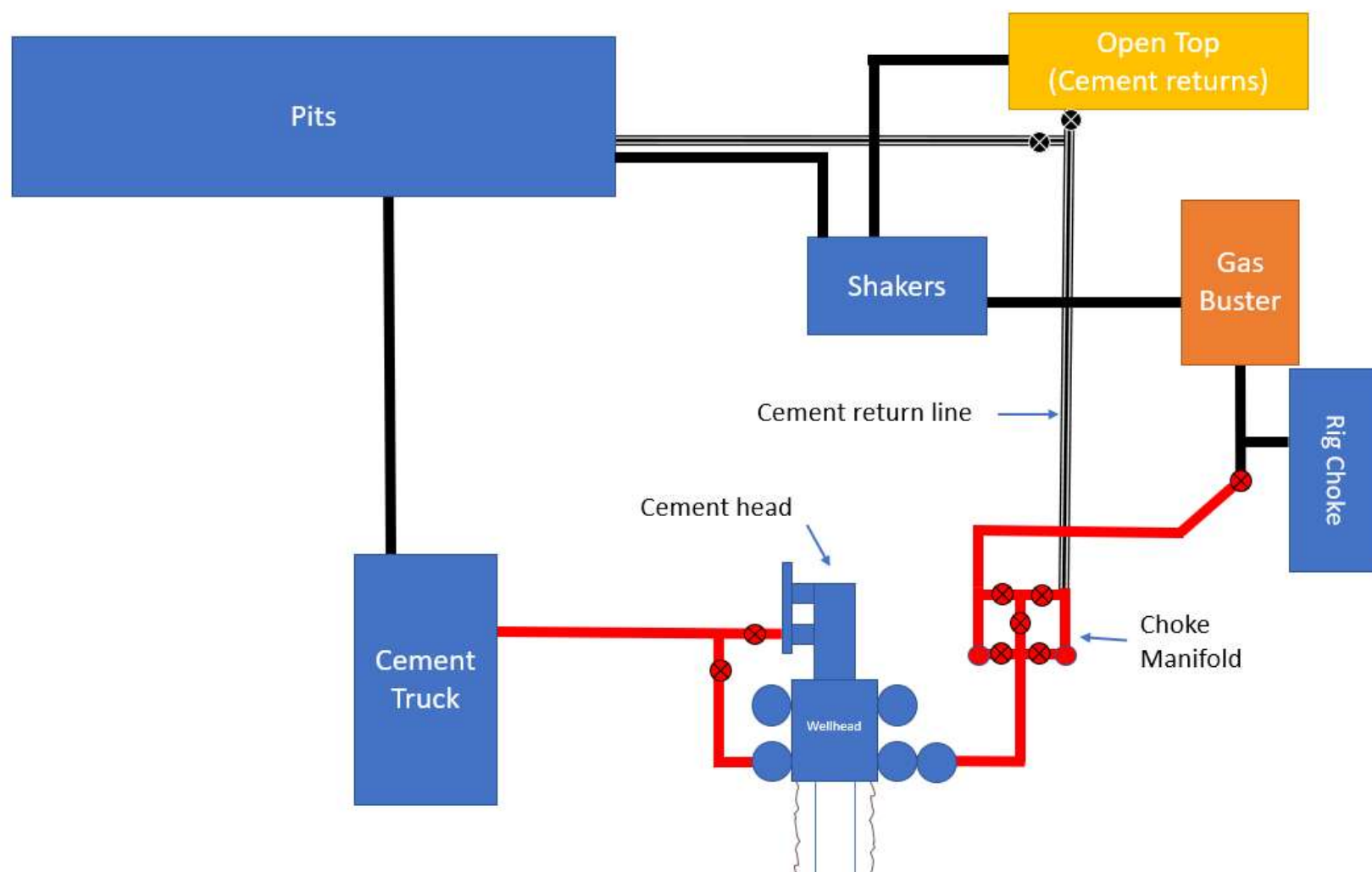
CONOCOPHILLIPS COMPANY 7-5/8" OFFLINE CEMENT AND ABANDAMENT PLUG LAYOUT DMLX WELLHEAD ASSEMBLY		DWN.	CWB	03-09-23	 Worldwide Expertise - Global Strength	DRAWING No.
		CHK.				WH - 24621
		APPR.				
			BY	DATE		
XX-XXXX XX-XXXX	Commonspace		WH-24621		WH-24621	

Figure 2: Back Yard Rig Up



*All lines rated to 10M working pressure

**Cement head rated to 7.5M working pressure



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

Application Data
06/17/2025

APD ID: 10400100882	Submission Date: 09/09/2024	Highlighted data reflects the most recent changes Show Final Text
Operator Name: COG OPERATING LLC		
Well Name: ORE DIGGER FEDERAL	Well Number: 601H	
Well Type: OIL WELL	Well Work Type: Drill	

Section 1 - General

APD ID: 10400100882	Tie to previous NOS? N	Submission Date: 09/09/2024
BLM Office: Carlsbad	User: MAYTE REYES	Title: Regulatory Analyst
Federal/Indian APD: FED	Is the first lease penetrated for production Federal or Indian? FED	
Lease number: NMNM82926	Lease Acres:	
Surface access agreement in place?	Allotted?	Reservation:
Agreement in place? NO	Federal or Indian agreement:	
Agreement number:		
Agreement name:		
Keep application confidential? N		
Permitting Agent? NO	APD Operator: COG OPERATING LLC	
Operator letter of		

Operator Info

Operator Organization Name: COG OPERATING LLC		
Operator Address: ONE CONCHO CENTER 600 W ILLINOIS AVENUE		
Operator PO Box:	Zip: 79701-4287	
Operator City: MIDLAND	State: TX	
Operator Phone: (432)685-4342		
Operator Internet Address:		

Section 2 - Well Information

Well in Master Development Plan? NO	Master Development Plan name:	
Well in Master SUPO? NO	Master SUPO name:	
Well in Master Drilling Plan? NO	Master Drilling Plan name:	
Well Name: ORE DIGGER FEDERAL	Well Number: 601H	Well API Number:
Field/Pool or Exploratory? Field and Pool	Field Name: Teas	Pool Name: Bone Spring

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Is the proposed well in an area containing other mineral resources?** USEABLE WATER**Is the proposed well in a Helium production area?** N**Use Existing Well Pad?** N**New surface disturbance?****Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:** Ore
Digger Federal**Number:** 501H, 601H, 602H,
502H**Well Class:** HORIZONTAL**Number of Legs:** 1**Well Work Type:** Drill**Well Type:** OIL WELL**Describe Well Type:****Well sub-Type:** INFILL**Describe sub-type:****Distance to town:** 24 Miles**Distance to nearest well:** 30 FT**Distance to lease line:** 50 FT**Reservoir well spacing assigned acres Measurement:** 1280 Acres**Well plat:** Ore_Digger_Federal_601H_C102_20250314145402.pdf**Well work start Date:** 04/01/2026**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:****Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	405	FSL	183 0	FW L	20S	33E	35	Aliquot SESW	32.52345 7	- 103.6365 58	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 82926	368 9			N
KOP Leg #1	405	FSL	183 0	FW L	20S	33E	35	Aliquot SESW	32.52345 7	- 103.6365 58	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 82926	368 9	0	0	N
PPP Leg #1-1	100	FSL	100 0	FW L	20S	33E	35	Aliquot SWS W	32.52261 9	- 103.6392 5	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 82926	- 738 6	111 97	110 75	N

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
EXIT Leg #1	100	FNL	100 0	FW L	20S	33E	26	Aliquot NWN W	32.55111 1	- 103.6392 36	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 82926	- 762 5	214 82	113 14	Y
BHL Leg #1	50	FNL	100 0	FW L	20S	33E	26	Aliquot NWN W	32.55124 8	- 103.6392 36	LEA	NEW MEXI CO	NEW MEXI CO	F	NMNM 82926	- 762 6	215 32	113 15	Y



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

APD Print Report

06/17/2025

APD ID: 10400100882**Submission Date:** 09/09/2024

Highlighted data
reflects the most
recent changes

Operator Name: COG OPERATING LLC**Federal/Indian APD:** FED[Show Final Text](#)**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Well Type:** OIL WELL**Well Work Type:** Drill

Application

Section 1 - General

APD ID: 10400100882**Tie to previous NOS?** N**Submission Date:** 09/09/2024**BLM Office:** Carlsbad**User:** MAYTE REYES**Title:** Regulatory Analyst**Federal/Indian APD:** FED**Is the first lease penetrated for production Federal or Indian?** FED**Lease number:** NMNM82926**Lease Acres:****Surface access agreement in place?****Allotted?****Reservation:****Agreement in place?** NO**Federal or Indian agreement:****Agreement number:****Agreement name:****Keep application confidential?** N**Permitting Agent?** NO**APD Operator:** COG OPERATING LLC**Operator letter of**

Operator Info

Operator Organization Name: COG OPERATING LLC**Operator Address:** ONE CONCHO CENTER 600 W ILLINOIS AVENUE**Zip:** 79701-4287**Operator PO Box:****Operator City:** MIDLAND**State:** TX**Operator Phone:** (432)685-4342**Operator Internet Address:**

Approval Date: 06/10/2025

Page 1 of 26

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Section 2 - Well Information****Well in Master Development Plan?** NO**Master Development Plan name:****Well in Master SUPO?** NO**Master SUPO name:****Well in Master Drilling Plan?** NO**Master Drilling Plan name:****Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Well API Number:****Field/Pool or Exploratory?** Field and Pool**Field Name:** Teas**Pool Name:** Bone Spring**Is the proposed well in an area containing other mineral resources?** USEABLE WATER**Is the proposed well in a Helium production area?** N**Use Existing Well Pad?** N**New surface disturbance?****Type of Well Pad:** MULTIPLE WELL**Multiple Well Pad Name:** Ore
Digger Federal**Number:** 501H, 601H, 602H,
502H**Well Class:** HORIZONTAL**Number of Legs:** 1**Well Work Type:** Drill**Well Type:** OIL WELL**Describe Well Type:****Well sub-Type:** INFILL**Describe sub-type:****Distance to town:** 24 Miles**Distance to nearest well:** 30 FT**Distance to lease line:** 50 FT**Reservoir well spacing assigned acres Measurement:** 1280 Acres**Well plat:** Ore_Digger_Federal_601H_C102_20250314145402.pdf**Well work start Date:** 04/01/2026**Duration:** 30 DAYS**Section 3 - Well Location Table****Survey Type:** RECTANGULAR**Describe Survey Type:****Datum:** NAD83**Vertical Datum:** NAVD88**Survey number:****Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this

Approval Date: 06/10/2025

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Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this
SHL Leg #1	405	FSL	1830	FWL	20S	33E	35	Aliquot SESW	32.523457	- 103.636558	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 82926	3689			N
KOP Leg #1	405	FSL	1830	FWL	20S	33E	35	Aliquot SESW	32.523457	- 103.636558	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 82926	3689	0	0	N
PPP Leg #1-1	100	FSL	1000	FWL	20S	33E	35	Aliquot SWSW	32.522619	- 103.63925	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 82926	- 7386	11197	11075	N
EXIT Leg #1	100	FNL	1000	FWL	20S	33E	26	Aliquot NWNW	32.551111	- 103.639236	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 82926	- 7625	21482	11314	Y
BHL Leg #1	50	FNL	1000	FWL	20S	33E	26	Aliquot NWNW	32.551248	- 103.639236	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 82926	- 7626	21532	11315	Y

Drilling Plan

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
15804124	QUATERNARY	3689	0	0	ALLUVIUM	NONE	N
15804111	RUSTLER	2203	1486	1486	ALLUVIUM	NONE	N
15804121	TOP SALT	1814	1875	1875	SALT	NONE	N
15804109	---	1009	2680	2680	POTASH, SALT	POTASH	N
15804129	BASE OF SALT	588	3101	3101	SALT	NONE	N
15804105	CAPITAN REEF	215	3474	3474	LIMESTONE	NONE	N
15804106	LAMAR	-1739	5428	5428	LIMESTONE	NATURAL GAS, OIL	N
15804131	BRUSHY CANYON	-3303	6992	6992	SANDSTONE	NATURAL GAS, OIL	N

Approval Date: 06/10/2025

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Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H

Formation ID	Formation Name	Elevation	True Vertical	Measured Depth	Lithologies	Mineral Resources	Producing Formatio
15804138	BONE SPRING	-4973	8662	8662	LIMESTONE	NATURAL GAS, OIL	N
15804141	AVALON SAND	-5316	9005	9005	LIMESTONE	NATURAL GAS, OIL	N
15804114	BONE SPRING 1ST	-6000	9689	9689	SANDSTONE	NATURAL GAS, OIL	N
15804103	---	-6269	9958	9958	SANDSTONE	NATURAL GAS, OIL	N
15804115	BONE SPRING 2ND	-6517	10206	10206	SANDSTONE	NATURAL GAS, OIL	N
15804104	---	-7050	10739	10739	SANDSTONE	NATURAL GAS, OIL	N
15804142	BONE SPRING 3RD	-7466	11155	11155	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M**Rating Depth:** 11315

Equipment: Annular, Blind Ram, Pipe Ram, Double Ram. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart. A variance is requested for use of a multi-bowl wellhead. A variance is requested to allow for break testing during batch drilling.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR Part 3170 Subpart 3172 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.

Choke Diagram Attachment:

COG_Ore_Digger_10M_Choke_20240908150345.pdf

BOP Diagram Attachment:

COG_Ore_Digger_10M_BOP_20240908150405.pdf

COG_Ore_Digger_Flex_Hose_Variance_20250314150731.pdf

Pressure Rating (PSI): 5M**Rating Depth:** 10690

Equipment: Annular, Blind Ram, Pipe Ram, Double Ram. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart. A variance is requested for use of a multi-bowl wellhead. A variance is requested to allow for break testing during batch drilling.

Approval Date: 06/10/2025

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Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR Part 3170 Subpart 3172 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.

Choke Diagram Attachment:

COG_Ore_Digger_5M_Choke_20240908150448.pdf

BOP Diagram Attachment:

COG_Ore_Digger_5M_BOP_20240908150509.pdf

COG_Ore_Digger_Flex_Hose_Variance_20250314151021.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	26	20.0	NEW	API	N	0	1586	0	1586	3689	2103	1586	J-55	106.5	OTHER - ER	1.06	1.74	DRY	9.98	DRY	9.98
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	3301	0	3301	3330	388	3301	OTHER - L80-IC	45.5	OTHER - BTC	1.22	1.75	DRY	6.85	DRY	6.85
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5428	0	5428	3689	-1739	5428	OTHER - L80-IC	40	OTHER - BTC	2.06	1.4	DRY	4.6	DRY	4.6
4	INTERMEDIATE	8.75	7.625	NEW	API	N	0	10690	0	10690	3575	-7001	10690	OTHER - L80-ICY	29.7	OTHER - W513	1.42	1.78	DRY	2.98	DRY	2.98
5	PRODUCTION	6.75	5.5	NEW	API	Y	0	21533	0	11315	3689	-7626	21533	OTHER - P110-CY	23	OTHER - W441	1.83	2.13	DRY	2.72	DRY	2.72

Casing Attachments

Operator Name: COG OPERATING LLC		
Well Name: ORE DIGGER FEDERAL	Well Number: 601H	

Casing Attachments

Casing ID: 1 String SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Ore_Digger_601H_Casing_Program_20250314152802.pdf

Casing ID: 2 String INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Ore_Digger_601H_Casing_Program_20250314152317.pdf

Casing ID: 3 String INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Ore_Digger_601H_Casing_Program_20250416072823.pdf

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Casing Attachments****Casing ID:** 4 **String** INTERMEDIATE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

COG_Ore_Digger_601H_Casing_Program_20250314152057.pdf

Casing ID: 5 **String** PRODUCTION**Inspection Document:****Spec Document:****Tapered String Spec:**

COG_Ore_Digger_601H_Casing_Program_20250314152517.pdf

Casing Design Assumptions and Worksheet(s):

COG_Ore_Digger_601H_Casing_Program_20250314152537.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
INTERMEDIATE	Lead	1	0	0	0	0	0	0	0	0	0
INTERMEDIATE	Tail		1069 0	1069 0	201	1.35	14.8	271	0	Tail: Class H - Single Slurry	N/A
PRODUCTION	Lead		0	0	0	0	0	0	0	0	0
PRODUCTION	Tail		1131 5	2153 3	892	1.24	13.2	1106	10	Tail: 50:50:2 Class H Blend Single Slurry	N/A

Approval Date: 06/10/2025

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Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead		0	1586	939	1.75	13.5	1643	50	Class C	4% Gel + 1% CaCl2
SURFACE	Tail		1586	1586	565	1.34	14.8	757	50	Class C	2% CaCl2
INTERMEDIATE	Lead		3301	3301	865	2.26	12.8	1954	50	Lead: Class C	5% Gel + 1% CaCl2
INTERMEDIATE	Tail		3301	3301	291	1.2	14.8	349	50	50:50 Class H Premium	N/A
INTERMEDIATE	Lead	1	5428	5428	617	2.26	12.8	1394	50	Class C	5% Gel + 1% CaCl2
INTERMEDIATE	Tail		5428	5428	262	1.2	14.8	314	50	50:50 Class H Premium	N/A

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 43 CFR 3172:****Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:****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
3301	5428	OTHER : Saturated Brine	9	10							Saturated Brine
1586	3301	OTHER : Saturated	9	10							Saturated Brine

Approval Date: 06/10/2025

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Operator Name: COG OPERATING LLC

Well Name: ORE DIGGER FEDERAL

Well Number: 601H

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
		Brine									
5428	10690	OTHER : DIESEL/BRINE	8.4	9.3							DIESEL/Brine
0	1586	OTHER : Fresh water gel	8.6	8.8							Fresh water gel
10690	21533	OTHER : OBM	9.6	13.5							OBM

Section 6 - Test, Logging, Coring

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

None planned

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

CEMENT BOND LOG,COMPENSATED NEUTRON LOG,GAMMA RAY LOG,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7945

Anticipated Surface Pressure: 5455

Anticipated Bottom Hole Temperature(F): 170

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_Ore_Digger_H2S_SUP_20240905222306.pdf

COG_Ore_Digger_H2S_Schem_20240905222304.pdf

Operator Name: COG OPERATING LLC	
Well Name: ORE DIGGER FEDERAL	Well Number: 601H

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Ore_Digger_601H_Directional_Plan_20240908154431.pdf
Ore_Digger_601H_AC_Report_20240908154432.pdf

Other proposed operations facets description:

COG requests option to preset casing.
Break Testing.
Bradenhead Cement.

Other proposed operations facets attachment:

Potash_R111Q_Clarification_20240903103502.pdf
COG_Ore_Digger_601H_GCP_20240909143901.pdf
API_BTC_9.625_0.395_L80_IC_09262024_20250314161317.pdf
COG_Ore_Digger_601H_Drilling_Program_20250314161317.pdf
COG_Ore_Digger_601H_Casing_Program_20250314161321.pdf
API_BTC_13.375_0.380_L80_IC_10012024_20250314161322.pdf
COG_Ore_Digger_601H_Cement_Program_20250314161322.pdf
TXP_BTC_5.500_0.415_P110_CY_12062022_20250314161322.pdf
Wedge_441_5.500_0.415_P110_CY_12062022_20250314161322.pdf
Wedge_513_7.625_0.375_P110_ICY_08192024_20250314161322.pdf
5_string_Potash_WBD_20250416073533.pdf

Other Variance request(s)?: Y

Other Variance attachment:

COP_Offline_Bradenhead_Intermediate_Documentation_3_11_23__Rev2_20240905223209.pdf
COG_5M_Variance_Well_Plan_20240903103517.pdf
COP_BOP_Break_Testing_Documentation_6_07_23_20240903103517.pdf
Cameron_Multi_Bowl_WH_20240903103517.pdf

SUPO

Operator Name: COG OPERATING LLC

Well Name: ORE DIGGER FEDERAL

Well Number: 601H

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

Ore_Digger_Existing_20240905135351.pdf

Existing Road Purpose: ACCESS,FLUID TRANSPORT

Row(s) Exist? NO

ROW ID(s)

ID:

Do the existing roads need to be improved? YES

Existing Road Improvement Description: Existing roads will be maintained in the same condition or better.

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

Ore_Digger_Roads_20240905135433.pdf

New road type: RESOURCE

Length: 2288.3

Feet

Width (ft.): 30

Max slope (%): 33

Max grade (%): 1

Army Corp of Engineers (ACOE) permit required? N

ACOE Permit Number(s):

New road travel width: 14

New road access erosion control: Water will be diverted where necessary to avoid ponding, prevent erosion, maintain good drainage, and to be consistent with local drainage patterns.

New road access plan or profile prepared? N

New road access plan

Access road engineering design? N

Access road engineering design

Turnout? N

Access surfacing type: OTHER

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Access topsoil source:** ONSITE**Access surfacing type description:** Caliche**Access onsite topsoil source depth:** 6**Offsite topsoil source description:****Onsite topsoil removal process:** Blading**Access other construction information:** No turnouts are planned.**Access miscellaneous information:****Number of access turnouts:****Access turnout map:**

Drainage Control

New road drainage crossing: OTHER**Other Description:** None necessary**Drainage Control comments:** None necessary**Road Drainage Control Structures (DCS) description:** None needed.**Road Drainage Control Structures (DCS) attachment:**

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES**Existing Well map Attachment:**

Ore_Digger_Federal_601H_1_Mile_Data_20250314162258.pdf

Section 4 - Location of Existing and/or Proposed Production Facilities

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: Ore Digger Federal 35 O CTB project. This CTB will be built to accommodate the Ore Digger Fed Com 501H, 502H, 503H, 504H and 601H 602H, 603H, 604H. We plan to install and bury 4 Flex Pipe, 601HT for the production flowlines from each wellhead to the inlet manifold of the proposed CTB (8 lines total); the route for these flowlines will follow the flowlines route as shown in the diagram below. We plan to install and bury 4 Flex pipe, 150FP, for gas lines to gas lift supply from the CTB common to each well pad (2 lines total); the route for the gas lift lines will follow the gas lift route as shown in the attached layout. A 4 liquid return line, poly SDR7, will follow the same route as the flowlines. (2 lines total).

Production Facilities map:

Ore_Digger_Fed_35_O_CTB_20240905144211.pdf

Ore_Digger_Federal_35_O_CTB_Facility_Plan_for_BLM_20240905144153.pdf

Ore_Digger_Flowlines_Gaslines_20240905140138.pdf

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Operator Name: COG OPERATING LLC	
Well Name: ORE DIGGER FEDERAL	Well Number: 601H

Ore_Digger_Powerlines_20240905140137.pdf

Ore_Digger_Roads_20240905140138.pdf

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: OTHER	
Describe type: Brine Water	
Water source use type:	INTERMEDIATE/PRODUCTION CASING
Source latitude:	Source longitude:
Source datum:	
City:	
Water source permit type:	PRIVATE CONTRACT
Water source transport method:	TRUCKING
Source land ownership: COMMERCIAL	
Source transportation land ownership: COMMERCIAL	
Water source volume (barrels): 30000	Source volume (acre-feet): 3.866793
Source volume (gal): 1260000	

Water source type: OTHER	
Describe type: Fresh Water	
Water source use type:	SURFACE CASING STIMULATION ICE PAD CONSTRUCTION & MAINTENANCE
Source latitude:	Source longitude:
Source datum:	
City:	
Water source permit type:	PRIVATE CONTRACT
Water source transport method:	PIPELINE
Source land ownership: PRIVATE	

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Source transportation land ownership:** PRIVATE**Water source volume (barrels):** 450000**Source volume (acre-feet):** 58.001892**Source volume (gal):** 18900000**Water source and transportation**

Ore_Digger_Federal_Brine_H2O_20250314162349.pdf

Ore_Digger_Federal_Fresh_H2O_20250314162350.pdf

Water source comments: See attached maps.**New water well?** N**New Water Well Info****Well latitude:****Well Longitude:****Well datum:****Well target aquifer:****Est. depth to top of aquifer(ft):****Est thickness of aquifer:****Aquifer comments:****Aquifer documentation:****Well depth (ft):****Well casing type:****Well casing outside diameter (in.):****Well casing inside diameter (in.):****New water well casing?****Used casing source:****Drilling method:****Drill material:****Grout material:****Grout depth:****Casing length (ft.):****Casing top depth (ft.):****Well Production type:****Completion Method:****Water well additional information:****State appropriation permit:****Additional information attachment:****Section 6 - Construction Materials****Using any construction materials:** YES**Construction Materials description:** Caliche will be obtained from the actual well site. If caliche does not exist or is not plentiful from the well site, the caliche source will be from the Berry caliche pit located SENE Sec 28-T20S-R34E.**Construction Materials source location**

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H

Section 7 - Methods for Handling

Waste type: DRILLING**Waste content description:** Drilling fluids and produced oil land water while drilling and completion operations**Amount of waste:** 6000 barrels**Waste disposal frequency :** One Time Only**Safe containment description:** All drilling waste will be stored safely and disposed of properly**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Trucked to an approved disposal facility**Waste type:** SEWAGE**Waste content description:** Human waste and gray water**Amount of waste:** 1000 gallons**Waste disposal frequency :** One Time Only**Safe containment description:** Waste will be properly contained and disposed of properly at a state approved disposal facility.**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** PRIVATE**Disposal type description:****Disposal location description:** Trucked to an approved disposal facility**Waste type:** GARBAGE**Waste content description:** Garbage and trash produced during drilling and completion operations.**Amount of waste:** 500 pounds**Waste disposal frequency :** One Time Only**Safe containment description:** Garbage and trash produced during drilling and completion operations will be collected in a trash container and disposed of properly at a state approved disposal facility**Safe containmant attachment:****Waste disposal type:** HAUL TO COMMERCIAL FACILITY **Disposal location ownership:** COMMERCIAL**Disposal type description:****Disposal location description:** Trucked to an approved disposal facility.

Operator Name: COG OPERATING LLC	
Well Name: ORE DIGGER FEDERAL	Well Number: 601H

Reserve Pit

Reserve Pit being used? NO

Temporary disposal of produced water into reserve pit? NO

Reserve pit length (ft.)	Reserve pit width (ft.)
Reserve pit depth (ft.)	Reserve pit volume (cu. yd.)

Is at least 50% of the reserve pit in cut?

Reserve pit liner

Reserve pit liner specifications and installation description

Cuttings Area

Cuttings Area being used? NO

Are you storing cuttings on location? Y

Description of cuttings location Roll off cutting containers on tracks

Cuttings area length (ft.)	Cuttings area width (ft.)
Cuttings area depth (ft.)	Cuttings area volume (cu. yd.)

Is at least 50% of the cuttings area in cut?

Cuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities

Comments: Gas Capture Plan attached

Section 9 - Well Site

Well Site Layout Diagram:

Ore_Digger_501H_601H_602H_502H_Layout_20240905144339.pdf

COG_Ore_Digger_H2S_Schem_20250416073334.pdf

Comments:

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Section 10 - Plans for Surface****Type of disturbance:** New Surface Disturbance**Multiple Well Pad Name:** Ore Digger Federal**Multiple Well Pad Number:** 501H, 601H, 602H, 502H**Recontouring**

Ore_Digger_501H_601H_602H_502H_Layout_20240905145546.pdf

Drainage/Erosion control construction: Proper erosion control methods will be used at the well site to control erosion, runoff, and siltation of the surrounding area. Straw waddles will be used as necessary at the well site to reduce sediment impacts to fragile/sensitive soils.

Drainage/Erosion control reclamation: The wellsite drainage will be monitored periodically to ensure that vegetation has re-established in unused areas of the pad and that erosion is controlled.

Well pad proposed disturbance (acres): 6.1	Well pad interim reclamation (acres): 0	Well pad long term disturbance (acres): 6.1
Road proposed disturbance (acres): 1.58	Road interim reclamation (acres): 0	Road long term disturbance (acres): 1.58
Powerline proposed disturbance (acres): 2.54	Powerline interim reclamation (acres): 0	Powerline long term disturbance (acres): 2.54
Pipeline proposed disturbance (acres): 3.34	Pipeline interim reclamation (acres): 0	Pipeline long term disturbance (acres): 3.34
Other proposed disturbance (acres): 4.59	Other interim reclamation (acres): 0	Other long term disturbance (acres): 4.59
Total proposed disturbance: 18.15	Total interim reclamation: 0	Total long term disturbance: 18.15

Disturbance Comments: NO IR Not needed.- Potash Drill Island

Reconstruction method: If needed, portions of the pad not needed for production operations will be re-contoured to its original state as much as possible. The caliche that is removed will be reused. The stockpiled topsoil will be spread out over reclaimed area and reseeded with BLM approved seed mixture.

Topsoil redistribution: South**Soil treatment:** None**Existing Vegetation at the well pad:** Shinnery Oak/Mesquite grassland**Existing Vegetation at the well pad****Existing Vegetation Community at the road:** Shinnery Oak/Mesquite grassland**Existing Vegetation Community at the road****Existing Vegetation Community at the pipeline:** Shinnery Oak/Mesquite grassland**Existing Vegetation Community at the pipeline****Existing Vegetation Community at other disturbances:** N/A**Existing Vegetation Community at other disturbances**

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Operator Name: COG OPERATING LLC	
Well Name: ORE DIGGER FEDERAL	Well Number: 601H

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Seed

Seed Table

Seed Summary	
Seed Type	Pounds/Acre

Total pounds/Acre:

Seed reclamation

Operator Contact/Responsible Official

First Name:	Last Name:
Phone:	Email:

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment

Weed treatment plan description: COP will maintain well pad and CTB with chemical treatment as necessary.

Weed treatment plan

Monitoring plan description: N/A

Monitoring plan

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Success standards:** N/A**Pit closure description:** N/A**Pit closure attachment:**

COG_Ore_Digger_Closed_Loop_20240905144602.pdf

Section 11 - Surface

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

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Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:****Disturbance type:** NEW ACCESS ROAD**Describe:****Surface Owner:** BUREAU OF LAND MANAGEMENT**Other surface owner description:****BIA Local Office:****BOR Local Office:****COE Local Office:****DOD Local Office:****NPS Local Office:****State Local Office:****Military Local Office:****USFWS Local Office:****Other Local Office:****USFS Region:****USFS Forest/Grassland:****USFS Ranger District:**

Section 12 - Other

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

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Operator Name: COG OPERATING LLC	
Well Name: ORE DIGGER FEDERAL	Well Number: 601H

ROW

SUPO Additional Information: SUP Attached. BLM Surface.

Use a previously conducted onsite? Y

Previous Onsite information: On-site was done by Gerald Herrera (COG); Paul Murphy (BLM); on July 24th, 2024.

