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

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

[331332]

2. Name of Operator

[217955]

9. API Well No. **30-025-49286**

3a. Address

3b. Phone No. *(include area code)*

10. Field and Pool, or Exploratory **[98309]**

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*

12. County or Parish

13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

1. Well plat certified by a registered surveyor.
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	Name *(Printed/Typed)*	Date
Title		
Approved by *(Signature)*	Name *(Printed/Typed)*	Date
Title	Office	

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

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

NGMP Rec 08/05/2021

KZ
08/06/2021

SL

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 04/22/2021

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 wen, 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 directionany 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 wen 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 win 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 conects this information to anow 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 Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Approval Date: 04/22/2021

Additional Operator Remarks

Location of Well

0. SHL: NENW / 415 FNL / 2030 FWL / TWSP: 24S / RANGE: 32E / SECTION: 23 / LAT: 32.209224 / LONG: -103.647403 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 100 FNL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 23 / LAT: 32.210067 / LONG: -103.652898 (TVD: 12267 feet, MD: 12409 feet)

PPP: SWNW / 1321 FNL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 23 / LAT: 32.206711 / LONG: -103.652901 (TVD: 12350 feet, MD: 13650 feet)

BHL: SWNW / 2590 FNL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 26 / LAT: 32.18871 / LONG: -103.652917 (TVD: 12380 feet, MD: 19904 feet)

BLM Point of Contact

Name: Deborah Ham
Title: Legal Landlaw Examiner
Phone: (575) 234-5965
Email: dham@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.

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating LLC
LEASE NO.:	NMNM029694
COUNTY:	Lea

Wells:

Well Pad 1
Eider 23 Federal Com 703H
Surface Hole Location: 415' FNL & 2,090' FWL, Section 23, T24S, R32E
Bottom Hole Location: 2,590' FNL & 2,090' FWL, Section 26, T24S, R32E

Eider 23 Federal Com 704H
Surface Hole Location: 415' FNL & 2,060' FWL, Section 23, T24S, R32E
Bottom Hole Location: 2,590' FNL & 1,210' FWL, Section 26, T24S, R32E

Eider 23 Federal Com 705H
Surface Hole Location: 415' FNL & 2,030' FWL, Section 23, T24S, R32E
Bottom Hole Location: 2,590' FNL & 330' FWL, Section 26, T24S, R32E

TABLE OF CONTENTS

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

Approval Date: 04/22/2021

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

OR

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

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

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

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

Approval Date: 04/22/2021

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

IV. NOXIOUS WEEDS

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

SPECIAL REQUIREMENT(S)

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

TANK BATTERY:
Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

BURIED/SURFACE LINE(S):
When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

ELECTRIC LINE(S):
Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

Range:

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

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

Livestock Watering Requirement
Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

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

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

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

V. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972 .

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

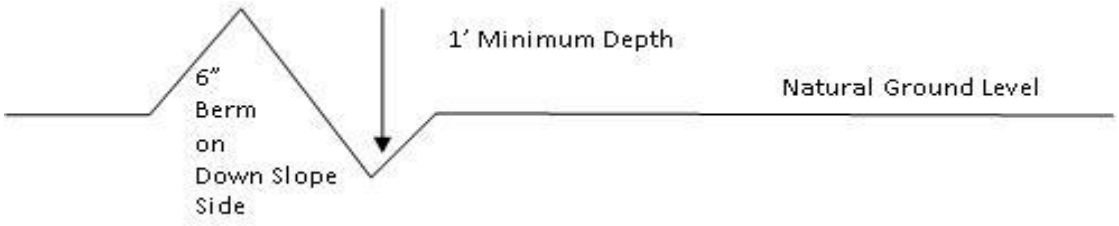
Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattle guards
An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

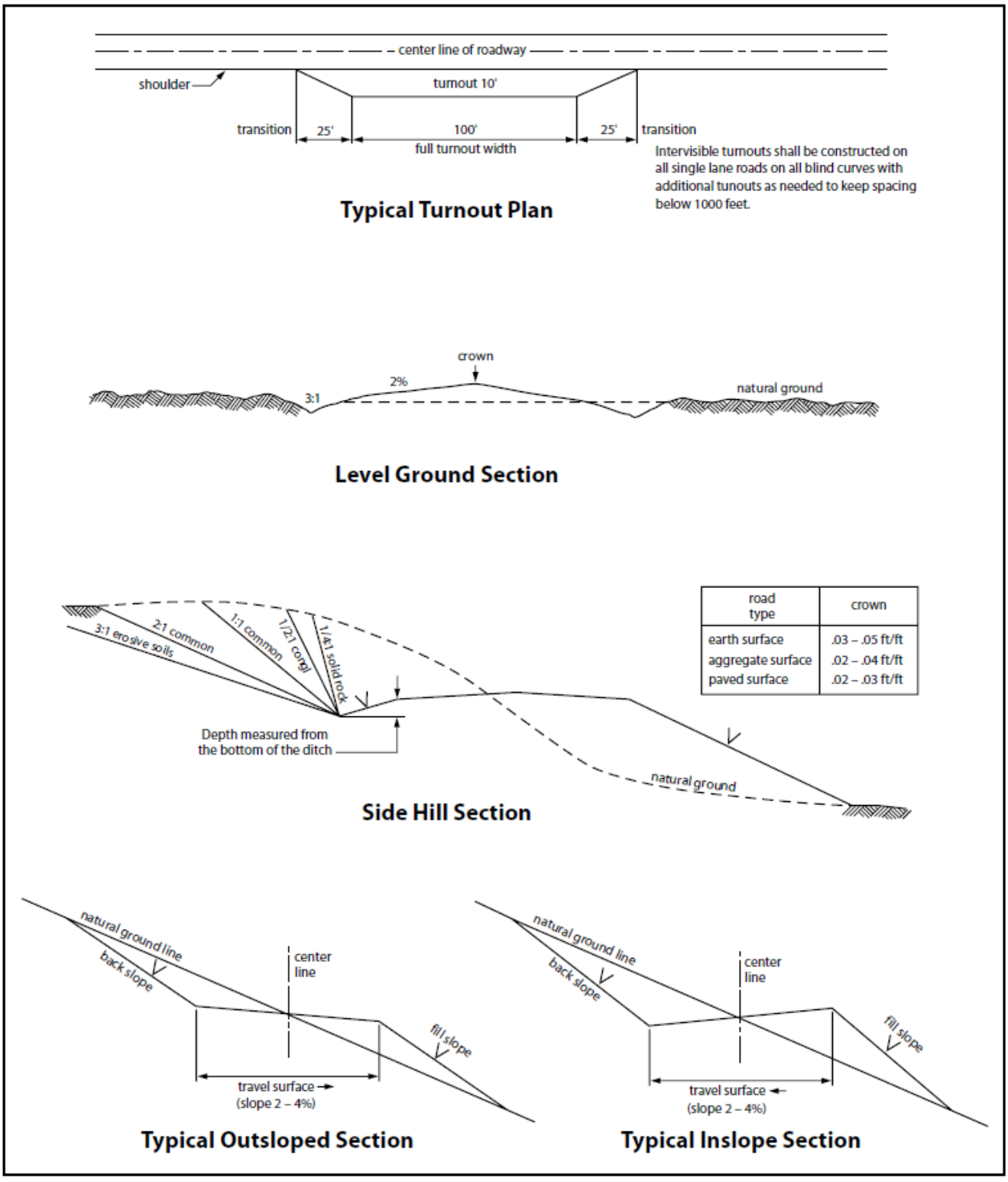


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

Approval Date: 04/22/2021

VI. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone*.) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation*.)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

Approval Date: 04/22/2021

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
(X) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

Approval Date: 04/22/2021

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

OR

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

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

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

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

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

Approval Date: 04/22/2021

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

20. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

C. ELECTRIC LINES

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
- No further construction will be done until clearance has been issued by the Authorized Officer.
- Special restoration stipulations or realignment may be required.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

Approval Date: 04/22/2021

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

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

OR

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

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 11 for more information.

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

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

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

13. Special Stipulations:
For reclamation remove poles, lines, transformer, etc. and dispose of properly.
Fill in any holes from the poles removed.

Approval Date: 04/22/2021

VII. INTERIM RECLAMATION

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

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

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

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

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

VIII. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Approval Date: 04/22/2021

Seed Mixture 2, for Sandy Sites

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

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

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

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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

Approval Date: 04/22/2021

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**COG Production, LLC**
LEASE NO.:	**NMNM-113966**
WELL NAME & NO.:	**Eider 23 Federal Com 705H**
SURFACE HOLE FOOTAGE:	**0415' FNL & 2030' FWL**
BOTTOM HOLE FOOTAGE	**2590' FNL & 0330' FWL Sec. 26, T.24 S., R.32 E**
LOCATION:	**Section 23, T.24 S., R.32 E., NMPM**
COUNTY:	**Lea County, New Mexico**

COA

H2S	◉ Yes	○ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	○ Multibowl	◉ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☐ Unit

Possible water flows in the Salado and Castile
Possible lost circulation in the Rustler, Red Beds, and Delaware

A. HYDROGEN SULFIDE

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

Approval Date: 04/22/2021

B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **1150** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

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

    - Cement to surface. If cement does not circulate see B.1.a, c-d above.

3. The minimum required fill of cement behind the **5-1/2 X 5** inch production casing is:

    - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 psi.**

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 psi.**

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

GENERAL REQUIREMENTS

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

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

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

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

Approval Date: 04/22/2021

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 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 intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. 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.

4. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

5. 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.

6. 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.

Approval Date: 04/22/2021

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

c. 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.

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

e. 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.

f. 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.

g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

JAM 01082021

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720
DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720
DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170
DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-49286	98309	WC-025 G-08 S243213C;WOLFCAMP

Property Code	Property Name	Well Number
331332	EIDER 23 FEDERAL COM	705H

OGRID No.	Operator Name	Elevation
217955	COG PRODUCTION, LLC	3575.4'

Surface Location

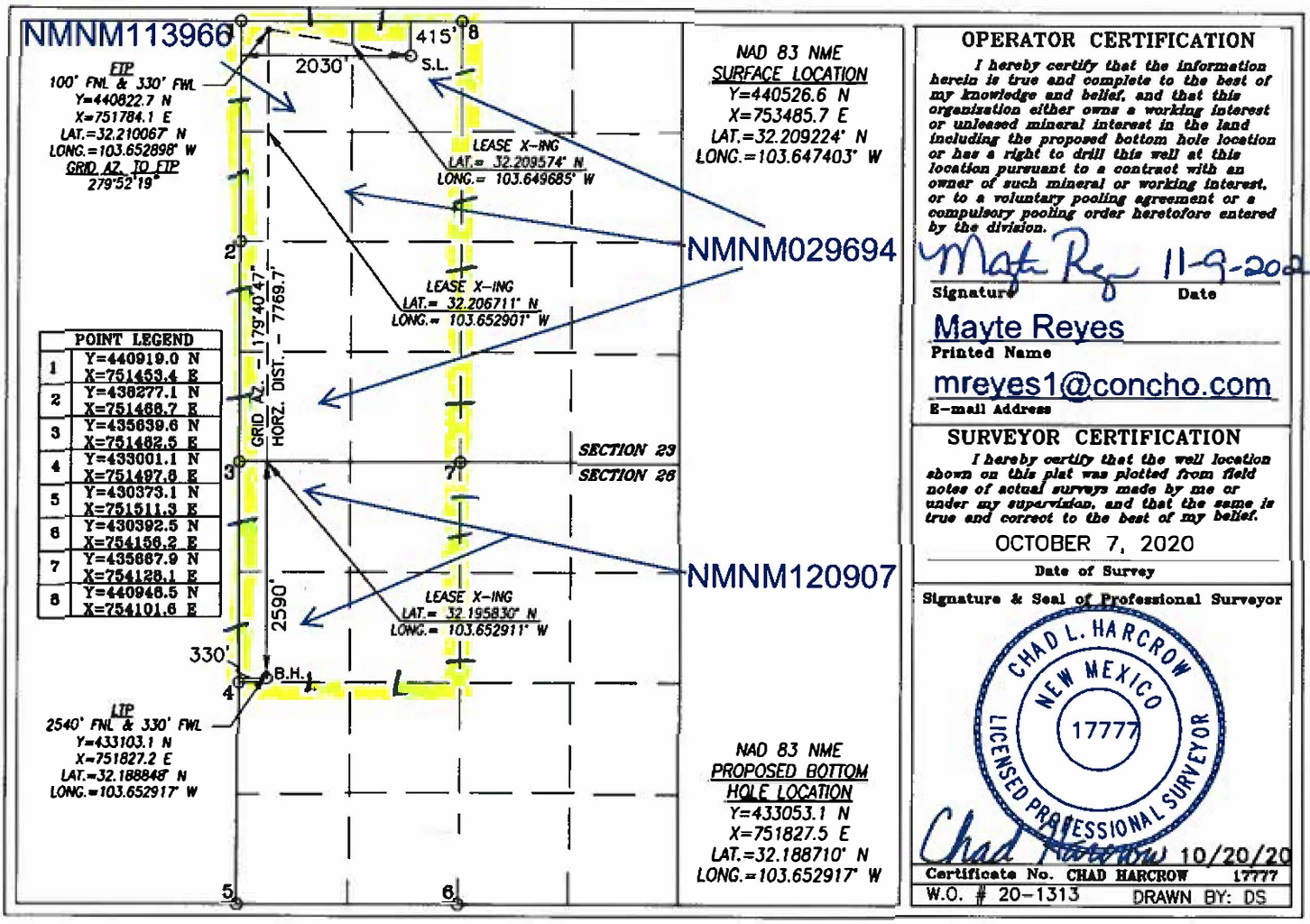
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	23	24-S	32-E		415	NORTH	2030	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
E	26	24-S	32-E		2590	NORTH	330	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
480			

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



POINT LEGEND	
1	Y=440919.0 N, X=751453.4 E
2	Y=436277.1 N, X=751466.7 E
3	Y=435639.6 N, X=751482.5 E
4	Y=433001.1 N, X=751497.8 E
5	Y=430373.1 N, X=751511.3 E
6	Y=430392.5 N, X=754156.2 E
7	Y=435667.9 N, X=754128.1 E
8	Y=440946.5 N, X=754101.6 E

OPERATOR CERTIFICATION

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

Mayte Reyes 11-9-2020
Signature Date

Mayte Reyes
Printed Name

mreyes1@concho.com
E-mail Address

SURVEYOR CERTIFICATION

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

OCTOBER 7, 2020
Date of Survey

Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

Chad Harcrow 10/20/20

Certificate No. CHAD HARCROW 17777
W.O. # 20-1313 DRAWN BY: DS

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: COG Production LLC **OGRID:** 217955 **Date:** 07 / 08 / 21

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Eider 23 Federal Com 705H	30-025-49286	C-23-24S-32E	415 FNL & 2030 FWL	± 1751	± 4928	± 1871

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
Eider 23 Federal Com 705H	30-025-49286	4/16/22	± 25 days from spud	8/20/22	8/30/22	9/4/22

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

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

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

Section 2 – Enhanced Plan

EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

Section 4 - Notices

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

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

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

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

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

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

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

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

C. Completion Operations

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

D. Venting and flaring during production operations

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

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

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

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

F. Measurement of vented and flared natural gas.

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

VIII. Best Management Practices

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

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

Signature:	*Mayte Reyes*
Printed Name:	Mayte Reyes
Title:	Sr. Regulatory Coodinator
E-mail Address:	mayte.x.reyes@conocophillips.com
Date:	7/08/2021
Phone:	575-748-6945

OIL CONSERVATION DIVISION
(Only applicable when submitted as a standalone form)

Approved By:	
Title:	
Approval Date:	
Conditions of Approval:	

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

APD Print Report
05/18/2021

APD ID: 10400064975
Submission Date: 11/09/2020
Operator Name: COG PRODUCTION LLC
Federal/Indian APD: FED
Well Name: EIDER 23 FEDERAL COM
Well Number: 705H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Application

Section 1 - General

APD ID: 10400064975
Tie to previous NOS? N
Submission Date: 11/09/2020
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: NMNM113966
Lease Acres:
Surface access agreement in place?
Allotted?
Reservation:
Agreement in place? NO
Federal or Indian agreement:
Agreement number:
Agreement name:
Keep application confidential? Y
Permitting Agent? NO
APD Operator: COG PRODUCTION LLC
Operator letter of designation:

Operator Info

Operator Organization Name: COG PRODUCTION LLC
Operator Address: 2208 West Main Street
Zip: 88210
Operator PO Box:
Operator City: Artesia
State: NM
Operator Phone: (575)748-6940
Operator Internet Address: mreyes1@concho.com

Section 2 - Well Information

Well in Master Development Plan? NO
Master Development Plan name:
Well in Master SUPO? NO
Master SUPO name:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Well in Master Drilling Plan? NO **Master Drilling Plan name:**

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H **Well API Number:**

Field/Pool or Exploratory? Field and Pool **Field Name:** WC-025 G-09 S253309P **Pool Name:** UPR WOLFCAMP

Is the proposed well in an area containing other mineral resources? NATURAL GAS,OIL

Is the proposed well in a Helium production area? N **Use Existing Well Pad?** N **New surface disturbance?**

Type of Well Pad: MULTIPLE WELL **Multiple Well Pad Name:** Eider 23 FEDERAL COM **Number:** 703H, 704H and 705H

Well Class: HORIZONTAL **Number of Legs:** 1

Well Work Type: Drill

Well Type: OIL WELL

Describe Well Type:

Well sub-Type: EXPLORATORY (WILDCAT)

Describe sub-type:

Distance to town: 24 Miles **Distance to nearest well:** 30 FT **Distance to lease line:** 290 FT

Reservoir well spacing assigned acres Measurement: 480 Acres

Well plat: COG_23_Eider_705H_C102_20201109170251.pdf

Well work start Date: 02/01/2021 **Duration:** 30 DAYS

Section 3 - Well Location Table

Survey Type: RECTANGULAR

Describe Survey Type:

Datum: NAD83 **Vertical Datum:** NAVD88

Survey number: **Reference Datum:** GROUND LEVEL

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
SHL Leg #1	415	FNL	2030	FWL	24S	32E	23	Aliquot NENW	32.209224	-103.647403	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 29694	3575	0	0	Y
KOP Leg #1	415	FNL	2030	FWL	24S	32E	23	Aliquot NENW	32.209224	-103.647403	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 29694	3575	0	0	Y

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Wellbore	NS-Foot	NS Indicator	EW-Foot	EW Indicator	Twsp	Range	Section	Aliquot/Lot/Tract	Latitude	Longitude	County	State	Meridian	Lease Type	Lease Number	Elevation	MD	TVD	Will this well produce from this lease?
PPP Leg #1-1	1321	FNL	330	FWL	24S	32E	23	Aliquot SWNW	32.206711	-103.652901	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 29694	-8775	13650	12350	Y
PPP Leg #1-2	100	FNL	330	FWL	24S	32E	23	Aliquot NWNW	32.210067	-103.652898	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 113966	-8692	12409	12267	Y
EXIT Leg #1	2540	FNL	330	FWL	24S	32E	26	Aliquot SWNW	32.188848	-103.652917	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 120907	-8805	19854	12380	Y
BHL Leg #1	2590	FNL	330	FWL	24S	32E	26	Aliquot SWNW	32.18871	-103.652917	LEA	NEW MEXICO	NEW MEXICO	F	NMNM 120907	-8805	19904	12380	Y

Drilling Plan

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1137936	---	3575	0	0	ALLUVIUM	NONE	N
1137940	RUSTLER	2467	1108	1108	ALLUVIUM	NONE	N
1137941	TOP SALT	2148	1427	1427	SALT	NONE	N
1137942	BASE OF SALT	-1091	4666	4666	ANHYDRITE	NONE	N
1137947	LAMAR	-1284	4859	4859	LIMESTONE	NONE	N
1137948	BELL CANYON	-1373	4948	4948	LIMESTONE	NONE	N
1137943	CHERRY CANYON	-2280	5855	5855	SANDSTONE	NATURAL GAS, OIL	N
1137949	BRUSHY CANYON	-3691	7266	7266	SANDSTONE	NATURAL GAS, OIL	N
1137944	BONE SPRING LIME	-5249	8824	8824	SHALE	NATURAL GAS, OIL	N
1137945	BONE SPRING 1ST	-6371	9946	9946	SANDSTONE	NATURAL GAS, OIL	N

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1137946	BONE SPRING 2ND	-6945	10520	10520	SANDSTONE	NATURAL GAS, OIL	N
1137939	BONE SPRING 3RD	-8240	11815	11815	SANDSTONE	NATURAL GAS, OIL	N
1137950	WOLFCAMP	-8644	12219	12219	SILTSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Pressure Rating (PSI): 10M **Rating Depth:** 12380

Equipment: Annular. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.
Requesting Variance? YES

Variance request: Request a 5M variance on a 10M system. (5M variance attached in section 8). A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart.
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional and tested.
Choke Diagram Attachment:

COG_Eider_10M_Choke_20201107143417.pdf

BOP Diagram Attachment:

COG_Eider_10M_BOP_20201107143425.pdf

COG_Eider_Flex_Hose_Variance_20201107144917.pdf

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

Equipment: Annular. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.
Requesting Variance? NO

Variance request: A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart.
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional and tested.
Choke Diagram Attachment:

COG_Eider_5M_Choke_20201107143051.pdf

BOP Diagram Attachment:

COG_Eider_5M_BOP_20201107143109.pdf

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

COG_Eider_5M_Choke_20201107143051.pdf

COG_Eider_Flex_Hose_Variance_20201107144844.pdf

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	1150	0	1150	3575	2425	1150	N-80	45.5	OTHER - BTC	4.69	1.67	DRY	20.97	DRY	198
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	11800	0	8500	-6907	-4925	11800	HCP-110	29.7	OTHER - FJM	1.21	1.39	DRY	1.59	DRY	2.
3	PRODUCTION	6.75	5.0	NEW	API	Y	0	19904	0	12380	-6907	-8805	19904	P-110	18	OTHER - BTC	1.81	2.13	DRY	3.25	DRY	3.

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Eider_23_705H_Casing_Prog_20201107184345.pdf

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

COG_Eider_23_705H_Casing_Prog_20201107184431.pdf

Casing Design Assumptions and Worksheet(s):

COG_Eider_23_705H_Casing_Prog_20201107184452.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

COG_Eider_23_705H_Casing_Prog_20201107184531.pdf

Casing Design Assumptions and Worksheet(s):

COG_Eider_23_705H_Casing_Prog_20201107184544.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead	1	0	1150	548	1.75	13.5	959	50	Class C	4% Gel + 1% CaCl2
SURFACE	Tail		0	1150	250	1.34	14.8	335	50	C	2% CaCl2
INTERMEDIATE	Lead	1	0	11800	840	3.3	10.3	2772	50	Halliburton Tunded Light	No additives
INTERMEDIATE	Tail		0	11800	250	1.35	14.8	337	50	Class H	No additives

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Lead	1	8000	19904	524	2	12.7	1048	35	Lead: 50:50:10 H Blend	No additives
PRODUCTION	Tail		8000	19904	1090	1.24	14.4	1351	35	Tail: 50:50:2 Class H Blend	No additives

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
11500	11800	OTHER : Brine Diesel Emulsion	8.4	9							Brine Diesel Emulsion
11800	19904	OIL-BASED MUD	9.6	12.5							OBM
0	11500	OTHER : Fresh water gel	8.6	8.8							Fresh water gel

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Section 6 - Test, Logging, Coring

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

None planned

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

COMPENSATED NEUTRON LOG,GAMMA RAY LOG,

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8050 **Anticipated Surface Pressure:** 5326

Anticipated Bottom Hole Temperature(F): 180

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

COG_Eider_23_703H_704H_705H_H2S_Schematic_20201107145301.pdf

COG_Eider_H2S_Plan_20201107144816.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

COG_Eider_23_705H_AC_RPT_20201107185210.pdf

COG_Eider_23_705H_Directional_Plan_20201107185217.pdf

Other proposed operations facets description:

Tapered string for production, as shown on drilling program.
Drilling Program.
Cement Program.
GCP.

Other proposed operations facets attachment:

COG_Eider_23_705H_Drilling_Prog_20201107185235.pdf

COG_Eider_23_705H_Cement_Prog_20201107185242.pdf

COG_Eider_23_705H_GCP_20201107185248.pdf

Proprietary_Connections_Performance_Data_7.6250_29.7000_0.3750__P110_HC_20201107185309.pdf

Other Variance attachment:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

COG_5M_Variance_Well_Plan_20200513161353.pdf

SUPO

Section 1 - Existing Roads

Will existing roads be used? YES

Existing Road Map:

COG_Eider_23_703H_704H_705H_Existing_Road_20201107152735.pdf

Existing Road Purpose: ACCESS **Row(s) Exist?** YES

ROW ID(s)

ID:

Do the existing roads need to be improved? NO

Existing Road Improvement Description:

Existing Road Improvement Attachment:

Section 2 - New or Reconstructed Access Roads

Will new roads be needed? YES

New Road Map:

COG_Eider_23_703H_704H_705H_Road_Plat_20201107152812.pdf

New road type: RESOURCE

Length: 171.3 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 attachment:

Access road engineering design? N

Access road engineering design attachment:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Turnout? N

Access surfacing type: OTHER

Access topsoil source: OFFSITE

Access surfacing type description: Caliche

Access onsite topsoil source depth:

Offsite topsoil source description: Caliche

Onsite topsoil removal process:

Access other construction information:

Access miscellaneous information:

Number of access turnouts: **Access turnout map:**

Drainage Control

New road drainage crossing: OTHER

Drainage Control comments: None needed.

Road Drainage Control Structures (DCS) description: None needed.

Road Drainage Control Structures (DCS) attachment:

Access Additional Attachments

Section 3 - Location of Existing Wells

Existing Wells Map? YES

Attach Well map:

COG_Eider_23_705H_1_Mile_Data_20201107181912.pdf

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

Submit or defer a Proposed Production Facilities plan? SUBMIT

Production Facilities description: The Eider Fed 23C CTB. This CTB will be built to accommodate the Eider Fed 23 #703H, #704, #705. We plan to install (1) buried 4" FP 601HT production flowline from each wellhead to the inlet manifold of the proposed CTB (3 lines total); the route for these flowlines will follow the "flowlines" route as shown in the diagram below. We will install (1) buried 4" gas lines for gas lift supply from the CTB to each well pad (1 lines total); the route for the gas lift lines will follow the "gas lift" route as shown in the attached layout.

Production Facilities map:

COG_Eider_23_C_CTB_20201107153727.pdf

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Section 5 - Location and Types of Water Supply

Water Source Table

Water source type: OTHER

Describe type: Fresh Water. See Below.

Water source use type: ICE PAD CONSTRUCTION & MAINTENANCE
SURFACE CASING
STIMULATION

Source latitude: **Source longitude:**

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: PIPELINE

Source land ownership: PRIVATE

Source transportation land ownership: PRIVATE

Water source volume (barrels): 450000 **Source volume (acre-feet):** 58.001892

Source volume (gal): 18900000

Water source type: OTHER

Describe type: Brine Water. See Below.

Water source use type: INTERMEDIATE/PRODUCTION CASING

Source latitude: **Source longitude:**

Source datum:

Water source permit type: PRIVATE CONTRACT

Water source transport method: TRUCKING

Source land ownership: COMMERCIAL

Source transportation land ownership: COMMERCIAL

Water source volume (barrels): 30000 **Source volume (acre-feet):** 3.866793

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Source volume (gal): 1260000

Water source and transportation map:

COG_Eider_23_703H_704H_705H_Brine_H2O_20201107154749.pdf

COG_Eider_23_703H_704H_705H_Fresh_H2O_20201107154742.pdf

Water source comments: Fresh water will be obtained from the Gadwall Frac Pond located in Section 26. T24S. R32E. Brine water will be obtained from the Malaga II Brine station in Section 12. T23S. R28E.
New water well? N

New Water Well Info

Well latitude: **Well Longitude:** **Well datum:**

Well target aquifer:

Est. depth to top of aquifer(ft): **Est thickness of aquifer:**

Aquifer comments:

Aquifer documentation:

Well depth (ft): **Well casing type:**

Well casing outside diameter (in.): **Well casing inside diameter (in.):**

New water well casing? **Used casing source:**

Drilling method: **Drill material:**

Grout material: **Grout depth:**

Casing length (ft.): **Casing top depth (ft.):**

Well Production type: **Completion Method:**

Water well additional information:

State appropriation permit:

Additional information attachment:

Section 6 - Construction Materials

Using any construction materials: YES

Construction Materials description: Caliche will be obtained from the actual well site if available. If not available onsite, caliche will be hauled from Mack Chase caliche pit located in Section 20, T24S, R33E. Phone # (575) 748-1288.
Construction Materials source location attachment:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Section 7 - Methods for Handling Waste

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.

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

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

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?

WCuttings area liner

Cuttings area liner specifications and installation description

Section 8 - Ancillary Facilities

Are you requesting any Ancillary Facilities?: N

Ancillary Facilities attachment:

Comments:

Section 9 - Well Site Layout

Well Site Layout Diagram:

COG_Eider_23_703H_704H_705H_Layout_20201107155821.pdf

Comments:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Section 10 - Plans for Surface Reclamation

Type of disturbance: New Surface Disturbance

Multiple Well Pad Name: Eider 23 FEDERAL COM

Multiple Well Pad Number: 703H, 704H and 705H

Recontouring attachment:

COG_Eider_23_703H_704H_705H_Reclamation_20201107155856.pdf

Drainage/Erosion control construction: Immediately following construction, straw waddles will be placed as necessary at the well site to reduce sediment impacts to fragile/sensitive soils.
Drainage/Erosion control reclamation: North 50'. West 50'.

Well pad proposed disturbance (acres): 3.67
Road proposed disturbance (acres): 0.06
Powerline proposed disturbance (acres): 1.05
Pipeline proposed disturbance (acres): 0.11
Other proposed disturbance (acres): 3.67
Total proposed disturbance: 8.56

Well pad interim reclamation (acres): 0.06
Road interim reclamation (acres): 0.06
Powerline interim reclamation (acres): 1.05
Pipeline interim reclamation (acres): 0.11
Other interim reclamation (acres): 3.67
Total interim reclamation: 4.95

Well pad long term disturbance (acres): 2.81
Road long term disturbance (acres): 0.06
Powerline long term disturbance (acres): 1.05
Pipeline long term disturbance (acres): 0.11
Other long term disturbance (acres): 3.67
Total long term disturbance: 7.7

Disturbance Comments:

Reconstruction method: 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: North 50'. West 50',

Soil treatment: None

Existing Vegetation at the well pad: Shinnery Oak/Mesquite grassland

Existing Vegetation at the well pad attachment:

Existing Vegetation Community at the road: Shinnery Oak/Mesquite grassland

Existing Vegetation Community at the road attachment:

Existing Vegetation Community at the pipeline: Shinnery Oak/Mesquite grassland

Existing Vegetation Community at the pipeline attachment:

Existing Vegetation Community at other disturbances: N/A

Existing Vegetation Community at other disturbances attachment:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Non native seed used? N

Non native seed description:

Seedling transplant description:

Will seedlings be transplanted for this project? N

Seedling transplant description attachment:

Will seed be harvested for use in site reclamation? N

Seed harvest description:

Seed harvest description attachment:

Seed Management

Seed Table

Seed Summary

Total pounds/Acre:

Seed Type	Pounds/Acre

Seed reclamation attachment:

Operator Contact/Responsible Official Contact Info

First Name: **Last Name:**

Phone: **Email:**

Seedbed prep:

Seed BMP:

Seed method:

Existing invasive species? N

Existing invasive species treatment description:

Existing invasive species treatment attachment:

Weed treatment plan description: N/A

Weed treatment plan attachment:

Monitoring plan description: N/A

Monitoring plan attachment:

Success standards: N/A

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Pit closure description: N/A

Pit closure attachment:

COG_Eider_Closed_Loop_20201107161726.pdf

Section 11 - Surface Ownership

Disturbance type: WELL PAD

Describe:

Surface Owner: PRIVATE OWNERSHIP

Other surface owner description:

BIA Local Office:

BOR Local Office:

COE Local Office:

DOD Local Office:

NPS Local Office:

State Local Office:

Military Local Office:

USFWS Local Office:

Other Local Office:

USFS Region:

USFS Forest/Grassland: **USFS Ranger District:**

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Fee Owner: Fee Owner Depercated **Fee Owner Address:**

Phone: (999)999-9999 **Email:** none@aol.com

Surface use plan certification: NO

Surface use plan certification document:

Surface access agreement or bond: AGREEMENT

Surface Access Agreement Need description: Agreement signed 7/18/2018. NGL Water Solutions Permian, LLC, a Colorado limited liability company, whose address is 865 North Albion Street, Suite 400, Denver, CO 80220 Alan N. Barker Director, Land - New Mexico NGL ENERGY PARTNERS, LP 6120 South Yale Avenue, Suite 805 | Tulsa, OK 74136 Tel: (918) 236-4717 | Mobile: (575) 988-1420 alan.barker@nglep.com |www.nglenergypartners.com

Surface Access Bond BLM or Forest Service:

BLM Surface Access Bond number:

USFS Surface access bond number:

Section 12 - Other Information

Right of Way needed? N **Use APD as ROW?**

ROW Type(s):

ROW Applications

SUPO Additional Information: SUP Attached

Use a previously conducted onsite? Y

Previous Onsite information: Onsite completed on October 6th, 2020 by Gerald Herrera (COG) and Zane Kirsch (BLM).