Other SUPO

- COG_Ore_Digger_Closed_Loop_20240905153958.pdf
- Ore_Digger_501H_601H_602H_502H_Layout_20240905154002.pdf
- Ore_Digger_Existing_20240905154003.pdf
- Ore_Digger_Fed_35_O_CTB_20240905153957.pdf
- Ore_Digger_Flowlines_Gaslines_20240905154001.pdf
- Ore_Digger_Powerlines_20240905154002.pdf
- Ore_Digger_Roads_20240907182235.pdf
- COG_Ore_Digger_SUP_20250314162620.pdf
- Ore_Digger_Federal_601H_C102_20250314162624.pdf
- Ore_Digger_Federal_601H_1_Mile_Data_20250314162624.pdf
- Ore_Digger_Federal_Brine_H2O_20250314162625.pdf
- Ore_Digger_Federal_Fresh_H2O_20250314162625.pdf

PWD

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Section 1 - General****Would you like to address long-term produced water disposal?** NO**Section 2 - Lined****Would you like to utilize Lined Pit PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD Surface Owner Description:****Lined pit PWD on or off channel:****Lined pit PWD discharge volume (bbl/day):****Lined pit****Pit liner description:****Pit liner manufacturers****Precipitated solids disposal:****Describe precipitated solids disposal:****Precipitated solids disposal****Lined pit precipitated solids disposal schedule:****Lined pit precipitated solids disposal schedule****Lined pit reclamation description:****Lined pit reclamation****Leak detection system description:****Leak detection system****Lined pit Monitor description:****Lined pit Monitor**

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Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Lined pit: do you have a reclamation bond for the pit?****Is the reclamation bond a rider under the BLM bond?****Lined pit bond number:****Lined pit bond amount:****Additional bond information**

Section 3 - Unlined

Would you like to utilize Unlined Pit PWD options? N**Produced Water Disposal (PWD) Location:****PWD disturbance (acres):****PWD surface owner:****Other PWD Surface Owner Description:****Unlined pit PWD on or off channel:****Unlined pit PWD discharge volume (bbl/day):****Unlined pit****Precipitated solids disposal:****Describe precipitated solids disposal:****Precipitated solids disposal****Unlined pit precipitated solids disposal schedule:****Unlined pit precipitated solids disposal schedule****Unlined pit reclamation description:****Unlined pit reclamation****Unlined pit Monitor description:****Unlined pit Monitor****Do you propose to put the produced water to beneficial use?****Beneficial use user****Estimated depth of the shallowest aquifer (feet):****Precipitated Solids Permit****Does the produced water have an annual average Total Dissolved Solids (TDS) concentration equal to or less than that of the existing water to be protected?****TDS lab results:****Geologic and hydrologic**

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**State****Unlined Produced Water Pit Estimated****Unlined pit: do you have a reclamation bond for the pit?****Is the reclamation bond a rider under the BLM bond?****Unlined pit bond number:****Unlined pit bond amount:****Additional bond information****Section 4 -****Would you like to utilize Injection PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD Surface Owner Description:****Injection PWD discharge volume (bbl/day):****Injection well mineral owner:****Injection well type:****Injection well number:****Injection well name:****Assigned injection well API number?****Injection well API number:****Injection well new surface disturbance (acres):****Minerals protection information:****Mineral protection****Underground Injection Control (UIC) Permit?****UIC Permit****Section 5 - Surface****Would you like to utilize Surface Discharge PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****Other PWD Surface Owner Description :****Surface discharge PWD discharge volume (bbl/day):****Surface Discharge NPDES Permit?****Surface Discharge NPDES Permit attachment:**

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Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Surface Discharge site facilities information:****Surface discharge site facilities map:****Section 6 -****Would you like to utilize Other PWD options?** N**Produced Water Disposal (PWD) Location:****PWD surface owner:****PWD disturbance (acres):****PWD Surface Owner Description:****Other PWD discharge volume (bbl/day):****Other PWD type description:****Other PWD type****Have other regulatory requirements been met?****Other regulatory requirements****Bond Info****Bond****Federal/Indian APD:** FED**BLM Bond number:** NMB000125**BIA Bond number:****Do you have a reclamation bond?** NO**Is the reclamation bond a rider under the BLM bond?****Is the reclamation bond BLM or Forest Service?****BLM reclamation bond number:****Forest Service reclamation bond number:****Forest Service reclamation bond attachment:****Reclamation bond amount:****Reclamation bond rider amount:****Additional reclamation bond information attachment:****Operator Certification****Payment Info**

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Operator Name: COG OPERATING LLC	
Well Name: ORE DIGGER FEDERAL	Well Number: 601H

Payment

APD Fee Payment Method: PAY.GOV

pay.gov Tracking ID: 27HHN57O



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

Drilling Plan Data Report

06/17/2025

APD ID: 10400100882

Submission Date: 09/09/2024

Highlighted data
reflects the most
recent changes

Operator Name: COG OPERATING LLC

Well Name: ORE DIGGER FEDERAL

Well Number: 601H

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
15804124	QUATERNARY	3689	0	0	ALLUVIUM	NONE	N
15804111	RUSTLER	2203	1486	1486	ALLUVIUM	NONE	N
15804121	TOP SALT	1814	1875	1875	SALT	NONE	N
15804109	---	1009	2680	2680	POTASH, SALT	POTASH	N
15804129	BASE OF SALT	588	3101	3101	SALT	NONE	N
15804105	CAPITAN REEF	215	3474	3474	LIMESTONE	NONE	N
15804106	LAMAR	-1739	5428	5428	LIMESTONE	NATURAL GAS, OIL	N
15804131	BRUSHY CANYON	-3303	6992	6992	SANDSTONE	NATURAL GAS, OIL	N
15804138	BONE SPRING	-4973	8662	8662	LIMESTONE	NATURAL GAS, OIL	N
15804141	AVALON SAND	-5316	9005	9005	LIMESTONE	NATURAL GAS, OIL	N
15804114	BONE SPRING 1ST	-6000	9689	9689	SANDSTONE	NATURAL GAS, OIL	N
15804103	---	-6269	9958	9958	SANDSTONE	NATURAL GAS, OIL	N
15804115	BONE SPRING 2ND	-6517	10206	10206	SANDSTONE	NATURAL GAS, OIL	N
15804104	---	-7050	10739	10739	SANDSTONE	NATURAL GAS, OIL	N
15804142	BONE SPRING 3RD	-7466	11155	11155	SANDSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**Pressure Rating (PSI):** 10M**Rating Depth:** 11315

Equipment: Annular, Blind Ram, Pipe Ram, Double Ram. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart. A variance is requested for use of a multi-bowl wellhead. A variance is requested to allow for break testing during batch drilling.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR Part 3170 Subpart 3172 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.

Choke Diagram Attachment:

COG_Ore_Digger_10M_Choke_20240908150345.pdf

BOP Diagram Attachment:

COG_Ore_Digger_10M_BOP_20240908150405.pdf

COG_Ore_Digger_Flex_Hose_Variance_20250314150731.pdf

Pressure Rating (PSI): 5M**Rating Depth:** 10690

Equipment: Annular, Blind Ram, Pipe Ram, Double Ram. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.

Requesting Variance? YES

Variance request: A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart. A variance is requested for use of a multi-bowl wellhead. A variance is requested to allow for break testing during batch drilling.

Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per 43 CFR Part 3170 Subpart 3172 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.

Choke Diagram Attachment:

COG_Ore_Digger_5M_Choke_20240908150448.pdf

BOP Diagram Attachment:

COG_Ore_Digger_5M_BOP_20240908150509.pdf

COG_Ore_Digger_Flex_Hose_Variance_20250314151021.pdf

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H**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	26	20.0	NEW	API	N	0	1586	0	1586	3689	2103	1586	J-55	106.5	OTHER - ER	1.06	1.74	DRY	9.98	DRY	9.98
2	INTERMEDIATE	17.5	13.375	NEW	API	N	0	3301	0	3301	3330	388	3301	OTHER - L80-IC	45.5	OTHER - BTC	1.22	1.75	DRY	6.85	DRY	6.9
3	INTERMEDIATE	12.25	9.625	NEW	API	N	0	5428	0	5428	3689	-1739	5428	OTHER - L80-IC	40	OTHER - BTC	2.06	1.4	DRY	4.6	DRY	4.22
4	INTERMEDIATE	8.75	7.625	NEW	API	N	0	10690	0	10690	3575	-7001	10690	OTHER - L80-ICY	29.7	OTHER - W513	1.42	1.78	DRY	2.98	DRY	2.89
5	PRODUCTION	6.75	5.5	NEW	API	Y	0	21533	0	11315	3689	-7626	21533	OTHER - P110-CY	23	OTHER - W441	1.83	2.13	DRY	2.72	DRY	2.8

Casing Attachments**Casing ID:** 1 **String** SURFACE**Inspection Document:****Spec Document:****Tapered String Spec:****Casing Design Assumptions and Worksheet(s):**

COG_Ore_Digger_601H_Casing_Program_20250314152802.pdf

Operator Name: COG OPERATING LLC

Well Name: ORE DIGGER FEDERAL

Well Number: 601H

Casing Attachments

Casing ID: 2StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Ore_Digger_601H_Casing_Program_20250314152317.pdf

Casing ID: 3StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Ore_Digger_601H_Casing_Program_20250416072823.pdf

Casing ID: 4StringINTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Ore_Digger_601H_Casing_Program_20250314152057.pdf

Operator Name: COG OPERATING LLC

Well Name: ORE DIGGER FEDERAL

Well Number: 601H

Casing Attachments

Casing ID: 5 String PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

COG_Ore_Digger_601H_Casing_Program_20250314152517.pdf

Casing Design Assumptions and Worksheet(s):

COG_Ore_Digger_601H_Casing_Program_20250314152537.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
INTERMEDIATE	Lead	1	0	0	0	0	0	0	0	0	0
INTERMEDIATE	Tail		1069 0	1069 0	201	1.35	14.8	271	0	Tail: Class H - Single Slurry	N/A
PRODUCTION	Lead		0	0	0	0	0	0	0	0	0
PRODUCTION	Tail		1131 5	2153 3	892	1.24	13.2	1106	10	Tail: 50:50:2 Class H Blend Single Slurry	N/A
SURFACE	Lead		0	1586	939	1.75	13.5	1643	50	Class C	4% Gel + 1% CaCl2
SURFACE	Tail		1586	1586	565	1.34	14.8	757	50	Class C	2% CaCl2
INTERMEDIATE	Lead		3301	3301	865	2.26	12.8	1954	50	Lead: Class C	5% Gel + 1% CaCl2
INTERMEDIATE	Tail		3301	3301	291	1.2	14.8	349	50	50:50 Class H Premium	N/A
INTERMEDIATE	Lead	1	5428	5428	617	2.26	12.8	1394	50	Class C	5% Gel + 1% CaCl2
INTERMEDIATE	Tail		5428	5428	262	1.2	14.8	314	50	50:50 Class H Premium	N/A

Operator Name: COG OPERATING LLC

Well Name: ORE DIGGER FEDERAL

Well Number: 601H

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 43 CFR 3172:

Diagram of the equipment for the circulating system in accordance with 43 CFR 3172:

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
3301	5428	OTHER : Saturated Brine	9	10							Saturated Brine
1586	3301	OTHER : Saturated Brine	9	10							Saturated Brine
5428	10690	OTHER : DIESEL/BRINE	8.4	9.3							DIESEL/Brine
0	1586	OTHER : Fresh water gel	8.6	8.8							Fresh water gel
10690	21533	OTHER : OBM	9.6	13.5							OBM

Operator Name: COG OPERATING LLC**Well Name:** ORE DIGGER FEDERAL**Well Number:** 601H

Section 6 - Test, Logging, Coring

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

None planned

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

CEMENT BOND LOG,COMPENSATED NEUTRON LOG,GAMMA RAY LOG,MUD LOG/GEOLOGICAL LITHOLOGY LOG,

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 7945**Anticipated Surface Pressure:** 5455**Anticipated Bottom Hole Temperature(F):** 170**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_Ore_Digger_H2S_SUP_20240905222306.pdf

COG_Ore_Digger_H2S_Schem_20240905222304.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

Ore_Digger_601H_Directional_Plan_20240908154431.pdf

Ore_Digger_601H_AC_Report_20240908154432.pdf

Other proposed operations facets description:

COG requests option to preset casing.

Break Testing.

Bradenhead Cement.

Other proposed operations facets attachment:

Potash_R111Q_Clarification_20240903103502.pdf

COG_Ore_Digger_601H_GCP_20240909143901.pdf

API_BTC_9.625_0.395_L80_IC_09262024_20250314161317.pdf

COG_Ore_Digger_601H_Drilling_Program_20250314161317.pdf

COG_Ore_Digger_601H_Casing_Program_20250314161321.pdf

Operator Name: COG OPERATING LLC

Well Name: ORE DIGGER FEDERAL

Well Number: 601H

API_BTC_13.375_0.380_L80_IC_10012024_20250314161322.pdf

COG_Ore_Digger_601H_Cement_Program_20250314161322.pdf

TXP_BTC_5.500_0.415_P110_CY_12062022_20250314161322.pdf

Wedge_441_5.500_0.415_P110_CY_12062022_20250314161322.pdf

Wedge_513_7.625_0.375_P110_ICY_08192024_20250314161322.pdf

5_string_Potash_WBD_20250416073533.pdf

Other Variance request(s)?: Y

Other Variance attachment:

COP_Offline_Bradenhead_Intermediate_Documentation_3_11_23__Rev2_20240905223209.pdf

COG_5M_Variance_Well_Plan_20240903103517.pdf

COP_BOP_Break_Testing_Documentation_6_07_23_20240903103517.pdf

Cameron_Multi_Bowl_WH_20240903103517.pdf

DELAWARE BASIN WEST

ZEUS WEST__NM_E

ORE DIGGER PROJECT

**_ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL
601H**

OWB

Plan: PWP0

Standard Planning Report

18 July, 2024

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Company:	DELAWARE BASIN WEST	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Project:	ZEUS WEST__NM_E	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site:	ORE DIGGER PROJECT	North Reference:	Grid
Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Project	ZEUS WEST__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		ORE DIGGER PROJECT			
Site Position:		Northing:	559,726.46 usft	Latitude:	32° 32' 12.654 N
From:	Map	Easting:	715,724.26 usft	Longitude:	103° 38' 0.006 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "		

Well	_ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H					
Well Position	+N/-S	0.0 usft	Northing:	554,804.44 usft	Latitude:	32° 31' 24.002 N
	+E/-W	0.0 usft	Easting:	714,913.04 usft	Longitude:	103° 38' 9.858 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	3,650.0 usft
Grid Convergence:		0.37 °				

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2022	10/11/2023	6.52	60.30	47,636.75146075

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	0.00

Plan Survey Tool Program	Date	7/18/2024			
Depth From (usft)	Depth To (usft)	Survey (Wellbore)	Tool Name	Remarks	
1	0.0	21,532.4 PWP0 (OWB)	r.5 MWD+IFR1		
			OWSG MWD + IFR1 rev.5		

ConocoPhillips
Planning Report

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Project:	ZEUS WEST__NM_E	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site:	ORE DIGGER PROJECT	North Reference:	Grid
Well:	_ORE DIGGER FEDERAL 601H	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	
1.0	0.00	0.00	1.0	0.0	0.0	0.00	0.00	0.00	0.00	
503.9	10.06	246.50	501.4	-17.6	-40.4	2.00	2.00	0.00	246.50	
4,919.7	10.06	246.50	4,849.3	-325.1	-747.7	0.00	0.00	0.00	0.00	
5,925.6	0.00	0.00	5,850.0	-360.2	-828.5	1.00	-1.00	0.00	180.00	
10,793.1	0.00	0.00	10,717.5	-360.2	-828.5	0.00	0.00	0.00	0.00	
11,541.7	89.83	359.63	11,195.0	115.8	-831.5	12.00	12.00	-0.05	359.63	
16,298.4	89.83	359.63	11,209.0	4,872.4	-862.3	0.00	0.00	0.00	0.00	
16,348.3	88.83	359.70	11,209.6	4,922.3	-862.6	2.00	-1.99	0.15	175.79	
21,532.4	88.83	359.70	11,315.0	10,105.2	-889.5	0.00	0.00	0.00	0.00	

ConocoPhillips

Planning Report

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Project:	ZEUS WEST__NM_E	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site:	ORE DIGGER PROJECT	North Reference:	Grid
Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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
1.0	0.00	0.00	1.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	1.98	246.50	100.0	-0.7	-1.6	-0.7	2.00	2.00	0.00
200.0	3.98	246.50	199.8	-2.8	-6.3	-2.8	2.00	2.00	0.00
300.0	5.98	246.50	299.5	-6.2	-14.3	-6.2	2.00	2.00	0.00
400.0	7.98	246.50	398.7	-11.1	-25.4	-11.1	2.00	2.00	0.00
503.9	10.06	246.50	501.4	-17.6	-40.4	-17.6	2.00	2.00	0.00
600.0	10.06	246.50	595.9	-24.2	-55.8	-24.2	0.00	0.00	0.00
700.0	10.06	246.50	694.4	-31.2	-71.8	-31.2	0.00	0.00	0.00
800.0	10.06	246.50	792.9	-38.2	-87.8	-38.2	0.00	0.00	0.00
900.0	10.06	246.50	891.3	-45.1	-103.8	-45.1	0.00	0.00	0.00
1,000.0	10.06	246.50	989.8	-52.1	-119.8	-52.1	0.00	0.00	0.00
1,100.0	10.06	246.50	1,088.3	-59.1	-135.9	-59.1	0.00	0.00	0.00
1,200.0	10.06	246.50	1,186.7	-66.0	-151.9	-66.0	0.00	0.00	0.00
1,300.0	10.06	246.50	1,285.2	-73.0	-167.9	-73.0	0.00	0.00	0.00
1,400.0	10.06	246.50	1,383.6	-80.0	-183.9	-80.0	0.00	0.00	0.00
1,500.0	10.06	246.50	1,482.1	-86.9	-199.9	-86.9	0.00	0.00	0.00
1,600.0	10.06	246.50	1,580.6	-93.9	-215.9	-93.9	0.00	0.00	0.00
1,700.0	10.06	246.50	1,679.0	-100.9	-232.0	-100.9	0.00	0.00	0.00
1,800.0	10.06	246.50	1,777.5	-107.8	-248.0	-107.8	0.00	0.00	0.00
1,900.0	10.06	246.50	1,876.0	-114.8	-264.0	-114.8	0.00	0.00	0.00
2,000.0	10.06	246.50	1,974.4	-121.7	-280.0	-121.7	0.00	0.00	0.00
2,100.0	10.06	246.50	2,072.9	-128.7	-296.0	-128.7	0.00	0.00	0.00
2,200.0	10.06	246.50	2,171.3	-135.7	-312.1	-135.7	0.00	0.00	0.00
2,300.0	10.06	246.50	2,269.8	-142.6	-328.1	-142.6	0.00	0.00	0.00
2,400.0	10.06	246.50	2,368.3	-149.6	-344.1	-149.6	0.00	0.00	0.00
2,500.0	10.06	246.50	2,466.7	-156.6	-360.1	-156.6	0.00	0.00	0.00
2,600.0	10.06	246.50	2,565.2	-163.5	-376.1	-163.5	0.00	0.00	0.00
2,700.0	10.06	246.50	2,663.7	-170.5	-392.1	-170.5	0.00	0.00	0.00
2,800.0	10.06	246.50	2,762.1	-177.5	-408.2	-177.5	0.00	0.00	0.00
2,900.0	10.06	246.50	2,860.6	-184.4	-424.2	-184.4	0.00	0.00	0.00
3,000.0	10.06	246.50	2,959.1	-191.4	-440.2	-191.4	0.00	0.00	0.00
3,100.0	10.06	246.50	3,057.5	-198.4	-456.2	-198.4	0.00	0.00	0.00
3,200.0	10.06	246.50	3,156.0	-205.3	-472.2	-205.3	0.00	0.00	0.00
3,300.0	10.06	246.50	3,254.4	-212.3	-488.2	-212.3	0.00	0.00	0.00
3,400.0	10.06	246.50	3,352.9	-219.2	-504.3	-219.2	0.00	0.00	0.00
3,500.0	10.06	246.50	3,451.4	-226.2	-520.3	-226.2	0.00	0.00	0.00
3,600.0	10.06	246.50	3,549.8	-233.2	-536.3	-233.2	0.00	0.00	0.00
3,700.0	10.06	246.50	3,648.3	-240.1	-552.3	-240.1	0.00	0.00	0.00
3,800.0	10.06	246.50	3,746.8	-247.1	-568.3	-247.1	0.00	0.00	0.00
3,900.0	10.06	246.50	3,845.2	-254.1	-584.3	-254.1	0.00	0.00	0.00
4,000.0	10.06	246.50	3,943.7	-261.0	-600.4	-261.0	0.00	0.00	0.00
4,100.0	10.06	246.50	4,042.1	-268.0	-616.4	-268.0	0.00	0.00	0.00
4,200.0	10.06	246.50	4,140.6	-275.0	-632.4	-275.0	0.00	0.00	0.00
4,300.0	10.06	246.50	4,239.1	-281.9	-648.4	-281.9	0.00	0.00	0.00
4,400.0	10.06	246.50	4,337.5	-288.9	-664.4	-288.9	0.00	0.00	0.00
4,500.0	10.06	246.50	4,436.0	-295.9	-680.5	-295.9	0.00	0.00	0.00
4,600.0	10.06	246.50	4,534.5	-302.8	-696.5	-302.8	0.00	0.00	0.00
4,700.0	10.06	246.50	4,632.9	-309.8	-712.5	-309.8	0.00	0.00	0.00
4,800.0	10.06	246.50	4,731.4	-316.7	-728.5	-316.7	0.00	0.00	0.00
4,900.0	10.06	246.50	4,829.8	-323.7	-744.5	-323.7	0.00	0.00	0.00
4,919.7	10.06	246.50	4,849.3	-325.1	-747.7	-325.1	0.00	0.00	0.00
5,000.0	9.26	246.50	4,928.4	-330.5	-760.0	-330.5	1.00	-1.00	0.00

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Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Company:	DELAWARE BASIN WEST	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Project:	ZEUS WEST__NM_E	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site:	ORE DIGGER PROJECT	North Reference:	Grid
Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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)	
5,100.0	8.26	246.50	5,027.2	-336.5	-774.0	-336.5	1.00	-1.00	0.00	
5,200.0	7.26	246.50	5,126.3	-341.9	-786.4	-341.9	1.00	-1.00	0.00	
5,300.0	6.26	246.50	5,225.6	-346.6	-797.2	-346.6	1.00	-1.00	0.00	
5,400.0	5.26	246.50	5,325.1	-350.6	-806.4	-350.6	1.00	-1.00	0.00	
5,500.0	4.26	246.50	5,424.8	-353.9	-814.0	-353.9	1.00	-1.00	0.00	
5,600.0	3.26	246.50	5,524.6	-356.5	-820.0	-356.5	1.00	-1.00	0.00	
5,700.0	2.26	246.50	5,624.4	-358.4	-824.4	-358.4	1.00	-1.00	0.00	
5,800.0	1.26	246.50	5,724.4	-359.7	-827.2	-359.7	1.00	-1.00	0.00	
5,900.0	0.26	246.50	5,824.4	-360.2	-828.4	-360.2	1.00	-1.00	0.00	
5,925.6	0.00	0.00	5,850.0	-360.2	-828.5	-360.2	1.00	-1.00	0.00	
6,000.0	0.00	0.00	5,924.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
6,100.0	0.00	0.00	6,024.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
6,200.0	0.00	0.00	6,124.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
6,300.0	0.00	0.00	6,224.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
6,400.0	0.00	0.00	6,324.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
6,500.0	0.00	0.00	6,424.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
6,600.0	0.00	0.00	6,524.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
6,700.0	0.00	0.00	6,624.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
6,800.0	0.00	0.00	6,724.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
6,900.0	0.00	0.00	6,824.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,000.0	0.00	0.00	6,924.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,100.0	0.00	0.00	7,024.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,200.0	0.00	0.00	7,124.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,300.0	0.00	0.00	7,224.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,400.0	0.00	0.00	7,324.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,500.0	0.00	0.00	7,424.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,600.0	0.00	0.00	7,524.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,700.0	0.00	0.00	7,624.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,800.0	0.00	0.00	7,724.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
7,900.0	0.00	0.00	7,824.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,000.0	0.00	0.00	7,924.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,100.0	0.00	0.00	8,024.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,200.0	0.00	0.00	8,124.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,300.0	0.00	0.00	8,224.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,400.0	0.00	0.00	8,324.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,500.0	0.00	0.00	8,424.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,600.0	0.00	0.00	8,524.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,700.0	0.00	0.00	8,624.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,800.0	0.00	0.00	8,724.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
8,900.0	0.00	0.00	8,824.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,000.0	0.00	0.00	8,924.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,100.0	0.00	0.00	9,024.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,200.0	0.00	0.00	9,124.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,300.0	0.00	0.00	9,224.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,400.0	0.00	0.00	9,324.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,500.0	0.00	0.00	9,424.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,600.0	0.00	0.00	9,524.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,700.0	0.00	0.00	9,624.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,800.0	0.00	0.00	9,724.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
9,900.0	0.00	0.00	9,824.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
10,000.0	0.00	0.00	9,924.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
10,100.0	0.00	0.00	10,024.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
10,200.0	0.00	0.00	10,124.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Company:	DELAWARE BASIN WEST	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Project:	ZEUS WEST__NM_E	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site:	ORE DIGGER PROJECT	North Reference:	Grid
Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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	0.00	0.00	10,224.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
10,400.0	0.00	0.00	10,324.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
10,500.0	0.00	0.00	10,424.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
10,600.0	0.00	0.00	10,524.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
10,700.0	0.00	0.00	10,624.4	-360.2	-828.5	-360.2	0.00	0.00	0.00	
10,793.1	0.00	0.00	10,717.5	-360.2	-828.5	-360.2	0.00	0.00	0.00	
10,800.0	0.83	359.63	10,724.4	-360.2	-828.5	-360.2	12.00	12.00	0.00	
10,825.0	3.83	359.63	10,749.4	-359.1	-828.5	-359.1	12.00	12.00	0.00	
10,850.0	6.83	359.63	10,774.3	-356.8	-828.5	-356.8	12.00	12.00	0.00	
10,875.0	9.83	359.63	10,799.0	-353.2	-828.5	-353.2	12.00	12.00	0.00	
10,900.0	12.83	359.63	10,823.5	-348.3	-828.5	-348.3	12.00	12.00	0.00	
10,925.0	15.83	359.63	10,847.7	-342.1	-828.6	-342.1	12.00	12.00	0.00	
10,950.0	18.83	359.63	10,871.6	-334.7	-828.6	-334.7	12.00	12.00	0.00	
10,975.0	21.83	359.63	10,895.0	-326.0	-828.7	-326.0	12.00	12.00	0.00	
11,000.0	24.83	359.63	10,918.0	-316.1	-828.7	-316.1	12.00	12.00	0.00	
11,025.0	27.83	359.63	10,940.4	-305.0	-828.8	-305.0	12.00	12.00	0.00	
11,050.0	30.83	359.63	10,962.2	-292.7	-828.9	-292.7	12.00	12.00	0.00	
11,075.0	33.83	359.63	10,983.3	-279.4	-829.0	-279.4	12.00	12.00	0.00	
11,100.0	36.83	359.63	11,003.7	-264.9	-829.1	-264.9	12.00	12.00	0.00	
11,125.0	39.83	359.63	11,023.3	-249.4	-829.2	-249.4	12.00	12.00	0.00	
11,150.0	42.83	359.63	11,042.1	-232.9	-829.3	-232.9	12.00	12.00	0.00	
11,175.0	45.83	359.63	11,060.0	-215.5	-829.4	-215.5	12.00	12.00	0.00	
11,200.0	48.83	359.63	11,076.9	-197.1	-829.5	-197.1	12.00	12.00	0.00	
11,225.0	51.83	359.63	11,092.9	-177.8	-829.6	-177.8	12.00	12.00	0.00	
11,250.0	54.83	359.63	11,107.8	-157.8	-829.8	-157.8	12.00	12.00	0.00	
11,275.0	57.83	359.63	11,121.6	-137.0	-829.9	-137.0	12.00	12.00	0.00	
11,300.0	60.83	359.63	11,134.4	-115.5	-830.0	-115.5	12.00	12.00	0.00	
11,325.0	63.83	359.63	11,146.0	-93.3	-830.2	-93.3	12.00	12.00	0.00	
11,350.0	66.83	359.63	11,156.4	-70.6	-830.3	-70.6	12.00	12.00	0.00	
11,375.0	69.83	359.63	11,165.7	-47.4	-830.5	-47.4	12.00	12.00	0.00	
11,400.0	72.83	359.63	11,173.7	-23.7	-830.6	-23.7	12.00	12.00	0.00	
11,425.0	75.83	359.63	11,180.4	0.3	-830.8	0.3	12.00	12.00	0.00	
11,450.0	78.83	359.63	11,185.9	24.7	-830.9	24.7	12.00	12.00	0.00	
11,475.0	81.83	359.63	11,190.1	49.4	-831.1	49.4	12.00	12.00	0.00	
11,500.0	84.83	359.63	11,193.0	74.2	-831.3	74.2	12.00	12.00	0.00	
11,525.0	87.83	359.63	11,194.6	99.1	-831.4	99.1	12.00	12.00	0.00	
11,541.7	89.83	359.63	11,195.0	115.8	-831.5	115.8	12.00	12.00	0.00	
11,600.0	89.83	359.63	11,195.1	174.1	-831.9	174.1	0.00	0.00	0.00	
11,700.0	89.83	359.63	11,195.4	274.1	-832.6	274.1	0.00	0.00	0.00	
11,800.0	89.83	359.63	11,195.7	374.1	-833.2	374.1	0.00	0.00	0.00	
11,900.0	89.83	359.63	11,196.0	474.1	-833.9	474.1	0.00	0.00	0.00	
12,000.0	89.83	359.63	11,196.3	574.1	-834.5	574.1	0.00	0.00	0.00	
12,100.0	89.83	359.63	11,196.6	674.1	-835.1	674.1	0.00	0.00	0.00	
12,200.0	89.83	359.63	11,196.9	774.1	-835.8	774.1	0.00	0.00	0.00	
12,300.0	89.83	359.63	11,197.2	874.1	-836.4	874.1	0.00	0.00	0.00	
12,400.0	89.83	359.63	11,197.5	974.1	-837.1	974.1	0.00	0.00	0.00	
12,500.0	89.83	359.63	11,197.8	1,074.1	-837.7	1,074.1	0.00	0.00	0.00	
12,600.0	89.83	359.63	11,198.1	1,174.1	-838.4	1,174.1	0.00	0.00	0.00	
12,700.0	89.83	359.63	11,198.4	1,274.1	-839.0	1,274.1	0.00	0.00	0.00	
12,800.0	89.83	359.63	11,198.7	1,374.1	-839.7	1,374.1	0.00	0.00	0.00	
12,900.0	89.83	359.63	11,199.0	1,474.1	-840.3	1,474.1	0.00	0.00	0.00	
13,000.0	89.83	359.63	11,199.3	1,574.1	-841.0	1,574.1	0.00	0.00	0.00	
13,100.0	89.83	359.63	11,199.6	1,674.1	-841.6	1,674.1	0.00	0.00	0.00	

ConocoPhillips

Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Company:	DELAWARE BASIN WEST	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Project:	ZEUS WEST__NM_E	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site:	ORE DIGGER PROJECT	North Reference:	Grid
Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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)
13,200.0	89.83	359.63	11,199.9	1,774.1	-842.3	1,774.1	0.00	0.00	0.00
13,300.0	89.83	359.63	11,200.2	1,874.1	-842.9	1,874.1	0.00	0.00	0.00
13,400.0	89.83	359.63	11,200.4	1,974.1	-843.6	1,974.1	0.00	0.00	0.00
13,500.0	89.83	359.63	11,200.7	2,074.1	-844.2	2,074.1	0.00	0.00	0.00
13,600.0	89.83	359.63	11,201.0	2,174.1	-844.9	2,174.1	0.00	0.00	0.00
13,700.0	89.83	359.63	11,201.3	2,274.1	-845.5	2,274.1	0.00	0.00	0.00
13,800.0	89.83	359.63	11,201.6	2,374.1	-846.2	2,374.1	0.00	0.00	0.00
13,900.0	89.83	359.63	11,201.9	2,474.1	-846.8	2,474.1	0.00	0.00	0.00
14,000.0	89.83	359.63	11,202.2	2,574.1	-847.4	2,574.1	0.00	0.00	0.00
14,100.0	89.83	359.63	11,202.5	2,674.1	-848.1	2,674.1	0.00	0.00	0.00
14,200.0	89.83	359.63	11,202.8	2,774.1	-848.7	2,774.1	0.00	0.00	0.00
14,300.0	89.83	359.63	11,203.1	2,874.1	-849.4	2,874.1	0.00	0.00	0.00
14,400.0	89.83	359.63	11,203.4	2,974.1	-850.0	2,974.1	0.00	0.00	0.00
14,500.0	89.83	359.63	11,203.7	3,074.1	-850.7	3,074.1	0.00	0.00	0.00
14,600.0	89.83	359.63	11,204.0	3,174.1	-851.3	3,174.1	0.00	0.00	0.00
14,700.0	89.83	359.63	11,204.3	3,274.1	-852.0	3,274.1	0.00	0.00	0.00
14,800.0	89.83	359.63	11,204.6	3,374.1	-852.6	3,374.1	0.00	0.00	0.00
14,900.0	89.83	359.63	11,204.9	3,474.1	-853.3	3,474.1	0.00	0.00	0.00
15,000.0	89.83	359.63	11,205.2	3,574.1	-853.9	3,574.1	0.00	0.00	0.00
15,100.0	89.83	359.63	11,205.5	3,674.0	-854.6	3,674.0	0.00	0.00	0.00
15,200.0	89.83	359.63	11,205.8	3,774.0	-855.2	3,774.0	0.00	0.00	0.00
15,300.0	89.83	359.63	11,206.1	3,874.0	-855.9	3,874.0	0.00	0.00	0.00
15,400.0	89.83	359.63	11,206.3	3,974.0	-856.5	3,974.0	0.00	0.00	0.00
15,500.0	89.83	359.63	11,206.6	4,074.0	-857.2	4,074.0	0.00	0.00	0.00
15,600.0	89.83	359.63	11,206.9	4,174.0	-857.8	4,174.0	0.00	0.00	0.00
15,700.0	89.83	359.63	11,207.2	4,274.0	-858.5	4,274.0	0.00	0.00	0.00
15,800.0	89.83	359.63	11,207.5	4,374.0	-859.1	4,374.0	0.00	0.00	0.00
15,900.0	89.83	359.63	11,207.8	4,474.0	-859.7	4,474.0	0.00	0.00	0.00
16,000.0	89.83	359.63	11,208.1	4,574.0	-860.4	4,574.0	0.00	0.00	0.00
16,100.0	89.83	359.63	11,208.4	4,674.0	-861.0	4,674.0	0.00	0.00	0.00
16,200.0	89.83	359.63	11,208.7	4,774.0	-861.7	4,774.0	0.00	0.00	0.00
16,298.4	89.83	359.63	11,209.0	4,872.4	-862.3	4,872.4	0.00	0.00	0.00
16,300.0	89.80	359.63	11,209.0	4,874.0	-862.3	4,874.0	2.00	-1.99	0.15
16,348.3	88.83	359.70	11,209.6	4,922.3	-862.6	4,922.3	2.00	-1.99	0.15
16,400.0	88.83	359.70	11,210.6	4,974.0	-862.9	4,974.0	0.00	0.00	0.00
16,500.0	88.83	359.70	11,212.7	5,074.0	-863.4	5,074.0	0.00	0.00	0.00
16,600.0	88.83	359.70	11,214.7	5,174.0	-863.9	5,174.0	0.00	0.00	0.00
16,700.0	88.83	359.70	11,216.7	5,273.9	-864.4	5,273.9	0.00	0.00	0.00
16,800.0	88.83	359.70	11,218.8	5,373.9	-865.0	5,373.9	0.00	0.00	0.00
16,900.0	88.83	359.70	11,220.8	5,473.9	-865.5	5,473.9	0.00	0.00	0.00
17,000.0	88.83	359.70	11,222.8	5,573.9	-866.0	5,573.9	0.00	0.00	0.00
17,100.0	88.83	359.70	11,224.9	5,673.8	-866.5	5,673.8	0.00	0.00	0.00
17,200.0	88.83	359.70	11,226.9	5,773.8	-867.0	5,773.8	0.00	0.00	0.00
17,300.0	88.83	359.70	11,228.9	5,873.8	-867.6	5,873.8	0.00	0.00	0.00
17,400.0	88.83	359.70	11,231.0	5,973.8	-868.1	5,973.8	0.00	0.00	0.00
17,500.0	88.83	359.70	11,233.0	6,073.8	-868.6	6,073.8	0.00	0.00	0.00
17,600.0	88.83	359.70	11,235.0	6,173.7	-869.1	6,173.7	0.00	0.00	0.00
17,700.0	88.83	359.70	11,237.1	6,273.7	-869.6	6,273.7	0.00	0.00	0.00
17,800.0	88.83	359.70	11,239.1	6,373.7	-870.2	6,373.7	0.00	0.00	0.00
17,900.0	88.83	359.70	11,241.1	6,473.7	-870.7	6,473.7	0.00	0.00	0.00
18,000.0	88.83	359.70	11,243.2	6,573.7	-871.2	6,573.7	0.00	0.00	0.00
18,100.0	88.83	359.70	11,245.2	6,673.6	-871.7	6,673.6	0.00	0.00	0.00
18,200.0	88.83	359.70	11,247.2	6,773.6	-872.2	6,773.6	0.00	0.00	0.00

ConocoPhillips
Planning Report

Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Company:	DELAWARE BASIN WEST	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Project:	ZEUS WEST__NM_E	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site:	ORE DIGGER PROJECT	North Reference:	Grid
Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	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)	
18,300.0	88.83	359.70	11,249.3	6,873.6	-872.7	6,873.6	0.00	0.00	0.00	
18,400.0	88.83	359.70	11,251.3	6,973.6	-873.3	6,973.6	0.00	0.00	0.00	
18,500.0	88.83	359.70	11,253.3	7,073.5	-873.8	7,073.5	0.00	0.00	0.00	
18,600.0	88.83	359.70	11,255.4	7,173.5	-874.3	7,173.5	0.00	0.00	0.00	
18,700.0	88.83	359.70	11,257.4	7,273.5	-874.8	7,273.5	0.00	0.00	0.00	
18,800.0	88.83	359.70	11,259.4	7,373.5	-875.3	7,373.5	0.00	0.00	0.00	
18,900.0	88.83	359.70	11,261.5	7,473.5	-875.9	7,473.5	0.00	0.00	0.00	
19,000.0	88.83	359.70	11,263.5	7,573.4	-876.4	7,573.4	0.00	0.00	0.00	
19,100.0	88.83	359.70	11,265.5	7,673.4	-876.9	7,673.4	0.00	0.00	0.00	
19,200.0	88.83	359.70	11,267.6	7,773.4	-877.4	7,773.4	0.00	0.00	0.00	
19,300.0	88.83	359.70	11,269.6	7,873.4	-877.9	7,873.4	0.00	0.00	0.00	
19,400.0	88.83	359.70	11,271.6	7,973.3	-878.5	7,973.3	0.00	0.00	0.00	
19,500.0	88.83	359.70	11,273.7	8,073.3	-879.0	8,073.3	0.00	0.00	0.00	
19,600.0	88.83	359.70	11,275.7	8,173.3	-879.5	8,173.3	0.00	0.00	0.00	
19,700.0	88.83	359.70	11,277.7	8,273.3	-880.0	8,273.3	0.00	0.00	0.00	
19,800.0	88.83	359.70	11,279.8	8,373.3	-880.5	8,373.3	0.00	0.00	0.00	
19,900.0	88.83	359.70	11,281.8	8,473.2	-881.1	8,473.2	0.00	0.00	0.00	
20,000.0	88.83	359.70	11,283.8	8,573.2	-881.6	8,573.2	0.00	0.00	0.00	
20,100.0	88.83	359.70	11,285.9	8,673.2	-882.1	8,673.2	0.00	0.00	0.00	
20,200.0	88.83	359.70	11,287.9	8,773.2	-882.6	8,773.2	0.00	0.00	0.00	
20,300.0	88.83	359.70	11,289.9	8,873.1	-883.1	8,873.1	0.00	0.00	0.00	
20,400.0	88.83	359.70	11,292.0	8,973.1	-883.7	8,973.1	0.00	0.00	0.00	
20,500.0	88.83	359.70	11,294.0	9,073.1	-884.2	9,073.1	0.00	0.00	0.00	
20,600.0	88.83	359.70	11,296.0	9,173.1	-884.7	9,173.1	0.00	0.00	0.00	
20,700.0	88.83	359.70	11,298.1	9,273.1	-885.2	9,273.1	0.00	0.00	0.00	
20,800.0	88.83	359.70	11,300.1	9,373.0	-885.7	9,373.0	0.00	0.00	0.00	
20,900.0	88.83	359.70	11,302.1	9,473.0	-886.2	9,473.0	0.00	0.00	0.00	
21,000.0	88.83	359.70	11,304.2	9,573.0	-886.8	9,573.0	0.00	0.00	0.00	
21,100.0	88.83	359.70	11,306.2	9,673.0	-887.3	9,673.0	0.00	0.00	0.00	
21,200.0	88.83	359.70	11,308.2	9,772.9	-887.8	9,772.9	0.00	0.00	0.00	
21,300.0	88.83	359.70	11,310.3	9,872.9	-888.3	9,872.9	0.00	0.00	0.00	
21,400.0	88.83	359.70	11,312.3	9,972.9	-888.8	9,972.9	0.00	0.00	0.00	
21,500.0	88.83	359.70	11,314.3	10,072.9	-889.4	10,072.9	0.00	0.00	0.00	
21,532.4	88.83	359.70	11,315.0	10,105.2	-889.5	10,105.2	0.00	0.00	0.00	

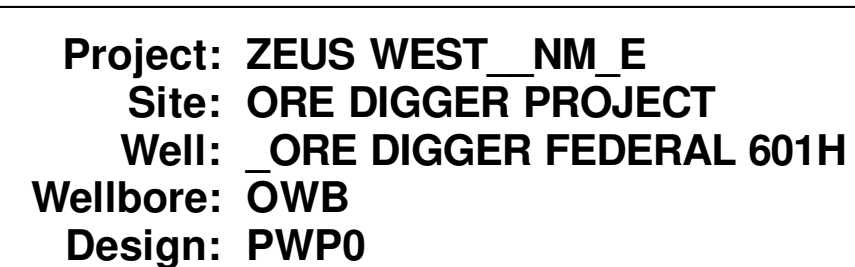
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Planning Report

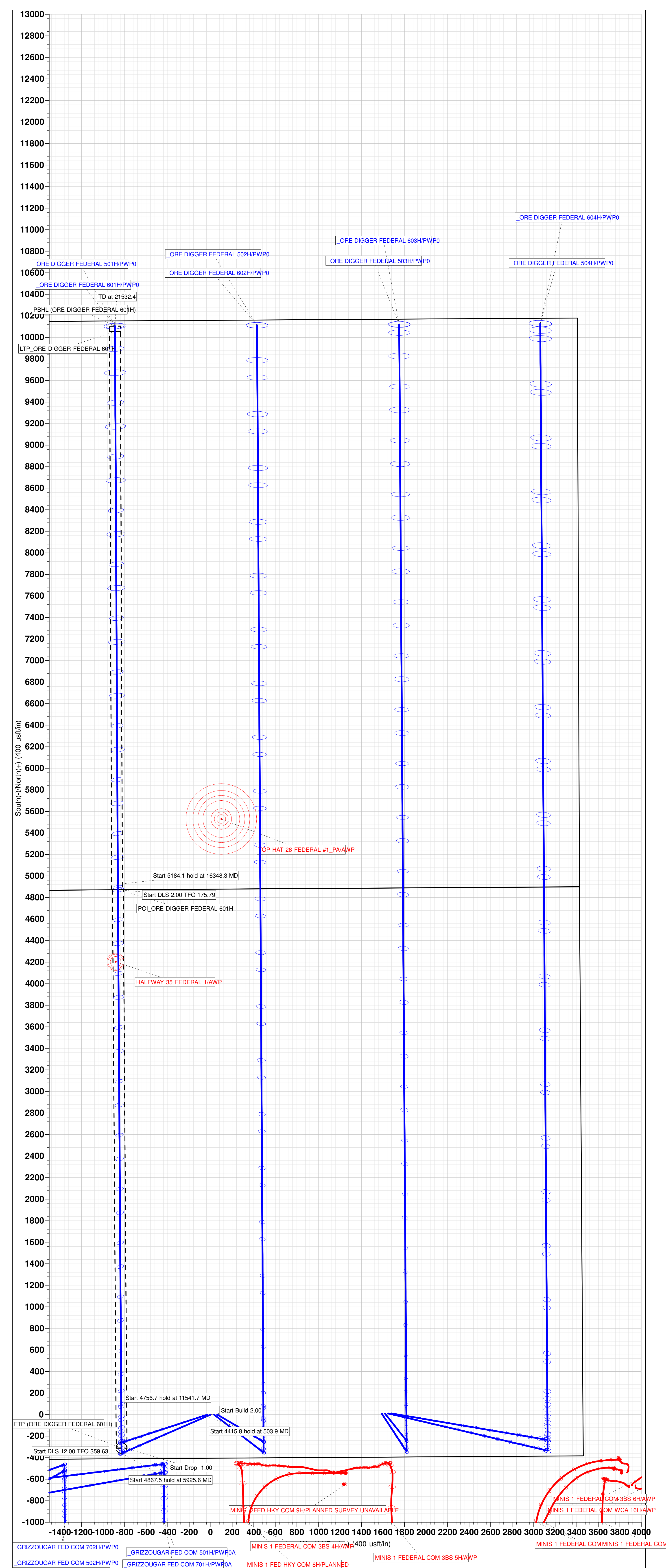
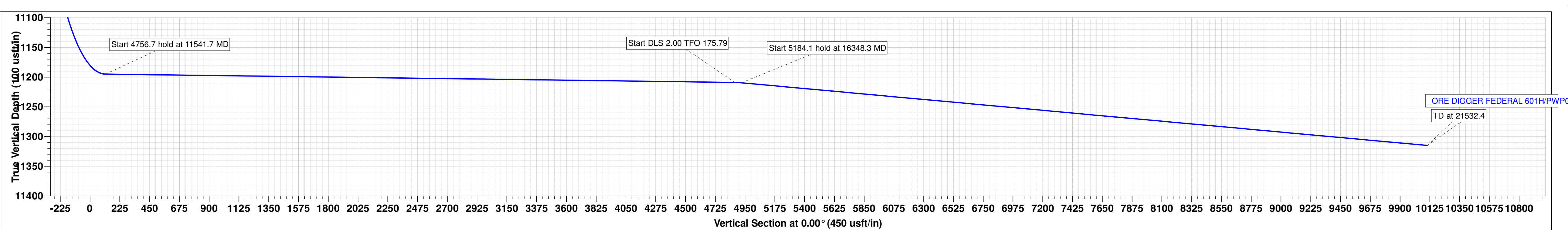
Database:	EDT 17 Permian Prod	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Company:	DELAWARE BASIN WEST	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Project:	ZEUS WEST__NM_E	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site:	ORE DIGGER PROJECT	North Reference:	Grid
Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Wellbore:	OWB		
Design:	PWP0		

Design Targets									
Target Name									
- hit/miss target	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- Shape	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
FTP (ORE DIGGER FEI - plan misses target center by 163.4usft at 11196.9usft MD (11074.8 TVD, -199.4 N, -829.5 E) - Circle (radius 50.0)	0.00	0.00	11,195.0	-310.2	-828.5	554,494.23	714,084.59	32° 31' 20.986 N	103° 38' 19.557 W
POI_ORE DIGGER FEC - plan hits target center - Rectangle (sides W100.0 H5,183.7 D20.0)	0.00	179.62	11,209.0	4,872.4	-862.3	559,676.81	714,050.72	32° 32' 12.271 N	103° 38' 19.558 W
PBHL (ORE DIGGER FEI - plan hits target center - Rectangle (sides W100.0 H5,229.7 D20.0)	0.00	179.79	11,315.0	10,105.2	-889.5	564,909.67	714,023.51	32° 33' 4.053 N	103° 38' 19.477 W
LTP_ORE DIGGER FEC - plan misses target center by 1.0usft at 21482.4usft MD (11314.0 TVD, 10055.3 N, -889.3 E) - Circle (radius 50.0)	90.00	0.00	11,315.0	10,055.2	-889.3	564,859.67	714,023.77	32° 33' 3.558 N	103° 38' 19.478 W

Casing Points					
	Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")
	21,532.4	11,315.0	5-1/2" Production Casing	5-1/2	6-3/4



SECTION DETAILS								
MD	Inc	Azi	TVD	+N-S	+E-W	Dleg	TFace	VSec
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0
1.0	0.00	0.00	1.0	0.0	0.0	0.00	0.00	0.0
503.9	10.06	246.50	501.4	-17.6	-40.4	2.00	246.50	-17.6
4919.7	10.06	246.50	4849.3	-325.1	-747.7	0.00	0.00	-325.1
5925.6	0.00	0.00	5950.0	-360.2	-828.5	1.00	180.00	-360.2
10793.1	0.00	0.00	10717.5	-360.2	-828.5	0.00	0.00	-360.2
11541.7	89.83	359.63	11195.0	115.8	-831.5	12.00	359.63	115.8
16298.4	89.83	359.63	11209.0	4872.4	-862.3	0.00	0.00	4872.4
16348.3	88.83	359.70	11209.6	4922.3	-862.6	2.00	175.79	4922.3
21532.4	88.83	359.70	11315.0	10105.2	-889.5	0.00	0.00	10105.2



DELAWARE BASIN WEST

ZEUS WEST__NM_E

ORE DIGGER PROJECT

_ORE DIGGER FEDERAL 601H

OWB

PWP0

Anticollision Report

18 July, 2024

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Reference	PWP0		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Max. Cent. Dist. of 1,000.0usft or Max. SF of 2	Error Surface:	Combined Pedal Curve
Warning Levels Evaluated at:	2.79 Sigma	Casing Method:	Added to Error Values

Survey Tool Program		Date	7/18/2024		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	21,532.4	PWP0 (OWB)	r.5 MWD+IFR1	OWSG MWD + IFR1 rev.5	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
GRIZZOUGAR FEDERAL PROJECT						
_GRIZZOUGAR FED COM 501H - OWB - PWP0A	5,700.0	5,815.8	266.8	233.2	7.942 SF	
_GRIZZOUGAR FED COM 501H - OWB - PWP0A	6,100.0	6,201.0	242.3	214.1	8.577 ES	
_GRIZZOUGAR FED COM 501H - OWB - PWP0A	6,106.8	6,207.5	242.3	214.1	8.591 CC	
_GRIZZOUGAR FED COM 502H - OWB - PWP0	10,110.0	10,117.6	553.6	503.3	11.007 CC, ES	
_GRIZZOUGAR FED COM 502H - OWB - PWP0	10,200.0	10,194.7	554.2	503.8	10.999 SF	
_GRIZZOUGAR FED COM 701H - OWB - PWP0A	5,700.0	5,807.0	165.3	129.9	4.664 SF	
_GRIZZOUGAR FED COM 701H - OWB - PWP0A	5,925.6	6,023.7	145.9	116.5	4.956 ES	
_GRIZZOUGAR FED COM 701H - OWB - PWP0A	5,980.0	6,076.2	145.3	116.9	5.112 CC	
_GRIZZOUGAR FED COM 702H - OWB - PWP0	10,793.1	10,797.8	540.0	490.2	10.845 CC, ES	
_GRIZZOUGAR FED COM 702H - OWB - PWP0	10,800.0	10,804.7	540.0	490.2	10.844 SF	
ORE DIGGER PROJECT						
_ORE DIGGER FEDERAL 501H - OWB - PWP0	398.9	397.6	11.8	4.7	1.671 Caution - Monitor Closely, CC	
_ORE DIGGER FEDERAL 501H - OWB - PWP0	400.0	398.7	11.8	4.7	1.670 Caution - Monitor Closely, ES, SF	
_ORE DIGGER FEDERAL 502H - OWB - PWP0	1.0	1.0	60.3	59.7	101.761 CC	
_ORE DIGGER FEDERAL 502H - OWB - PWP0	100.0	100.0	61.8	56.1	10.820 ES	
_ORE DIGGER FEDERAL 502H - OWB - PWP0	200.0	199.8	66.7	60.2	10.385 SF	
_ORE DIGGER FEDERAL 503H - OWB - PWP0					Out of range	
_ORE DIGGER FEDERAL 504H - OWB - PWP0					Out of range	
_ORE DIGGER FEDERAL 602H - OWB - PWP0	1.0	1.0	30.0	29.4	50.654 CC	
_ORE DIGGER FEDERAL 602H - OWB - PWP0	100.0	100.0	31.6	25.9	5.524 ES, SF	
_ORE DIGGER FEDERAL 603H - OWB - PWP0					Out of range	
_ORE DIGGER FEDERAL 604H - OWB - PWP0					Out of range	
HALFWAY 35 FEDERAL 1 - OWB - AWP					Out of range	
MINIS 1 FED COM 2BS 11H - OWB - AWP					Out of range	
MINIS 1 FED HKY COM 8H - OWB - PLANNED					Out of range	
MINIS 1 FED HKY COM 9H - OWB - PLANNED SURVE					Out of range	
MINIS 1 FEDERAL COM 3BS 4H - OWB - AWP					Out of range	
MINIS 1 FEDERAL COM 3BS 5H - OWB - AWP					Out of range	
MINIS 1 FEDERAL COM 3BS 6H - OWB - AWP					Out of range	
MINIS 1 FEDERAL COM 3BS 7H - OWB - AWP					Out of range	
MINIS 1 FEDERAL COM WCA 10H - OWB - AWP					Out of range	
MINIS 1 FEDERAL COM WCA 16H - OWB - AWP					Out of range	
TOP HAT 26 FEDERAL #1_PA - OWB - AWP	16,950.5	11,252.8	964.1	593.8	2.603 Normal Operations, CC, ES, SF	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						

Offset Design: GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 501H - OWB - PWP0A													Offset Site Error: 0.0 usft	
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error: 0.0 usft	
Offset				Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Reference	Vertical	Measured	Vertical	Reference	Offset		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	(usft)	(usft)									
3,600.0	3,549.8	3,890.9	3,843.5	17.8	11.8	-6.06	-703.0	-1,376.8	993.3	964.5	28.79	34.502		
3,700.0	3,648.3	3,981.6	3,931.1	18.3	12.2	-6.68	-698.9	-1,353.7	952.3	922.8	29.54	32.233		
3,800.0	3,746.8	4,072.3	4,018.7	18.7	12.5	-7.36	-694.8	-1,330.6	911.5	881.2	30.30	30.083		
3,900.0	3,845.2	4,163.0	4,106.4	19.2	12.9	-8.10	-690.7	-1,307.5	870.7	839.7	31.05	28.044		
4,000.0	3,943.7	4,253.8	4,194.0	19.6	13.3	-8.91	-686.7	-1,284.4	830.1	798.3	31.79	26.111		
4,100.0	4,042.1	4,344.5	4,281.6	20.1	13.7	-9.81	-682.6	-1,261.2	789.7	757.2	32.53	24.278		
4,200.0	4,140.6	4,435.2	4,369.2	20.5	14.1	-10.80	-678.5	-1,238.1	749.4	716.2	33.25	22.540		
4,300.0	4,239.1	4,525.9	4,456.8	21.0	14.5	-11.89	-674.4	-1,215.0	709.4	675.4	33.96	20.891		
4,400.0	4,337.5	4,616.6	4,544.5	21.4	15.0	-13.12	-670.3	-1,191.9	669.6	634.9	34.64	19.330		
4,500.0	4,436.0	4,707.3	4,632.1	21.9	15.4	-14.50	-666.3	-1,168.7	630.1	594.8	35.29	17.852		
4,600.0	4,534.5	4,798.0	4,719.7	22.3	15.8	-16.05	-662.2	-1,145.6	590.9	555.0	35.91	16.455		
4,700.0	4,632.9	4,888.7	4,807.3	22.8	16.2	-17.82	-658.1	-1,122.5	552.2	515.7	36.48	15.138		
4,800.0	4,731.4	4,979.4	4,894.9	23.2	16.6	-19.84	-654.0	-1,099.4	514.0	477.0	36.98	13.901		
4,900.0	4,829.8	5,070.2	4,982.6	23.7	17.0	-22.17	-650.0	-1,076.3	476.5	439.1	37.39	12.745		
4,919.7	4,849.3	5,088.1	4,999.8	23.7	17.1	-22.67	-649.2	-1,071.7	469.2	431.7	37.45	12.529		
5,000.0	4,928.4	5,161.1	5,070.4	24.1	17.5	-24.72	-645.9	-1,053.1	440.3	402.6	37.67	11.688		
5,100.0	5,027.2	5,252.7	5,158.9	24.5	17.9	-27.57	-641.8	-1,029.7	406.5	368.7	37.81	10.752		
5,200.0	5,126.3	5,345.1	5,248.1	25.0	18.3	-30.80	-637.6	-1,006.2	375.4	337.6	37.76	9.942		
5,300.0	5,225.6	5,438.0	5,337.9	25.4	18.7	-34.44	-633.4	-982.5	347.1	309.7	37.48	9.261		
5,400.0	5,325.1	5,531.6	5,428.3	25.8	19.2	-38.51	-629.2	-958.6	322.0	285.0	36.94	8.716		
5,500.0	5,424.8	5,625.8	5,519.2	26.2	19.6	-43.02	-625.0	-934.6	300.1	264.0	36.10	8.311		
5,600.0	5,524.6	5,720.5	5,610.7	26.5	20.1	-47.95	-620.7	-910.5	281.6	246.7	34.97	8.053		
5,700.0	5,624.4	5,815.8	5,702.8	26.9	20.5	-53.24	-616.5	-886.2	266.8	233.2	33.60	7.942 SF		
5,800.0	5,724.4	5,911.5	5,795.3	27.2	21.0	-58.79	-612.1	-861.8	255.7	223.6	32.08	7.971		
5,900.0	5,824.4	6,007.8	5,888.2	27.4	21.4	-64.46	-607.8	-837.3	248.2	217.6	30.58	8.116		
5,925.6	5,850.0	6,032.5	5,912.1	27.4	21.6	-179.41	-606.7	-831.0	246.8	216.6	30.21	8.171		
6,000.0	5,924.4	6,104.4	5,981.5	27.5	21.9	176.29	-603.5	-812.7	243.9	214.7	29.21	8.349		
6,100.0	6,024.4	6,201.0	6,074.8	27.5	22.4	170.40	-599.1	-788.0	242.3	214.1	28.25	8.577 ES		
6,106.8	6,031.1	6,207.5	6,081.1	27.5	22.4	170.00	-598.8	-786.4	242.3	214.1	28.21	8.591 CC		
6,200.0	6,124.4	6,297.6	6,168.1	27.5	22.8	164.51	-594.8	-763.4	243.5	215.7	27.87	8.738		
6,300.0	6,224.4	6,394.1	6,261.4	27.5	23.3	158.73	-590.5	-738.8	247.4	219.3	28.15	8.790		
6,400.0	6,324.4	6,490.7	6,354.7	27.5	23.8	153.17	-586.1	-714.2	253.9	224.9	29.05	8.741		
6,500.0	6,424.4	6,587.3	6,448.0	27.6	24.2	147.92	-581.8	-689.6	262.8	232.4	30.44	8.635		
6,600.0	6,524.4	6,683.9	6,541.3	27.6	24.7	143.03	-577.4	-664.9	273.9	241.8	32.13	8.525		
6,700.0	6,624.4	6,780.5	6,634.6	27.6	25.2	138.53	-573.1	-640.3	286.9	252.9	33.97	8.444		
6,800.0	6,724.4	6,878.4	6,729.2	27.6	25.6	134.40	-568.7	-615.5	301.4	265.6	35.85	8.408		
6,900.0	6,824.4	6,978.7	6,826.5	27.7	26.1	130.76	-564.5	-591.4	316.5	278.9	37.68	8.401		
7,000.0	6,924.4	7,079.9	6,925.1	27.7	26.6	127.66	-560.5	-568.9	331.5	292.2	39.35	8.425		
7,100.0	7,024.4	7,181.9	7,024.9	27.7	27.0	125.02	-556.8	-547.9	346.2	305.3	40.87	8.469		
7,200.0	7,124.4	7,284.7	7,125.7	27.7	27.5	122.78	-553.4	-528.5	360.1	317.8	42.24	8.525		
7,300.0	7,224.4	7,388.1	7,227.6	27.7	28.0	120.89	-550.3	-510.8	373.1	329.7	43.47	8.584		
7,400.0	7,324.4	7,492.2	7,330.4	27.8	28.4	119.30	-547.4	-494.8	385.1	340.6	44.57	8.641		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 501H - OWB - PWP0A												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
7,500.0	7,424.4	7,596.8	7,434.0	27.8	28.9	117.97	-544.9	-480.6	396.0	350.4	45.56	8.692	
7,600.0	7,524.4	7,702.0	7,538.4	27.8	29.3	116.87	-542.7	-468.2	405.5	359.1	46.43	8.734	
7,700.0	7,624.4	7,807.5	7,643.4	27.8	29.7	115.97	-540.9	-457.6	413.7	366.5	47.20	8.765	
7,800.0	7,724.4	7,913.5	7,749.0	27.9	30.1	115.27	-539.3	-448.9	420.5	372.6	47.87	8.783	
7,900.0	7,824.4	8,019.7	7,855.0	27.9	30.5	114.73	-538.2	-442.1	425.8	377.3	48.45	8.789	
8,000.0	7,924.4	8,126.1	7,961.3	27.9	30.9	114.36	-537.3	-437.3	429.6	380.7	48.92	8.781	
8,100.0	8,024.4	8,232.7	8,067.8	28.0	31.2	114.14	-536.8	-434.4	431.9	382.6	49.28	8.763	
8,200.0	8,124.4	8,339.3	8,174.4	28.0	31.4	114.07	-536.6	-433.4	432.6	383.1	49.49	8.742	
8,300.0	8,224.4	8,439.3	8,274.4	28.0	31.4	114.07	-536.6	-433.4	432.6	383.1	49.55	8.731	
8,400.0	8,324.4	8,539.3	8,374.4	28.0	31.4	114.07	-536.6	-433.4	432.6	383.0	49.61	8.720	
8,500.0	8,424.4	8,639.3	8,474.4	28.1	31.5	114.07	-536.6	-433.4	432.6	382.9	49.68	8.708	
8,600.0	8,524.4	8,739.3	8,574.4	28.1	31.5	114.07	-536.6	-433.4	432.6	382.9	49.75	8.696	
8,700.0	8,624.4	8,839.3	8,674.4	28.1	31.5	114.07	-536.6	-433.4	432.6	382.8	49.82	8.684	
8,800.0	8,724.4	8,939.3	8,774.4	28.1	31.6	114.07	-536.6	-433.4	432.6	382.7	49.89	8.672	
8,900.0	8,824.4	9,039.3	8,874.4	28.2	31.6	114.07	-536.6	-433.4	432.6	382.7	49.96	8.660	
9,000.0	8,924.4	9,139.3	8,974.4	28.2	31.6	114.07	-536.6	-433.4	432.6	382.6	50.03	8.648	
9,100.0	9,024.4	9,239.3	9,074.4	28.2	31.7	114.07	-536.6	-433.4	432.6	382.5	50.10	8.636	
9,200.0	9,124.4	9,339.3	9,174.4	28.2	31.7	114.07	-536.6	-433.4	432.6	382.4	50.17	8.623	
9,300.0	9,224.4	9,439.3	9,274.4	28.3	31.7	114.07	-536.6	-433.4	432.6	382.4	50.24	8.611	
9,400.0	9,324.4	9,539.3	9,374.4	28.3	31.8	114.07	-536.6	-433.4	432.6	382.3	50.31	8.599	
9,500.0	9,424.4	9,639.3	9,474.4	28.3	31.8	114.07	-536.6	-433.4	432.6	382.2	50.38	8.587	
9,600.0	9,524.4	9,739.3	9,574.4	28.4	31.8	114.07	-536.6	-433.4	432.6	382.2	50.45	8.574	
9,700.0	9,624.4	9,839.3	9,674.4	28.4	31.9	114.07	-536.6	-433.4	432.6	382.1	50.53	8.562	
9,800.0	9,724.4	9,939.3	9,774.4	28.4	31.9	114.07	-536.6	-433.4	432.6	382.0	50.60	8.550	
9,900.0	9,824.4	10,039.3	9,874.4	28.5	31.9	114.07	-536.6	-433.4	432.6	381.9	50.67	8.537	
10,000.0	9,924.4	10,139.3	9,974.4	28.5	32.0	114.07	-536.6	-433.4	432.6	381.9	50.75	8.525	
10,100.0	10,024.4	10,239.3	10,074.4	28.5	32.0	114.07	-536.6	-433.4	432.6	381.8	50.82	8.513	
10,110.0	10,034.4	10,249.3	10,084.4	28.5	32.0	114.07	-536.6	-433.4	432.6	381.8	50.83	8.512	
10,200.0	10,124.4	10,325.0	10,160.1	28.5	32.0	114.24	-538.1	-433.4	433.5	382.6	50.91	8.514	
10,300.0	10,224.4	10,396.0	10,230.2	28.6	31.9	115.53	-548.9	-433.4	440.1	389.4	50.63	8.692	
10,400.0	10,324.4	10,462.4	10,293.6	28.6	31.9	117.77	-568.3	-433.3	453.9	404.0	49.91	9.094	
10,500.0	10,424.4	10,525.0	10,350.4	28.6	31.8	120.65	-594.5	-433.1	476.0	427.1	48.91	9.732	
10,600.0	10,524.4	10,575.0	10,393.0	28.7	31.8	123.37	-620.6	-432.9	507.1	459.1	47.97	10.570	
10,700.0	10,624.4	10,625.0	10,432.7	28.7	31.8	126.32	-651.1	-432.8	547.4	500.3	47.05	11.634	
10,793.1	10,717.5	10,658.3	10,457.2	28.7	31.7	128.37	-673.6	-432.6	592.6	546.1	46.52	12.738	
10,800.0	10,724.4	10,660.8	10,459.0	28.7	31.7	128.49	-675.3	-432.6	596.2	549.8	46.49	12.826	
10,825.0	10,749.4	10,675.0	10,468.9	28.7	31.7	127.86	-685.5	-432.6	610.3	564.0	46.27	13.190	
10,850.0	10,774.3	10,675.0	10,468.9	28.7	31.7	126.05	-685.5	-432.6	625.3	579.1	46.26	13.519	
10,875.0	10,799.0	10,684.1	10,475.1	28.6	31.7	124.70	-692.2	-432.5	641.5	595.4	46.08	13.921	
10,900.0	10,823.5	10,690.2	10,479.2	28.6	31.7	122.90	-696.7	-432.5	658.6	612.6	45.93	14.338	
10,925.0	10,847.7	10,700.0	10,485.6	28.6	31.7	121.18	-704.1	-432.4	676.6	630.8	45.72	14.799	
10,950.0	10,871.6	10,700.0	10,485.6	28.5	31.7	118.23	-704.1	-432.4	695.3	649.7	45.63	15.239	
10,975.0	10,895.0	10,700.0	10,485.6	28.5	31.7	114.87	-704.1	-432.4	714.8	669.3	45.52	15.704	
11,000.0	10,918.0	10,707.1	10,490.2	28.4	31.7	111.96	-709.5	-432.4	734.9	689.6	45.31	16.219	
11,025.0	10,940.4	10,709.5	10,491.8	28.4	31.7	108.13	-711.4	-432.4	755.6	710.4	45.16	16.733	
11,050.0	10,962.2	10,711.4	10,492.9	28.4	31.7	103.81	-712.8	-432.4	776.7	731.7	45.00	17.260	
11,075.0	10,983.3	10,712.6	10,493.7	28.3	31.7	99.03	-713.7	-432.4	798.2	753.4	44.85	17.798	
11,100.0	11,003.7	10,713.2	10,494.1	28.3	31.7	93.81	-714.2	-432.4	820.0	775.3	44.69	18.347	
11,125.0	11,023.3	10,713.3	10,494.1	28.3	31.7	88.26	-714.3	-432.4	842.0	797.5	44.54	18.904	
11,150.0	11,042.1	10,712.9	10,493.9	28.2	31.7	82.48	-714.0	-432.4	864.2	819.8	44.39	19.467	
11,175.0	11,060.0	10,712.0	10,493.3	28.2	31.7	76.63	-713.3	-432.4	886.4	842.2	44.24	20.036	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot
Project:	ZEUS WEST__NM_E	TVD Reference:	ORE DIGGER FEDERAL 601H
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Grid
Well Error:	0.0 usft	Output errors are at	Minimum Curvature
Reference Wellbore	OWB	Database:	2.00 sigma
Reference Design:	PWP0	Offset TVD Reference:	EDT 17 Permian Prod
			Offset Datum