Other SUPO Attachment

COG_Eider_23_703H_704H_705H_Existing_Road_20201107162733.pdf
COG_Eider_23_703H_704H_705H_Flow_Gas_Line_20201107162919.pdf
COG_Eider_23_703H_704H_705H_Layout_20201107162943.pdf
COG_Eider_23_703H_704H_705H_Powerline_20201107162906.pdf
COG_Eider_23_703H_704H_705H_Reclamation_20201107162936.pdf

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

COG_Eider_23_703H_704H_705H_Road_Plat_20201107162818.pdf
COG_Eider_23_C_CTB_20201107162839.pdf
COG_23_Eider_705H_C102_20201109170319.pdf
COG_Eider_23_705H_SUP_20201109170328.pdf

PWD

Section 1 - General

Would you like to address long-term produced water disposal? NO

Section 2 - Lined Pits

Would you like to utilize Lined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Lined pit PWD on or off channel:

Lined pit PWD discharge volume (bbl/day):

Lined pit specifications:

Pit liner description:

Pit liner manufacturers information:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Lined pit precipitated solids disposal schedule:

Lined pit precipitated solids disposal schedule attachment:

Lined pit reclamation description:

Lined pit reclamation attachment:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Leak detection system description:

Leak detection system attachment:

Lined pit Monitor description:

Lined pit Monitor attachment:

Lined pit: do you have a reclamation bond for the pit?

Is the reclamation bond a rider under the BLM bond?

Lined pit bond number:

Lined pit bond amount:

Additional bond information attachment:

Section 3 - Unlined Pits

Would you like to utilize Unlined Pit PWD options? N

Produced Water Disposal (PWD) Location:

PWD disturbance (acres): **PWD surface owner:**

Unlined pit PWD on or off channel:

Unlined pit PWD discharge volume (bbl/day):

Unlined pit specifications:

Precipitated solids disposal:

Decribe precipitated solids disposal:

Precipitated solids disposal permit:

Unlined pit precipitated solids disposal schedule:

Unlined pit precipitated solids disposal schedule attachment:

Unlined pit reclamation description:

Unlined pit reclamation attachment:

Unlined pit Monitor description:

Unlined pit Monitor attachment:

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

Beneficial use user confirmation:

Estimated depth of the shallowest aquifer (feet):

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

TDS lab results:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Geologic and hydrologic evidence:

State authorization:

Unlined Produced Water Pit Estimated percolation:

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

Is the reclamation bond a rider under the BLM bond?

Unlined pit bond number:

Unlined pit bond amount:

Additional bond information attachment:

Section 4 - Injection

Would you like to utilize Injection PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Injection PWD discharge volume (bbl/day):

Injection well mineral owner:

Injection well type:

Injection well number: **Injection well name:**

Assigned injection well API number? **Injection well API number:**

Injection well new surface disturbance (acres):

Minerals protection information:

Mineral protection attachment:

Underground Injection Control (UIC) Permit?

UIC Permit attachment:

Section 5 - Surface Discharge

Would you like to utilize Surface Discharge PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Surface discharge PWD discharge volume (bbl/day):

Surface Discharge NPDES Permit?

Surface Discharge NPDES Permit attachment:

Surface Discharge site facilities information:

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Surface discharge site facilities map:

Section 6 - Other

Would you like to utilize Other PWD options? N

Produced Water Disposal (PWD) Location:

PWD surface owner: **PWD disturbance (acres):**

Other PWD discharge volume (bbl/day):

Other PWD type description:

Other PWD type attachment:

Have other regulatory requirements been met?

Other regulatory requirements attachment:

Bond Info

Bond Information

Federal/Indian APD: FED

BLM Bond number:

BIA Bond number:

Do you have a reclamation bond? NO

Is the reclamation bond a rider under the BLM bond?

Is the reclamation bond BLM or Forest Service?

BLM reclamation bond number:

Forest Service reclamation bond number:

Forest Service reclamation bond attachment:

Reclamation bond number:

Reclamation bond amount:

Reclamation bond rider amount:

Additional reclamation bond information attachment:

Operator Certification

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Operator Certification

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

NAME: MAYTE REYES **Signed on:** 11/07/2020

Title: Regulatory Analyst

Street Address: 925 N ELDRIDGE PARKWAY

City: HOUSTON **State:** TX **Zip:** 77252

Phone: (281)293-1000

Email address: MAYTE.X.REYES@CONOCOPHILLIPS.COM

Field Representative

Representative Name: Gerald Herrera

Street Address: 2208 West Main Street

City: Artesia **State:** NM **Zip:** 88210

Phone: (575)748-6940

Email address: gherrera@concho.com

Payment Info

Payment

APD Fee Payment Method: PAY.GOV

pay.gov Tracking ID: 26QDJFNU

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

Drilling Plan Data Report
05/18/2021

APD ID: 10400064975
Submission Date: 11/09/2020
Operator Name: COG PRODUCTION LLC
Well Name: EIDER 23 FEDERAL COM
Well Number: 705H
Well Type: OIL WELL
Well Work Type: Drill

Highlighted data reflects the most recent changes

Show Final Text

Section 1 - Geologic Formations

Formation ID	Formation Name	Elevation	True Vertical Depth	Measured Depth	Lithologies	Mineral Resources	Producing Formation
1137936	---	3575	0	0	ALLUVIUM	NONE	N
1137940	RUSTLER	2467	1108	1108	ALLUVIUM	NONE	N
1137941	TOP SALT	2148	1427	1427	SALT	NONE	N
1137942	BASE OF SALT	-1091	4666	4666	ANHYDRITE	NONE	N
1137947	LAMAR	-1284	4859	4859	LIMESTONE	NONE	N
1137948	BELL CANYON	-1373	4948	4948	LIMESTONE	NONE	N
1137943	CHERRY CANYON	-2280	5855	5855	SANDSTONE	NATURAL GAS, OIL	N
1137949	BRUSHY CANYON	-3691	7266	7266	SANDSTONE	NATURAL GAS, OIL	N
1137944	BONE SPRING LIME	-5249	8824	8824	SHALE	NATURAL GAS, OIL	N
1137945	BONE SPRING 1ST	-6371	9946	9946	SANDSTONE	NATURAL GAS, OIL	N
1137946	BONE SPRING 2ND	-6945	10520	10520	SANDSTONE	NATURAL GAS, OIL	N
1137939	BONE SPRING 3RD	-8240	11815	11815	SANDSTONE	NATURAL GAS, OIL	N
1137950	WOLFCAMP	-8644	12219	12219	SILTSTONE	NATURAL GAS, OIL	Y

Section 2 - Blowout Prevention

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Pressure Rating (PSI): 10M **Rating Depth:** 12380

Equipment: Annular. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.
Requesting Variance? YES

Variance request: Request a 5M variance on a 10M system. (5M variance attached in section 8). A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart.
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional and tested.
Choke Diagram Attachment:

COG_Eider_10M_Choke_20201107143417.pdf

BOP Diagram Attachment:

COG_Eider_10M_BOP_20201107143425.pdf

COG_Eider_Flex_Hose_Variance_20201107144917.pdf

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

Equipment: Annular. The BOP equipment will include a Kelly cock and floor safety valve (inside BOP) and choke lines and choke manifold.
Requesting Variance? NO

Variance request: A variance is requested for the use of a flexible choke line from the BOP to choke manifold. See attached for specs and hydrostatic test chart.
Testing Procedure: BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all of the components installed will be functional and tested.
Choke Diagram Attachment:

COG_Eider_5M_Choke_20201107143051.pdf

BOP Diagram Attachment:

COG_Eider_5M_BOP_20201107143109.pdf

COG_Eider_Flex_Hose_Variance_20201107144844.pdf

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Section 3 - Casing

Casing ID	String Type	Hole Size	Csg Size	Condition	Standard	Tapered String	Top Set MD	Bottom Set MD	Top Set TVD	Bottom Set TVD	Top Set MSL	Bottom Set MSL	Calculated casing length MD	Grade	Weight	Joint Type	Collapse SF	Burst SF	Joint SF Type	Joint SF	Body SF Type	Body SF
1	SURFACE	14.75	10.75	NEW	API	N	0	1150	0	1150	3575	2425	1150	N-80	45.5	OTHER - BTC	4.69	1.67	DRY	20.97	DRY	19.88
2	INTERMEDIATE	8.75	7.625	NEW	API	Y	0	11800	0	8500	-6907	-4925	11800	HCP-110	29.7	OTHER - FJM	1.21	1.39	DRY	1.59	DRY	2.68
3	PRODUCTION	6.75	5.0	NEW	API	Y	0	19904	0	12380	-6907	-8805	19904	P-110	18	OTHER - BTC	1.81	2.13	DRY	3.25	DRY	3.27

Casing Attachments

Casing ID: 1 **String Type:** SURFACE

Inspection Document:

Spec Document:

Tapered String Spec:

Casing Design Assumptions and Worksheet(s):

COG_Eider_23_705H_Casing_Prog_20201107184345.pdf

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Casing Attachments

Casing ID: 2 **String Type:** INTERMEDIATE

Inspection Document:

Spec Document:

Tapered String Spec:

COG_Eider_23_705H_Casing_Prog_20201107184431.pdf

Casing Design Assumptions and Worksheet(s):

COG_Eider_23_705H_Casing_Prog_20201107184452.pdf

Casing ID: 3 **String Type:** PRODUCTION

Inspection Document:

Spec Document:

Tapered String Spec:

COG_Eider_23_705H_Casing_Prog_20201107184531.pdf

Casing Design Assumptions and Worksheet(s):

COG_Eider_23_705H_Casing_Prog_20201107184544.pdf

Section 4 - Cement

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
SURFACE	Lead	1	0	1150	548	1.75	13.5	959	50	Class C	4% Gel + 1% CaCl2
SURFACE	Tail		0	1150	250	1.34	14.8	335	50	C	2% CaCl2
INTERMEDIATE	Lead	1	0	11800	840	3.3	10.3	2772	50	Halliburton Tunded Light	No additives
INTERMEDIATE	Tail		0	11800	250	1.35	14.8	337	50	Class H	No additives
PRODUCTION	Lead	1	8000	19904	524	2	12.7	1048	35	Lead: 50:50:10 H Blend	No additives

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

String Type	Lead/Tail	Stage Tool Depth	Top MD	Bottom MD	Quantity(sx)	Yield	Density	Cu Ft	Excess%	Cement type	Additives
PRODUCTION	Tail		8000	19904	1090	1.24	14.4	1351	35	Tail: 50:50:2 Class H Blend	No additives

Section 5 - Circulating Medium

Mud System Type: Closed

Will an air or gas system be Used? NO

Description of the equipment for the circulating system in accordance with Onshore Order #2:

Diagram of the equipment for the circulating system in accordance with Onshore Order #2:

Describe what will be on location to control well or mitigate other conditions: Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times

Describe the mud monitoring system utilized: PVT/Pason/Visual Monitoring

Circulating Medium Table

Top Depth	Bottom Depth	Mud Type	Min Weight (lbs/gal)	Max Weight (lbs/gal)	Density (lbs/cu ft)	Gel Strength (lbs/100 sqft)	PH	Viscosity (CP)	Salinity (ppm)	Filtration (cc)	Additional Characteristics
1150	11800	OTHER : Brine Diesel Emulsion	8.4	9							Brine Diesel Emulsion
11800	19904	OIL-BASED MUD	9.6	12.5							OBM
0	1150	OTHER : Fresh water gel	8.6	8.8							Fresh water gel

Operator Name: COG PRODUCTION LLC

Well Name: EIDER 23 FEDERAL COM **Well Number:** 705H

Section 6 - Test, Logging, Coring

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

None planned

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

COMPENSATED NEUTRON LOG,GAMMA RAY LOG,

Coring operation description for the well:

None planned

Section 7 - Pressure

Anticipated Bottom Hole Pressure: 8050 **Anticipated Surface Pressure:** 5326

Anticipated Bottom Hole Temperature(F): 180

Anticipated abnormal pressures, temperatures, or potential geologic hazards? NO

Describe:

Contingency Plans geoharzards description:

Contingency Plans geohazards attachment:

Hydrogen Sulfide drilling operations plan required? YES

Hydrogen sulfide drilling operations plan:

COG_Eider_23_703H_704H_705H_H2S_Schematic_20201107145301.pdf

COG_Eider_H2S_Plan_20201107144816.pdf

Section 8 - Other Information

Proposed horizontal/directional/multi-lateral plan submission:

COG_Eider_23_705H_AC_RPT_20201107185210.pdf

COG_Eider_23_705H_Directional_Plan_20201107185217.pdf

Other proposed operations facets description:

Tapered string for production, as shown on drilling program.
Drilling Program.
Cement Program.
GCP.

Other proposed operations facets attachment:

COG_Eider_23_705H_Drilling_Prog_20201107185235.pdf

COG_Eider_23_705H_Cement_Prog_20201107185242.pdf

COG_Eider_23_705H_GCP_20201107185248.pdf

Proprietary_Connections_Performance_Data_7.6250_29.7000_0.3750__P110_HC_20201107185309.pdf

Other Variance attachment:

COG_5M_Variance_Well_Plan_20200513161353.pdf

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)
EIDER 23 FED COM PROJECT
EIDER 23 FEDERAL COM #705H

OWB

Plan: PWP1

Standard Survey Report

27 October, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Well:	EIDER 23 FEDERAL COM #705H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	edm

Project BULLDOG PROSPECT (NM-E)

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

Site EIDER 23 FED COM PROJECT

Site Position:		**Northing:**	440,860.53 usft	**Latitude:**	32° 12' 36.773 N
From:	Map	**Easting:**	710,269.07 usft	**Longitude:**	103° 39' 12.549 W
Position Uncertainty:	3.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.36 °

Well EIDER 23 FEDERAL COM #705H

Well Position	**+N/-S**	0.0 usft	**Northing:**	440,467.90 usft	**Latitude:**	32° 12' 32.760 N
	+E/-W	0.0 usft	**Easting:**	712,301.20 usft	**Longitude:**	103° 38' 48.926 W
Position Uncertainty		3.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,575.4 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/27/2020	6.65	59.90	47,542.08678074

Design PWP1

Audit Notes:

Version:		**Phase:**	PLAN	**Tie On Depth:**	0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	192.51