Offset Design:	GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 501H - OWB - PWP0A											Offset Site Error:	0.0 usft
Survey Program:	0-r.5 MWD+IFR1+MS											Offset Well Error:	0.0 usft
Reference	Vertical	Offset	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
11,200.0	11,076.9	10,710.7	10,492.5	28.2	31.7	70.86	-712.3	-432.4	908.6	864.5	44.09	20.608	
11,225.0	11,092.9	10,708.9	10,491.4	28.2	31.7	65.30	-710.9	-432.4	930.8	886.9	43.94	21.183	
11,250.0	11,107.8	10,700.0	10,485.6	28.1	31.7	59.36	-704.1	-432.4	952.9	909.1	43.85	21.731	
11,275.0	11,121.6	10,700.0	10,485.6	28.1	31.7	54.84	-704.1	-432.4	974.8	931.1	43.68	22.316	
11,300.0	11,134.4	10,700.0	10,485.6	28.1	31.7	50.73	-704.1	-432.4	996.4	952.9	43.51	22.901	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 502H - OWB - PWP0													Offset Site Error: 0.0 usft	
Survey Program: 0-r.5 MWD+IFR1+MS		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned: Distance				Offset Well Error: 0.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	Warning	
4,400.0	4,337.5	4,540.1	4,522.9	21.4	12.2	2.27	-643.1	-1,571.9	983.6	949.5	34.06	28.878		
4,500.0	4,436.0	4,635.2	4,617.0	21.9	12.5	2.43	-636.5	-1,560.5	952.7	917.9	34.83	27.357		
4,600.0	4,534.5	4,730.3	4,711.2	22.3	12.9	2.61	-629.9	-1,549.0	921.9	886.3	35.60	25.899		
4,700.0	4,632.9	4,825.4	4,805.4	22.8	13.2	2.81	-623.3	-1,537.6	891.1	854.7	36.37	24.502		
4,800.0	4,731.4	4,920.5	4,899.5	23.2	13.6	3.01	-616.7	-1,526.1	860.3	823.1	37.14	23.161		
4,900.0	4,829.8	5,015.6	4,993.7	23.7	13.9	3.23	-610.0	-1,514.6	829.5	791.6	37.92	21.875		
4,919.7	4,849.3	5,034.3	5,012.3	23.7	14.0	3.28	-608.7	-1,512.4	823.4	785.3	38.07	21.631		
5,000.0	4,928.4	5,110.8	5,088.0	24.1	14.3	3.45	-603.4	-1,503.2	799.2	760.5	38.68	20.660		
5,100.0	5,027.2	5,206.6	5,182.9	24.5	14.7	3.68	-596.7	-1,491.6	770.6	731.2	39.45	19.534		
5,200.0	5,126.3	5,302.9	5,278.2	25.0	15.0	3.91	-590.0	-1,480.0	743.7	703.5	40.21	18.497		
5,300.0	5,225.6	5,399.6	5,374.0	25.4	15.4	4.16	-583.3	-1,468.4	718.5	677.5	40.95	17.544		
5,400.0	5,325.1	5,496.7	5,470.1	25.8	15.8	4.41	-576.6	-1,456.7	695.0	653.3	41.68	16.672		
5,500.0	5,424.8	5,594.3	5,566.7	26.2	16.2	4.67	-569.8	-1,444.9	673.2	630.8	42.40	15.876		
5,600.0	5,524.6	5,692.2	5,663.7	26.5	16.6	4.94	-563.0	-1,433.1	653.1	610.0	43.09	15.154		
5,700.0	5,624.4	5,790.4	5,761.0	26.9	17.0	5.21	-556.1	-1,421.3	634.7	590.9	43.76	14.503		
5,800.0	5,724.4	5,889.0	5,858.6	27.2	17.4	5.48	-549.3	-1,409.4	618.0	573.7	44.39	13.922		
5,900.0	5,824.4	5,980.6	5,949.4	27.4	17.7	5.72	-543.1	-1,398.7	603.6	558.6	45.04	13.401		
5,925.6	5,850.0	6,000.0	5,968.6	27.4	17.8	-107.73	-541.9	-1,396.6	600.4	555.2	45.21	13.282		
6,000.0	5,924.4	6,070.7	6,038.8	27.5	18.1	-107.56	-537.7	-1,389.4	591.9	546.4	45.46	13.021		
6,100.0	6,024.4	6,161.1	6,128.8	27.5	18.4	-107.36	-533.0	-1,381.3	581.8	535.9	45.84	12.691		
6,200.0	6,124.4	6,251.8	6,219.1	27.5	18.8	-107.19	-529.1	-1,374.4	573.2	527.0	46.21	12.404		
6,300.0	6,224.4	6,342.7	6,309.8	27.5	19.1	-107.04	-525.8	-1,368.7	566.2	519.6	46.56	12.159		
6,400.0	6,324.4	6,433.8	6,400.8	27.5	19.4	-106.92	-523.2	-1,364.3	560.7	513.8	46.90	11.956		
6,500.0	6,424.4	6,525.1	6,491.9	27.6	19.7	-106.84	-521.4	-1,361.1	556.8	509.6	47.21	11.794		
6,600.0	6,524.4	6,616.4	6,583.3	27.6	19.9	-106.78	-520.3	-1,359.1	554.4	506.9	47.49	11.674		
6,700.0	6,624.4	6,707.8	6,674.6	27.6	20.1	-106.77	-519.9	-1,358.5	553.6	505.8	47.71	11.601		
6,734.4	6,658.8	6,741.9	6,708.8	27.6	20.2	-106.77	-519.9	-1,358.5	553.6	505.8	47.74	11.594		
6,800.0	6,724.4	6,807.6	6,774.4	27.6	20.2	-106.77	-519.9	-1,358.5	553.6	505.8	47.79	11.582		
6,900.0	6,824.4	6,907.6	6,874.4	27.7	20.2	-106.77	-519.9	-1,358.5	553.6	505.7	47.86	11.565		
7,000.0	6,924.4	7,007.6	6,974.4	27.7	20.3	-106.77	-519.9	-1,358.5	553.6	505.6	47.93	11.549		
7,100.0	7,024.4	7,107.6	7,074.4	27.7	20.3	-106.77	-519.9	-1,358.5	553.6	505.6	48.00	11.532		
7,200.0	7,124.4	7,207.6	7,174.4	27.7	20.4	-106.77	-519.9	-1,358.5	553.6	505.5	48.07	11.515		
7,300.0	7,224.4	7,307.6	7,274.4	27.7	20.5	-106.77	-519.9	-1,358.5	553.6	505.4	48.14	11.498		
7,400.0	7,324.4	7,407.6	7,374.4	27.8	20.5	-106.77	-519.9	-1,358.5	553.6	505.3	48.21	11.481		
7,500.0	7,424.4	7,507.6	7,474.4	27.8	20.6	-106.77	-519.9	-1,358.5	553.6	505.3	48.28	11.464		
7,600.0	7,524.4	7,607.6	7,574.4	27.8	20.6	-106.77	-519.9	-1,358.5	553.6	505.2	48.36	11.447		
7,700.0	7,624.4	7,707.6	7,674.4	27.8	20.7	-106.77	-519.9	-1,358.5	553.6	505.1	48.43	11.430		
7,800.0	7,724.4	7,807.6	7,774.4	27.9	20.7	-106.77	-519.9	-1,358.5	553.6	505.1	48.50	11.413		
7,900.0	7,824.4	7,907.6	7,874.4	27.9	20.8	-106.77	-519.9	-1,358.5	553.6	505.0	48.57	11.396		
8,000.0	7,924.4	8,007.6	7,974.4	27.9	20.8	-106.77	-519.9	-1,358.5	553.6	504.9	48.65	11.379		
8,100.0	8,024.4	8,107.6	8,074.4	28.0	20.9	-106.77	-519.9	-1,358.5	553.6	504.8	48.72	11.362		
8,200.0	8,124.4	8,207.6	8,174.4	28.0	20.9	-106.77	-519.9	-1,358.5	553.6	504.8	48.80	11.344		
8,300.0	8,224.4	8,307.6	8,274.4	28.0	21.0	-106.77	-519.9	-1,358.5	553.6	504.7	48.87	11.327		
8,400.0	8,324.4	8,407.6	8,374.4	28.0	21.0	-106.77	-519.9	-1,358.5	553.6	504.6	48.95	11.310		
8,500.0	8,424.4	8,507.6	8,474.4	28.1	21.1	-106.77	-519.9	-1,358.5	553.6	504.5	49.02	11.292		
8,600.0	8,524.4	8,607.6	8,574.4	28.1	21.2	-106.77	-519.9	-1,358.5	553.6	504.5	49.10	11.275		
8,700.0	8,624.4	8,707.6	8,674.4	28.1	21.2	-106.77	-519.9	-1,358.5	553.6	504.4	49.17	11.257		
8,800.0	8,724.4	8,807.6	8,774.4	28.1	21.3	-106.77	-519.9	-1,358.5	553.6	504.3	49.25	11.240		
8,900.0	8,824.4	8,907.6	8,874.4	28.2	21.3	-106.77	-519.9	-1,358.5	553.6	504.2	49.33	11.222		
9,000.0	8,924.4	9,007.6	8,974.4	28.2	21.4	-106.77	-519.9	-1,358.5	553.6	504.2	49.40	11.205		
9,100.0	9,024.4	9,107.6	9,074.4	28.2	21.4	-106.77	-519.9	-1,358.5	553.6	504.1	49.48	11.187		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 502H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Rule Assigned:													
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,200.0	9,124.4	9,207.6	9,174.4	28.2	21.5	-106.77	-519.9	-1,358.5	553.6	504.0	49.56	11.169	
9,300.0	9,224.4	9,307.6	9,274.4	28.3	21.5	-106.77	-519.9	-1,358.5	553.6	503.9	49.64	11.151	
9,400.0	9,324.4	9,407.6	9,374.4	28.3	21.6	-106.77	-519.9	-1,358.5	553.6	503.8	49.72	11.134	
9,500.0	9,424.4	9,507.6	9,474.4	28.3	21.7	-106.77	-519.9	-1,358.5	553.6	503.8	49.80	11.116	
9,600.0	9,524.4	9,607.6	9,574.4	28.4	21.7	-106.77	-519.9	-1,358.5	553.6	503.7	49.88	11.098	
9,700.0	9,624.4	9,707.6	9,674.4	28.4	21.8	-106.77	-519.9	-1,358.5	553.6	503.6	49.96	11.080	
9,800.0	9,724.4	9,807.6	9,774.4	28.4	21.8	-106.77	-519.9	-1,358.5	553.6	503.5	50.04	11.062	
9,900.0	9,824.4	9,907.6	9,874.4	28.5	21.9	-106.77	-519.9	-1,358.5	553.6	503.4	50.12	11.044	
10,000.0	9,924.4	10,007.6	9,974.4	28.5	21.9	-106.77	-519.9	-1,358.5	553.6	503.4	50.20	11.026	
10,100.0	10,024.4	10,107.6	10,074.4	28.5	22.0	-106.77	-519.9	-1,358.5	553.6	503.3	50.28	11.009	
10,110.0	10,034.4	10,117.6	10,084.4	28.5	22.0	-106.77	-519.9	-1,358.5	553.6	503.3	50.29	11.007 CC, ES	
10,200.0	10,124.4	10,194.7	10,161.4	28.5	22.0	-106.92	-521.5	-1,358.5	554.2	503.8	50.38	10.999 SF	
10,300.0	10,224.4	10,268.0	10,233.7	28.6	21.8	-108.06	-533.0	-1,358.4	558.9	508.4	50.51	11.065	
10,400.0	10,324.4	10,336.3	10,298.8	28.6	21.7	-110.05	-553.6	-1,358.3	569.1	518.5	50.61	11.244	
10,500.0	10,424.4	10,400.0	10,356.3	28.6	21.6	-112.63	-581.0	-1,358.1	585.9	535.3	50.59	11.581	
10,600.0	10,524.4	10,450.0	10,398.5	28.7	21.5	-115.06	-607.7	-1,357.9	610.4	560.0	50.38	12.115	
10,700.0	10,624.4	10,500.0	10,437.7	28.7	21.4	-117.75	-638.7	-1,357.8	643.2	593.2	50.02	12.861	
10,793.1	10,717.5	10,534.8	10,463.0	28.7	21.3	-119.75	-662.6	-1,357.6	681.3	631.8	49.56	13.748	
10,800.0	10,724.4	10,537.3	10,464.8	28.7	21.3	-119.16	-664.4	-1,357.6	684.4	634.9	49.52	13.822	
10,825.0	10,749.4	10,550.0	10,473.5	28.7	21.3	-118.52	-673.6	-1,357.6	696.5	647.1	49.35	14.112	
10,850.0	10,774.3	10,550.0	10,473.5	28.7	21.3	-116.90	-673.6	-1,357.6	709.5	660.3	49.18	14.426	
10,875.0	10,799.0	10,560.5	10,480.5	28.6	21.3	-115.84	-681.5	-1,357.5	723.4	674.4	49.00	14.764	
10,900.0	10,823.5	10,566.6	10,484.5	28.6	21.3	-114.28	-686.0	-1,357.5	738.3	689.5	48.82	15.123	
10,925.0	10,847.7	10,575.0	10,489.9	28.6	21.3	-112.74	-692.5	-1,357.4	754.1	705.5	48.64	15.503	
10,950.0	10,871.6	10,575.0	10,489.9	28.5	21.3	-110.27	-692.5	-1,357.4	770.7	722.2	48.48	15.897	
10,975.0	10,895.0	10,575.0	10,489.9	28.5	21.3	-107.54	-692.5	-1,357.4	788.0	739.7	48.32	16.307	
11,000.0	10,918.0	10,582.9	10,495.0	28.4	21.3	-105.32	-698.6	-1,357.4	805.9	757.8	48.16	16.735	
11,025.0	10,940.4	10,585.3	10,496.4	28.4	21.3	-102.33	-700.4	-1,357.4	824.5	776.5	48.01	17.172	
11,050.0	10,962.2	10,586.9	10,497.5	28.4	21.3	-99.04	-701.7	-1,357.4	843.5	795.6	47.88	17.619	
11,075.0	10,983.3	10,588.0	10,498.1	28.3	21.3	-95.46	-702.6	-1,357.4	863.0	815.2	47.75	18.073	
11,100.0	11,003.7	10,588.5	10,498.4	28.3	21.3	-91.62	-703.0	-1,357.4	882.8	835.2	47.63	18.533	
11,125.0	11,023.3	10,588.4	10,498.4	28.3	21.3	-87.57	-702.9	-1,357.4	902.9	855.3	47.53	18.998	
11,150.0	11,042.1	10,587.9	10,498.0	28.2	21.3	-83.35	-702.5	-1,357.4	923.2	875.7	47.43	19.464	
11,175.0	11,060.0	10,586.9	10,497.4	28.2	21.3	-79.04	-701.7	-1,357.4	943.6	896.3	47.34	19.932	
11,200.0	11,076.9	10,585.4	10,496.5	28.2	21.3	-74.70	-700.5	-1,357.4	964.1	916.9	47.26	20.399	
11,225.0	11,092.9	10,583.5	10,495.3	28.2	21.3	-70.41	-699.1	-1,357.4	984.6	937.4	47.19	20.864	

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

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Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 701H - OWB - PWP0A													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor		
3,500.0	3,451.4	3,790.2	3,746.2	17.4	11.3	1.86	-576.5	-1,398.0	976.2	948.2	28.09	34.757		
3,600.0	3,549.8	3,881.0	3,833.9	17.8	11.7	1.49	-573.6	-1,374.7	934.7	905.8	28.87	32.377		
3,700.0	3,648.3	3,971.8	3,921.6	18.3	12.1	1.09	-570.8	-1,351.4	893.1	863.5	29.65	30.120		
3,800.0	3,746.8	4,062.5	4,009.3	18.7	12.5	0.64	-567.9	-1,328.0	851.6	821.2	30.44	27.978		
3,900.0	3,845.2	4,153.3	4,097.0	19.2	12.9	0.16	-565.0	-1,304.7	810.1	778.9	31.23	25.944		
4,000.0	3,943.7	4,244.1	4,184.6	19.6	13.3	-0.38	-562.2	-1,281.4	768.7	736.7	32.02	24.012		
4,100.0	4,042.1	4,334.9	4,272.3	20.1	13.7	-0.98	-559.3	-1,258.1	727.4	694.6	32.80	22.174		
4,200.0	4,140.6	4,425.6	4,360.0	20.5	14.1	-1.65	-556.5	-1,234.8	686.1	652.5	33.59	20.426		
4,300.0	4,239.1	4,516.4	4,447.7	21.0	14.5	-2.40	-553.6	-1,211.4	644.9	610.6	34.37	18.763		
4,400.0	4,337.5	4,607.2	4,535.4	21.4	14.9	-3.26	-550.7	-1,188.1	603.9	568.7	35.15	17.180		
4,500.0	4,436.0	4,698.0	4,623.0	21.9	15.3	-4.24	-547.9	-1,164.8	562.9	527.0	35.91	15.674		
4,600.0	4,534.5	4,788.7	4,710.7	22.3	15.7	-5.37	-545.0	-1,141.5	522.1	485.5	36.67	14.241		
4,700.0	4,632.9	4,879.5	4,798.4	22.8	16.1	-6.69	-542.1	-1,118.2	481.6	444.2	37.39	12.878		
4,800.0	4,731.4	4,970.3	4,886.1	23.2	16.6	-8.25	-539.3	-1,094.8	441.2	403.1	38.09	11.584		
4,900.0	4,829.8	5,061.0	4,973.8	23.7	17.0	-10.12	-536.4	-1,071.5	401.2	362.5	38.73	10.359		
4,919.7	4,849.3	5,079.0	4,991.1	23.7	17.1	-10.53	-535.8	-1,066.9	393.4	354.6	38.85	10.126		
5,000.0	4,928.4	5,152.0	5,061.7	24.1	17.4	-12.30	-533.5	-1,048.2	362.2	322.9	39.30	9.217		
5,100.0	5,027.2	5,243.7	5,150.2	24.5	17.8	-14.90	-530.6	-1,024.6	325.3	285.5	39.75	8.183		
5,200.0	5,126.3	5,336.1	5,239.4	25.0	18.3	-18.04	-527.7	-1,000.9	290.7	250.7	40.05	7.260		
5,300.0	5,225.6	5,429.1	5,329.3	25.4	18.7	-21.85	-524.8	-977.0	258.8	218.7	40.10	6.454		
5,400.0	5,325.1	5,522.7	5,419.7	25.8	19.1	-26.50	-521.8	-952.9	229.8	190.0	39.80	5.773		
5,500.0	5,424.8	5,616.9	5,510.7	26.2	19.6	-32.15	-518.9	-928.7	204.2	165.1	39.01	5.233		
5,600.0	5,524.6	5,711.7	5,602.2	26.5	20.0	-38.95	-515.9	-904.4	182.5	144.9	37.59	4.854		
5,700.0	5,624.4	5,807.0	5,694.3	26.9	20.5	-46.95	-512.9	-879.9	165.3	129.9	35.44	4.664 SF		
5,800.0	5,724.4	5,902.7	5,786.8	27.2	20.9	-55.99	-509.9	-855.3	153.3	120.6	32.75	4.682		
5,900.0	5,824.4	5,999.0	5,879.8	27.4	21.4	-65.66	-506.8	-830.6	146.8	116.7	30.05	4.884		
5,925.6	5,850.0	6,023.7	5,903.6	27.4	21.5	178.34	-506.0	-824.2	145.9	116.5	29.45	4.956 ES		
5,980.0	5,904.4	6,076.2	5,954.4	27.5	21.8	173.00	-504.4	-810.7	143.3	116.9	28.42	5.112 CC		
6,000.0	5,924.4	6,095.6	5,973.0	27.5	21.9	171.02	-503.8	-805.8	145.4	117.2	28.14	5.165		
6,100.0	6,024.4	6,192.2	6,066.3	27.5	22.3	161.33	-500.7	-781.0	148.6	120.8	27.79	5.345		
6,200.0	6,124.4	6,288.8	6,159.6	27.5	22.8	152.26	-497.7	-756.1	156.0	127.0	29.06	5.370		
6,300.0	6,224.4	6,385.4	6,252.9	27.5	23.2	144.15	-494.6	-731.3	167.2	135.9	31.33	5.338		
6,400.0	6,324.4	6,481.9	6,346.2	27.5	23.7	137.14	-491.6	-706.5	181.4	147.5	33.94	5.346		
6,500.0	6,424.4	6,578.5	6,439.5	27.6	24.2	131.17	-488.5	-681.7	198.0	161.6	36.48	5.429		
6,600.0	6,524.4	6,675.1	6,532.8	27.6	24.6	126.14	-485.5	-656.9	216.5	177.7	38.77	5.583		
6,700.0	6,624.4	6,771.7	6,626.2	27.6	25.1	121.90	-482.4	-632.1	236.3	195.5	40.79	5.793		
6,800.0	6,724.4	6,871.5	6,722.7	27.6	25.6	118.29	-479.4	-607.1	256.7	214.1	42.64	6.019		
6,900.0	6,824.4	6,972.6	6,820.9	27.7	26.1	115.38	-476.5	-583.4	276.5	232.2	44.24	6.249		
7,000.0	6,924.4	7,074.6	6,920.4	27.7	26.5	113.03	-473.8	-561.3	295.3	249.7	45.63	6.472		
7,100.0	7,024.4	7,177.3	7,021.1	27.7	27.0	111.11	-471.2	-540.8	312.9	266.1	46.84	6.681		
7,200.0	7,124.4	7,280.8	7,122.8	27.7	27.5	109.53	-468.9	-521.9	329.3	281.4	47.92	6.872		
7,300.0	7,224.4	7,384.9	7,225.5	27.7	27.9	108.23	-466.8	-504.8	344.2	295.4	48.89	7.042		
7,400.0	7,324.4	7,489.7	7,329.1	27.8	28.4	107.17	-464.9	-489.5	357.7	307.9	49.75	7.189		
7,500.0	7,424.4	7,595.0	7,433.5	27.8	28.8	106.30	-463.3	-475.9	369.5	319.0	50.54	7.312		
7,600.0	7,524.4	7,700.7	7,538.6	27.8	29.3	105.59	-461.8	-464.3	379.8	328.6	51.24	7.412		
7,700.0	7,624.4	7,806.9	7,644.3	27.8	29.7	105.03	-460.6	-454.5	388.4	336.5	51.87	7.488		
7,800.0	7,724.4	7,913.4	7,750.5	27.9	30.1	104.60	-459.7	-446.6	395.3	342.9	52.42	7.540		
7,900.0	7,824.4	8,020.1	7,857.1	27.9	30.4	104.29	-459.0	-440.7	400.5	347.6	52.90	7.570		
8,000.0	7,924.4	8,127.0	7,963.9	27.9	30.8	104.09	-458.5	-436.8	403.9	350.6	53.30	7.578		
8,100.0	8,024.4	8,234.1	8,070.9	28.0	31.0	103.99	-458.2	-434.8	405.6	352.1	53.57	7.572		
8,200.0	8,124.4	8,337.5	8,174.4	28.0	31.1	103.97	-458.2	-434.6	405.8	352.2	53.67	7.562		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 701H - OWB - PWP0A													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		No-Go		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor		
8,300.0	8,224.4	8,437.5	8,274.4	28.0	31.2	103.97	-458.2	-434.6	405.8	352.1	53.74	7.553		
8,400.0	8,324.4	8,537.5	8,374.4	28.0	31.2	103.97	-458.2	-434.6	405.8	352.0	53.80	7.544		
8,500.0	8,424.4	8,637.5	8,474.4	28.1	31.2	103.97	-458.2	-434.6	405.8	352.0	53.86	7.536		
8,600.0	8,524.4	8,737.5	8,574.4	28.1	31.2	103.97	-458.2	-434.6	405.8	351.9	53.92	7.527		
8,700.0	8,624.4	8,837.5	8,674.4	28.1	31.3	103.97	-458.2	-434.6	405.8	351.9	53.98	7.518		
8,800.0	8,724.4	8,937.5	8,774.4	28.1	31.3	103.97	-458.2	-434.6	405.8	351.8	54.04	7.510		
8,900.0	8,824.4	9,037.5	8,874.4	28.2	31.3	103.97	-458.2	-434.6	405.8	351.7	54.11	7.501		
9,000.0	8,924.4	9,137.5	8,974.4	28.2	31.4	103.97	-458.2	-434.6	405.8	351.7	54.17	7.492		
9,100.0	9,024.4	9,237.5	9,074.4	28.2	31.4	103.97	-458.2	-434.6	405.8	351.6	54.23	7.484		
9,200.0	9,124.4	9,337.5	9,174.4	28.2	31.4	103.97	-458.2	-434.6	405.8	351.5	54.30	7.475		
9,300.0	9,224.4	9,437.5	9,274.4	28.3	31.5	103.97	-458.2	-434.6	405.8	351.5	54.36	7.466		
9,400.0	9,324.4	9,537.5	9,374.4	28.3	31.5	103.97	-458.2	-434.6	405.8	351.4	54.42	7.457		
9,500.0	9,424.4	9,637.5	9,474.4	28.3	31.5	103.97	-458.2	-434.6	405.8	351.4	54.49	7.448		
9,600.0	9,524.4	9,737.5	9,574.4	28.4	31.6	103.97	-458.2	-434.6	405.8	351.3	54.55	7.439		
9,700.0	9,624.4	9,837.5	9,674.4	28.4	31.6	103.97	-458.2	-434.6	405.8	351.2	54.62	7.430		
9,800.0	9,724.4	9,937.5	9,774.4	28.4	31.6	103.97	-458.2	-434.6	405.8	351.2	54.69	7.421		
9,900.0	9,824.4	10,037.5	9,874.4	28.5	31.7	103.97	-458.2	-434.6	405.8	351.1	54.75	7.412		
10,000.0	9,924.4	10,137.5	9,974.4	28.5	31.7	103.97	-458.2	-434.6	405.8	351.0	54.82	7.403		
10,100.0	10,024.4	10,237.5	10,074.4	28.5	31.7	103.97	-458.2	-434.6	405.8	351.0	54.89	7.394		
10,200.0	10,124.4	10,337.5	10,174.4	28.5	31.8	103.97	-458.2	-434.6	405.8	350.9	54.96	7.385		
10,300.0	10,224.4	10,437.5	10,274.4	28.6	31.8	103.97	-458.2	-434.6	405.8	350.8	55.02	7.376		
10,400.0	10,324.4	10,537.5	10,374.4	28.6	31.8	103.97	-458.2	-434.6	405.8	350.8	55.09	7.367		
10,500.0	10,424.4	10,637.5	10,474.4	28.6	31.9	103.97	-458.2	-434.6	405.8	350.7	55.16	7.357		
10,600.0	10,524.4	10,737.5	10,574.4	28.7	31.9	103.97	-458.2	-434.6	405.8	350.6	55.23	7.348		
10,700.0	10,624.4	10,837.5	10,674.4	28.7	31.9	103.97	-458.2	-434.6	405.8	350.5	55.30	7.339		
10,793.1	10,717.5	10,930.6	10,767.5	28.7	32.0	103.97	-458.2	-434.6	405.8	350.5	55.36	7.331		
10,800.0	10,724.4	10,937.5	10,774.4	28.7	32.0	104.35	-458.2	-434.6	405.9	350.5	55.37	7.330		
10,825.0	10,749.4	10,962.5	10,799.4	28.7	32.0	104.46	-458.2	-434.6	406.1	350.8	55.35	7.337		
10,850.0	10,774.3	10,987.4	10,824.3	28.7	32.0	104.71	-458.2	-434.6	406.7	351.4	55.28	7.357		
10,875.0	10,799.0	11,012.1	10,849.0	28.6	32.0	105.08	-458.2	-434.6	407.6	352.5	55.15	7.391		
10,900.0	10,823.5	11,036.6	10,873.5	28.6	32.0	105.58	-458.2	-434.6	409.0	354.0	54.97	7.440		
10,925.0	10,847.7	11,060.9	10,897.7	28.6	32.0	106.19	-458.2	-434.6	410.7	356.0	54.73	7.504		
10,950.0	10,871.6	11,084.7	10,921.6	28.5	32.0	106.89	-458.2	-434.6	412.9	358.5	54.44	7.585		
10,975.0	10,895.0	11,108.2	10,945.0	28.5	32.0	107.65	-458.2	-434.6	415.7	361.6	54.08	7.685		
11,000.0	10,918.0	11,131.1	10,968.0	28.4	32.0	108.47	-458.2	-434.6	419.0	365.3	53.67	7.806		
11,025.0	10,940.4	11,153.5	10,990.4	28.4	32.0	109.31	-458.2	-434.6	422.9	369.7	53.21	7.948		
11,050.0	10,962.2	11,175.3	11,012.2	28.4	32.0	110.15	-458.2	-434.6	427.6	374.9	52.69	8.115		
11,075.0	10,983.3	11,196.4	11,033.3	28.3	32.0	110.97	-458.2	-434.6	433.0	380.9	52.12	8.309		
11,100.0	11,003.7	11,216.8	11,053.7	28.3	32.1	111.74	-458.2	-434.6	439.3	387.8	51.50	8.530		
11,125.0	11,023.3	11,236.4	11,073.3	28.3	32.1	112.43	-458.2	-434.6	446.4	395.6	50.83	8.781		
11,150.0	11,042.1	11,255.2	11,092.1	28.2	32.1	113.02	-458.2	-434.6	454.4	404.3	50.13	9.064		
11,175.0	11,060.0	11,273.1	11,110.0	28.2	32.1	113.50	-458.2	-434.6	463.4	414.0	49.41	9.380		
11,200.0	11,076.9	11,288.5	11,125.3	28.2	32.1	113.68	-458.2	-434.6	473.4	424.8	48.67	9.728		
11,225.0	11,092.9	11,300.0	11,136.9	28.2	32.1	113.42	-458.4	-434.6	484.6	436.6	47.92	10.112		
11,250.0	11,107.8	11,307.2	11,144.1	28.1	32.1	112.59	-458.7	-434.6	496.9	449.7	47.18	10.531		
11,275.0	11,121.6	11,314.9	11,151.7	28.1	32.1	111.65	-459.1	-434.6	510.3	463.9	46.44	10.989		
11,300.0	11,134.4	11,325.0	11,161.8	28.1	32.1	110.80	-459.8	-434.6	524.8	479.1	45.69	11.488		
11,325.0	11,146.0	11,325.0	11,161.8	28.1	32.1	108.57	-459.8	-434.6	540.3	495.3	45.00	12.008		
11,350.0	11,156.4	11,331.7	11,168.5	28.1	32.1	106.91	-460.4	-434.6	556.8	512.5	44.30	12.568		
11,375.0	11,165.7	11,335.4	11,172.2	28.1	32.1	104.63	-460.8	-434.6	574.0	530.4	43.64	13.153		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design:	GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 701H - OWB - PWP0A											Offset Site Error:	0.0 usft
Survey Program:	0-r.5 MWD+IFR1+MS											Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
11,400.0	11,173.7	11,338.3	11,175.0	28.1	32.1	101.98	-461.1	-434.6	592.0	549.0	43.02	13.763	
11,425.0	11,180.4	11,340.3	11,177.1	28.1	32.1	98.95	-461.3	-434.6	610.7	568.3	42.43	14.395	
11,450.0	11,185.9	11,341.6	11,178.4	28.1	32.1	95.56	-461.5	-434.6	629.9	588.1	41.87	15.045	
11,475.0	11,190.1	11,342.2	11,179.0	28.1	32.1	91.82	-461.6	-434.6	649.6	608.3	41.35	15.710	
11,500.0	11,193.0	11,342.2	11,179.0	28.1	32.1	87.78	-461.6	-434.6	669.7	628.8	40.87	16.388	
11,525.0	11,194.6	11,341.6	11,178.3	28.1	32.1	83.49	-461.5	-434.6	690.0	649.6	40.41	17.075	
11,541.7	11,195.0	11,340.9	11,177.6	28.2	32.1	80.52	-461.4	-434.6	703.8	663.6	40.13	17.539	
11,600.0	11,195.1	11,338.1	11,174.8	28.2	32.1	80.13	-461.1	-434.6	752.5	713.3	39.25	19.172	
11,700.0	11,195.4	11,333.9	11,170.7	28.4	32.1	79.54	-460.6	-434.6	839.0	800.8	38.12	22.008	
11,800.0	11,195.7	11,325.0	11,161.8	28.6	32.1	78.30	-459.8	-434.6	928.1	890.8	37.36	24.845	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 702H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
4,200.0	4,140.6	4,343.6	4,328.3	20.5	11.4	7.98	-542.9	-1,577.1	991.6	959.2	32.39	30.613		
4,300.0	4,239.1	4,438.7	4,422.4	21.0	11.7	8.18	-538.4	-1,564.7	960.8	927.6	33.14	28.989		
4,400.0	4,337.5	4,533.8	4,516.6	21.4	12.1	8.40	-533.9	-1,552.2	930.0	896.1	33.90	27.434		
4,500.0	4,436.0	4,628.8	4,610.7	21.9	12.4	8.64	-529.4	-1,539.8	899.2	864.6	34.66	25.947		
4,600.0	4,534.5	4,723.9	4,704.9	22.3	12.8	8.89	-524.8	-1,527.4	868.4	833.0	35.42	24.522		
4,700.0	4,632.9	4,819.0	4,799.0	22.8	13.1	9.16	-520.3	-1,514.9	837.7	801.5	36.18	23.156		
4,800.0	4,731.4	4,914.1	4,893.2	23.2	13.5	9.45	-515.8	-1,502.5	807.0	770.0	36.94	21.847		
4,900.0	4,829.8	5,009.1	4,987.3	23.7	13.9	9.76	-511.3	-1,490.1	776.3	738.6	37.70	20.591		
4,919.7	4,849.3	5,027.9	5,005.9	23.7	13.9	9.83	-510.4	-1,487.6	770.2	732.4	37.84	20.352		
5,000.0	4,928.4	5,104.4	5,081.6	24.1	14.2	10.05	-506.7	-1,477.6	746.1	707.6	38.45	19.405		
5,100.0	5,027.2	5,200.2	5,176.5	24.5	14.6	10.33	-502.2	-1,465.1	717.6	678.4	39.20	18.306		
5,200.0	5,126.3	5,296.4	5,271.8	25.0	15.0	10.61	-497.6	-1,452.5	690.7	650.8	39.94	17.294		
5,300.0	5,225.6	5,393.1	5,367.5	25.4	15.4	10.89	-493.0	-1,439.9	665.5	624.9	40.67	16.366		
5,400.0	5,325.1	5,490.2	5,463.7	25.8	15.7	11.17	-488.4	-1,427.2	642.0	600.7	41.38	15.515		
5,500.0	5,424.8	5,587.8	5,560.3	26.2	16.1	11.45	-483.7	-1,414.4	620.2	578.2	42.08	14.739		
5,600.0	5,524.6	5,679.0	5,650.7	26.5	16.5	11.69	-479.5	-1,402.8	600.5	557.7	42.83	14.021		
5,700.0	5,624.4	5,768.4	5,739.5	26.9	16.8	11.89	-475.8	-1,392.7	583.9	540.4	43.57	13.401		
5,800.0	5,724.4	5,858.5	5,829.1	27.2	17.2	12.06	-472.6	-1,383.8	570.6	526.3	44.27	12.889		
5,900.0	5,824.4	5,949.2	5,919.4	27.4	17.5	12.18	-469.8	-1,376.2	560.5	515.6	44.89	12.486		
5,925.6	5,850.0	5,972.4	5,942.6	27.4	17.6	-101.29	-469.2	-1,374.5	558.5	513.5	45.00	12.409		
6,000.0	5,924.4	6,040.2	6,010.1	27.5	17.8	-101.21	-467.6	-1,370.0	553.2	508.0	45.26	12.224		
6,100.0	6,024.4	6,131.3	6,101.1	27.5	18.1	-101.13	-465.8	-1,365.1	547.5	502.0	45.59	12.009		
6,200.0	6,124.4	6,222.7	6,192.4	27.5	18.4	-101.07	-464.5	-1,361.5	543.5	497.5	45.91	11.838		
6,300.0	6,224.4	6,314.1	6,283.8	27.5	18.7	-101.03	-463.7	-1,359.3	540.9	494.7	46.19	11.710		
6,400.0	6,324.4	6,405.6	6,375.2	27.5	18.9	-101.02	-463.4	-1,358.5	540.0	493.6	46.43	11.631		
6,437.0	6,361.4	6,441.7	6,411.4	27.5	18.9	-101.02	-463.4	-1,358.5	540.0	493.5	46.46	11.622		
6,500.0	6,424.4	6,504.7	6,474.4	27.6	18.9	-101.02	-463.4	-1,358.5	540.0	493.5	46.50	11.611		
6,600.0	6,524.4	6,604.7	6,574.4	27.6	19.0	-101.02	-463.4	-1,358.5	540.0	493.4	46.57	11.595		
6,700.0	6,624.4	6,704.7	6,674.4	27.6	19.0	-101.02	-463.4	-1,358.5	540.0	493.3	46.64	11.578		
6,800.0	6,724.4	6,804.7	6,774.4	27.6	19.1	-101.02	-463.4	-1,358.5	540.0	493.3	46.71	11.561		
6,900.0	6,824.4	6,904.7	6,874.4	27.7	19.1	-101.02	-463.4	-1,358.5	540.0	493.2	46.78	11.544		
7,000.0	6,924.4	7,004.7	6,974.4	27.7	19.2	-101.02	-463.4	-1,358.5	540.0	493.1	46.85	11.526		
7,100.0	7,024.4	7,104.7	7,074.4	27.7	19.2	-101.02	-463.4	-1,358.5	540.0	493.1	46.92	11.509		
7,200.0	7,124.4	7,204.7	7,174.4	27.7	19.3	-101.02	-463.4	-1,358.5	540.0	493.0	46.99	11.492		
7,300.0	7,224.4	7,304.7	7,274.4	27.7	19.3	-101.02	-463.4	-1,358.5	540.0	492.9	47.06	11.475		
7,400.0	7,324.4	7,404.7	7,374.4	27.8	19.4	-101.02	-463.4	-1,358.5	540.0	492.8	47.13	11.458		
7,500.0	7,424.4	7,504.7	7,474.4	27.8	19.4	-101.02	-463.4	-1,358.5	540.0	492.8	47.20	11.440		
7,600.0	7,524.4	7,604.7	7,574.4	27.8	19.5	-101.02	-463.4	-1,358.5	540.0	492.7	47.27	11.423		
7,700.0	7,624.4	7,704.7	7,674.4	27.8	19.6	-101.02	-463.4	-1,358.5	540.0	492.6	47.34	11.405		
7,800.0	7,724.4	7,804.7	7,774.4	27.9	19.6	-101.02	-463.4	-1,358.5	540.0	492.6	47.42	11.388		
7,900.0	7,824.4	7,904.7	7,874.4	27.9	19.7	-101.02	-463.4	-1,358.5	540.0	492.5	47.49	11.370		
8,000.0	7,924.4	8,004.7	7,974.4	27.9	19.7	-101.02	-463.4	-1,358.5	540.0	492.4	47.56	11.352		
8,100.0	8,024.4	8,104.7	8,074.4	28.0	19.8	-101.02	-463.4	-1,358.5	540.0	492.3	47.64	11.335		
8,200.0	8,124.4	8,204.7	8,174.4	28.0	19.8	-101.02	-463.4	-1,358.5	540.0	492.3	47.71	11.317		
8,300.0	8,224.4	8,304.7	8,274.4	28.0	19.9	-101.02	-463.4	-1,358.5	540.0	492.2	47.79	11.299		
8,400.0	8,324.4	8,404.7	8,374.4	28.0	19.9	-101.02	-463.4	-1,358.5	540.0	492.1	47.86	11.281		
8,500.0	8,424.4	8,504.7	8,474.4	28.1	20.0	-101.02	-463.4	-1,358.5	540.0	492.0	47.94	11.263		
8,600.0	8,524.4	8,604.7	8,574.4	28.1	20.1	-101.02	-463.4	-1,358.5	540.0	492.0	48.02	11.246		
8,700.0	8,624.4	8,704.7	8,674.4	28.1	20.1	-101.02	-463.4	-1,358.5	540.0	491.9	48.09	11.228		
8,800.0	8,724.4	8,804.7	8,774.4	28.1	20.2	-101.02	-463.4	-1,358.5	540.0	491.8	48.17	11.210		
8,900.0	8,824.4	8,904.7	8,874.4	28.2	20.2	-101.02	-463.4	-1,358.5	540.0	491.7	48.25	11.191		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 702H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS												Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)			
9,000.0	8,924.4	9,004.7	8,974.4	28.2	20.3	-101.02	-463.4	-1,358.5	540.0	491.6	48.33	11.173	
9,100.0	9,024.4	9,104.7	9,074.4	28.2	20.3	-101.02	-463.4	-1,358.5	540.0	491.6	48.41	11.155	
9,200.0	9,124.4	9,204.7	9,174.4	28.2	20.4	-101.02	-463.4	-1,358.5	540.0	491.5	48.48	11.137	
9,300.0	9,224.4	9,304.7	9,274.4	28.3	20.5	-101.02	-463.4	-1,358.5	540.0	491.4	48.56	11.119	
9,400.0	9,324.4	9,404.7	9,374.4	28.3	20.5	-101.02	-463.4	-1,358.5	540.0	491.3	48.64	11.101	
9,500.0	9,424.4	9,504.7	9,474.4	28.3	20.6	-101.02	-463.4	-1,358.5	540.0	491.3	48.72	11.082	
9,600.0	9,524.4	9,604.7	9,574.4	28.4	20.6	-101.02	-463.4	-1,358.5	540.0	491.2	48.80	11.064	
9,700.0	9,624.4	9,704.7	9,674.4	28.4	20.7	-101.02	-463.4	-1,358.5	540.0	491.1	48.88	11.046	
9,800.0	9,724.4	9,804.7	9,774.4	28.4	20.7	-101.02	-463.4	-1,358.5	540.0	491.0	48.97	11.028	
9,900.0	9,824.4	9,904.7	9,874.4	28.5	20.8	-101.02	-463.4	-1,358.5	540.0	490.9	49.05	11.009	
10,000.0	9,924.4	10,004.7	9,974.4	28.5	20.9	-101.02	-463.4	-1,358.5	540.0	490.8	49.13	10.991	
10,100.0	10,024.4	10,104.7	10,074.4	28.5	20.9	-101.02	-463.4	-1,358.5	540.0	490.8	49.21	10.972	
10,200.0	10,124.4	10,204.7	10,174.4	28.5	21.0	-101.02	-463.4	-1,358.5	540.0	490.7	49.30	10.954	
10,300.0	10,224.4	10,304.7	10,274.4	28.6	21.0	-101.02	-463.4	-1,358.5	540.0	490.6	49.38	10.935	
10,400.0	10,324.4	10,404.7	10,374.4	28.6	21.1	-101.02	-463.4	-1,358.5	540.0	490.5	49.46	10.917	
10,500.0	10,424.4	10,504.7	10,474.4	28.6	21.2	-101.02	-463.4	-1,358.5	540.0	490.4	49.55	10.898	
10,600.0	10,524.4	10,604.7	10,574.4	28.7	21.2	-101.02	-463.4	-1,358.5	540.0	490.3	49.63	10.880	
10,700.0	10,624.4	10,704.7	10,674.4	28.7	21.3	-101.02	-463.4	-1,358.5	540.0	490.3	49.72	10.861	
10,793.1	10,717.5	10,797.8	10,767.5	28.7	21.3	-101.02	-463.4	-1,358.5	540.0	490.2	49.79	10.845 CC, ES	
10,800.0	10,724.4	10,804.7	10,774.4	28.7	21.3	-100.65	-463.4	-1,358.5	540.0	490.2	49.80	10.844 SF	
10,825.0	10,749.4	10,829.7	10,799.4	28.7	21.4	-100.73	-463.4	-1,358.5	540.2	490.4	49.81	10.845	
10,850.0	10,774.3	10,854.6	10,824.3	28.7	21.4	-100.92	-463.4	-1,358.5	540.6	490.8	49.83	10.848	
10,875.0	10,799.0	10,879.3	10,849.0	28.6	21.4	-101.21	-463.4	-1,358.5	541.3	491.4	49.86	10.856	
10,900.0	10,823.5	10,903.8	10,873.5	28.6	21.4	-101.59	-463.4	-1,358.5	542.3	492.4	49.90	10.867	
10,925.0	10,847.7	10,928.0	10,897.7	28.6	21.4	-102.06	-463.4	-1,358.5	543.6	493.7	49.94	10.884	
10,950.0	10,871.6	10,951.9	10,921.6	28.5	21.4	-102.60	-463.4	-1,358.5	545.3	495.3	49.99	10.908	
10,975.0	10,895.0	10,975.3	10,945.0	28.5	21.4	-103.19	-463.4	-1,358.5	547.3	497.3	50.03	10.940	
11,000.0	10,918.0	10,998.3	10,968.0	28.4	21.5	-103.82	-463.4	-1,358.5	549.8	499.8	50.07	10.982	
11,025.0	10,940.4	11,020.7	10,990.4	28.4	21.5	-104.48	-463.4	-1,358.5	552.8	502.7	50.10	11.035	
11,050.0	10,962.2	11,042.5	11,012.2	28.4	21.5	-105.14	-463.4	-1,358.5	556.4	506.3	50.11	11.103	
11,075.0	10,983.3	11,063.6	11,033.3	28.3	21.5	-105.78	-463.4	-1,358.5	560.6	510.4	50.11	11.186	
11,100.0	11,003.7	11,084.0	11,053.7	28.3	21.5	-106.39	-463.4	-1,358.5	565.4	515.3	50.09	11.287	
11,125.0	11,023.3	11,103.6	11,073.3	28.3	21.5	-106.94	-463.4	-1,358.5	570.9	520.9	50.05	11.407	
11,150.0	11,042.1	11,122.4	11,092.1	28.2	21.5	-107.42	-463.4	-1,358.5	577.2	527.2	49.98	11.548	
11,175.0	11,060.0	11,140.3	11,110.0	28.2	21.5	-107.80	-463.4	-1,358.5	584.3	534.4	49.89	11.712	
11,200.0	11,076.9	11,152.8	11,122.5	28.2	21.5	-107.74	-463.4	-1,358.5	592.2	542.4	49.79	11.894	
11,225.0	11,092.9	11,165.6	11,135.3	28.2	21.5	-107.62	-463.5	-1,358.5	601.1	551.5	49.65	12.107	
11,250.0	11,107.8	11,175.0	11,144.7	28.1	21.5	-107.14	-463.9	-1,358.5	611.1	561.6	49.51	12.343	
11,275.0	11,121.6	11,182.1	11,151.8	28.1	21.5	-106.34	-464.3	-1,358.5	622.0	572.7	49.34	12.608	
11,300.0	11,134.4	11,188.7	11,158.3	28.1	21.5	-105.36	-464.7	-1,358.5	633.9	584.8	49.14	12.900	
11,325.0	11,146.0	11,194.3	11,163.9	28.1	21.5	-104.14	-465.2	-1,358.5	646.8	597.9	48.93	13.219	
11,350.0	11,156.4	11,200.0	11,169.6	28.1	21.5	-102.77	-465.7	-1,358.5	660.6	611.9	48.69	13.566	
11,375.0	11,165.7	11,200.0	11,169.6	28.1	21.5	-100.65	-465.7	-1,358.5	675.2	626.7	48.49	13.924	
11,400.0	11,173.7	11,200.0	11,169.6	28.1	21.5	-98.34	-465.7	-1,358.5	690.6	642.3	48.27	14.306	
11,425.0	11,180.4	11,207.5	11,177.1	28.1	21.5	-96.64	-466.5	-1,358.5	706.6	658.6	47.96	14.731	
11,450.0	11,185.9	11,208.8	11,178.4	28.1	21.5	-94.11	-466.7	-1,358.5	723.2	675.5	47.71	15.159	
11,475.0	11,190.1	11,209.4	11,179.0	28.1	21.5	-91.34	-466.7	-1,358.5	740.4	692.9	47.45	15.603	
11,500.0	11,193.0	11,209.4	11,179.0	28.1	21.5	-88.35	-466.7	-1,358.5	758.0	710.8	47.20	16.061	
11,525.0	11,194.6	11,208.8	11,178.4	28.1	21.5	-85.16	-466.7	-1,358.5	776.1	729.1	46.95	16.530	
11,541.7	11,195.0	11,208.1	11,177.6	28.2	21.5	-82.95	-466.6	-1,358.5	788.3	741.5	46.78	16.850	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design:	GRIZZOUGAR FEDERAL PROJECT - _GRIZZOUGAR FED COM 702H - OWB - PWP0											Offset Site Error:	0.0 usft
Survey Program:	0-r.5 MWD+IFR1+MS											Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Rule Assigned:		No-Go Distance (usft)	Separation Factor	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)		Reference (usft)	Offset (usft)	Between Centres (usft)	Between Ellipses (usft)					
11,600.0	11,195.1	11,200.0	11,169.6		28.2	21.5	-82.10	-465.7	-1,358.5	832.1	785.8	46.28	17.979
11,700.0	11,195.4	11,200.0	11,169.6		28.4	21.5	-82.10	-465.7	-1,358.5	910.9	865.5	45.35	20.087
11,800.0	11,195.7	11,200.0	11,169.6		28.6	21.5	-82.10	-465.7	-1,358.5	993.5	949.0	44.51	22.319