Survey Tool Program **Date** 10/27/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,964.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
11,964.0	19,904.0	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Well:	EIDER 23 FEDERAL COM #705H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,600.0	2.00	272.57	2,600.0	0.1	-1.7	0.3	2.00	2.00	0.00
2,700.0	4.00	272.57	2,699.8	0.3	-7.0	1.2	2.00	2.00	0.00
2,800.0	6.00	272.57	2,799.5	0.7	-15.7	2.7	2.00	2.00	0.00
2,844.8	6.90	272.57	2,844.0	0.9	-20.7	3.6	2.00	2.00	0.00
Start 9123.0 hold at 2844.8 MD									
2,900.0	6.90	272.57	2,898.8	1.2	-27.3	4.7	0.00	0.00	0.00
3,000.0	6.90	272.57	2,998.0	1.8	-39.3	6.8	0.00	0.00	0.00
3,100.0	6.90	272.57	3,097.3	2.3	-51.3	8.9	0.00	0.00	0.00
3,200.0	6.90	272.57	3,196.6	2.8	-63.3	10.9	0.00	0.00	0.00
3,300.0	6.90	272.57	3,295.9	3.4	-75.3	13.0	0.00	0.00	0.00
3,400.0	6.90	272.57	3,395.2	3.9	-87.3	15.1	0.00	0.00	0.00
3,500.0	6.90	272.57	3,494.4	4.5	-99.3	17.2	0.00	0.00	0.00
3,600.0	6.90	272.57	3,593.7	5.0	-111.3	19.2	0.00	0.00	0.00
3,700.0	6.90	272.57	3,693.0	5.5	-123.3	21.3	0.00	0.00	0.00
3,800.0	6.90	272.57	3,792.3	6.1	-135.3	23.4	0.00	0.00	0.00
3,900.0	6.90	272.57	3,891.5	6.6	-147.3	25.5	0.00	0.00	0.00
4,000.0	6.90	272.57	3,990.8	7.1	-159.3	27.5	0.00	0.00	0.00
4,100.0	6.90	272.57	4,090.1	7.7	-171.3	29.6	0.00	0.00	0.00
4,200.0	6.90	272.57	4,189.4	8.2	-183.3	31.7	0.00	0.00	0.00
4,300.0	6.90	272.57	4,288.6	8.8	-195.3	33.8	0.00	0.00	0.00
4,400.0	6.90	272.57	4,387.9	9.3	-207.2	35.8	0.00	0.00	0.00
4,500.0	6.90	272.57	4,487.2	9.8	-219.2	37.9	0.00	0.00	0.00
4,600.0	6.90	272.57	4,586.5	10.4	-231.2	40.0	0.00	0.00	0.00
4,700.0	6.90	272.57	4,685.7	10.9	-243.2	42.0	0.00	0.00	0.00
4,800.0	6.90	272.57	4,785.0	11.4	-255.2	44.1	0.00	0.00	0.00
4,900.0	6.90	272.57	4,884.3	12.0	-267.2	46.2	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Well:	EIDER 23 FEDERAL COM #705H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,000.0	6.90	272.57	4,983.6	12.5	-279.2	48.3	0.00	0.00	0.00
5,100.0	6.90	272.57	5,082.9	13.1	-291.2	50.3	0.00	0.00	0.00
5,200.0	6.90	272.57	5,182.1	13.6	-303.2	52.4	0.00	0.00	0.00
5,300.0	6.90	272.57	5,281.4	14.1	-315.2	54.5	0.00	0.00	0.00
5,400.0	6.90	272.57	5,380.7	14.7	-327.2	56.6	0.00	0.00	0.00
5,500.0	6.90	272.57	5,480.0	15.2	-339.2	58.6	0.00	0.00	0.00
5,600.0	6.90	272.57	5,579.2	15.7	-351.2	60.7	0.00	0.00	0.00
5,700.0	6.90	272.57	5,678.5	16.3	-363.2	62.8	0.00	0.00	0.00
5,800.0	6.90	272.57	5,777.8	16.8	-375.2	64.9	0.00	0.00	0.00
5,900.0	6.90	272.57	5,877.1	17.4	-387.2	66.9	0.00	0.00	0.00
6,000.0	6.90	272.57	5,976.3	17.9	-399.2	69.0	0.00	0.00	0.00
6,100.0	6.90	272.57	6,075.6	18.4	-411.2	71.1	0.00	0.00	0.00
6,200.0	6.90	272.57	6,174.9	19.0	-423.2	73.2	0.00	0.00	0.00
6,300.0	6.90	272.57	6,274.2	19.5	-435.2	75.2	0.00	0.00	0.00
6,400.0	6.90	272.57	6,373.4	20.1	-447.1	77.3	0.00	0.00	0.00
6,500.0	6.90	272.57	6,472.7	20.6	-459.1	79.4	0.00	0.00	0.00
6,600.0	6.90	272.57	6,572.0	21.1	-471.1	81.4	0.00	0.00	0.00
6,700.0	6.90	272.57	6,671.3	21.7	-483.1	83.5	0.00	0.00	0.00
6,800.0	6.90	272.57	6,770.6	22.2	-495.1	85.6	0.00	0.00	0.00
6,900.0	6.90	272.57	6,869.8	22.7	-507.1	87.7	0.00	0.00	0.00
7,000.0	6.90	272.57	6,969.1	23.3	-519.1	89.7	0.00	0.00	0.00
7,100.0	6.90	272.57	7,068.4	23.8	-531.1	91.8	0.00	0.00	0.00
7,200.0	6.90	272.57	7,167.7	24.4	-543.1	93.9	0.00	0.00	0.00
7,300.0	6.90	272.57	7,266.9	24.9	-555.1	96.0	0.00	0.00	0.00
7,400.0	6.90	272.57	7,366.2	25.4	-567.1	98.0	0.00	0.00	0.00
7,500.0	6.90	272.57	7,465.5	26.0	-579.1	100.1	0.00	0.00	0.00
7,600.0	6.90	272.57	7,564.8	26.5	-591.1	102.2	0.00	0.00	0.00
7,700.0	6.90	272.57	7,664.0	27.0	-603.1	104.3	0.00	0.00	0.00
7,800.0	6.90	272.57	7,763.3	27.6	-615.1	106.3	0.00	0.00	0.00
7,900.0	6.90	272.57	7,862.6	28.1	-627.1	108.4	0.00	0.00	0.00
8,000.0	6.90	272.57	7,961.9	28.7	-639.1	110.5	0.00	0.00	0.00
8,100.0	6.90	272.57	8,061.1	29.2	-651.1	112.6	0.00	0.00	0.00
8,200.0	6.90	272.57	8,160.4	29.7	-663.1	114.6	0.00	0.00	0.00
8,300.0	6.90	272.57	8,259.7	30.3	-675.0	116.7	0.00	0.00	0.00
8,400.0	6.90	272.57	8,359.0	30.8	-687.0	118.8	0.00	0.00	0.00
8,500.0	6.90	272.57	8,458.3	31.3	-699.0	120.8	0.00	0.00	0.00
8,600.0	6.90	272.57	8,557.5	31.9	-711.0	122.9	0.00	0.00	0.00
8,700.0	6.90	272.57	8,656.8	32.4	-723.0	125.0	0.00	0.00	0.00
8,800.0	6.90	272.57	8,756.1	33.0	-735.0	127.1	0.00	0.00	0.00
8,900.0	6.90	272.57	8,855.4	33.5	-747.0	129.1	0.00	0.00	0.00
9,000.0	6.90	272.57	8,954.6	34.0	-759.0	131.2	0.00	0.00	0.00
9,100.0	6.90	272.57	9,053.9	34.6	-771.0	133.3	0.00	0.00	0.00
9,200.0	6.90	272.57	9,153.2	35.1	-783.0	135.4	0.00	0.00	0.00
9,300.0	6.90	272.57	9,252.5	35.7	-795.0	137.4	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Well:	EIDER 23 FEDERAL COM #705H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.0	6.90	272.57	9,351.7	36.2	-807.0	139.5	0.00	0.00	0.00
9,500.0	6.90	272.57	9,451.0	36.7	-819.0	141.6	0.00	0.00	0.00
9,600.0	6.90	272.57	9,550.3	37.3	-831.0	143.7	0.00	0.00	0.00
9,700.0	6.90	272.57	9,649.6	37.8	-843.0	145.7	0.00	0.00	0.00
9,800.0	6.90	272.57	9,748.9	38.3	-855.0	147.8	0.00	0.00	0.00
9,900.0	6.90	272.57	9,848.1	38.9	-867.0	149.9	0.00	0.00	0.00
10,000.0	6.90	272.57	9,947.4	39.4	-879.0	151.9	0.00	0.00	0.00
10,100.0	6.90	272.57	10,046.7	40.0	-891.0	154.0	0.00	0.00	0.00
10,200.0	6.90	272.57	10,146.0	40.5	-903.0	156.1	0.00	0.00	0.00
10,300.0	6.90	272.57	10,245.2	41.0	-914.9	158.2	0.00	0.00	0.00
10,400.0	6.90	272.57	10,344.5	41.6	-926.9	160.2	0.00	0.00	0.00
10,500.0	6.90	272.57	10,443.8	42.1	-938.9	162.3	0.00	0.00	0.00
10,600.0	6.90	272.57	10,543.1	42.6	-950.9	164.4	0.00	0.00	0.00
10,700.0	6.90	272.57	10,642.3	43.2	-962.9	166.5	0.00	0.00	0.00
10,800.0	6.90	272.57	10,741.6	43.7	-974.9	168.5	0.00	0.00	0.00
10,900.0	6.90	272.57	10,840.9	44.3	-986.9	170.6	0.00	0.00	0.00
11,000.0	6.90	272.57	10,940.2	44.8	-998.9	172.7	0.00	0.00	0.00
11,100.0	6.90	272.57	11,039.4	45.3	-1,010.9	174.8	0.00	0.00	0.00
11,200.0	6.90	272.57	11,138.7	45.9	-1,022.9	176.8	0.00	0.00	0.00
11,300.0	6.90	272.57	11,238.0	46.4	-1,034.9	178.9	0.00	0.00	0.00
11,400.0	6.90	272.57	11,337.3	46.9	-1,046.9	181.0	0.00	0.00	0.00
11,500.0	6.90	272.57	11,436.6	47.5	-1,058.9	183.1	0.00	0.00	0.00
11,600.0	6.90	272.57	11,535.8	48.0	-1,070.9	185.1	0.00	0.00	0.00
11,700.0	6.90	272.57	11,635.1	48.6	-1,082.9	187.2	0.00	0.00	0.00
11,800.0	6.90	272.57	11,734.4	49.1	-1,094.9	189.3	0.00	0.00	0.00
11,900.0	6.90	272.57	11,833.7	49.6	-1,106.9	191.3	0.00	0.00	0.00
11,967.8	6.90	272.57	11,901.0	50.0	-1,115.0	192.8	0.00	0.00	0.00
Start DLS 12.00 TFO -57.24									
12,000.0	9.55	252.62	11,932.8	49.3	-1,119.5	194.4	12.00	8.25	-62.02
12,100.0	20.41	231.35	12,029.4	35.9	-1,141.1	212.2	12.00	10.86	-21.27
12,200.0	32.08	224.84	12,118.9	6.0	-1,173.6	248.4	12.00	11.67	-6.51
12,300.0	43.91	221.57	12,197.6	-38.9	-1,215.4	301.3	12.00	11.83	-3.27
12,400.0	55.81	219.48	12,261.9	-97.0	-1,264.9	368.7	12.00	11.89	-2.10
12,500.0	67.73	217.90	12,309.2	-165.7	-1,319.8	447.7	12.00	11.92	-1.57
12,600.0	79.66	216.58	12,337.2	-241.9	-1,377.8	534.7	12.00	11.93	-1.32
12,684.3	89.72	215.55	12,345.0	-309.7	-1,427.1	611.5	12.00	11.94	-1.23
Start DLS 4.00 TFO -90.08									
12,700.0	89.72	214.92	12,345.1	-322.5	-1,436.2	626.0	4.00	-0.01	-4.00
12,800.0	89.71	210.92	12,345.6	-406.5	-1,490.5	719.7	4.00	0.00	-4.00
12,900.0	89.71	206.92	12,346.1	-494.0	-1,538.9	815.6	4.00	0.00	-4.00
13,000.0	89.71	202.92	12,346.6	-584.6	-1,581.0	913.3	4.00	0.00	-4.00
13,100.0	89.71	198.92	12,347.1	-678.0	-1,616.7	1,012.2	4.00	0.00	-4.00
13,200.0	89.71	194.92	12,347.6	-773.7	-1,645.8	1,111.9	4.00	0.00	-4.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Well:	EIDER 23 FEDERAL COM #705H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	edm