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well_ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: ORE DIGGER PROJECT - _ORE DIGGER FEDERAL 501H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Rule Assigned:		Distance		No-Go		Separation		Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Distance (usft)	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	-90.36	-0.2	-30.0	30.0	29.5	0.51	58.743		
1.0	1.0	1.0	1.0	0.1	0.0	-90.36	-0.2	-30.0	30.0	29.4	0.59	50.654		
100.0	100.0	100.0	100.0	3.6	1.2	24.51	-0.2	-30.0	28.4	22.7	5.71	4.979		
200.0	199.8	199.8	199.8	3.9	1.7	29.75	-0.2	-30.0	23.8	17.4	6.38	3.732		
300.0	299.5	299.5	299.5	4.3	2.1	44.66	-0.2	-30.0	16.8	9.9	6.89	2.443	Caution - Monitor Closely	
398.9	397.6	397.6	397.6	4.6	2.4	90.00	-0.2	-30.0	11.8	4.7	7.06	1.671	Caution - Monitor Closely, CC	
400.0	398.7	398.7	398.7	4.6	2.4	90.75	-0.2	-30.0	11.8	4.7	7.06	1.670	Caution - Monitor Closely, ES, SF	
503.9	501.4	501.4	501.4	5.1	2.7	143.95	-0.2	-30.0	20.2	12.0	8.22	2.462	Caution - Monitor Closely	
600.0	595.9	595.9	595.9	5.4	3.0	160.18	-0.2	-30.0	35.3	26.3	8.95	3.938		
700.0	694.4	694.4	694.4	5.7	3.2	166.71	-0.2	-30.0	52.0	42.5	9.57	5.437		
800.0	792.9	792.9	792.9	6.0	3.5	170.04	-0.2	-30.0	69.2	59.0	10.17	6.803		
900.0	891.3	891.3	891.3	6.4	3.7	172.04	-0.2	-30.0	86.4	75.7	10.76	8.033		
1,000.0	989.8	989.8	989.8	6.8	3.9	173.37	-0.2	-30.0	103.8	92.4	11.36	9.138		
1,100.0	1,088.3	1,088.3	1,088.3	7.1	4.1	174.33	-0.2	-30.0	121.1	109.2	11.95	10.133		
1,200.0	1,186.7	1,186.7	1,186.7	7.5	4.3	175.04	-0.2	-30.0	138.5	126.0	12.56	11.031		
1,300.0	1,285.2	1,285.2	1,285.2	7.9	4.5	175.60	-0.2	-30.0	155.9	142.8	13.16	11.845		
1,400.0	1,383.6	1,383.6	1,383.6	8.3	4.6	176.04	-0.2	-30.0	173.4	159.6	13.78	12.585		
1,500.0	1,482.1	1,482.1	1,482.1	8.7	4.8	176.40	-0.2	-30.0	190.8	176.4	14.39	13.260		
1,600.0	1,580.6	1,586.8	1,586.8	9.1	5.1	176.67	-0.6	-31.2	207.0	191.9	15.09	13.716		
1,700.0	1,679.0	1,693.9	1,693.7	9.5	5.3	176.74	-2.2	-36.2	219.7	203.9	15.81	13.892		
1,800.0	1,777.5	1,801.8	1,801.3	10.0	5.6	176.66	-5.1	-45.1	228.6	212.1	16.53	13.829		
1,900.0	1,876.0	1,909.1	1,907.7	10.4	5.9	176.43	-9.2	-57.7	233.9	216.7	17.24	13.567		
2,000.0	1,974.4	2,009.0	2,006.7	10.8	6.3	176.17	-13.5	-70.7	237.8	219.8	18.02	13.200		
2,100.0	2,072.9	2,108.9	2,105.6	11.2	6.5	175.92	-17.7	-83.8	241.8	223.0	18.71	12.923		
2,200.0	2,171.3	2,208.8	2,204.6	11.7	6.8	175.68	-21.9	-96.8	245.7	226.3	19.41	12.656		
2,300.0	2,269.8	2,308.7	2,303.6	12.1	7.0	175.45	-26.2	-109.9	249.6	229.5	20.13	12.400		
2,400.0	2,368.3	2,408.7	2,402.5	12.5	7.3	175.22	-30.4	-122.9	253.5	232.7	20.86	12.155		
2,500.0	2,466.7	2,508.6	2,501.5	13.0	7.6	175.01	-34.7	-136.0	257.5	235.9	21.60	11.921		
2,600.0	2,565.2	2,608.5	2,600.5	13.4	8.0	174.79	-38.9	-149.0	261.4	239.1	22.35	11.698		
2,700.0	2,663.7	2,708.4	2,699.5	13.8	8.3	174.59	-43.2	-162.1	265.4	242.3	23.11	11.485		
2,800.0	2,762.1	2,808.3	2,798.4	14.3	8.6	174.39	-47.4	-175.1	269.3	245.5	23.87	11.283		
2,900.0	2,860.6	2,908.2	2,897.4	14.7	9.0	174.19	-51.7	-188.2	273.3	248.6	24.64	11.090		
3,000.0	2,959.1	3,008.2	2,996.4	15.2	9.3	174.01	-55.9	-201.2	277.2	251.8	25.42	10.907		
3,100.0	3,057.5	3,108.1	3,095.3	15.6	9.7	173.82	-60.2	-214.2	281.2	255.0	26.20	10.732		
3,200.0	3,156.0	3,208.0	3,194.3	16.1	10.0	173.64	-64.4	-227.3	285.1	258.2	26.99	10.565		
3,300.0	3,254.4	3,307.9	3,293.3	16.5	10.4	173.47	-68.7	-240.3	289.1	261.3	27.78	10.407		
3,400.0	3,352.9	3,407.8	3,392.3	16.9	10.8	173.30	-72.9	-253.4	293.1	264.5	28.58	10.256		
3,500.0	3,451.4	3,507.8	3,491.2	17.4	11.2	173.14	-77.2	-266.4	297.0	267.7	29.38	10.112		
3,600.0	3,549.8	3,607.7	3,590.2	17.8	11.5	172.98	-81.4	-279.5	301.0	270.8	30.18	9.975		
3,700.0	3,648.3	3,707.6	3,689.2	18.3	11.9	172.82	-85.7	-292.5	305.0	274.0	30.98	9.844		
3,800.0	3,746.8	3,807.5	3,788.1	18.7	12.3	172.67	-89.9	-305.6	309.0	277.2	31.79	9.719		
3,900.0	3,845.2	3,907.4	3,887.1	19.2	12.7	172.52	-94.2	-318.6	312.9	280.3	32.60	9.599		
4,000.0	3,943.7	4,007.3	3,986.1	19.6	13.1	172.38	-98.4	-331.7	316.9	283.5	33.41	9.485		
4,100.0	4,042.1	4,107.3	4,085.1	20.1	13.5	172.24	-102.7	-344.7	320.9	286.7	34.23	9.375		
4,200.0	4,140.6	4,207.2	4,184.0	20.5	13.9	172.10	-106.9	-357.8	324.9	289.8	35.05	9.271		
4,300.0	4,239.1	4,307.1	4,283.0	21.0	14.3	171.97	-111.2	-370.8	328.9	293.0	35.86	9.170		
4,400.0	4,337.5	4,407.0	4,382.0	21.4	14.7	171.84	-115.4	-383.8	332.9	296.2	36.68	9.074		
4,500.0	4,436.0	4,506.9	4,480.9	21.9	15.1	171.71	-119.7	-396.9	336.9	299.3	37.50	8.982		
4,600.0	4,534.5	4,606.8	4,579.9	22.3	15.5	171.59	-123.9	-409.9	340.8	302.5	38.33	8.893		
4,700.0	4,632.9	4,706.8	4,678.9	22.8	15.9	171.47	-128.2	-423.0	344.8	305.7	39.15	8.808		
4,800.0	4,731.4	4,806.7	4,777.9	23.2	16.3	171.35	-132.4	-436.0	348.8	308.9	39.97	8.726		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: ORE DIGGER PROJECT - _ORE DIGGER FEDERAL 501H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	0.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
4,900.0	4,829.8	4,906.6	4,876.8	23.7	16.7	171.23	-136.7	-449.1	352.8	312.0	40.80	8.648		
4,919.7	4,849.3	4,926.3	4,896.3	23.7	16.8	171.21	-137.5	-451.7	353.6	312.7	40.96	8.634		
5,000.0	4,928.4	5,006.5	4,975.8	24.1	17.1	171.11	-140.9	-462.1	356.3	314.7	41.61	8.562		
5,100.0	5,027.2	5,106.5	5,074.8	24.5	17.5	170.94	-145.2	-475.2	358.0	315.6	42.42	8.441		
5,200.0	5,126.3	5,206.5	5,173.9	25.0	18.0	170.73	-149.4	-488.2	358.0	314.8	43.20	8.288		
5,300.0	5,225.6	5,306.5	5,272.9	25.4	18.4	170.47	-153.7	-501.3	356.4	312.4	43.97	8.105		
5,400.0	5,325.1	5,406.4	5,371.9	25.8	18.8	170.16	-157.9	-514.3	353.0	308.3	44.71	7.895		
5,500.0	5,424.8	5,506.2	5,470.8	26.2	19.2	169.79	-162.1	-527.4	347.9	302.4	45.42	7.659		
5,600.0	5,524.6	5,606.0	5,569.6	26.5	19.6	169.34	-166.4	-540.4	341.1	295.0	46.10	7.398		
5,700.0	5,624.4	5,705.6	5,668.2	26.9	20.0	168.82	-170.6	-553.4	332.6	285.8	46.74	7.116		
5,800.0	5,724.4	5,805.0	5,766.7	27.2	20.4	168.21	-174.9	-566.4	322.4	275.1	47.32	6.814		
5,900.0	5,824.4	5,904.2	5,865.0	27.4	20.9	167.48	-179.1	-579.3	310.6	262.8	47.81	6.497		
5,925.6	5,850.0	5,929.6	5,890.1	27.4	21.0	53.78	-180.1	-582.7	307.3	259.4	47.89	6.417		
6,000.0	5,924.4	6,003.3	5,963.1	27.5	21.3	53.16	-183.3	-592.3	297.6	249.6	48.05	6.194		
6,100.0	6,024.4	6,102.3	6,061.2	27.5	21.7	52.27	-187.5	-605.2	284.6	236.4	48.25	5.899		
6,200.0	6,124.4	6,201.4	6,159.3	27.5	22.1	51.30	-191.7	-618.1	271.7	223.3	48.44	5.610		
6,300.0	6,224.4	6,300.4	6,257.5	27.5	22.5	50.23	-195.9	-631.1	258.9	210.3	48.59	5.328		
6,400.0	6,324.4	6,399.5	6,355.6	27.5	22.9	49.05	-200.1	-644.0	246.2	197.5	48.71	5.054		
6,500.0	6,424.4	6,498.5	6,453.7	27.6	23.3	47.74	-204.3	-656.9	233.6	184.8	48.78	4.788		
6,600.0	6,524.4	6,597.6	6,551.8	27.6	23.8	46.28	-208.6	-669.9	221.1	172.3	48.80	4.531		
6,700.0	6,624.4	6,696.6	6,649.9	27.6	24.2	44.65	-212.8	-682.8	208.8	160.1	48.75	4.284		
6,800.0	6,724.4	6,795.7	6,748.0	27.6	24.6	42.82	-217.0	-695.7	196.7	148.1	48.60	4.047		
6,900.0	6,824.4	6,894.8	6,846.1	27.7	25.0	40.75	-221.2	-708.7	184.8	136.4	48.35	3.822		
7,000.0	6,924.4	6,993.8	6,944.3	27.7	25.4	38.40	-225.4	-721.6	173.2	125.2	47.95	3.611		
7,100.0	7,024.4	7,092.9	7,042.4	27.7	25.9	35.72	-229.6	-734.5	161.9	114.5	47.37	3.417		
7,200.0	7,124.4	7,191.9	7,140.5	27.7	26.3	32.65	-233.8	-747.5	151.0	104.4	46.56	3.242		
7,300.0	7,224.4	7,291.0	7,238.6	27.7	26.7	29.11	-238.0	-760.4	140.6	95.1	45.48	3.091		
7,400.0	7,324.4	7,390.0	7,336.7	27.8	27.1	25.04	-242.2	-773.3	130.8	86.7	44.04	2.969 Normal Operations		
7,500.0	7,424.4	7,488.1	7,433.9	27.8	27.5	20.55	-246.3	-785.7	122.0	79.8	42.26	2.888 Normal Operations		
7,600.0	7,524.4	7,586.2	7,531.4	27.8	27.9	16.09	-249.8	-796.6	115.1	74.7	40.39	2.850 Normal Operations		
7,700.0	7,624.4	7,684.7	7,629.4	27.8	28.3	11.86	-252.8	-805.9	109.8	71.2	38.56	2.848 Normal Operations		
7,800.0	7,724.4	7,783.5	7,727.8	27.9	28.7	8.04	-255.4	-813.6	105.9	69.0	36.94	2.868 Normal Operations		
7,900.0	7,824.4	7,882.5	7,826.7	27.9	29.0	4.83	-257.4	-819.8	103.2	67.6	35.62	2.898 Normal Operations		
8,000.0	7,924.4	7,981.8	7,925.8	27.9	29.4	2.36	-258.8	-824.3	101.5	66.8	34.69	2.925 Normal Operations		
8,100.0	8,024.4	8,081.1	8,025.1	28.0	29.7	0.74	-259.8	-827.2	100.4	66.3	34.15	2.941 Normal Operations		
8,200.0	8,124.4	8,180.6	8,124.5	28.0	29.9	0.03	-260.2	-828.4	100.0	66.1	33.97	2.945 Normal Operations		
8,244.8	8,169.2	8,225.2	8,169.2	28.0	29.9	0.01	-260.2	-828.5	100.0	66.0	34.00	2.941 Normal Operations		
8,300.0	8,224.4	8,280.4	8,224.4	28.0	29.9	0.01	-260.2	-828.5	100.0	66.0	34.05	2.937 Normal Operations		
8,400.0	8,324.4	8,380.4	8,324.4	28.0	29.9	0.01	-260.2	-828.5	100.0	65.9	34.15	2.929 Normal Operations		
8,500.0	8,424.4	8,480.4	8,424.4	28.1	30.0	0.01	-260.2	-828.5	100.0	65.8	34.24	2.921 Normal Operations		
8,600.0	8,524.4	8,580.4	8,524.4	28.1	30.0	0.01	-260.2	-828.5	100.0	65.7	34.34	2.913 Normal Operations		
8,700.0	8,624.4	8,680.4	8,624.4	28.1	30.0	0.01	-260.2	-828.5	100.0	65.6	34.43	2.905 Normal Operations		
8,800.0	8,724.4	8,780.4	8,724.4	28.1	30.0	0.01	-260.2	-828.5	100.0	65.5	34.53	2.897 Normal Operations		
8,900.0	8,824.4	8,880.4	8,824.4	28.2	30.1	0.01	-260.2	-828.5	100.0	65.4	34.62	2.889 Normal Operations		
9,000.0	8,924.4	8,980.4	8,924.4	28.2	30.1	0.01	-260.2	-828.5	100.0	65.3	34.72	2.881 Normal Operations		
9,100.0	9,024.4	9,080.4	9,024.4	28.2	30.1	0.01	-260.2	-828.5	100.0	65.2	34.82	2.873 Normal Operations		
9,200.0	9,124.4	9,180.4	9,124.4	28.2	30.1	0.01	-260.2	-828.5	100.0	65.1	34.91	2.864 Normal Operations		
9,300.0	9,224.4	9,280.4	9,224.4	28.3	30.2	0.01	-260.2	-828.5	100.0	65.0	35.01	2.856 Normal Operations		
9,400.0	9,324.4	9,380.4	9,324.4	28.3	30.2	0.01	-260.2	-828.5	100.0	64.9	35.11	2.848 Normal Operations		
9,500.0	9,424.4	9,480.4	9,424.4	28.3	30.2	0.01	-260.2	-828.5	100.0	64.8	35.21	2.840 Normal Operations		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: ORE DIGGER PROJECT - _ORE DIGGER FEDERAL 501H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning	
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
9,600.0	9,524.4	9,580.4	9,524.4	28.4	30.2	0.01	-260.2	-828.5	100.0	64.7	35.31	2.832	Normal Operations	
9,700.0	9,624.4	9,680.4	9,624.4	28.4	30.3	0.01	-260.2	-828.5	100.0	64.6	35.41	2.824	Normal Operations	
9,800.0	9,724.4	9,780.4	9,724.4	28.4	30.3	0.01	-260.2	-828.5	100.0	64.5	35.51	2.816	Normal Operations	
9,900.0	9,824.4	9,880.4	9,824.4	28.5	30.3	0.01	-260.2	-828.5	100.0	64.4	35.61	2.808	Normal Operations	
10,000.0	9,924.4	9,980.4	9,924.4	28.5	30.3	0.01	-260.2	-828.5	100.0	64.3	35.71	2.800	Normal Operations	
10,100.0	10,024.4	10,080.4	10,024.4	28.5	30.4	0.01	-260.2	-828.5	100.0	64.2	35.82	2.792	Normal Operations	
10,113.8	10,038.2	10,094.3	10,038.2	28.5	30.4	0.01	-260.2	-828.5	100.0	64.2	35.83	2.791	Normal Operations	
10,200.0	10,124.4	10,179.1	10,123.0	28.5	30.4	0.00	-260.1	-828.5	100.1	64.2	35.86	2.791	Normal Operations	
10,300.0	10,224.4	10,260.7	10,204.2	28.6	30.3	-0.03	-252.1	-828.5	110.0	74.6	35.43	3.104		
10,400.0	10,324.4	10,337.5	10,278.2	28.6	30.2	-0.08	-232.0	-828.6	136.3	100.9	35.36	3.855		
10,500.0	10,424.4	10,406.4	10,341.1	28.6	30.1	-0.14	-204.0	-828.8	177.0	141.3	35.67	4.960		
10,600.0	10,524.4	10,466.2	10,392.0	28.7	30.1	-0.18	-172.7	-829.0	229.5	193.3	36.28	6.326		
10,700.0	10,624.4	10,517.0	10,431.8	28.7	30.0	-0.21	-141.3	-829.2	291.6	254.5	37.06	7.868		
10,793.1	10,717.5	10,557.1	10,460.8	28.7	30.0	-0.22	-113.5	-829.4	356.0	318.2	37.83	9.410		
10,800.0	10,724.4	10,559.8	10,462.7	28.7	30.0	0.14	-111.6	-829.4	361.0	323.1	37.89	9.527		
10,825.0	10,749.4	10,575.0	10,473.0	28.7	30.0	0.13	-100.4	-829.5	378.6	340.6	37.98	9.968		
10,850.0	10,774.3	10,575.0	10,473.0	28.7	30.0	0.12	-100.4	-829.5	395.6	357.2	38.39	10.305		
10,875.0	10,799.0	10,590.1	10,482.8	28.6	29.9	0.11	-88.9	-829.6	412.0	373.5	38.50	10.702		
10,900.0	10,823.5	10,600.0	10,489.1	28.6	29.9	0.11	-81.3	-829.6	427.9	389.2	38.72	11.051		
10,925.0	10,847.7	10,610.8	10,495.7	28.6	29.9	0.10	-72.8	-829.7	443.2	404.2	38.94	11.382		
10,950.0	10,871.6	10,625.0	10,504.2	28.5	29.9	0.09	-61.4	-829.8	457.9	418.8	39.09	11.713		
10,975.0	10,895.0	10,631.7	10,508.1	28.5	29.9	0.09	-56.0	-829.8	471.9	432.5	39.39	11.978		
11,000.0	10,918.0	10,642.2	10,514.0	28.4	29.9	0.09	-47.2	-829.9	485.3	445.6	39.63	12.244		
11,025.0	10,940.4	10,650.0	10,518.3	28.4	29.9	0.08	-40.7	-829.9	498.0	458.1	39.93	12.474		
11,050.0	10,962.2	10,663.4	10,525.4	28.4	29.9	0.08	-29.3	-830.0	510.1	470.0	40.12	12.714		
11,075.0	10,983.3	10,675.0	10,531.2	28.3	29.9	0.08	-19.3	-830.0	521.5	481.2	40.36	12.923		
11,100.0	11,003.7	10,684.8	10,536.0	28.3	29.9	0.07	-10.7	-830.1	532.3	491.7	40.63	13.102		
11,125.0	11,023.3	10,700.0	10,543.0	28.3	29.9	0.07	2.7	-830.2	542.4	501.6	40.81	13.291		
11,150.0	11,042.1	10,700.0	10,543.0	28.2	29.9	0.07	2.7	-830.2	551.9	510.6	41.25	13.378		
11,175.0	11,060.0	10,717.2	10,550.5	28.2	29.9	0.07	18.2	-830.3	560.5	519.1	41.41	13.535		
11,200.0	11,076.9	10,725.0	10,553.7	28.2	29.9	0.06	25.3	-830.3	568.5	526.8	41.72	13.626		
11,225.0	11,092.9	10,739.0	10,559.1	28.2	29.9	0.06	38.2	-830.4	575.8	533.9	41.94	13.729		
11,250.0	11,107.8	10,750.0	10,563.1	28.1	29.9	0.06	48.4	-830.5	582.4	540.2	42.21	13.799		
11,275.0	11,121.6	10,760.8	10,566.8	28.1	29.9	0.06	58.6	-830.6	588.3	545.8	42.48	13.849		
11,300.0	11,134.4	10,775.0	10,571.3	28.1	29.9	0.06	72.1	-830.6	593.5	550.8	42.70	13.899		
11,325.0	11,146.0	10,782.6	10,573.6	28.1	29.9	0.06	79.4	-830.7	597.9	554.9	43.01	13.900		
11,350.0	11,156.4	10,800.0	10,578.3	28.1	29.9	0.06	96.1	-830.8	601.7	558.5	43.19	13.929		
11,375.0	11,165.7	10,800.0	10,578.3	28.1	29.9	0.06	96.1	-830.8	604.6	561.0	43.60	13.867		
11,400.0	11,173.7	10,815.5	10,582.0	28.1	29.9	0.06	111.1	-830.9	606.8	563.0	43.81	13.853		
11,425.0	11,180.4	10,825.0	10,584.0	28.1	29.9	0.06	120.4	-831.0	608.4	564.3	44.08	13.800		
11,450.0	11,185.9	10,837.5	10,586.4	28.1	29.9	0.06	132.7	-831.0	609.1	564.8	44.32	13.743		
11,475.0	11,190.1	10,850.0	10,588.5	28.1	29.9	0.06	145.0	-831.1	609.2	564.6	44.56	13.671		
11,500.0	11,193.0	10,859.5	10,589.8	28.1	29.9	0.06	154.4	-831.2	608.5	563.7	44.83	13.575		
11,525.0	11,194.6	10,875.0	10,591.6	28.1	29.9	0.06	169.8	-831.3	607.1	562.1	45.03	13.484		
11,541.7	11,195.0	10,875.0	10,591.6	28.2	29.9	0.06	169.8	-831.3	605.8	560.5	45.26	13.385		
11,600.0	11,195.1	10,900.0	10,593.4	28.2	29.9	0.06	194.7	-831.5	602.1	556.3	45.80	13.144		
11,643.9	11,195.3	10,925.0	10,594.0	28.3	29.9	0.06	219.7	-831.6	601.3	555.1	46.17	13.025		
11,700.0	11,195.4	10,972.5	10,593.4	28.4	29.9	0.06	267.3	-831.9	602.0	555.5	46.51	12.943		
11,800.0	11,195.7	11,072.5	10,592.3	28.6	30.0	0.05	367.2	-832.6	603.5	556.4	47.07	12.820		
11,900.0	11,196.0	11,172.5	10,591.1	28.8	30.1	0.05	467.2	-833.3	604.9	557.2	47.68	12.688		
12,000.0	11,196.3	11,272.5	10,590.0	29.0	30.3	0.05	567.2	-833.9	606.4	558.0	48.32	12.549		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: ORE DIGGER PROJECT - _ORE DIGGER FEDERAL 501H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1+MS													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Distance		Rule Assigned:		Warning				
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor		
12,100.0	11,196.6	11,372.5	10,588.9	29.3	30.4	0.05	667.2	-834.6	607.8	558.8	49.01	12.402		
12,200.0	11,196.9	11,472.5	10,587.7	29.6	30.6	0.05	767.2	-835.2	609.2	559.5	49.73	12.250		
12,300.0	11,197.2	11,572.5	10,586.6	29.9	30.8	0.05	867.1	-835.9	610.7	560.2	50.50	12.093		
12,400.0	11,197.5	11,672.5	10,585.4	30.2	31.0	0.05	967.1	-836.6	612.1	560.8	51.30	11.933		
12,500.0	11,197.8	11,772.5	10,584.3	30.6	31.2	0.04	1,067.1	-837.2	613.6	561.4	52.13	11.770		
12,600.0	11,198.1	11,872.5	10,583.1	31.0	31.4	0.04	1,167.1	-837.9	615.0	562.0	52.99	11.605		
12,700.0	11,198.4	11,972.4	10,582.0	31.4	31.7	0.04	1,267.1	-838.5	616.4	562.5	53.89	11.438		
12,800.0	11,198.7	12,072.4	10,580.8	31.9	31.9	0.04	1,367.0	-839.2	617.9	563.0	54.82	11.271		
12,900.0	11,199.0	12,172.4	10,579.7	32.4	32.2	0.04	1,467.0	-839.9	619.3	563.5	55.77	11.104		
13,000.0	11,199.3	12,272.4	10,578.6	32.8	32.5	0.04	1,567.0	-840.5	620.7	564.0	56.75	10.938		
13,100.0	11,199.6	12,372.4	10,577.4	33.4	32.8	0.04	1,667.0	-841.2	622.2	564.4	57.76	10.772		
13,200.0	11,199.9	12,472.4	10,576.3	33.9	33.2	0.04	1,767.0	-841.8	623.6	564.8	58.79	10.608		
13,300.0	11,200.2	12,572.4	10,575.1	34.4	33.5	0.03	1,867.0	-842.5	625.1	565.2	59.84	10.446		
13,400.0	11,200.4	12,672.4	10,574.0	35.0	33.8	0.03	1,966.9	-843.1	626.5	565.6	60.91	10.285		
13,500.0	11,200.7	12,772.4	10,572.8	35.6	34.2	0.03	2,066.9	-843.8	627.9	565.9	62.01	10.127		
13,600.0	11,201.0	12,872.4	10,571.7	36.2	34.6	0.03	2,166.9	-844.5	629.4	566.3	63.12	9.971		
13,700.0	11,201.3	12,972.3	10,570.6	36.8	35.0	0.03	2,266.9	-845.1	630.8	566.6	64.25	9.818		
13,800.0	11,201.6	13,072.3	10,569.4	37.5	35.4	0.03	2,366.9	-845.8	632.3	566.9	65.40	9.668		
13,900.0	11,201.9	13,172.3	10,568.3	38.1	35.8	0.03	2,466.8	-846.4	633.7	567.1	66.56	9.520		
14,000.0	11,202.2	13,272.3	10,567.1	38.8	36.2	0.03	2,566.8	-847.1	635.1	567.4	67.74	9.376		
14,100.0	11,202.5	13,372.3	10,566.0	39.5	36.7	0.03	2,666.8	-847.8	636.6	567.6	68.94	9.234		
14,200.0	11,202.8	13,472.3	10,564.8	40.1	37.1	0.02	2,766.8	-848.4	638.0	567.9	70.15	9.095		
14,300.0	11,203.1	13,572.3	10,563.7	40.8	37.6	0.02	2,866.8	-849.1	639.4	568.1	71.37	8.960		
14,400.0	11,203.4	13,672.3	10,562.6	41.6	38.0	0.02	2,966.7	-849.7	640.9	568.3	72.60	8.827		
14,500.0	11,203.7	13,772.3	10,561.4	42.3	38.5	0.02	3,066.7	-850.4	642.3	568.5	73.85	8.698		
14,600.0	11,204.0	13,872.2	10,560.3	43.0	39.0	0.02	3,166.7	-851.1	643.8	568.6	75.11	8.571		
14,700.0	11,204.3	13,972.2	10,559.1	43.8	39.5	0.02	3,266.7	-851.7	645.2	568.8	76.38	8.448		
14,800.0	11,204.6	14,072.2	10,558.0	44.5	40.0	0.02	3,366.7	-852.4	646.6	569.0	77.66	8.327		
14,900.0	11,204.9	14,172.2	10,556.8	45.3	40.5	0.02	3,466.6	-853.0	648.1	569.1	78.94	8.209		
15,000.0	11,205.2	14,272.2	10,555.7	46.0	41.0	0.01	3,566.6	-853.7	649.5	569.3	80.24	8.094		
15,100.0	11,205.5	14,372.2	10,554.6	46.8	41.5	0.01	3,666.6	-854.4	650.9	569.4	81.55	7.982		
15,200.0	11,205.8	14,472.2	10,553.4	47.6	42.1	0.01	3,766.6	-855.0	652.4	569.5	82.86	7.873		
15,300.0	11,206.1	14,572.2	10,552.3	48.4	42.6	0.01	3,866.6	-855.7	653.8	569.6	84.19	7.766		
15,400.0	11,206.3	14,672.2	10,551.1	49.2	43.2	0.01	3,966.6	-856.3	655.3	569.7	85.52	7.662		
15,500.0	11,206.6	14,772.2	10,550.0	50.0	43.7	0.01	4,066.5	-857.0	656.7	569.8	86.86	7.561		
15,600.0	11,206.9	14,872.1	10,548.8	50.8	44.3	0.01	4,166.5	-857.7	658.1	569.9	88.20	7.462		
15,700.0	11,207.2	14,972.1	10,547.7	51.6	44.9	0.01	4,266.5	-858.3	659.6	570.0	89.55	7.365		
15,800.0	11,207.5	15,072.1	10,546.6	52.4	45.4	0.01	4,366.5	-859.0	661.0	570.1	90.91	7.271		
15,900.0	11,207.8	15,172.1	10,545.4	53.3	46.0	0.00	4,466.5	-859.6	662.5	570.2	92.27	7.179		
16,000.0	11,208.1	15,272.1	10,544.3	54.1	46.6	0.00	4,566.4	-860.3	663.9	570.3	93.64	7.090		
16,100.0	11,208.4	15,372.1	10,543.1	54.9	47.2	0.00	4,666.4	-861.0	665.3	570.3	95.02	7.002		
16,200.0	11,208.7	15,472.1	10,542.0	55.8	47.8	0.00	4,766.4	-861.6	666.8	570.4	96.40	6.917		
16,298.4	11,209.0	15,570.4	10,540.9	56.6	48.4	0.00	4,864.7	-862.3	668.2	570.4	97.76	6.835		
16,300.0	11,209.0	15,572.1	10,540.8	56.6	48.4	0.00	4,866.4	-862.3	668.2	570.4	97.78	6.833		
16,348.3	11,209.6	15,620.4	10,540.3	57.0	48.7	0.00	4,914.7	-862.5	669.3	570.9	98.45	6.799		
16,400.0	11,210.6	15,672.0	10,539.7	57.5	49.0	0.00	4,966.3	-862.8	671.0	571.8	99.17	6.766		
16,500.0	11,212.7	15,772.0	10,538.6	58.3	49.6	0.00	5,066.3	-863.3	674.2	573.6	100.57	6.704		
16,600.0	11,214.7	15,871.9	10,537.4	59.2	50.2	0.00	5,166.2	-863.9	677.3	575.4	101.97	6.643		
16,700.0	11,216.7	15,971.9	10,536.3	60.0	50.8	0.00	5,266.2	-864.4	680.5	577.1	103.37	6.583		
16,800.0	11,218.8	16,071.8	10,535.1	60.9	51.4	0.00	5,366.1	-864.9	683.7	578.9	104.78	6.525		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: ORE DIGGER PROJECT - _ORE DIGGER FEDERAL 501H - OWB - PWP0													Offset Site Error:	0.0 usft	
Survey Program: 0-r.5 MWD+IFR1+MS				Offset			Rule Assigned:							Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance		No-Go Distance (usft)	Separation Factor	Warning		
							+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)					
16,900.0	11,220.8	16,171.8	10,534.0	61.8	52.1	0.00	5,466.0	-865.4	686.9	580.7	106.19	6.468			
17,000.0	11,222.8	16,271.7	10,532.8	62.6	52.7	0.00	5,566.0	-865.9	690.0	582.4	107.61	6.413			
17,100.0	11,224.9	16,371.7	10,531.7	63.5	53.3	0.00	5,665.9	-866.5	693.2	584.2	109.03	6.358			
17,200.0	11,226.9	16,471.6	10,530.6	64.4	54.0	0.00	5,765.9	-867.0	696.4	585.9	110.45	6.305			
17,300.0	11,228.9	16,571.6	10,529.4	65.3	54.6	0.00	5,865.8	-867.5	699.6	587.7	111.88	6.253			
17,400.0	11,231.0	16,671.5	10,528.3	66.2	55.2	0.00	5,965.8	-868.0	702.7	589.4	113.30	6.202			
17,500.0	11,233.0	16,771.5	10,527.1	67.0	55.9	0.00	6,065.7	-868.5	705.9	591.2	114.74	6.152			
17,600.0	11,235.0	16,871.4	10,526.0	67.9	56.5	0.00	6,165.6	-869.1	709.1	592.9	116.17	6.104			
17,700.0	11,237.1	16,971.4	10,524.9	68.8	57.2	0.00	6,265.6	-869.6	712.3	594.6	117.61	6.056			
17,800.0	11,239.1	17,071.3	10,523.7	69.7	57.8	0.00	6,365.5	-870.1	715.4	596.4	119.05	6.009			
17,900.0	11,241.1	17,171.3	10,522.6	70.6	58.5	0.00	6,465.5	-870.6	718.6	598.1	120.50	5.964			
18,000.0	11,243.2	17,271.2	10,521.4	71.5	59.2	0.00	6,565.4	-871.1	721.8	599.8	121.94	5.919			
18,100.0	11,245.2	17,371.2	10,520.3	72.4	59.8	0.00	6,665.3	-871.6	725.0	601.6	123.39	5.875			
18,200.0	11,247.2	17,471.1	10,519.1	73.3	60.5	0.00	6,765.3	-872.2	728.1	603.3	124.84	5.832			
18,300.0	11,249.3	17,571.1	10,518.0	74.2	61.2	0.00	6,865.2	-872.7	731.3	605.0	126.30	5.790			
18,400.0	11,251.3	17,671.0	10,516.9	75.1	61.8	0.00	6,965.2	-873.2	734.5	606.7	127.75	5.749			
18,500.0	11,253.3	17,771.0	10,515.7	76.0	62.5	0.00	7,065.1	-873.7	737.7	608.5	129.21	5.709			
18,600.0	11,255.4	17,870.9	10,514.6	76.9	63.2	0.00	7,165.1	-874.2	740.8	610.2	130.67	5.670			
18,700.0	11,257.4	17,970.9	10,513.4	77.8	63.9	0.00	7,265.0	-874.8	744.0	611.9	132.13	5.631			
18,800.0	11,259.4	18,070.8	10,512.3	78.7	64.5	0.00	7,364.9	-875.3	747.2	613.6	133.59	5.593			
18,900.0	11,261.5	18,170.8	10,511.2	79.6	65.2	0.00	7,464.9	-875.8	750.4	615.3	135.06	5.556			
19,000.0	11,263.5	18,270.7	10,510.0	80.6	65.9	0.00	7,564.8	-876.3	753.5	617.0	136.53	5.519			
19,100.0	11,265.5	18,370.7	10,508.9	81.5	66.6	0.00	7,664.8	-876.8	756.7	618.7	138.00	5.484			
19,200.0	11,267.6	18,470.6	10,507.7	82.4	67.3	0.00	7,764.7	-877.4	759.9	620.4	139.47	5.448			
19,300.0	11,269.6	18,570.6	10,506.6	83.3	68.0	0.00	7,864.6	-877.9	763.1	622.1	140.94	5.414			
19,400.0	11,271.6	18,670.5	10,505.5	84.2	68.7	0.00	7,964.6	-878.4	766.2	623.8	142.41	5.380			
19,500.0	11,273.7	18,770.5	10,504.3	85.1	69.3	0.00	8,064.5	-878.9	769.4	625.5	143.89	5.347			
19,600.0	11,275.7	18,870.4	10,503.2	86.1	70.0	0.00	8,164.5	-879.4	772.6	627.2	145.37	5.315			
19,700.0	11,277.7	18,970.4	10,502.0	87.0	70.7	0.00	8,264.4	-880.0	775.8	628.9	146.85	5.283			
19,800.0	11,279.8	19,070.3	10,500.9	87.9	71.4	0.00	8,364.4	-880.5	778.9	630.6	148.33	5.252			
19,900.0	11,281.8	19,170.3	10,499.7	88.8	72.1	0.00	8,464.3	-881.0	782.1	632.3	149.81	5.221			
20,000.0	11,283.8	19,270.2	10,498.6	89.8	72.8	0.00	8,564.2	-881.5	785.3	634.0	151.29	5.191			
20,100.0	11,285.9	19,370.2	10,497.5	90.7	73.5	0.00	8,664.2	-882.0	788.5	635.7	152.77	5.161			
20,200.0	11,287.9	19,470.1	10,496.3	91.6	74.2	0.00	8,764.1	-882.6	791.6	637.4	154.26	5.132			
20,300.0	11,289.9	19,570.1	10,495.2	92.5	74.9	0.00	8,864.1	-883.1	794.8	639.1	155.75	5.103			
20,400.0	11,292.0	19,670.0	10,494.0	93.5	75.6	0.00	8,964.0	-883.6	798.0	640.8	157.23	5.075			
20,500.0	11,294.0	19,770.0	10,492.9	94.4	76.3	0.00	9,063.9	-884.1	801.2	642.4	158.72	5.048			
20,600.0	11,296.0	19,869.9	10,491.8	95.3	77.1	0.00	9,163.9	-884.6	804.3	644.1	160.21	5.020			
20,700.0	11,298.1	19,969.9	10,490.6	96.3	77.8	0.00	9,263.8	-885.2	807.5	645.8	161.70	4.994			
20,800.0	11,300.1	20,069.8	10,489.5	97.2	78.5	0.00	9,363.8	-885.7	810.7	647.5	163.20	4.968			
20,900.0	11,302.1	20,169.8	10,488.3	98.1	79.2	0.00	9,463.7	-886.2	813.9	649.2	164.69	4.942			
21,000.0	11,304.2	20,269.7	10,487.2	99.1	79.9	0.00	9,563.7	-886.7	817.0	650.9	166.18	4.916			
21,100.0	11,306.2	20,369.7	10,486.0	100.0	80.6	0.00	9,663.6	-887.2	820.2	652.5	167.68	4.892			
21,200.0	11,308.2	20,469.6	10,484.9	100.9	81.3	0.00	9,763.5	-887.8	823.4	654.2	169.17	4.867			
21,300.0	11,310.3	20,569.6	10,483.8	101.9	82.0	0.00	9,863.5	-888.3	826.6	655.9	170.67	4.843			
21,400.0	11,312.3	20,669.5	10,482.6	102.8	82.7	0.00	9,963.4	-888.8	829.7	657.6	172.17	4.819			
21,500.0	11,314.3	20,769.5	10,481.5	103.7	83.5	0.00	10,063.4	-889.3	832.9	659.2	173.67	4.796			
21,532.4	11,315.0	20,801.8	10,481.1	104.0	83.7	0.00	10,095.7	-889.5	833.9	659.8	174.15	4.789			