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)
13,300.0	89.71	190.92	12,348.1	-871.1	-1,668.2	1,211.8	4.00	0.00	-4.00
13,400.0	89.71	186.92	12,348.6	-969.9	-1,683.7	1,311.6	4.00	0.00	-4.00
13,500.0	89.72	182.92	12,349.1	-1,069.5	-1,692.2	1,410.7	4.00	0.00	-4.00
13,581.1	89.72	179.68	12,349.5	-1,150.5	-1,694.1	1,490.2	4.00	0.01	-4.00
Start 6322.9 hold at 13581.1 MD									
13,600.0	89.72	179.68	12,349.6	-1,169.5	-1,694.0	1,508.7	0.00	0.00	0.00
13,700.0	89.72	179.68	12,350.1	-1,269.5	-1,693.4	1,606.2	0.00	0.00	0.00
13,800.0	89.72	179.68	12,350.6	-1,369.5	-1,692.9	1,703.7	0.00	0.00	0.00
13,900.0	89.72	179.68	12,351.0	-1,469.5	-1,692.3	1,801.2	0.00	0.00	0.00
14,000.0	89.72	179.68	12,351.5	-1,569.5	-1,691.7	1,898.7	0.00	0.00	0.00
14,100.0	89.72	179.68	12,352.0	-1,669.4	-1,691.2	1,996.2	0.00	0.00	0.00
14,200.0	89.72	179.68	12,352.5	-1,769.4	-1,690.6	2,093.7	0.00	0.00	0.00
14,300.0	89.72	179.68	12,353.0	-1,869.4	-1,690.0	2,191.2	0.00	0.00	0.00
14,400.0	89.72	179.68	12,353.4	-1,969.4	-1,689.5	2,288.7	0.00	0.00	0.00
14,500.0	89.72	179.68	12,353.9	-2,069.4	-1,688.9	2,386.2	0.00	0.00	0.00
14,600.0	89.72	179.68	12,354.4	-2,169.4	-1,688.4	2,483.7	0.00	0.00	0.00
14,700.0	89.72	179.68	12,354.9	-2,269.4	-1,687.8	2,581.2	0.00	0.00	0.00
14,800.0	89.72	179.68	12,355.4	-2,369.4	-1,687.2	2,678.7	0.00	0.00	0.00
14,900.0	89.72	179.68	12,355.9	-2,469.4	-1,686.7	2,776.2	0.00	0.00	0.00
15,000.0	89.72	179.68	12,356.3	-2,569.4	-1,686.1	2,873.7	0.00	0.00	0.00
15,100.0	89.72	179.68	12,356.8	-2,669.4	-1,685.5	2,971.2	0.00	0.00	0.00
15,200.0	89.72	179.68	12,357.3	-2,769.4	-1,685.0	3,068.7	0.00	0.00	0.00
15,300.0	89.72	179.68	12,357.8	-2,869.4	-1,684.4	3,166.2	0.00	0.00	0.00
15,400.0	89.72	179.68	12,358.3	-2,969.4	-1,683.8	3,263.7	0.00	0.00	0.00
15,500.0	89.72	179.68	12,358.8	-3,069.4	-1,683.3	3,361.2	0.00	0.00	0.00
15,600.0	89.72	179.68	12,359.2	-3,169.4	-1,682.7	3,458.7	0.00	0.00	0.00
15,700.0	89.72	179.68	12,359.7	-3,269.4	-1,682.2	3,556.2	0.00	0.00	0.00
15,800.0	89.72	179.68	12,360.2	-3,369.4	-1,681.6	3,653.7	0.00	0.00	0.00
15,900.0	89.72	179.68	12,360.7	-3,469.4	-1,681.0	3,751.2	0.00	0.00	0.00
16,000.0	89.72	179.68	12,361.2	-3,569.4	-1,680.5	3,848.7	0.00	0.00	0.00
16,100.0	89.72	179.68	12,361.6	-3,669.4	-1,679.9	3,946.2	0.00	0.00	0.00
16,200.0	89.72	179.68	12,362.1	-3,769.4	-1,679.3	4,043.7	0.00	0.00	0.00
16,300.0	89.72	179.68	12,362.6	-3,869.4	-1,678.8	4,141.2	0.00	0.00	0.00
16,400.0	89.72	179.68	12,363.1	-3,969.4	-1,678.2	4,238.7	0.00	0.00	0.00
16,500.0	89.72	179.68	12,363.6	-4,069.4	-1,677.7	4,336.2	0.00	0.00	0.00
16,600.0	89.72	179.68	12,364.1	-4,169.4	-1,677.1	4,433.7	0.00	0.00	0.00
16,700.0	89.72	179.68	12,364.5	-4,269.4	-1,676.5	4,531.2	0.00	0.00	0.00
16,800.0	89.72	179.68	12,365.0	-4,369.4	-1,676.0	4,628.7	0.00	0.00	0.00
16,900.0	89.72	179.68	12,365.5	-4,469.4	-1,675.4	4,726.2	0.00	0.00	0.00
17,000.0	89.72	179.68	12,366.0	-4,569.4	-1,674.8	4,823.7	0.00	0.00	0.00
17,100.0	89.72	179.68	12,366.5	-4,669.4	-1,674.3	4,921.2	0.00	0.00	0.00
17,200.0	89.72	179.68	12,367.0	-4,769.4	-1,673.7	5,018.7	0.00	0.00	0.00
17,300.0	89.72	179.68	12,367.4	-4,869.4	-1,673.2	5,116.2	0.00	0.00	0.00
17,400.0	89.72	179.68	12,367.9	-4,969.4	-1,672.6	5,213.7	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Well:	EIDER 23 FEDERAL COM #705H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,500.0	89.72	179.68	12,368.4	-5,069.4	-1,672.0	5,311.2	0.00	0.00	0.00
17,600.0	89.72	179.68	12,368.9	-5,169.4	-1,671.5	5,408.7	0.00	0.00	0.00
17,700.0	89.72	179.68	12,369.4	-5,269.3	-1,670.9	5,506.2	0.00	0.00	0.00
17,800.0	89.72	179.68	12,369.8	-5,369.3	-1,670.3	5,603.7	0.00	0.00	0.00
17,900.0	89.72	179.68	12,370.3	-5,469.3	-1,669.8	5,701.2	0.00	0.00	0.00
18,000.0	89.72	179.68	12,370.8	-5,569.3	-1,669.2	5,798.7	0.00	0.00	0.00
18,100.0	89.72	179.68	12,371.3	-5,669.3	-1,668.7	5,896.2	0.00	0.00	0.00
18,200.0	89.72	179.68	12,371.8	-5,769.3	-1,668.1	5,993.7	0.00	0.00	0.00
18,300.0	89.72	179.68	12,372.3	-5,869.3	-1,667.5	6,091.2	0.00	0.00	0.00
18,400.0	89.72	179.68	12,372.7	-5,969.3	-1,667.0	6,188.7	0.00	0.00	0.00
18,500.0	89.72	179.68	12,373.2	-6,069.3	-1,666.4	6,286.2	0.00	0.00	0.00
18,600.0	89.72	179.68	12,373.7	-6,169.3	-1,665.8	6,383.7	0.00	0.00	0.00
18,700.0	89.72	179.68	12,374.2	-6,269.3	-1,665.3	6,481.2	0.00	0.00	0.00
18,800.0	89.72	179.68	12,374.7	-6,369.3	-1,664.7	6,578.7	0.00	0.00	0.00
18,900.0	89.72	179.68	12,375.2	-6,469.3	-1,664.2	6,676.2	0.00	0.00	0.00
19,000.0	89.72	179.68	12,375.6	-6,569.3	-1,663.6	6,773.7	0.00	0.00	0.00
19,100.0	89.72	179.68	12,376.1	-6,669.3	-1,663.0	6,871.2	0.00	0.00	0.00
19,200.0	89.72	179.68	12,376.6	-6,769.3	-1,662.5	6,968.7	0.00	0.00	0.00
19,300.0	89.72	179.68	12,377.1	-6,869.3	-1,661.9	7,066.2	0.00	0.00	0.00
19,400.0	89.72	179.68	12,377.6	-6,969.3	-1,661.3	7,163.7	0.00	0.00	0.00
19,500.0	89.72	179.68	12,378.1	-7,069.3	-1,660.8	7,261.2	0.00	0.00	0.00
19,600.0	89.72	179.68	12,378.5	-7,169.3	-1,660.2	7,358.7	0.00	0.00	0.00
19,700.0	89.72	179.68	12,379.0	-7,269.3	-1,659.6	7,456.2	0.00	0.00	0.00
19,800.0	89.72	179.68	12,379.5	-7,369.3	-1,659.1	7,553.7	0.00	0.00	0.00
19,900.0	89.72	179.68	12,380.0	-7,469.3	-1,658.5	7,651.2	0.00	0.00	0.00
19,904.0	89.72	179.68	12,380.0	-7,473.3	-1,658.5	7,655.1	0.00	0.00	0.00
TD at 19904.0									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (EIDER 23 FED (	0.00	0.01	12,345.0	296.1	-1,701.6	440,764.00	710,599.60	32° 12' 35.797 N	103° 39' 8.709 W
- plan misses target center by 593.1usft at 12409.1usft MD (12267.0 TVD, -102.8 N, -1269.7 E)									
- Circle (radius 50.0)									
PBHL (EIDER 23 FEL	-0.27	359.68	12,380.0	-7,473.3	-1,658.5	432,994.60	710,642.70	32° 11' 18.911 N	103° 39' 8.780 W
- plan hits target center									
- Rectangle (sides W100.0 H7,807.0 D20.0)									
LTP (EIDER 23 FED (	0.00	0.00	12,380.0	-7,423.4	-1,658.7	433,044.50	710,642.50	32° 11' 19.404 N	103° 39' 8.778 W
- plan misses target center by 0.3usft at 19854.1usft MD (12379.8 TVD, -7423.4 N, -1658.8 E)									
- Point									

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Well:	EIDER 23 FEDERAL COM #705H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	PWP1	**Database:**	edm

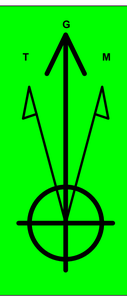
Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2500	2500	0	0	Start Build 2.00
2845	2844	1	-21	Start 9123.0 hold at 2844.8 MD
11,968	11,901	50	-1115	Start DLS 12.00 TFO -57.24
12,684	12,345	-310	-1427	Start DLS 4.00 TFO -90.08
13,581	12,349	-1151	-1694	Start 6322.9 hold at 13581.1 MD
19,904	12,380	-7473	-1659	TD at 19904.0

Checked By: _____ Approved By: _____ Date: _____

CONCHO

Project: BULLDOG PROSPECT (NM-E)
Site: EIDER 23 FED COM PROJECT
Well: EIDER 23 FEDERAL COM #705H
Wellbore: OWB
Design: PWP1
GL: 3575.4
KB=30' @ 3605.4usft (SCAN QUEST)



Azimuths to Grid North
True North: -0.37°
Magnetic North: 6.29°

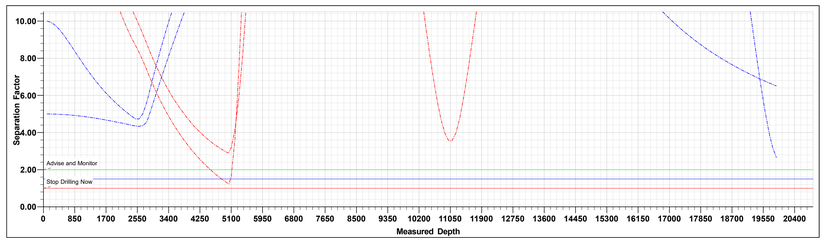
Magnetic Field
Strength: 47542.1nT
Dip Angle: 59.90°
Date: 10/27/2020
Model: IGRF2020

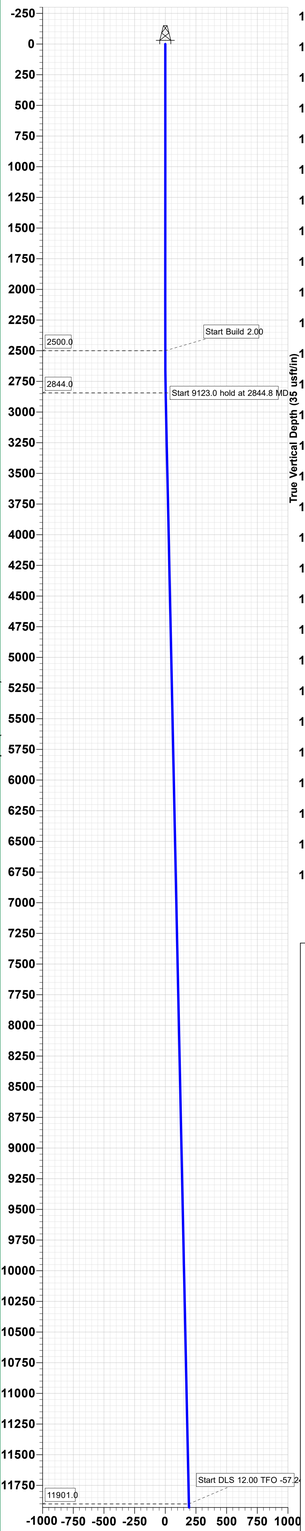
WELL DETAILS: EIDER 23 FEDERAL COM #705H

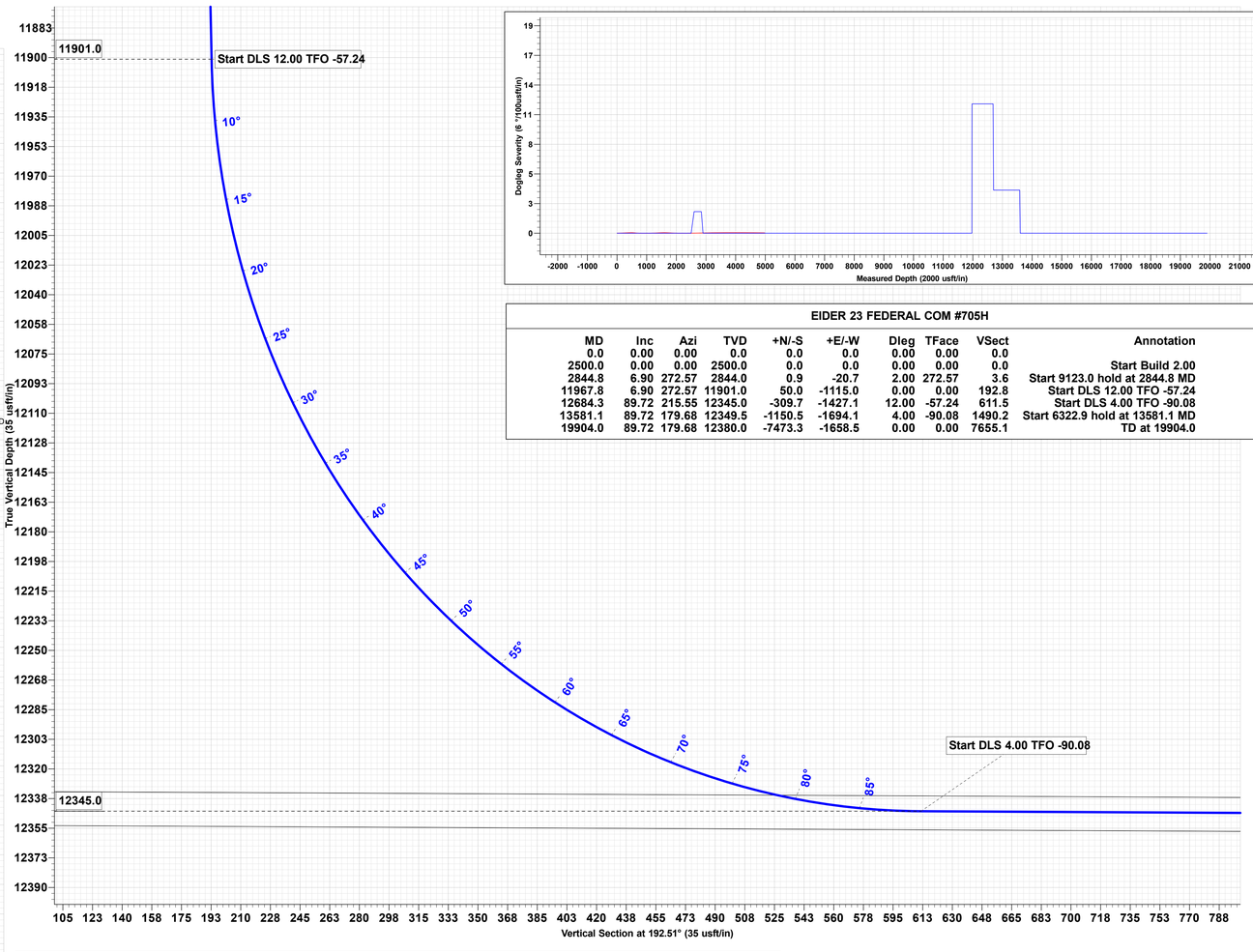
+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.0	0.0	440467.90	712301.20	32° 12' 32.760 N	103° 38' 48.926 W

DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (EIDER 23 FED COM #705H)	12345.0	296.1	-1701.6	440764.00	710599.60	32° 12' 35.797 N	103° 39' 8.709 W
LTP (EIDER 23 FED COM #705H)	12380.0	-7423.4	-1658.7	433044.50	710642.50	32° 11' 19.404 N	103° 39' 8.778 W
PBHL (EIDER 23 FED COM #705H)	12380.0	-7473.3	-1658.5	432994.60	710642.70	32° 11' 18.911 N	103° 39' 8.780 W