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: ORE DIGGER PROJECT - _ORE DIGGER FEDERAL 502H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre		Distance Between Centres (usft)		No-Go Distance (usft)	Separation Factor	Warning	
							+N/-S (usft)	+E/-W (usft)						
0.0	0.0	0.0	0.0	0.0	0.0	89.82	0.2	60.3	60.3	59.8	0.51	118.012		
1.0	1.0	1.0	1.0	0.1	0.0	89.82	0.2	60.3	60.3	59.7	0.59	101.761 CC		
100.0	100.0	100.0	100.0	3.6	1.2	-157.30	0.2	60.3	61.8	56.1	5.72	10.820 ES		
200.0	199.8	199.8	199.8	3.9	1.7	-158.99	0.2	60.3	66.7	60.2	6.42	10.385 SF		
300.0	299.5	299.5	299.5	4.3	2.1	-161.32	0.2	60.3	74.8	67.7	7.10	10.539		
400.0	398.7	398.7	398.7	4.6	2.4	-163.83	0.2	60.3	86.4	78.7	7.78	11.118		
503.9	501.4	501.4	501.4	5.1	2.7	-166.30	0.2	60.3	102.2	93.7	8.50	12.023		
600.0	595.9	595.9	595.9	5.4	3.0	-168.22	0.2	60.3	118.6	109.5	9.03	13.129		
700.0	694.4	694.4	694.4	5.7	3.2	-169.72	0.2	60.3	135.7	126.1	9.60	14.138		
800.0	792.9	792.9	792.9	6.0	3.5	-170.89	0.2	60.3	153.0	142.8	10.18	15.028		
900.0	891.3	891.3	891.3	6.4	3.7	-171.82	0.2	60.3	170.2	159.5	10.76	15.816		
1,000.0	989.8	989.8	989.8	6.8	3.9	-172.58	0.2	60.3	187.5	176.2	11.36	16.516		
1,100.0	1,088.3	1,088.3	1,088.3	7.1	4.1	-173.21	0.2	60.3	204.9	192.9	11.95	17.141		
1,200.0	1,186.7	1,186.7	1,186.7	7.5	4.3	-173.74	0.2	60.3	222.2	209.7	12.55	17.701		
1,300.0	1,285.2	1,285.2	1,285.2	7.9	4.5	-174.20	0.2	60.3	239.6	226.4	13.16	18.206		
1,400.0	1,383.6	1,383.6	1,383.6	8.3	4.6	-174.59	0.2	60.3	257.0	243.2	13.77	18.661		
1,500.0	1,482.1	1,482.1	1,482.1	8.7	4.8	-174.93	0.2	60.3	274.4	260.0	14.39	19.074		
1,600.0	1,580.6	1,575.5	1,575.5	9.1	5.0	-175.07	-0.3	61.1	292.5	277.5	14.99	19.515		
1,700.0	1,679.0	1,667.1	1,667.0	9.5	5.3	-174.78	-2.3	64.5	312.6	297.1	15.57	20.083		
1,800.0	1,777.5	1,757.7	1,757.4	10.0	5.5	-174.15	-5.7	70.3	334.9	318.7	16.14	20.748		
1,900.0	1,876.0	1,847.2	1,846.4	10.4	5.7	-173.25	-10.4	78.4	359.2	342.5	16.67	21.546		
2,000.0	1,974.4	1,942.6	1,941.0	10.8	5.8	-172.21	-16.4	88.7	384.9	367.7	17.24	22.328		
2,100.0	2,072.9	2,039.0	2,036.6	11.2	6.1	-171.28	-22.5	99.1	410.8	392.9	17.86	23.005		
2,200.0	2,171.3	2,135.4	2,132.3	11.7	6.3	-170.46	-28.6	109.5	436.7	418.2	18.48	23.631		
2,300.0	2,269.8	2,231.8	2,227.9	12.1	6.6	-169.73	-34.7	119.9	462.7	443.6	19.12	24.207		
2,400.0	2,368.3	2,328.2	2,323.5	12.5	6.8	-169.08	-40.8	130.4	488.8	469.1	19.76	24.739		
2,500.0	2,466.7	2,424.6	2,419.2	13.0	7.1	-168.50	-46.9	140.8	515.0	494.5	20.41	25.231		
2,600.0	2,565.2	2,521.0	2,514.8	13.4	7.4	-167.97	-52.9	151.2	541.1	520.1	21.07	25.685		
2,700.0	2,663.7	2,617.4	2,610.5	13.8	7.7	-167.49	-59.0	161.6	567.4	545.6	21.73	26.105		
2,800.0	2,762.1	2,713.8	2,706.1	14.3	8.0	-167.06	-65.1	172.0	593.6	571.2	22.41	26.494		
2,900.0	2,860.6	2,810.1	2,801.7	14.7	8.3	-166.66	-71.2	182.4	619.9	596.8	23.08	26.855		
3,000.0	2,959.1	2,906.5	2,897.4	15.2	8.7	-166.29	-77.3	192.9	646.2	622.4	23.77	27.190		
3,100.0	3,057.5	3,002.9	2,993.0	15.6	9.0	-165.95	-83.4	203.3	672.5	648.1	24.45	27.501		
3,200.0	3,156.0	3,099.3	3,088.7	16.1	9.4	-165.64	-89.5	213.7	698.9	673.7	25.15	27.792		
3,300.0	3,254.4	3,195.7	3,184.3	16.5	9.7	-165.35	-95.5	224.1	725.2	699.4	25.84	28.062		
3,400.0	3,352.9	3,292.1	3,279.9	16.9	10.1	-165.08	-101.6	234.5	751.6	725.1	26.55	28.315		
3,500.0	3,451.4	3,388.5	3,375.6	17.4	10.4	-164.82	-107.7	244.9	778.0	750.8	27.25	28.551		
3,600.0	3,549.8	3,484.9	3,471.2	17.8	10.8	-164.59	-113.8	255.3	804.4	776.5	27.96	28.772		
3,700.0	3,648.3	3,581.3	3,566.9	18.3	11.1	-164.37	-119.9	265.8	830.9	802.2	28.67	28.980		
3,800.0	3,746.8	3,677.7	3,662.5	18.7	11.5	-164.16	-126.0	276.2	857.3	827.9	29.39	29.174		
3,900.0	3,845.2	3,774.1	3,758.1	19.2	11.9	-163.97	-132.1	286.6	883.7	853.6	30.10	29.357		
4,000.0	3,943.7	3,870.5	3,853.8	19.6	12.2	-163.78	-138.1	297.0	910.2	879.4	30.82	29.530		
4,100.0	4,042.1	3,966.9	3,949.4	20.1	12.6	-163.61	-144.2	307.4	936.7	905.1	31.55	29.692		
4,200.0	4,140.6	4,063.3	4,045.1	20.5	13.0	-163.45	-150.3	317.8	963.1	930.9	32.27	29.845		
4,300.0	4,239.1	4,159.7	4,140.7	21.0	13.4	-163.29	-156.4	328.3	989.6	956.6	33.00	29.990		

CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design: ORE DIGGER PROJECT - _ORE DIGGER FEDERAL 602H - OWB - PWP0													Offset Site Error:	0.0 usft
Survey Program: 0-r.5 MWD+IFR1													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis	Offset	Highside	Offset Wellbore Centre	Distance	Rule Assigned:	Between	Between	No-Go	Separation	Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Toolface (°)	+N/-S (usft)	+E/-W (usft)	Centres (usft)	Ellipses (usft)	Distance (usft)	Factor		
0.0	0.0	0.0	0.0	0.0	0.0	89.64	0.2	30.0	30.0	29.5	0.51	58.743		
1.0	1.0	1.0	1.0	0.1	0.0	89.64	0.2	30.0	30.0	29.4	0.59	50.654 CC		
100.0	100.0	100.0	100.0	3.6	1.2	-158.07	0.2	30.0	31.6	25.9	5.72	5.524 ES, SF		
200.0	199.8	199.8	199.8	3.9	1.7	-161.09	0.2	30.0	36.5	30.0	6.43	5.671		
300.0	299.5	299.5	299.5	4.3	2.1	-164.65	0.2	30.0	44.8	37.6	7.12	6.287		
400.0	398.7	398.7	398.7	4.6	2.4	-167.86	0.2	30.0	56.6	48.8	7.80	7.253		
503.9	501.4	501.4	501.4	5.1	2.7	-170.51	0.2	30.0	72.6	64.1	8.53	8.513		
600.0	595.9	595.9	595.9	5.4	3.0	-172.29	0.2	30.0	89.2	80.1	9.06	9.847		
700.0	694.4	694.4	694.4	5.7	3.2	-173.55	0.2	30.0	106.5	96.9	9.62	11.070		
800.0	792.9	792.9	792.9	6.0	3.5	-174.46	0.2	30.0	123.9	113.7	10.20	12.149		
900.0	891.3	891.3	891.3	6.4	3.7	-175.14	0.2	30.0	141.3	130.5	10.78	13.105		
1,000.0	989.8	989.8	989.8	6.8	3.9	-175.67	0.2	30.0	158.7	147.3	11.37	13.956		
1,100.0	1,088.3	1,088.3	1,088.3	7.1	4.1	-176.10	0.2	30.0	176.1	164.2	11.97	14.716		
1,200.0	1,186.7	1,186.7	1,186.7	7.5	4.3	-176.45	0.2	30.0	193.6	181.0	12.57	15.399		
1,300.0	1,285.2	1,285.2	1,285.2	7.9	4.5	-176.75	0.2	30.0	211.0	197.8	13.18	16.014		
1,400.0	1,383.6	1,383.6	1,383.6	8.3	4.6	-177.00	0.2	30.0	228.4	214.6	13.78	16.571		
1,500.0	1,482.1	1,482.1	1,482.1	8.7	4.8	-177.21	0.2	30.0	245.9	231.5	14.40	17.078		
1,600.0	1,580.6	1,576.8	1,576.8	9.1	5.0	-177.19	-0.4	30.8	263.9	248.9	15.00	17.595		
1,700.0	1,679.0	1,670.1	1,670.0	9.5	5.3	-176.65	-2.9	34.0	283.6	268.0	15.58	18.207		
1,800.0	1,777.5	1,762.5	1,762.1	10.0	5.5	-175.70	-7.1	39.6	305.1	288.9	16.15	18.890		
1,900.0	1,876.0	1,853.8	1,852.9	10.4	5.7	-174.44	-13.0	47.3	328.4	311.6	16.71	19.646		
2,000.0	1,974.4	1,943.9	1,942.1	10.8	6.0	-172.97	-20.6	57.3	353.6	336.3	17.27	20.476		
2,100.0	2,072.9	2,032.8	2,029.8	11.2	6.2	-171.35	-29.8	69.3	380.9	363.1	17.79	21.415		
2,200.0	2,171.3	2,128.1	2,123.4	11.7	6.4	-169.69	-40.4	83.2	409.4	391.0	18.36	22.294		
2,300.0	2,269.8	2,223.3	2,217.0	12.1	6.7	-168.24	-51.0	97.1	438.2	419.2	18.97	23.099		
2,400.0	2,368.3	2,318.5	2,310.6	12.5	7.0	-166.97	-61.6	111.1	467.1	447.6	19.58	23.856		
2,500.0	2,466.7	2,413.7	2,404.2	13.0	7.3	-165.84	-72.2	125.0	496.3	476.1	20.20	24.564		
2,600.0	2,565.2	2,508.9	2,497.7	13.4	7.6	-164.84	-82.9	138.9	525.6	504.8	20.84	25.227		
2,700.0	2,663.7	2,604.2	2,591.3	13.8	7.9	-163.95	-93.5	152.8	555.1	533.6	21.48	25.847		
2,800.0	2,762.1	2,699.4	2,684.9	14.3	8.2	-163.14	-104.1	166.7	584.7	562.5	22.12	26.426		
2,900.0	2,860.6	2,794.6	2,778.5	14.7	8.6	-162.41	-114.7	180.7	614.3	591.6	22.78	26.967		
3,000.0	2,959.1	2,889.8	2,872.1	15.2	8.9	-161.75	-125.3	194.6	644.1	620.6	23.44	27.473		
3,100.0	3,057.5	2,985.0	2,965.7	15.6	9.3	-161.15	-135.9	208.5	673.9	649.8	24.11	27.946		
3,200.0	3,156.0	3,080.2	3,059.3	16.1	9.7	-160.60	-146.6	222.4	703.8	679.0	24.79	28.390		
3,300.0	3,254.4	3,175.5	3,152.9	16.5	10.0	-160.09	-157.2	236.3	733.7	708.3	25.47	28.805		
3,400.0	3,352.9	3,270.7	3,246.5	16.9	10.4	-159.62	-167.8	250.3	763.7	737.6	26.16	29.194		
3,500.0	3,451.4	3,365.9	3,340.1	17.4	10.8	-159.19	-178.4	264.2	793.8	766.9	26.85	29.559		
3,600.0	3,549.8	3,461.1	3,433.7	17.8	11.2	-158.79	-189.0	278.1	823.8	796.3	27.55	29.903		
3,700.0	3,648.3	3,556.3	3,527.3	18.3	11.6	-158.42	-199.6	292.0	853.9	825.7	28.25	30.226		
3,800.0	3,746.8	3,651.6	3,620.9	18.7	12.0	-158.07	-210.3	305.9	884.1	855.1	28.96	30.529		
3,900.0	3,845.2	3,746.8	3,714.5	19.2	12.4	-157.74	-220.9	319.9	914.2	884.6	29.67	30.816		
4,000.0	3,943.7	3,842.0	3,808.1	19.6	12.8	-157.44	-231.5	333.8	944.4	914.0	30.38	31.086		
4,100.0	4,042.1	3,937.2	3,901.7	20.1	13.2	-157.16	-242.1	347.7	974.6	943.5	31.10	31.341		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Offset Design:	ORE DIGGER PROJECT - TOP HAT 26 FEDERAL #1_PA - OWB - AWP											Offset Site Error:	0.0 usft
Survey Program:	181-r.5 INC-ONLY											Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Offset Wellbore Centre		Rule Assigned:		Warning					
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	No-Go Distance (usft)	Separation Factor	
16,700.0	11,216.7	11,247.7	11,245.7	60.0	257.6	89.70	5,529.4	98.3	996.1	626.8	369.23	2.698	Normal Operations
16,800.0	11,218.8	11,249.8	11,247.8	60.9	257.6	89.82	5,529.4	98.3	975.7	606.0	369.77	2.639	Normal Operations
16,900.0	11,220.8	11,251.8	11,249.8	61.8	257.7	89.94	5,529.4	98.3	965.4	595.2	370.16	2.608	Normal Operations
16,950.5	11,221.8	11,252.8	11,250.8	62.2	257.7	90.00	5,529.4	98.3	964.1	593.8	370.29	2.603	Normal Operations, CC, ES, SF
17,000.0	11,222.8	11,253.8	11,251.8	62.6	257.7	90.06	5,529.4	98.3	965.3	594.9	370.37	2.606	Normal Operations
17,100.0	11,224.9	11,255.9	11,253.9	63.5	257.8	90.18	5,529.4	98.3	975.6	605.2	370.40	2.634	Normal Operations
17,200.0	11,226.9	11,257.9	11,255.9	64.4	257.8	90.30	5,529.4	98.3	995.8	625.5	370.25	2.690	Normal Operations

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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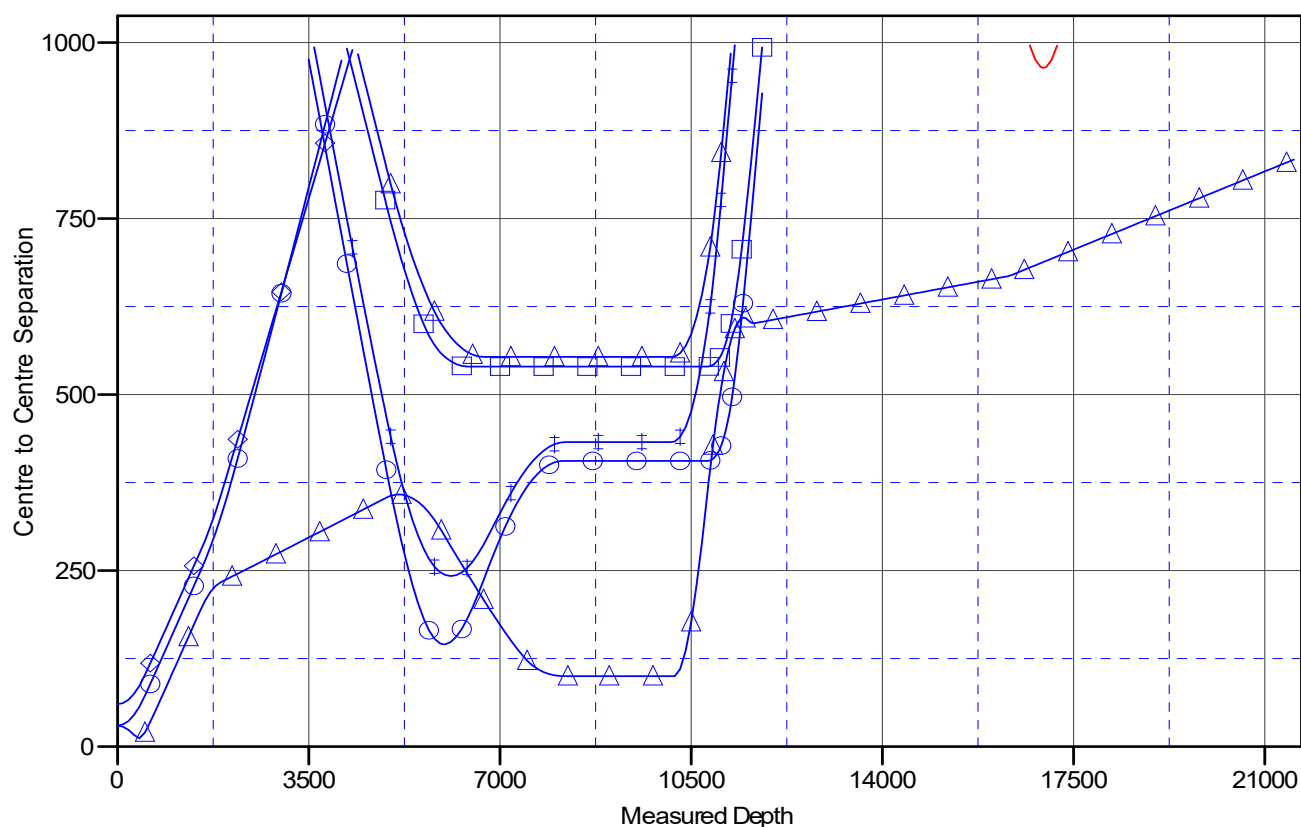
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 3650.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.37°

Ladder Plot



LEGEND

GRIZZDOUGAR FED COM 50H, OWB, PWP0A V0
GRIZZDOUGAR FED COM 50H, OWB, PWP0 V0
GRIZZDOUGAR FED COM 70H, OWB, PWP0A V0
ORE DIGGER FEDERAL 601H, OWB, PWP0 V0
ORE DIGGER FEDERAL 50H, OWB, PWP0 V0
ORE DIGGER FEDERAL 50H, OWB, PWP0 V0
TOP HAT 26 FEDERAL #1_PA, OWB, AWP V0

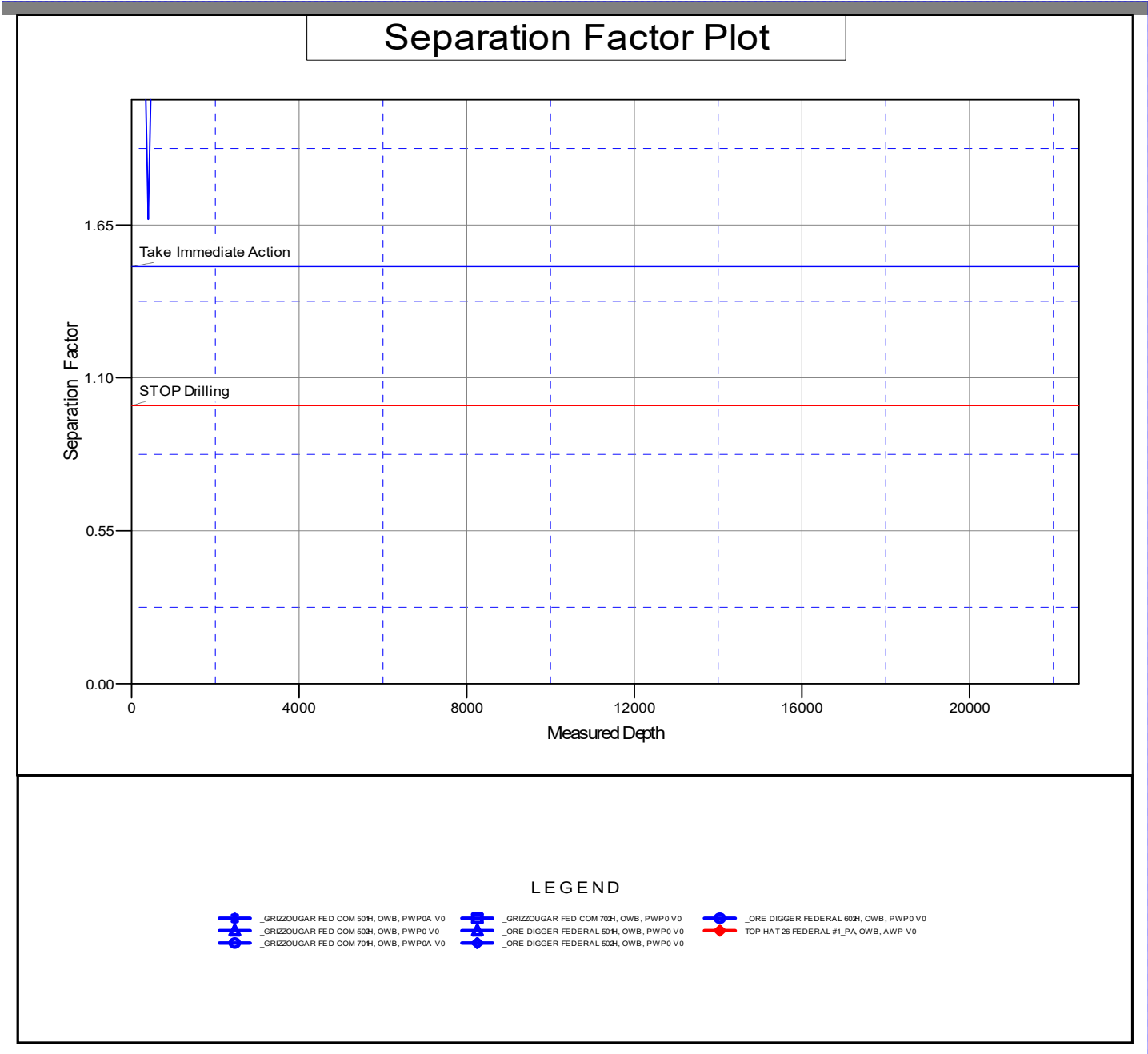
CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

ConocoPhillips
Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER FEDERAL 601H
Project:	ZEUS WEST__NM_E	TVD Reference:	WELL @ 3650.0usft (Original Well Elev)
Reference Site:	ORE DIGGER PROJECT	MD Reference:	WELL @ 3650.0usft (Original Well Elev)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	_ORE DIGGER FEDERAL 601H	Survey Calculation Method:	Minimum Curvature
Well Error:	0.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	EDT 17 Permian Prod
Reference Design:	PWP0	Offset TVD Reference:	Offset Datum

Reference Depths are relative to WELL @ 3650.0usft (Original Well Ele
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: _ORE DIGGER FEDERAL 601H - Slot ORE DIGGER
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.37°



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG OPERATING LLC
WELL NAME & NO.:	ORE DIGGER FED 601H
LOCATION:	Section 35, T.20 S., R.33 E., NMP
COUNTY:	Lea County, New Mexico

COA

H ₂ S	<input type="radio"/> No	<input checked="" type="radio"/> Yes
Potash / WIPP	<input type="radio"/> None <input type="radio"/> Secretary <input checked="" type="radio"/> R-111-Q <input type="checkbox"/> Open Annulus	<input type="checkbox"/> WIPP
Cave / Karst	<input checked="" type="radio"/> Low <input type="radio"/> Medium <input type="radio"/> High <input type="radio"/> Critical	
Wellhead	<input type="radio"/> Conventional <input checked="" type="radio"/> Multibowl <input type="radio"/> Both <input type="radio"/> Diverter	
Cementing	<input type="checkbox"/> Primary Squeeze <input type="checkbox"/> Cont. Squeeze <input checked="" type="checkbox"/> EchoMeter <input type="checkbox"/> DV Tool	
Special Req	<input checked="" type="checkbox"/> Capitan Reef <input type="checkbox"/> Water Disposal <input type="checkbox"/> COM <input type="checkbox"/> Unit	
Waste Prev.	<input type="radio"/> Self-Certification <input checked="" type="radio"/> Waste Min. Plan <input type="radio"/> APD Submitted prior to 06/10/2024	
Additional Language	<input checked="" type="checkbox"/> Flex Hose <input checked="" type="checkbox"/> Casing Clearance <input type="checkbox"/> Pilot Hole <input checked="" type="checkbox"/> Break Testing	
	<input checked="" type="checkbox"/> Five-String <input checked="" type="checkbox"/> Offline Cementing <input checked="" type="checkbox"/> Fluid-Filled	

A. HYDROGEN SULFIDE

A Hydrogen Sulfide (H₂S) Drilling Plan shall be activated AT SPUD. As a result, the Hydrogen Sulfide area must meet 43 CFR part 3170 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, please provide measured values and formations to the BLM.

APD is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the updated order.

B. CASING

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

1. The **20** inch surface casing shall be set at approximately **1800 feet per BLM Geologist** (a minimum of 25 feet (Lea County) into the Rustler Anhydrite, above the salt, and below usable fresh water) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or **500 pounds compressive strength**, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
- **Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

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

2. The minimum required fill of cement behind the **13-3/8** inch intermediate 1 casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**
 - **Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

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

3. Intermediate 2 should be set prior to entering Delaware group to facilitate monitoring during hydraulic fracturing, and post-frac bradenhead cementing. The **9-5/8** inch intermediate 2 casing shall be set at approximately **5422 feet per BLM Geologist**. The minimum required fill of cement behind the **9-5/8** inch intermediate 2 casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**
 - **Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

4. The minimum required fill of cement behind the **7-5/8** inch intermediate 3 casing is:

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

(Primary + Post Frac Bradenhead):

- A monitored open annulus will be incorporated during completion by leaving the Intermediate 2 x Intermediate 3 annulus un-cemented and monitored inside the Intermediate String. Operator must follow monitoring requirements listed within R-111-Q. Tieback requirements shall be met within **180 days**.

Operator has proposed to pump down intermediate 2 x intermediate 3 annulus post completion. **Operator must run Echo-meter to verify Cement Slurry/Fluid top in the annulus OR operator shall run a CBL from TD of the intermediate 2/intermediate 3 casing to surface after the second stage BH to verify TOC.** Submit results to the BLM. No displacement fluid/wash out shall be utilized at the top of the cement slurry during second stage bradenhead when running Echo-meter if cement is required to surface. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.

Operator has proposed an open annulus completion in R-111-Q. Operator shall provide a method of verification pre-completion top of cement. **Submit results to the BLM. Pressure monitoring device and Pressure Safety Valves must be installed at surface on both the intermediate annulus and the production annulus for the life of the well.**

In the event of a casing failure during completion, the operator must contact the BLM at (575-706-2779) and (575-361-2822 Eddy County).

- After bradenhead mentioned above Cement should tie-back **500 feet or 50 feet on top of the Capitan Reef, whichever is closer to surface** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**
 - Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.
5. The minimum required fill of cement behind the 5-1/2 inch production casing is:

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

- Cement should tie-back **500 feet** into the previous casing but not higher than USGS Marker Bed No. 126. **Operator must verify top of cement per R-111-Q requirements.** Submit results to the BLM. If cement does not circulate, contact the appropriate BLM office. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst, Capitan Reef, or potash.**

- **Cement excess is less than 25%, more cement is required if washout occurs. Adjust cement volume and excess based on a fluid caliper or similar method that reflects the as-drilled size of the wellbore.**

C. PRESSURE CONTROL

1. Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).'
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the **20** inch surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 (70% Working Pressure) psi.**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

BOPE Break Testing Variance

- BOPE Break Testing is ONLY permitted for intervals utilizing a 5M BOPE or less. **(Annular preventer must be tested to a minimum of 70% of BOPE working pressure and shall be higher than the MASP.)**
- BOPE Break Testing is NOT permitted to drilling the production hole section.
- Variance only pertains to the intermediate hole-sections and no deeper than the Bone Springs formation.
- While in transfer between wells, the BOPE shall be secured by the hydraulic carrier or cradle.
- Any well control event while drilling require notification to the BLM Petroleum Engineer **(575-706-2779)** prior to the commencement of any BOPE Break Testing operations.
- A full BOPE test is required prior to drilling the first deep intermediate hole section. If any subsequent hole interval is deeper than the first, a full BOPE test will be required. (200' TVD tolerance between intermediate shoes is allowable).
- The BLM is to be contacted (575-689-5981 Lea County) 4 hours prior to BOPE tests.
- As a minimum, a full BOPE test shall be performed at 21-day intervals.

- In the event any repairs or replacement of the BOPE is required, the BOPE shall test as per **43 CFR 3172**.
- If in the event break testing is not utilized, then a full BOPE test would be conducted.

Casing Clearance

- **The W441 connection should tie back 500'+ into the W513 intermediate casing for clearance overlap.**

Operator shall clean up cycles until wellbore is clear of cuttings and any large debris, ensure cutting sizes are adequate "coffee ground or less" before cementing.

Offline Cementing

Contact the BLM prior to the commencement of any offline cementing procedure.

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)

Contact Petroleum Engineering Inspection Staff:

☒ Eddy County

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

☒ Lea County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - i. Notify the BLM when moving in and removing the Spudder Rig.
 - ii. Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.

- iii. BOP/BOPE test to be conducted per **43 CFR 3172** as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. For intervals in which cement to surface is required, cement to surface should be verified with a visual check and density or pH check to differentiate cement from spacer and drilling mud. The results should be documented in the driller's log and daily reports.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends of both lead and tail cement, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-Q potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in **43 CFR 3172**.
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:
 - i. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - ii. 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.
 - iii. Manufacturer representative shall install the test plug for the initial BOP test.
 - iv. Whenever any seal subject to test pressure is broken, all the tests in 43 CFR 3172.6(b)(9) must be followed.

- v. 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.
- i. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead cement), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - ii. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the cement plug. The BOPE test can be initiated after bumping the cement plug with the casing valve open. (only applies to single stage cement jobs, prior to the cement setting up.)
 - iii. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer and can be initiated immediately with the casing valve open. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to **43 CFR 3172** with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for 8 hours or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - iv. 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.
 - v. The results of the test shall be reported to the appropriate BLM office.