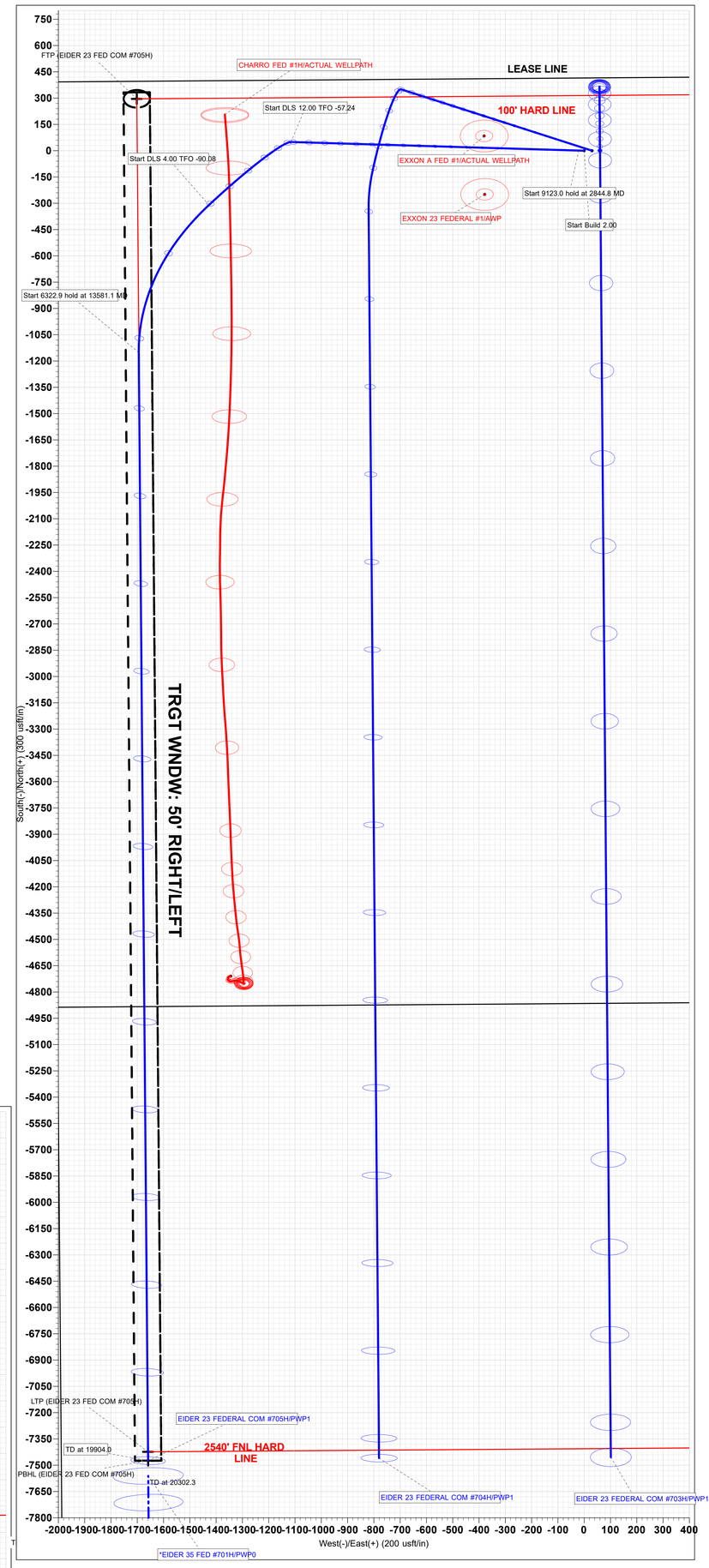


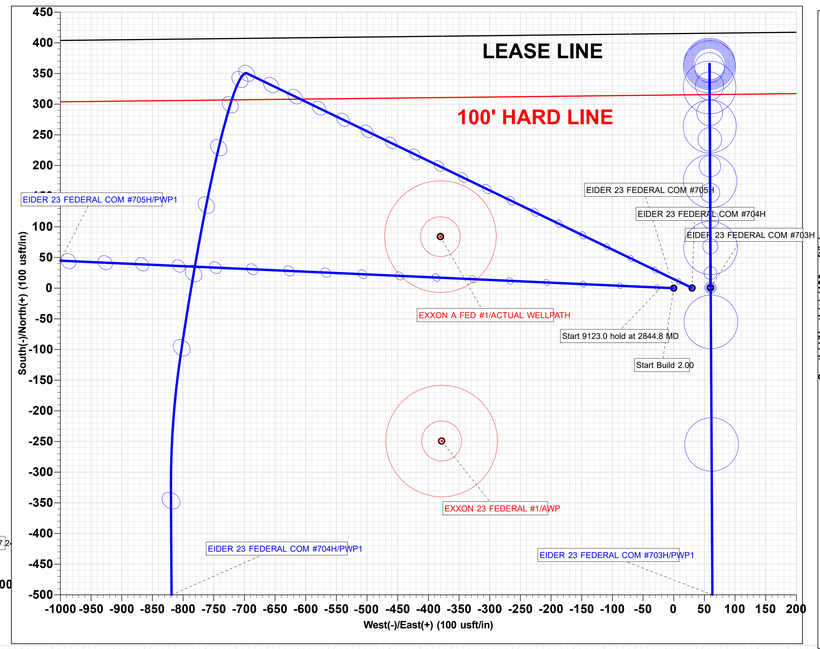


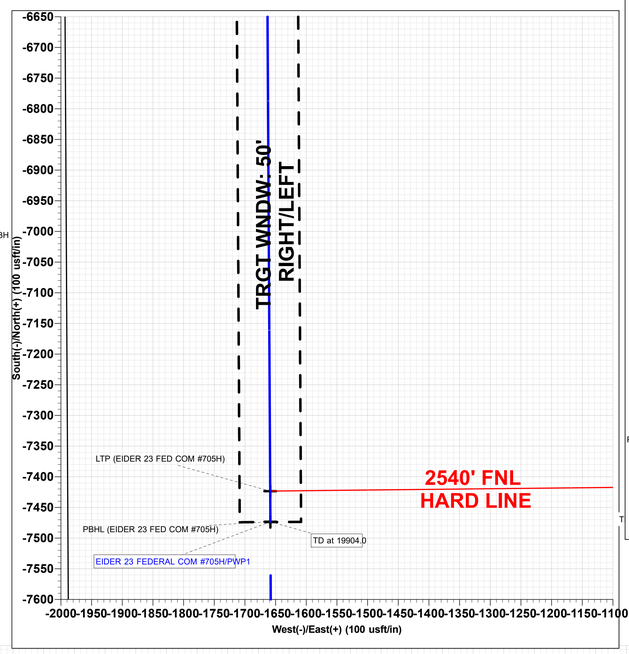


EIDER 23 FEDERAL COM #705H

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2844.8	6.90	272.57	2844.0	0.9	-20.7	2.00	272.57	3.6	Start 9123.0 hold at 2844.8 MD
11967.8	6.90	272.57	11901.0	50.0	-1115.0	0.00	0.00	192.8	Start DLS 12.00 TFO -57.24
12684.3	89.72	215.55	12345.0	-309.7	-1427.1	12.00	-57.24	611.5	Start DLS 4.00 TFO -90.08
13581.1	89.72	179.68	12349.5	-1150.5	-1694.1	4.00	-90.08	1490.2	Start 6322.9 hold at 13581.1 MD
19904.0	89.72	179.68	12380.0	-7473.3	-1658.5	0.00	0.00	7655.1	TD at 19904.0







DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)
EIDER 23 FED COM PROJECT
EIDER 23 FEDERAL COM #705H

OWB
PWP1

Anticollision Report

27 October, 2020

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Reference PWP1

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:	Maximum ellipse separation of 1,000.0 usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 10/27/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,964.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
11,964.0	19,904.0	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction

Summary

Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
EIDER 23 FED COM PROJECT						
EIDER 23 FEDERAL COM #703H - OWB - PWP1	2,500.0	2,499.8	60.0	47.3	4.733	CC, ES, SF
EIDER 23 FEDERAL COM #704H - OWB - PWP1	2,500.0	2,500.0	30.0	23.1	4.350	CC, ES
EIDER 23 FEDERAL COM #704H - OWB - PWP1	2,600.0	2,600.9	30.2	23.2	4.331	SF
EXXON 23 FEDERAL #1 - OWB - AWP	5,016.6	4,980.0	279.5	183.3	2.906	CC, ES, SF
EIDER 35 FED PROJECT						
*EIDER 35 FED #701H - OWB - PWP0	19,904.0	19,951.9	341.8	213.1	2.656	CC, ES, SF
EIDER FEDERAL PROJECT (BULLDOG 2434)						
CHARRO FED #1H - OWB - ACTUAL WELLPATH	11,069.3	15,477.9	353.2	253.5	3.542	CC, ES, SF
EXXON A FED #1 - OWB - ACTUAL WELLPATH	5,038.4	4,980.0	120.6	23.1	1.237	Shut in Producers, CC, E

Offset Design EIDER 23 FED COM PROJECT - EIDER 23 FEDERAL COM #703H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	89.33	0.7	60.0	60.0				
100.0	100.0	99.8	99.8	3.0	3.0	89.33	0.7	60.0	60.0	54.0	6.00	9.996	
200.0	200.0	199.8	199.8	3.0	3.0	89.33	0.7	60.0	60.0	54.0	6.04	9.934	
300.0	300.0	299.8	299.8	3.0	3.1	89.33	0.7	60.0	60.0	53.9	6.12	9.804	
400.0	400.0	399.8	399.8	3.0	3.2	89.33	0.7	60.0	60.0	53.8	6.24	9.616	
500.0	500.0	499.8	499.8	3.1	3.4	89.33	0.7	60.0	60.0	53.6	6.40	9.381	
600.0	600.0	599.8	599.8	3.1	3.6	89.33	0.7	60.0	60.0	53.4	6.58	9.114	
700.0	700.0	699.8	699.8	3.1	3.8	89.33	0.7	60.0	60.0	53.2	6.80	8.827	
800.0	800.0	799.8	799.8	3.2	4.0	89.33	0.7	60.0	60.0	53.0	7.04	8.528	
900.0	900.0	899.8	899.8	3.2	4.2	89.33	0.7	60.0	60.0	52.7	7.29	8.227	
1,000.0	1,000.0	999.8	999.8	3.2	4.5	89.33	0.7	60.0	60.0	52.4	7.57	7.929	
1,100.0	1,100.0	1,099.8	1,099.8	3.3	4.8	89.33	0.7	60.0	60.0	52.1	7.86	7.637	
1,200.0	1,200.0	1,199.8	1,199.8	3.4	5.1	89.33	0.7	60.0	60.0	51.8	8.16	7.356	
1,300.0	1,300.0	1,299.8	1,299.8	3.4	5.3	89.33	0.7	60.0	60.0	51.5	8.47	7.085	
1,400.0	1,400.0	1,399.8	1,399.8	3.5	5.6	89.33	0.7	60.0	60.0	51.2	8.79	6.827	
1,500.0	1,500.0	1,499.8	1,499.8	3.5	6.0	89.33	0.7	60.0	60.0	50.9	9.12	6.581	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EIDER 23 FEDERAL COM #703H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
1,600.0	1,600.0	1,599.8	1,599.8	3.6	6.3	89.33	0.7	60.0	60.0	50.6	9.45	6.348	
1,700.0	1,700.0	1,699.8	1,699.8	3.7	6.6	89.33	0.7	60.0	60.0	50.2	9.79	6.127	
1,800.0	1,800.0	1,799.8	1,799.8	3.8	6.9	89.33	0.7	60.0	60.0	49.9	10.14	5.918	
1,900.0	1,900.0	1,899.8	1,899.8	3.9	7.2	89.33	0.7	60.0	60.0	49.5	10.49	5.719	
2,000.0	2,000.0	1,999.8	1,999.8	3.9	7.6	89.33	0.7	60.0	60.0	49.2	10.85	5.532	
2,100.0	2,100.0	2,099.8	2,099.8	4.0	7.9	89.33	0.7	60.0	60.0	48.8	11.21	5.354	
2,200.0	2,200.0	2,199.8	2,199.8	4.1	8.2	89.33	0.7	60.0	60.0	48.4	11.57	5.186	
2,300.0	2,300.0	2,299.8	2,299.8	4.2	8.6	89.33	0.7	60.0	60.0	48.1	11.94	5.027	
2,400.0	2,400.0	2,399.8	2,399.8	4.3	8.9	89.33	0.7	60.0	60.0	47.7	12.31	4.876	
2,500.0	2,500.0	2,499.8	2,499.8	4.4	9.2	89.33	0.7	60.0	60.0	47.3	12.68	4.733	CC, ES, SF
2,600.0	2,600.0	2,599.7	2,599.7	4.5	9.6	175.24	2.4	60.0	61.8	48.7	13.05	4.734	
2,700.0	2,699.8	2,699.3	2,699.1	4.5	9.9	171.17	7.6	60.0	67.3	53.9	13.43	5.015	
2,800.0	2,799.5	2,798.5	2,798.0	4.5	10.2	166.02	15.8	59.9	77.1	63.3	13.81	5.585	
2,844.8	2,844.0	2,842.8	2,842.2	4.5	10.4	164.18	19.7	59.9	82.8	68.8	13.98	5.922	
2,900.0	2,898.8	2,897.5	2,896.6	4.6	10.6	162.35	24.5	59.9	90.3	76.1	14.19	6.362	
3,000.0	2,998.0	2,996.4	2,995.1	4.6	10.9	159.71	33.1	59.8	104.0	89.5	14.57	7.140	
3,100.0	3,097.3	3,095.4	3,093.7	4.7	11.3	157.69	41.7	59.8	118.0	103.0	14.95	7.889	
3,200.0	3,196.6	3,194.3	3,192.3	4.7	11.6	156.09	50.3	59.8	132.0	116.7	15.33	8.608	
3,300.0	3,295.9	3,293.3	3,290.9	4.8	11.9	154.81	58.9	59.7	146.1	130.4	15.71	9.297	
3,400.0	3,395.2	3,392.2	3,389.4	4.8	12.3	153.75	67.6	59.7	160.3	144.2	16.10	9.956	
3,500.0	3,494.4	3,491.2	3,488.0	4.9	12.6	152.86	76.2	59.6	174.5	158.0	16.49	10.585	
3,600.0	3,593.7	3,590.1	3,586.6	5.0	13.0	152.10	84.8	59.6	188.7	171.9	16.87	11.185	
3,700.0	3,693.0	3,689.1	3,685.2	5.0	13.3	151.46	93.4	59.6	203.0	185.8	17.27	11.759	
3,800.0	3,792.3	3,788.0	3,783.7	5.1	13.7	150.89	102.1	59.5	217.3	199.7	17.66	12.306	
3,900.0	3,891.5	3,887.0	3,882.3	5.2	14.0	150.40	110.7	59.5	231.7	213.6	18.06	12.829	
4,000.0	3,990.8	3,985.9	3,980.9	5.2	14.4	149.96	119.3	59.4	246.0	227.5	18.46	13.327	
4,100.0	4,090.1	4,084.9	4,079.5	5.3	14.7	149.58	127.9	59.4	260.3	241.5	18.86	13.803	
4,200.0	4,189.4	4,183.8	4,178.0	5.4	15.1	149.23	136.6	59.4	274.7	255.4	19.27	14.258	
4,300.0	4,288.6	4,282.8	4,276.6	5.5	15.4	148.92	145.2	59.3	289.1	269.4	19.68	14.692	
4,400.0	4,387.9	4,381.7	4,375.2	5.6	15.8	148.63	153.8	59.3	303.5	283.4	20.09	15.107	
4,500.0	4,487.2	4,480.7	4,473.8	5.6	16.1	148.37	162.4	59.2	317.8	297.3	20.50	15.503	
4,600.0	4,586.5	4,579.6	4,572.3	5.7	16.5	148.14	171.1	59.2	332.2	311.3	20.92	15.882	
4,700.0	4,685.7	4,678.6	4,670.9	5.8	16.8	147.92	179.7	59.2	346.6	325.3	21.34	16.244	
4,800.0	4,785.0	4,777.5	4,769.5	5.9	17.2	147.73	188.3	59.1	361.0	339.3	21.76	16.591	
4,900.0	4,884.3	4,876.5	4,868.1	6.0	17.5	147.54	196.9	59.1	375.4	353.2	22.18	16.923	
5,000.0	4,983.6	4,975.4	4,966.6	6.1	17.9	147.37	205.6	59.0	389.8	367.2	22.61	17.241	
5,100.0	5,082.9	5,074.4	5,065.2	6.2	18.2	147.21	214.2	59.0	404.2	381.2	23.04	17.545	
5,200.0	5,182.1	5,173.3	5,163.8	6.3	18.6	147.07	222.8	59.0	418.6	395.2	23.47	17.836	
5,300.0	5,281.4	5,272.3	5,262.3	6.4	18.9	146.93	231.4	58.9	433.1	409.2	23.90	18.116	
5,400.0	5,380.7	5,371.2	5,360.9	6.5	19.3	146.80	240.1	58.9	447.5	423.1	24.34	18.384	
5,500.0	5,480.0	5,470.2	5,459.5	6.6	19.6	146.68	248.7	58.8	461.9	437.1	24.78	18.641	
5,600.0	5,579.2	5,569.1	5,558.1	6.7	20.0	146.57	257.3	58.8	476.3	451.1	25.22	18.888	
5,700.0	5,678.5	5,668.1	5,656.6	6.8	20.3	146.46	265.9	58.8	490.7	465.1	25.66	19.125	
5,800.0	5,777.8	5,767.0	5,755.2	6.9	20.7	146.36	274.5	58.7	505.2	479.1	26.10	19.353	
5,900.0	5,877.1	5,866.0	5,853.8	7.0	21.1	146.27	283.2	58.7	519.6	493.0	26.55	19.572	
6,000.0	5,976.3	5,964.9	5,952.4	7.1	21.4	146.18	291.8	58.6	534.0	507.0	26.99	19.783	
6,100.0	6,075.6	6,063.9	6,050.9	7.2	21.8	146.09	300.4	58.6	548.4	521.0	27.44	19.985	
6,200.0	6,174.9	6,162.8	6,149.5	7.4	22.1	146.01	309.0	58.6	562.9	535.0	27.89	20.180	
6,300.0	6,274.2	6,261.8	6,248.1	7.5	22.5	145.94	317.7	58.5	577.3	549.0	28.34	20.367	
6,400.0	6,373.4	6,360.7	6,346.7	7.6	22.8	145.86	326.3	58.5	591.7	562.9	28.80	20.548	
6,500.0	6,472.7	6,459.7	6,445.2	7.7	23.2	145.79	334.9	58.4	606.2	576.9	29.25	20.722	
6,600.0	6,572.0	6,558.6	6,543.8	7.8	23.5	145.73	343.5	58.4	620.6	590.9	29.71	20.889	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EIDER 23 FEDERAL COM #703H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,700.0	6,671.3	6,663.3	6,648.2	7.9	23.9	145.73	351.8	58.4	634.6	604.4	30.18	21.028	
6,800.0	6,770.6	6,768.6	6,753.2	8.0	24.3	145.88	358.2	58.3	647.7	617.0	30.65	21.130	
6,900.0	6,869.8	6,873.9	6,858.5	8.1	24.7	146.17	362.6	58.3	659.8	628.7	31.13	21.198	
7,000.0	6,969.1	6,979.4	6,964.0	8.3	25.0	146.59	365.1	58.3	671.0	639.4	31.60	21.234	
7,100.0	7,068.4	7,083.6	7,068.2	8.4	25.4	147.13	365.7	58.3	681.4	649.3	32.08	21.242	
7,200.0	7,167.7	7,182.9	7,167.5	8.5	25.8	147.67	365.7	58.3	691.5	659.0	32.55	21.247	
7,300.0	7,266.9	7,282.2	7,266.7	8.6	26.1	148.19	365.7	58.3	701.7	668.7	33.02	21.252	
7,400.0	7,366.2	7,381.5	7,366.0	8.7	26.5	148.70	365.7	58.3	712.0	678.5	33.49	21.258	
7,500.0	7,465.5	7,480.8	7,465.3	8.9	26.8	149.19	365.7	58.3	722.3	688.3	33.97	21.265	
7,600.0	7,564.8	7,580.0	7,564.6	9.0	27.2	149.67	365.7	58.3	732.6	698.2	34.44	21.273	
7,700.0	7,664.0	7,679.3	7,663.8	9.1	27.5	150.14	365.7	58.3	743.0	708.1	34.92	21.281	
7,800.0	7,763.3	7,778.6	7,763.1	9.2	27.9	150.59	365.7	58.3	753.5	718.1	35.39	21.289	
7,900.0	7,862.6	7,877.9	7,862.4	9.3	28.2	151.03	365.7	58.3	764.0	728.1	35.87	21.298	
8,000.0	7,961.9	7,977.1	7,961.7	9.5	28.6	151.46	365.7	58.3	774.5	738.2	36.35	21.308	
8,100.0	8,061.1	8,076.4	8,060.9	9.6	28.9	151.88	365.7	58.3	785.1	748.3	36.83	21.318	
8,200.0	8,160.4	8,175.7	8,160.2	9.7	29.3	152.29	365.7	58.3	795.8	758.4	37.31	21.328	
8,300.0	8,259.7	8,275.0	8,259.5	9.8	29.6	152.68	365.7	58.3	806.4	768.6	37.79	21.339	
8,400.0	8,359.0	8,374.2	8,358.8	10.0	30.0	153.07	365.7	58.3	817.1	778.8	38.27	21.350	
8,500.0	8,458.3	8,473.5	8,458.1	10.1	30.3	153.45	365.7	58.3	827.9	789.1	38.75	21.362	
8,600.0	8,557.5	8,572.8	8,557.3	10.2	30.7	153.81	365.7	58.3	838.6	799.4	39.24	21.373	
8,700.0	8,656.8	8,672.1	8,656.6	10.3	31.0	154.17	365.7	58.3	849.4	809.7	39.72	21.385	
8,800.0	8,756.1	8,771.3	8,755.9	10.5	31.4	154.52	365.7	58.3	860.3	820.1	40.20	21.397	
8,900.0	8,855.4	8,870.6	8,855.2	10.6	31.7	154.86	365.7	58.3	871.1	830.5	40.69	21.410	
9,000.0	8,954.6	8,969.9	8,954.4	10.7	32.1	155.19	365.7	58.3	882.0	840.9	41.17	21.422	
9,100.0	9,053.9	9,069.2	9,053.7	10.8	32.4	155.51	365.7	58.3	893.0	851.3	41.66	21.435	
9,200.0	9,153.2	9,168.5	9,153.0	11.0	32.8	155.83	365.7	58.3	903.9	861.8	42.14	21.448	
9,300.0	9,252.5	9,267.7	9,252.3	11.1	33.1	156.13	365.7	58.3	914.9	872.3	42.63	21.461	
9,400.0	9,351.7	9,367.0	9,351.5	11.2	33.5	156.43	365.7	58.3	925.9	882.8	43.12	21.475	
9,500.0	9,451.0	9,466.3	9,450.8	11.4	33.9	156.73	365.7	58.3	936.9	893.3	43.60	21.488	
9,600.0	9,550.3	9,565.6	9,550.1	11.5	34.2	157.01	365.7	58.3	948.0	903.9	44.09	21.501	
9,700.0	9,649.6	9,664.8	9,649.4	11.6	34.6	157.29	365.7	58.3	959.1	914.5	44.58	21.515	
9,800.0	9,748.9	9,764.1	9,748.7	11.8	34.9	157.57	365.7	58.3	970.2	925.1	45.06	21.528	
9,900.0	9,848.1	9,863.4	9,847.9	11.9	35.3	157.83	365.7	58.3	981.3	935.7	45.55	21.542	
10,000.0	9,947.4	9,962.7	9,947.2	12.0	35.6	158.09	365.7	58.3	992.4	946.4	46.04	21.556	
10,100.0	10,046.7	10,061.9	10,046.5	12.2	36.0	158.35	365.7	58.3	1,003.6	957.1	46.53	21.569	
10,200.0	10,146.0	10,161.2	10,145.8	12.3	36.3	158.60	365.7	58.3	1,014.8	967.8	47.02	21.583	
10,300.0	10,245.2	10,260.5	10,245.0	12.4	36.7	158.84	365.7	58.3	1,026.0	978.5	47.51	21.597	
10,400.0	10,344.5	10,359.8	10,344.3	12.6	37.0	159.08	365.7	58.3	1,037.2	989.2	47.99	21.611	
10,500.0	10,443.8	10,459.0	10,443.6	12.7	37.4	159.32	365.7	58.3	1,048.4	999.9	48.48	21.624	
10,600.0	10,543.1	10,558.3	10,542.9	12.8	37.7	159.55	365.7	58.3	1,059.7	1,010.7	48.97	21.638	
10,700.0	10,642.3	10,657.6	10,642.1	13.0	38.1	159.77	365.7	58.3	1,070.9	1,021.5	49.46	21.652	
10,800.0	10,741.6	10,756.9	10,741.4	13.1	38.4	159.99	365.7	58.3	1,082.2	1,032.3	49.95	21.666	
10,900.0	10,840.9	10,856.2	10,840.7	13.3	38.8	160.21	365.7	58.3	1,093.5	1,043.1	50.44	21.679	
11,000.0	10,940.2	10,955.4	10,940.0	13.4	39.2	160.42	365.7	58.3	1,104.8	1,053.9	50.93	21.693	
11,100.0	11,039.4	11,054.7	11,039.2	13.5	39.5	160.62	365.7	58.3	1,116.2	1,064.7	51.42	21.706	
11,200.0	11,138.7	11,154.0	11,138.5	13.7	39.9	160.82	365.7	58.3	1,127.5	1,075.6	51.91	21.720	
11,300.0	11,238.0	11,253.3	11,237.8	13.8	40.2	161.02	365.7	58.3	1,138.9	1,086.5	52.40	21.733	
11,400.0	11,337.3	11,352.5	11,337.1	14.0	40.6	161.22	365.7	58.3	1,150.2	1,097.3	52.89	21.747	
11,500.0	11,436.6	11,451.8	11,436.4	14.1	40.9	161.41	365.7	58.3	1,161.6	1,108.2	53.38	21.760	
11,600.0	11,535.8	11,551.1	11,535.6	14.3	41.3	161.59	365.7	58.3	1,173.0	1,119.1	53.87	21.773	
11,700.0	11,635.1	11,650.4	11,634.9	14.4	41.6	161.78	365.7	58.3	1,184.4	1,130.1	54.36	21.787	
11,800.0	11,734.4	11,749.6	11,734.2	14.5	42.0	161.96	365.7	58.3	1,195.8	1,141.0	54.86	21.800	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EIDER 23 FEDERAL COM #703H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,900.0	11,833.7	11,848.9	11,833.5	14.7	42.3	162.13	365.7	58.3	1,207.3	1,151.9	55.35	21.813	
11,967.8	11,901.0	11,933.3	11,917.9	14.8	42.6	162.32	365.0	58.3	1,215.0	1,159.3	55.70	21.814	
11,975.0	11,908.1	11,953.4	11,937.9	14.8	42.7	168.05	363.4	58.3	1,215.7	1,160.0	55.71	21.820	
12,000.0	11,932.8	12,021.9	12,005.4	14.8	42.9	-177.02	351.9	58.4	1,218.3	1,162.5	55.79	21.836	
12,025.0	11,957.4	12,087.1	12,067.4	14.8	43.1	-167.36	332.1	58.5	1,221.0	1,165.2	55.89	21.849	
12,050.0	11,981.7	12,147.9	12,122.3	14.8	43.2	-160.56	306.2	58.6	1,224.1	1,168.1	55.99	21.861	
12,075.0	12,005.7	12,203.8	12,169.6	14.8	43.4	-155.35	276.4	58.8	1,227.5	1,171.4	56.11	21.877	
12,100.0	12,029.4	12,254.9	12,209.4	14.8	43.5	-151.11	244.5	59.0	1,231.3	1,175.1	56.22	21.901	
12,125.0	12,052.6	12,301.3	12,242.5	14.8	43.5	-147.50	211.9	59.1	1,235.7	1,179.4	56.34	21.934	
12,150.0	12,075.3	12,343.6	12,269.7	14.8	43.6	-144.30	179.6	59.3	1,240.8	1,184.3	56.45	21.979	
12,175.0	12,097.4	12,382.1	12,292.0	14.8	43.7	-141.40	148.2	59.5	1,246.5	1,190.0	56.57	22.037	
12,200.0	12,118.9	12,417.5	12,310.1	14.8	43.7	-138.70	117.8	59.7	1,253.0	1,196.3	56.67	22.108	
12,225.0	12,139.7	12,450.0	12,324.8	14.8	43.8	-136.14	88.7	59.8	1,260.2	1,203.4	56.78	22.193	
12,250.0	12,159.8	12,480.3	12,336.6	14.8	43.8	-133.67	60.9	60.0	1,268.1	1,211.2	56.89	22.292	
12,275.0	12,179.1	12,508.5	12,346.1	14.9	43.8	-131.26	34.3	60.1	1,276.7	1,219.8	56.99	22.403	
12,300.0	12,197.6	12,535.0	12,353.5	14.9	43.9	-128.88	8.9	60.3	1,286.1	1,229.0	57.09	22.527	
12,325.0	12,215.1	12,560.0	12,359.2	14.9	43.9	-126.49	-15.5	60.4	1,296.2	1,239.0	57.19	22.663	
12,350.0	12,231.8	12,583.8	12,363.4	14.9	43.9	-124.10	-38.9	60.5	1,306.8	1,249.6	57.29	22.811	
12,375.0	12,247.4	12,606.6	12,366.3	14.9	43.9	-121.68	-61.5	60.7	1,318.2	1,260.8	57.39	22.969	
12,400.0	12,261.9	12,628.5	12,368.1	15.0	43.9	-119.22	-83.3	60.8	1,330.0	1,272.5	57.49	23.137	
12,425.0	12,275.5	12,649.6	12,368.9	15.0	43.9	-116.73	-104.4	60.9	1,342.4	1,284.8	57.58	23.313	
12,450.0	12,287.8	12,667.7	12,369.0	15.0	43.9	-114.27	-122.5	61.0	1,355.3	1,297.6	57.67	23.500	
12,475.0	12,299.1	12,685.1	12,369.0	15.1	43.9	-111.79	-139.9	61.1	1,368.6	1,310.9	57.76	23.696	
12,500.0	12,309.2	12,703.1	12,369.1	15.1	43.9	-109.28	-157.9	61.2	1,382.4	1,324.5	57.85	23.898	
12,525.0	12,318.0	12,721.5	12,369.2	15.2	43.9	-106.75	-176.3	61.3	1,396.4	1,338.5	57.93	24.105	
12,550.0	12,325.7	12,740.4	12,369.2	15.2	43.9	-104.22	-195.2	61.4	1,410.7	1,352.7	58.01	24.316	
12,575.0	12,332.1	12,759.6	12,369.3	15.3	43.9	-101.70	-214.4	61.5	1,425.2	1,367.1	58.09	24.532	
12,600.0	12,337.2	12,779.1	12,369.3	15.3	44.0	-99.22	-233.9	61.6	1,439.8	1,381.6	58.17	24.752	
12,625.0	12,341.0	12,798.9	12,369.4	15.4	44.0	-96.80	-253.7	61.7	1,454.5	1,396.2	58.24	24.973	
12,650.0	12,343.6	12,818.9	12,369.4	15.4	44.0	-94.45	-273.7	61.8	1,469.2	1,410.9	58.31	25.195	
12,675.0	12,344.9	12,839.1	12,369.5	15.5	44.0	-92.19	-293.9	61.9	1,483.9	1,425.5	58.38	25.418	
12,684.3	12,345.0	12,846.6	12,369.5	15.5	44.0	-91.38	-301.4	62.0	1,489.3	1,430.9	58.40	25.501	
12,700.0	12,345.1	12,859.4	12,369.5	15.5	44.0	-91.35	-314.2	62.0	1,498.5	1,440.0	58.44	25.640	