- vi. 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.
- vii. 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.
- viii. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per **43 CFR 3172**.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

JS 5/28/2025

COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

W A R N I N G

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

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

OFFICE

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

EMERGENCY RESPONSE NUMBERS

OFFICE

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

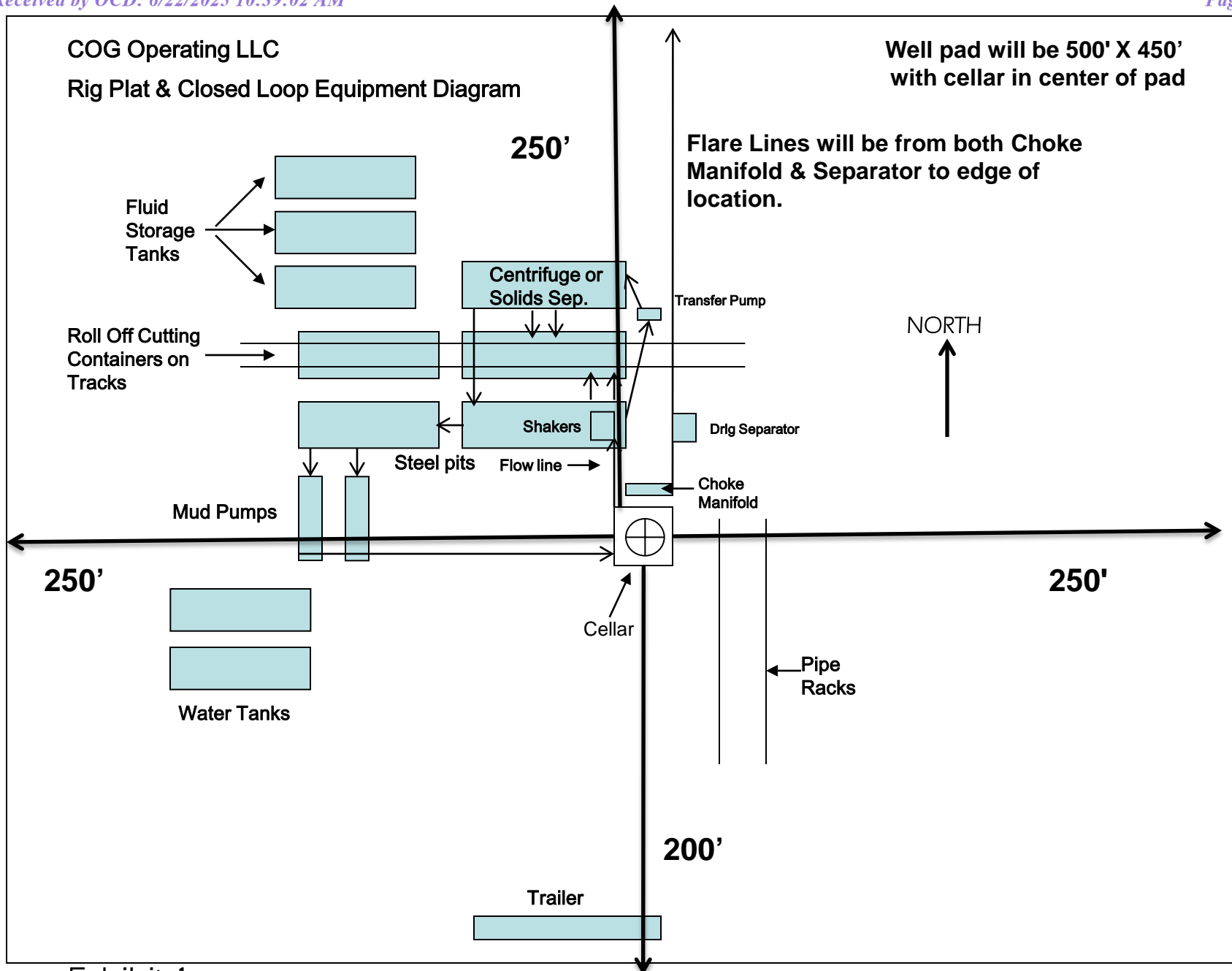


Exhibit 1

COG Operating, LLC - Ore Digger Federal 601H

1. Geologic Formations

TVD of target	11,315' EOL	Pilot hole depth	NA
MD at TD:	21,533'	Deepest expected fresh water:	325'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1486	Water	
Top of Salt	1875	Salt	
USGS Marker Bed 126	2680	Salt	
Base of Salt	3101	Salt Water	
Capitan Reef	3474	Salt Water	
Lamar	5428	Oil/Gas	
Brushy Canyon	6992	Oil/Gas	
Bone Spring	8662	Oil/Gas	
Avalon	9005	Oil/Gas	
1st Bone Spring Sand	9689	Oil/Gas	
1st Bone Spring Shale	9958	Oil/Gas	
2nd Bone Spring Sand	10206	Oil/Gas	
3rd Bone Spring Carb	10739	Oil/Gas	
3rd Bone Spring Sand	11155	Target Oil/Gas	

Potash/Reef well archetype: 5-String Design Open 2nd Int x 3rd Int Annulus w/ ICP 3 below relief zone (Figure D). Sundry aims to comply with R-111-Q as passed on 5/10/2024.

2. Casing Program

	Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
		From	To								
Surface	26.00"	0	1586	20.000"	106.5	J55	ER	1.06	1.74	9.98	9.98
Int 1	17.50"	0	3301	13.375"	54.5	L80-IC	BTC	1.22	1.75	6.90	6.85
Int 2	12.25"	0	5428	9.625"	40	L80-IC	BTC	2.06	1.40	4.22	4.36
Int 3	8.750"	0	10690	7.625"	29.7	P110-ICY	W513	1.42	1.78	2.89	2.98
Production	6.75"	0	10490	5.5"	23	P110-CY	BTC	1.97	2.13	3.02	3.00
	6.75"	10490	21,533	5.5"	23	P110-CY	W441	1.83	2.13	2.80	2.72
					BLM Minimum Safety Factor			1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

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

Intend to use new casing meeting API standards.

COG Operating, LLC - Ore Digger Federal 601H

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

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3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf	939	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	565	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter 1	865	12.8	2.26	12.84	12	Lead: Class C + 5% Gel + 1% CaCl ₂
	291	14.8	1.2	5.35	10	50:50 Class H Premium
Inter 2	617	12.8	2.26	12.84	12	Lead: Class C + 5% Gel + 1% CaCl ₂
	262	14.8	1.2	5.35	10	50:50 Class H Premium
Inter 3	201	14.8	1.35	6.6	10	Tail: Class H - Single Slurry
Prod						
	892	13.2	1.24	5.7	19	Tail: 50:50:2 Class H Blend Single Slurry

Intermediate #1 Salt string cemented to surface. Drill out to wait for 500PSI compressive strength.

Intermediate #2 Reef string will be cemented to surface. Drill out to wait for 500PSI compressive strength.

Intermediate #3 long string cemented Tail single slurry leaving Delaware Mountain group open as a relief zone. Section to be monitored during completions, and then Bradenhead cemented after completion is complete within 180 days to tie back. Drill out of intermediate to wait for 500psi compressive strength.

Production cement tied back 1000' into intermediate 3 string with minimal excess to ensure annulus remains open.

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

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

Casing String	TOC	% Excess
Surface	0'	50%
1st Intermediate	0'	50%
2nd Intermediate	0'	50%
3rd Intermediate	7,992'	0%
Production	9,490'	10% OH in Lateral (KOP to EOL)

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4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
Y	A variance is requested for the use of BOPE break testing on intermediate skids (in accordance with the 30 day full BOPE test requirements).

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
17-1/2"	20"	5M	Annular	x	2500psi
			Blind Ram		5000psi
			Pipe Ram		
			Double Ram		
			Other*		
12 1/4"	13-3/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
8-3/4"	13-3/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4"	13-3/8"	10M	5M Annular	x	5000psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

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

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

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

COG Operating, LLC - Ore Digger Federal 601H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	13.375" Int 1 shoe	Saturated Brine	9 - 10	28-34	N/C
13.375" shoe	9.625" Int 2 shoe	Saturated Brine	9 - 10	28-34	N/C
9.625" Int 2 shoe	7-5/8" Int 3 shoe	Diesel/Brine	8.4 - 9.3	28-34	N/C
7-5/8" Int 3 shoe	Lateral TD	OBM	9.6 - 13.5	35-45	<20

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

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

6. Logging and Testing Procedures

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

Sidewall coring will be performed for pilot hole operations from Avalon to Strawn.

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

COG Operating, LLC - Ore Digger Federal 601H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7945 psi at 11315' TVD
Abnormal Temperature	NO 170 Deg. F.

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

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

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

N H₂S is present

Y H₂S Plan attached

8. Other Facets of Operation

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

x	H ₂ S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

BOPE Break Testing Variance

Initial and 21 Day Testing of 10K BOP's:

Component	High Test Pressure	Low Test Pressure	Duration
Annular Preventer	5,000 psig	250 psig	10 min
Rams	5,000 psig	250 psig	10 min
Manifold	5,000 psig	250 psig	10 min
Wellhead	1,500 psig	-	10 min
Upper / Lower / Kelly Valves	5,000 psig	250 psig	10 min
TIW safety valves / Dart	5,000 psig	250 psig	10 min
Standpipe and mud line to pumps	5,000 psig	250 psig	10 min
Surface Casing (with 8.4 ppg fluid)	1,500 psig	-	30 min

*Equipment satisfies 10M BOPE but break test variance applies to 5M system

COG Production LLC formally requests variance from the minimum standards for well control equipment testing of Onshore Order No. 2 (item III.A.2.a.i) to allow break/shell testing of blowout preventor (BOP) and blowout prevention equipment (BOPE) during batch drilling operations of the intermediate hole section. This variance only applies to 5M BOPE or less formation.

Initial testing of the BOP will be conducted, verifying all components of BOP, BOPE, and choke manifold meet the minimum and maximum anticipated surface pressure (MASP) in accordance with API RP 53 and Onshore Order No. 2, reference table above. Once initial test pressures are achieved, shell testing of the BOP and choke manifold would be conducted within the time limit from initial test to the congruent 21-day test. A complete pressure test of the BOPE components will be completed no later than 21 days following the completion of the initial pressure test or latest complete BOP pressure test date succeeding the initial test, per API RP 53 (6.5.3.4.1 (d)).

BOP and BOPE Testing

- Minimum of Class 3 stack arrangement with one set of blind/blind shear rams and pipe rams shall be installed for a 5K pressure rated system per API RP 53 (6.1.2.9)
 - Classification - COP minimum of Class 3 arrangement apply for all Delaware Basin area wells.
 - Arrangement - Annular preventer, upper pipe rams, blind rams, mud cross, lower pipe rams
- Complete BOP and BOPE test performed at initial installation on well pad.
 - Initial test performed on well with deepest planned intermediate hole section (allowable 200' TVD variance between intermediate hole sections)
 - Annular preventer tested to 100 percent of MASP, or 70 percent of rated working pressure (RWP), whichever is greater.
 - Notify BLM 4 Hrs. prior to testing
- Complete BOP and BOPE test every 21 days in accordance with API RP 53 (6.5.3.4.1 (d)).
- BOP/BOPE shell test (inclusive of manifold shell test) performed during batch drilling operations during rig transition between wells (within the 21-day time limit per API RP 53).
- Function test BOP elements per API RP 53 (6.5.3.1).
 - Required on (1) initial installation of stack, (2) every 7 days, (3) after repair/replacement of any control components
 - Alternate between drillers panel and remote panel

Securing the Wellhead

- Prior to moving rig off check for flow
 - Ensure floats are holding, casing is full of kill mud and backside is static.
- Secure the well with sleeve/plug with BPV
- Disconnect BOP from the wellhead and walk with the rig to another well on the pad.
 - Utilizing BOP wrangler/cradle, maintaining control and upright position of the BOP during movement
- Once BOP is separated from wellhead the Temporary Abandonment (TA) cap will be installed per Wellhead vendor procedure and pressure inside the casing will be monitored via the valve on the TA cap as per standard batch drilling ops.
- Test TA cap to 5,000 psi for 10 min.

COG Production LLC believes that the combination of drilling fluid inside the casing, abandonment plug with BPV, casing and annular valves and the TA cap provide multiple barriers to ensure complete closure of the wellbore prior to skidding/walking the rig.

Break Testing

- Skid rig over the next well on pad and center over wellhead, N/U BOP with the use of the BOP quick connect.
- Shell test the BOP and choke manifold to 5,000 psig and 250 psig. Hold each test for 10 minutes.
 - In accordance with API RP 53 (6.5.3.4.1(b)) BOP shell test will satisfy pressure test of quick connect seals
 - Notify BLM 4 hours prior to testing
- RWP of BOP quick connect is 10K (Certificate of Conformance attached)

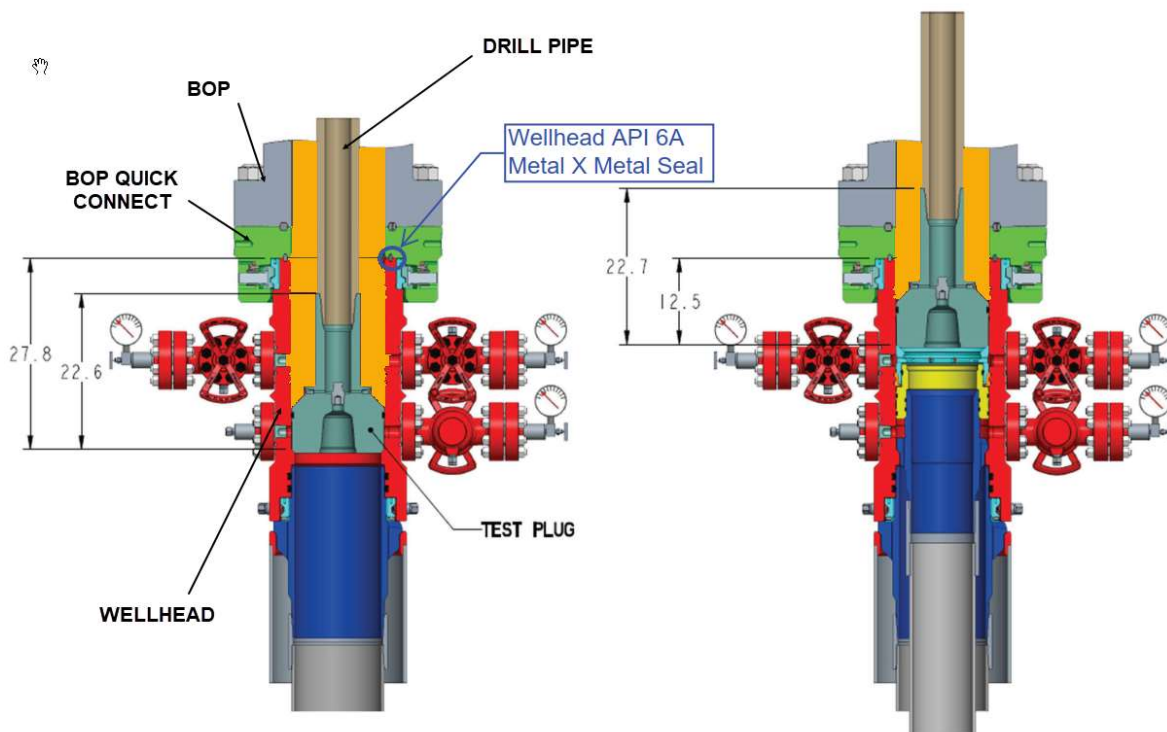


Figure 1: Test plug installed (The orange sections above indicate the areas exposed to the pressure test)

Example Well Control Plan Content

A. Well Control Component Table

This table, combined with the mud program, documents that two barriers to flow can be maintained at all times, independent of the BOP nipped up to the wellhead.

Intermediate hole section, 5M requirement

Component	RWP
Pack-off	10M
Casing Wellhead Valves	10M
Annular Wellhead Valves	5M
TA Plug	10M
Float Valves	5M
2" 1502 Lo-Torque Valves	10M

B. Well Control Procedures

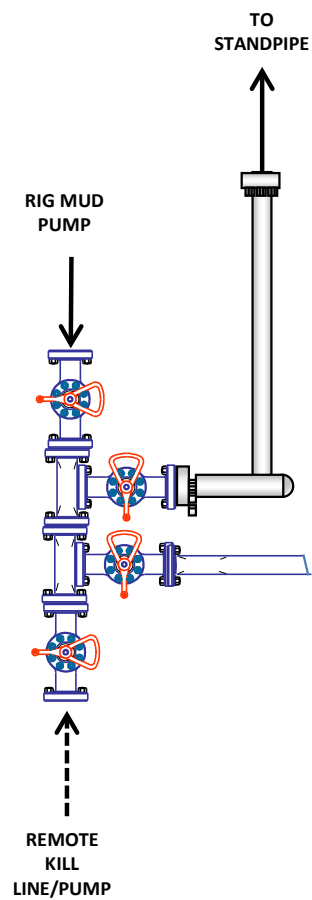
Well control procedures are specific to the rig equipment and the operation at the time the kick occurs. Below are the minimal high-level tasks prescribed to assure a proper shut-in while circulating.

General Procedure

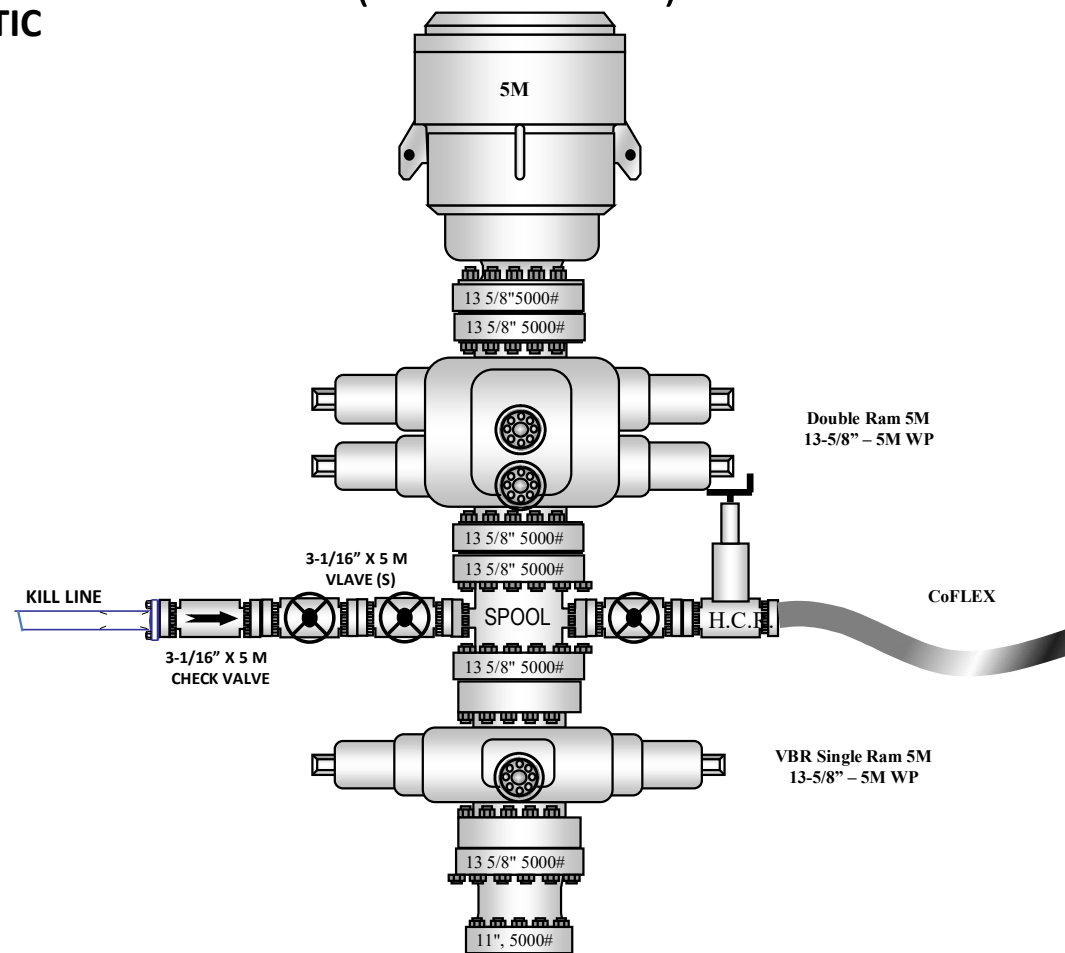
1. Sound alarm (alert crew).
2. Shut down pumps.
3. Shut-in Well (close valves to rig pits and open valve to rig choke line. Rig choke will already be in the closed position).
4. Confirm shut in.
5. Notify tool pusher/company representative.
6. Read and record the following:
 - a. SICP (Shut in Casing Pressure) and AP (Annular Pressure)
 - b. Pit gain
 - c. Time
 - d. Regroup and identify forward plan to continue circulating out kick via rig choke and mud/gas separator. Circulate and adjust mud density as needed to control well.

5M BOP Stack

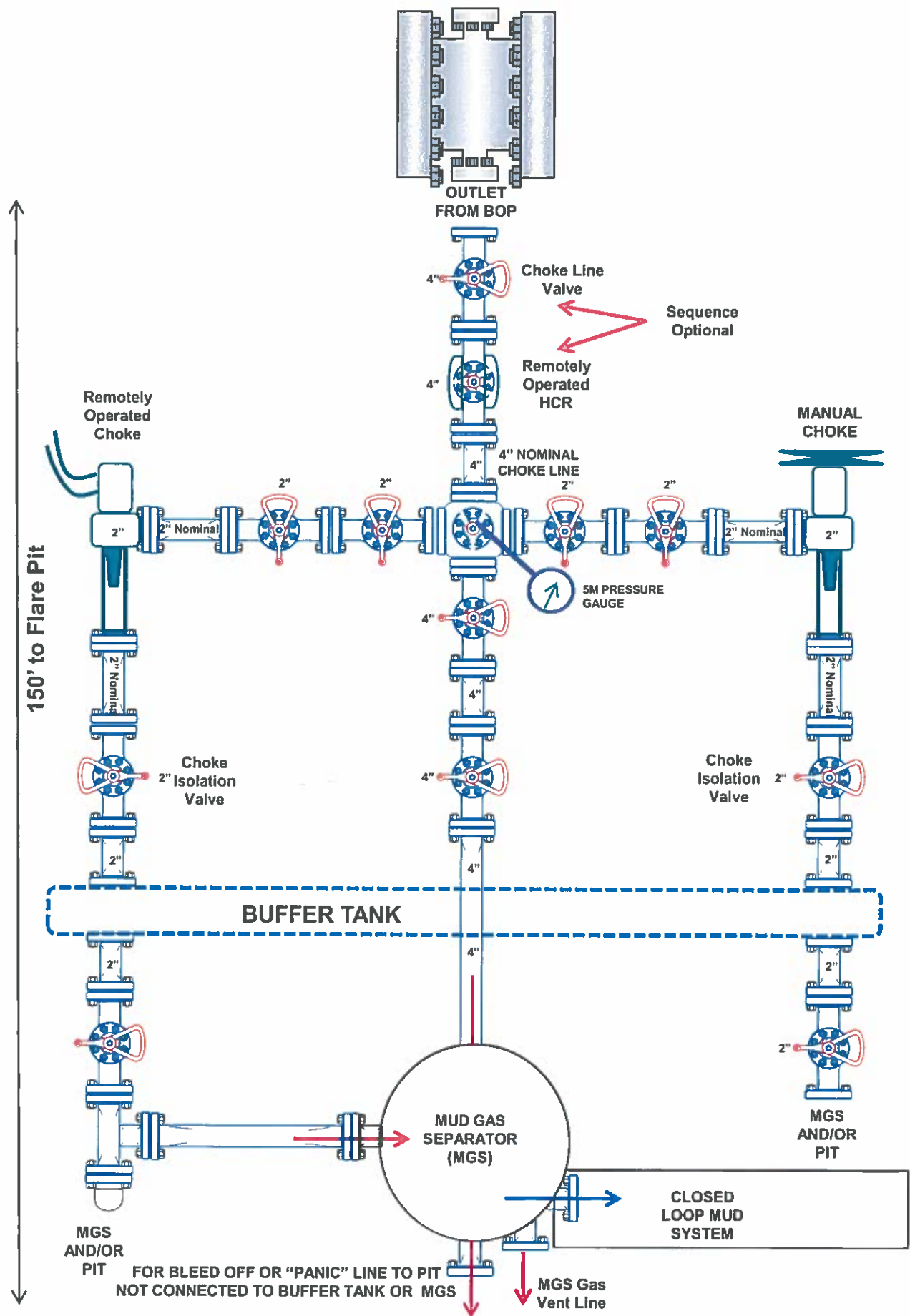
10M REMOTE KILL SCHEMATIC



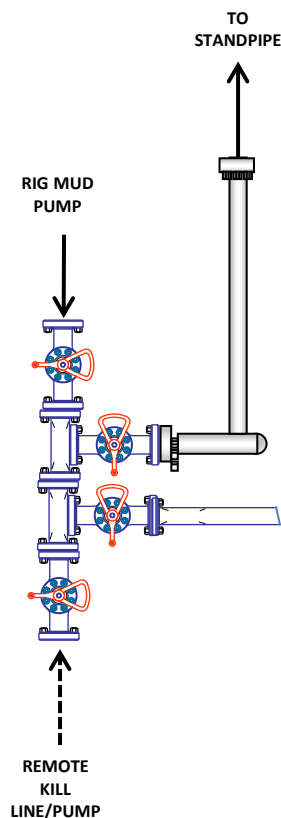
5M BOP Stack (2.5M Annular)



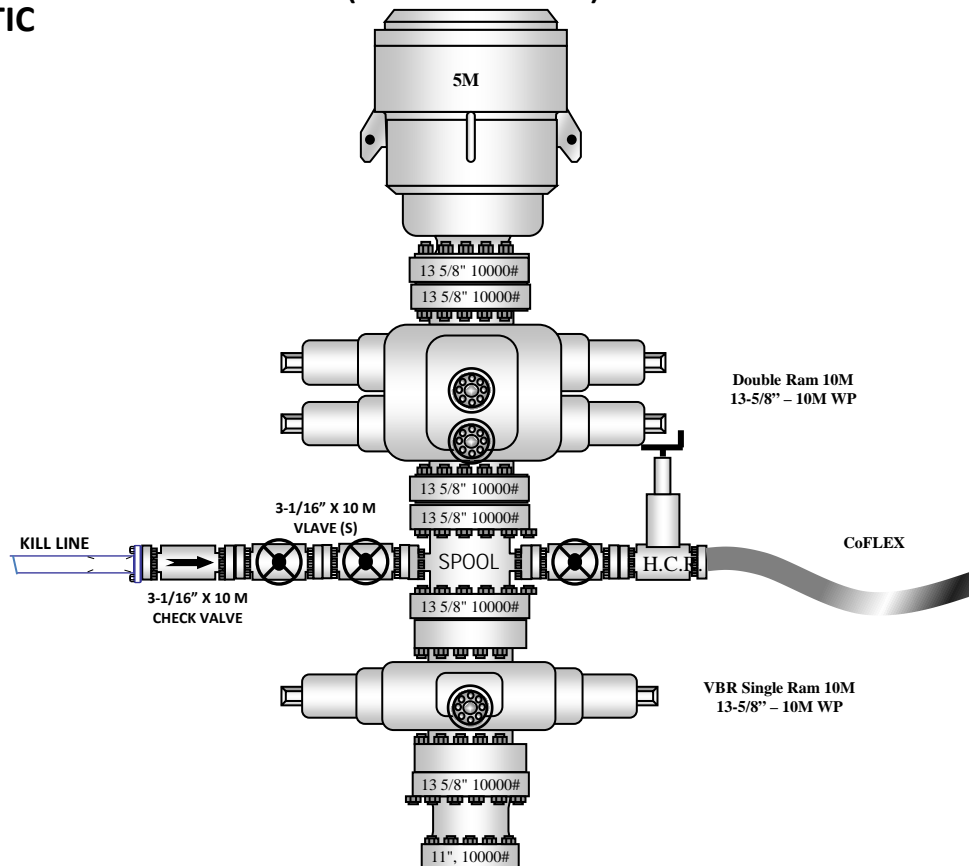
5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)



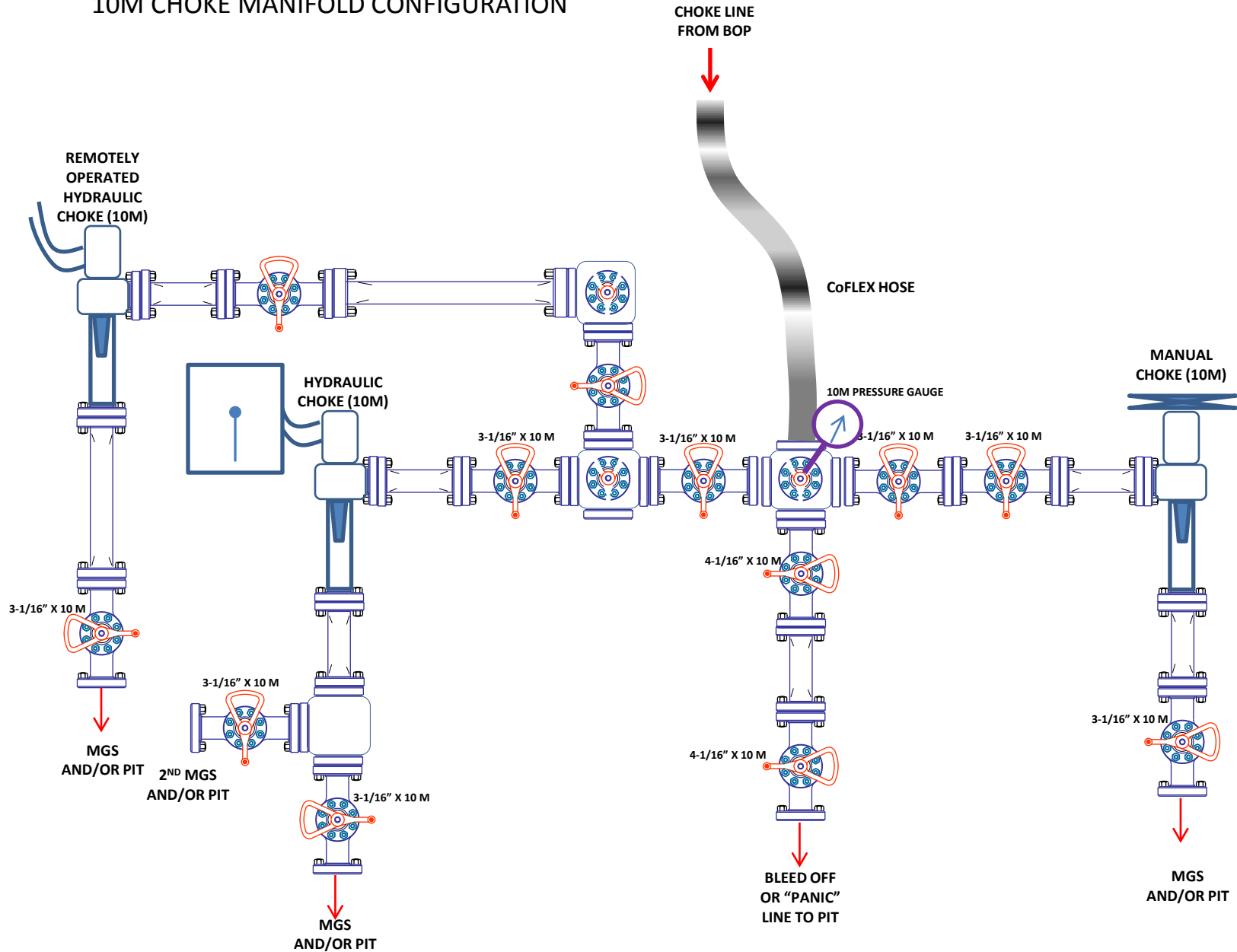
10M REMOTE KILL SCHEMATIC



10M BOP Stack (5M Annular)



10M CHOKE MANIFOLD CONFIGURATION



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

General Information
Phone: (505) 629-6116

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

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

ACKNOWLEDGMENTS

Action 477563

ACKNOWLEDGMENTS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 477563
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

ACKNOWLEDGMENTS

<input type="checkbox"/>	I hereby certify that no additives containing PFAS chemicals will be added to the completion or recompletion of this well.
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Energy, Minerals and Natural Resources
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1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 477563

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 477563
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
mreyes4	Cement is required to circulate on both surface and intermediate1 strings of casing.	6/22/2025
mreyes4	If cement does not circulate on any string, a Cement Bond Log (CBL) is required for that string of casing.	6/22/2025
jeffrey.harrison	Administrative order required for non-standard spacing unit prior to production.	8/25/2025
jeffrey.harrison	This well is within the R-111-Q defined boundary. Operator must follow all procedures and requirements listed within the order.	8/25/2025
jeffrey.harrison	Designs must align to one of the six options mandated within R-111-Q. No alterations or modifications are permitted to any of the casing design options mandated within order R-111-Q. If you have any questions, please contact Justin.Wrinkle@emnrd.nm.gov.	8/25/2025
jeffrey.harrison	This well is within the designated 4-string area. Four full casing strings must be utilized for this well.	8/25/2025
jeffrey.harrison	Notify the OCD 24 hours prior to casing & cement.	8/25/2025
jeffrey.harrison	File As Drilled C-102 and a directional Survey with C-104 completion packet.	8/25/2025
jeffrey.harrison	A [C-103] Sub. Drilling (C-103N) is required within (10) days of spud.	8/25/2025
jeffrey.harrison	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string.	8/25/2025
jeffrey.harrison	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system.	8/25/2025
jeffrey.harrison	This well is within the Capitan Reef. The first intermediate casing string shall be set and cemented back to surface immediately above the Capitan Reef. The second intermediate string shall be set and cemented back to surface immediately below the base of the Capitan Reef.	8/25/2025
jeffrey.harrison	Brine water shall not be used in the Capitan Reef. Only fresh water shall be utilized until the Capitan Reef is cased and cemented.	8/25/2025