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EIDER 23 FEDERAL COM #704H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11907-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	89.43	0.3	30.0	30.0				
100.0	100.0	100.0	100.0	3.0	3.0	89.43	0.3	30.0	30.0	24.0	6.00	5.000	
200.0	200.0	200.0	200.0	3.0	3.0	89.43	0.3	30.0	30.0	24.0	6.00	4.998	
300.0	300.0	300.0	300.0	3.0	3.0	89.43	0.3	30.0	30.0	24.0	6.01	4.993	
400.0	400.0	400.0	400.0	3.0	3.0	89.43	0.3	30.0	30.0	24.0	6.02	4.985	
500.0	500.0	500.0	500.0	3.1	3.1	89.43	0.3	30.0	30.0	24.0	6.03	4.975	
600.0	600.0	600.0	600.0	3.1	3.1	89.43	0.3	30.0	30.0	24.0	6.05	4.962	
700.0	700.0	700.0	700.0	3.1	3.1	89.43	0.3	30.0	30.0	23.9	6.07	4.947	
800.0	800.0	800.0	800.0	3.2	3.2	89.43	0.3	30.0	30.0	23.9	6.09	4.929	
900.0	900.0	900.0	900.0	3.2	3.2	89.43	0.3	30.0	30.0	23.9	6.11	4.908	
1,000.0	1,000.0	1,000.0	1,000.0	3.2	3.2	89.43	0.3	30.0	30.0	23.9	6.14	4.886	
1,100.0	1,100.0	1,100.0	1,100.0	3.3	3.3	89.43	0.3	30.0	30.0	23.8	6.17	4.861	
1,200.0	1,200.0	1,200.0	1,200.0	3.4	3.4	89.43	0.3	30.0	30.0	23.8	6.21	4.834	
1,300.0	1,300.0	1,300.0	1,300.0	3.4	3.4	89.43	0.3	30.0	30.0	23.8	6.24	4.806	
1,400.0	1,400.0	1,400.0	1,400.0	3.5	3.5	89.43	0.3	30.0	30.0	23.7	6.28	4.775	
1,500.0	1,500.0	1,500.0	1,500.0	3.5	3.5	89.43	0.3	30.0	30.0	23.7	6.33	4.743	
1,600.0	1,600.0	1,600.0	1,600.0	3.6	3.6	89.43	0.3	30.0	30.0	23.6	6.37	4.709	
1,700.0	1,700.0	1,700.0	1,700.0	3.7	3.7	89.43	0.3	30.0	30.0	23.6	6.42	4.673	
1,800.0	1,800.0	1,800.0	1,800.0	3.8	3.8	89.43	0.3	30.0	30.0	23.5	6.47	4.637	
1,900.0	1,900.0	1,900.0	1,900.0	3.9	3.9	89.43	0.3	30.0	30.0	23.5	6.52	4.598	
2,000.0	2,000.0	2,000.0	2,000.0	3.9	3.9	89.43	0.3	30.0	30.0	23.4	6.58	4.559	
2,100.0	2,100.0	2,100.0	2,100.0	4.0	4.0	89.43	0.3	30.0	30.0	23.4	6.64	4.519	
2,200.0	2,200.0	2,200.0	2,200.0	4.1	4.1	89.43	0.3	30.0	30.0	23.3	6.70	4.478	
2,300.0	2,300.0	2,300.0	2,300.0	4.2	4.2	89.43	0.3	30.0	30.0	23.2	6.76	4.436	
2,400.0	2,400.0	2,400.0	2,400.0	4.3	4.3	89.43	0.3	30.0	30.0	23.2	6.83	4.393	
2,500.0	2,500.0	2,500.0	2,500.0	4.4	4.4	89.43	0.3	30.0	30.0	23.1	6.90	4.350	CC, ES
2,600.0	2,600.0	2,600.9	2,600.9	4.5	4.5	175.55	1.1	28.4	30.2	23.2	6.97	4.331	SF
2,700.0	2,699.8	2,701.9	2,701.7	4.5	4.5	171.70	3.4	23.6	30.8	23.7	7.04	4.371	
2,800.0	2,799.5	2,802.2	2,801.7	4.5	4.6	166.24	7.0	16.1	32.5	25.3	7.13	4.551	
2,844.8	2,844.0	2,847.0	2,846.3	4.5	4.6	164.33	8.7	12.6	34.3	27.1	7.18	4.774	
2,900.0	2,898.8	2,902.1	2,901.2	4.6	4.7	162.45	10.8	8.3	36.9	29.7	7.23	5.110	
3,000.0	2,998.0	3,002.0	3,000.7	4.6	4.7	159.66	14.5	0.5	41.9	34.6	7.32	5.721	
3,100.0	3,097.3	3,101.8	3,100.2	4.7	4.8	157.46	18.3	-7.3	46.9	39.5	7.41	6.329	
3,200.0	3,196.6	3,201.7	3,199.7	4.7	4.9	155.68	22.1	-15.1	51.9	44.5	7.49	6.933	
3,300.0	3,295.9	3,301.5	3,299.1	4.8	4.9	154.23	25.8	-23.0	57.1	49.5	7.58	7.529	
3,400.0	3,395.2	3,401.4	3,398.6	4.8	5.0	153.01	29.6	-30.8	62.2	54.5	7.66	8.115	
3,500.0	3,494.4	3,501.3	3,498.1	4.9	5.1	151.98	33.4	-38.6	67.3	59.6	7.75	8.691	
3,600.0	3,593.7	3,601.1	3,597.6	5.0	5.2	151.09	37.1	-46.4	72.5	64.7	7.84	9.254	
3,700.0	3,693.0	3,701.0	3,697.1	5.0	5.3	150.33	40.9	-54.2	77.7	69.8	7.93	9.803	
3,800.0	3,792.3	3,800.8	3,796.5	5.1	5.4	149.66	44.7	-62.0	82.9	74.9	8.02	10.339	
3,900.0	3,891.5	3,900.7	3,896.0	5.2	5.4	149.07	48.4	-69.8	88.1	80.0	8.12	10.859	
4,000.0	3,990.8	4,000.6	3,995.5	5.2	5.5	148.54	52.2	-77.6	93.4	85.1	8.22	11.364	
4,100.0	4,090.1	4,100.4	4,095.0	5.3	5.6	148.07	56.0	-85.4	98.6	90.3	8.32	11.852	
4,200.0	4,189.4	4,200.3	4,194.5	5.4	5.7	147.65	59.7	-93.3	103.8	95.4	8.42	12.325	
4,300.0	4,288.6	4,300.1	4,294.0	5.5	5.8	147.27	63.5	-101.1	109.1	100.5	8.53	12.781	
4,400.0	4,387.9	4,400.0	4,393.4	5.6	5.9	146.92	67.2	-108.9	114.3	105.7	8.65	13.220	
4,500.0	4,487.2	4,499.9	4,492.9	5.6	6.0	146.61	71.0	-116.7	119.6	110.8	8.76	13.643	
4,600.0	4,586.5	4,599.7	4,592.4	5.7	6.1	146.32	74.8	-124.5	124.8	115.9	8.88	14.050	
4,700.0	4,685.7	4,699.6	4,691.9	5.8	6.2	146.05	78.5	-132.3	130.1	121.1	9.01	14.440	
4,800.0	4,785.0	4,799.4	4,791.4	5.9	6.3	145.80	82.3	-140.1	135.3	126.2	9.13	14.815	
4,900.0	4,884.3	4,899.3	4,890.9	6.0	6.4	145.58	86.1	-147.9	140.6	131.3	9.27	15.173	
5,000.0	4,983.6	4,999.2	4,990.3	6.1	6.5	145.37	89.8	-155.7	145.9	136.5	9.40	15.516	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EIDER 23 FEDERAL COM #704H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11907-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,082.9	5,099.0	5,089.8	6.2	6.6	145.17	93.6	-163.5	151.1	141.6	9.54	15.845	
5,200.0	5,182.1	5,198.9	5,189.3	6.3	6.7	144.99	97.4	-171.4	156.4	146.7	9.68	16.158	
5,300.0	5,281.4	5,298.7	5,288.8	6.4	6.8	144.82	101.1	-179.2	161.6	151.8	9.82	16.457	
5,400.0	5,380.7	5,398.6	5,388.3	6.5	6.9	144.66	104.9	-187.0	166.9	156.9	9.97	16.742	
5,500.0	5,480.0	5,498.5	5,487.8	6.6	7.0	144.51	108.7	-194.8	172.2	162.1	10.12	17.014	
5,600.0	5,579.2	5,598.3	5,587.2	6.7	7.1	144.37	112.4	-202.6	177.5	167.2	10.27	17.273	
5,700.0	5,678.5	5,698.2	5,686.7	6.8	7.2	144.23	116.2	-210.4	182.7	172.3	10.43	17.519	
5,800.0	5,777.8	5,798.0	5,786.2	6.9	7.3	144.11	120.0	-218.2	188.0	177.4	10.59	17.754	
5,900.0	5,877.1	5,897.9	5,885.7	7.0	7.5	143.99	123.7	-226.0	193.3	182.5	10.75	17.976	
6,000.0	5,976.3	5,997.8	5,985.2	7.1	7.6	143.88	127.5	-233.8	198.6	187.6	10.92	18.188	
6,100.0	6,075.6	6,097.6	6,084.7	7.2	7.7	143.77	131.3	-241.6	203.8	192.7	11.08	18.388	
6,200.0	6,174.9	6,197.5	6,184.1	7.4	7.8	143.67	135.0	-249.5	209.1	197.8	11.25	18.579	
6,300.0	6,274.2	6,297.3	6,283.6	7.5	7.9	143.57	138.8	-257.3	214.4	203.0	11.43	18.759	
6,400.0	6,373.4	6,397.2	6,383.1	7.6	8.0	143.48	142.6	-265.1	219.7	208.1	11.60	18.930	
6,500.0	6,472.7	6,497.1	6,482.6	7.7	8.1	143.39	146.3	-272.9	224.9	213.2	11.78	19.092	
6,600.0	6,572.0	6,596.9	6,582.1	7.8	8.2	143.31	150.1	-280.7	230.2	218.2	11.96	19.245	
6,700.0	6,671.3	6,696.8	6,681.6	7.9	8.4	143.23	153.9	-288.5	235.5	223.3	12.14	19.390	
6,800.0	6,770.6	6,796.6	6,781.0	8.0	8.5	143.15	157.6	-296.3	240.8	228.4	12.33	19.528	
6,900.0	6,869.8	6,896.5	6,880.5	8.1	8.6	143.08	161.4	-304.1	246.0	233.5	12.52	19.657	
7,000.0	6,969.1	6,996.4	6,980.0	8.3	8.7	143.01	165.1	-311.9	251.3	238.6	12.71	19.779	
7,100.0	7,068.4	7,096.2	7,079.5	8.4	8.8	142.94	168.9	-319.8	256.6	243.7	12.90	19.895	
7,200.0	7,167.7	7,196.1	7,179.0	8.5	8.9	142.88	172.7	-327.6	261.9	248.8	13.09	20.004	
7,300.0	7,266.9	7,295.9	7,278.5	8.6	9.0	142.82	176.4	-335.4	267.2	253.9	13.29	20.106	
7,400.0	7,366.2	7,395.8	7,377.9	8.7	9.2	142.76	180.2	-343.2	272.5	259.0	13.49	20.203	
7,500.0	7,465.5	7,495.7	7,477.4	8.9	9.3	142.70	184.0	-351.0	277.7	264.0	13.69	20.294	
7,600.0	7,564.8	7,595.5	7,576.9	9.0	9.4	142.65	187.7	-358.8	283.0	269.1	13.89	20.380	
7,700.0	7,664.0	7,695.4	7,676.4	9.1	9.5	142.59	191.5	-366.6	288.3	274.2	14.09	20.460	
7,800.0	7,763.3	7,795.2	7,775.9	9.2	9.6	142.54	195.3	-374.4	293.6	279.3	14.30	20.535	
7,900.0	7,862.6	7,895.1	7,875.3	9.3	9.8	142.49	199.0	-382.2	298.9	284.4	14.50	20.606	
8,000.0	7,961.9	7,995.0	7,974.8	9.5	9.9	142.44	202.8	-390.0	304.1	289.4	14.71	20.672	
8,100.0	8,061.1	8,094.8	8,074.3	9.6	10.0	142.40	206.6	-397.9	309.4	294.5	14.92	20.734	
8,200.0	8,160.4	8,194.7	8,173.8	9.7	10.1	142.35	210.3	-405.7	314.7	299.6	15.14	20.792	
8,300.0	8,259.7	8,294.5	8,273.3	9.8	10.2	142.31	214.1	-413.5	320.0	304.6	15.35	20.846	
8,400.0	8,359.0	8,394.4	8,372.8	10.0	10.4	142.27	217.9	-421.3	325.3	309.7	15.57	20.896	
8,500.0	8,458.3	8,494.3	8,472.2	10.1	10.5	142.23	221.6	-429.1	330.6	314.8	15.78	20.943	
8,600.0	8,557.5	8,594.1	8,571.7	10.2	10.6	142.19	225.4	-436.9	335.8	319.8	16.00	20.986	
8,700.0	8,656.8	8,694.0	8,671.2	10.3	10.7	142.15	229.2	-444.7	341.1	324.9	16.22	21.026	
8,800.0	8,756.1	8,793.8	8,770.7	10.5	10.8	142.12	232.9	-452.5	346.4	330.0	16.45	21.064	
8,900.0	8,855.4	8,893.7	8,870.2	10.6	11.0	142.08	236.7	-460.3	351.7	335.0	16.67	21.098	
9,000.0	8,954.6	8,993.6	8,969.7	10.7	11.1	142.05	240.5	-468.2	357.0	340.1	16.90	21.129	
9,100.0	9,053.9	9,093.4	9,069.1	10.8	11.2	142.01	244.2	-476.0	362.3	345.1	17.12	21.158	
9,200.0	9,153.2	9,193.3	9,168.6	11.0	11.3	141.98	248.0	-483.8	367.5	350.2	17.35	21.184	
9,300.0	9,252.5	9,293.1	9,268.1	11.1	11.5	141.95	251.8	-491.6	372.8	355.3	17.58	21.208	
9,400.0	9,351.7	9,393.0	9,367.6	11.2	11.6	141.92	255.5	-499.4	378.1	360.3	17.81	21.229	
9,500.0	9,451.0	9,492.9	9,467.1	11.4	11.7	141.89	259.3	-507.2	383.4	365.4	18.04	21.249	
9,600.0	9,550.3	9,592.7	9,566.6	11.5	11.8	141.86	263.0	-515.0	388.7	370.4	18.28	21.266	
9,700.0	9,649.6	9,692.6	9,666.0	11.6	11.9	141.83	266.8	-522.8	394.0	375.5	18.51	21.281	
9,800.0	9,748.9	9,792.4	9,765.5	11.8	12.1	141.80	270.6	-530.6	399.3	380.5	18.75	21.295	
9,900.0	9,848.1	9,892.3	9,865.0	11.9	12.2	141.78	274.3	-538.4	404.5	385.6	18.99	21.306	
10,000.0	9,947.4	9,992.2	9,964.5	12.0	12.3	141.75	278.1	-546.3	409.8	390.6	19.23	21.316	
10,100.0	10,046.7	10,092.0	10,064.0	12.2	12.4	141.73	281.9	-554.1	415.1	395.6	19.47	21.324	
10,200.0	10,146.0	10,191.9	10,163.5	12.3	12.6	141.70	285.6	-561.9	420.4	400.7	19.71	21.330	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EIDER 23 FEDERAL COM #704H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11907-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.0	10,245.2	10,291.7	10,262.9	12.4	12.7	141.68	289.4	-569.7	425.7	405.7	19.95	21.335	
10,400.0	10,344.5	10,391.6	10,362.4	12.6	12.8	141.65	293.2	-577.5	431.0	410.8	20.20	21.339	
10,500.0	10,443.8	10,491.5	10,461.9	12.7	12.9	141.63	296.9	-585.3	436.3	415.8	20.44	21.341	
10,600.0	10,543.1	10,591.3	10,561.4	12.8	13.1	141.61	300.7	-593.1	441.5	420.9	20.69	21.342	
10,700.0	10,642.3	10,691.2	10,660.9	13.0	13.2	141.59	304.5	-600.9	446.8	425.9	20.94	21.341	
10,800.0	10,741.6	10,791.0	10,760.4	13.1	13.3	141.57	308.2	-608.7	452.1	430.9	21.19	21.340	
10,900.0	10,840.9	10,890.9	10,859.8	13.3	13.4	141.54	312.0	-616.6	457.4	436.0	21.44	21.337	
11,000.0	10,940.2	10,990.8	10,959.3	13.4	13.6	141.52	315.8	-624.4	462.7	441.0	21.69	21.333	
11,100.0	11,039.4	11,090.6	11,058.8	13.5	13.7	141.50	319.5	-632.2	468.0	446.0	21.94	21.328	
11,200.0	11,138.7	11,190.5	11,158.3	13.7	13.8	141.48	323.3	-640.0	473.3	451.1	22.20	21.322	
11,300.0	11,238.0	11,290.3	11,257.8	13.8	14.0	141.47	327.1	-647.8	478.5	456.1	22.45	21.315	
11,400.0	11,337.3	11,390.2	11,357.3	14.0	14.1	141.45	330.8	-655.6	483.8	461.1	22.71	21.308	
11,500.0	11,436.6	11,490.1	11,456.7	14.1	14.2	141.43	334.6	-663.4	489.1	466.2	22.96	21.299	
11,600.0	11,535.8	11,589.9	11,556.2	14.3	14.3	141.41	338.4	-671.2	494.4	471.2	23.22	21.289	
11,700.0	11,635.1	11,689.8	11,655.7	14.4	14.5	141.39	342.1	-679.0	499.7	476.2	23.48	21.279	
11,800.0	11,734.4	11,789.6	11,755.2	14.5	14.6	141.38	345.9	-686.8	505.0	481.2	23.74	21.268	
11,900.0	11,833.7	11,889.5	11,854.7	14.7	14.7	141.36	349.7	-694.7	510.3	486.3	24.01	21.256	
11,967.8	11,901.0	12,099.2	12,059.4	14.8	14.8	144.50	319.5	-716.3	506.7	480.3	26.40	19.194	
11,975.0	11,908.1	12,123.6	12,081.8	14.8	14.8	150.88	310.3	-719.5	505.1	478.0	27.03	18.684	
12,000.0	11,932.8	12,201.5	12,149.5	14.8	14.8	168.20	273.5	-730.5	498.5	469.3	29.25	17.040	
12,025.0	11,957.4	12,268.8	12,202.3	14.8	14.8	-179.76	233.3	-740.8	491.1	459.9	31.16	15.761	
12,050.0	11,981.7	12,326.6	12,242.7	14.8	14.9	-170.76	193.0	-750.1	483.3	450.8	32.57	14.842	
12,075.0	12,005.7	12,376.5	12,273.4	14.8	14.9	-163.65	154.6	-758.2	475.7	442.2	33.47	14.210	
12,100.0	12,029.4	12,419.9	12,296.6	14.8	14.9	-157.81	118.7	-765.4	468.4	434.5	33.94	13.801	
12,125.0	12,052.6	12,458.1	12,314.3	14.8	15.0	-152.85	85.4	-771.8	461.9	427.8	34.05	13.564	
12,150.0	12,075.3	12,492.2	12,327.7	14.8	15.0	-148.54	54.5	-777.4	456.2	422.3	33.87	13.467	
12,175.0	12,097.4	12,523.0	12,337.9	14.8	15.1	-144.71	25.9	-782.4	451.6	418.1	33.49	13.487	
12,200.0	12,118.9	12,551.2	12,345.6	14.8	15.1	-141.22	-0.8	-786.9	448.2	415.3	32.94	13.605	
12,225.0	12,139.7	12,577.1	12,351.2	14.8	15.2	-137.99	-25.8	-791.1	446.1	413.8	32.31	13.807	
12,250.0	12,159.8	12,601.3	12,355.2	14.8	15.2	-134.93	-49.3	-794.8	445.3	413.6	31.63	14.078	
12,252.4	12,161.8	12,603.6	12,355.5	14.8	15.2	-134.64	-51.6	-795.2	445.3	413.7	31.56	14.107	
12,275.0	12,179.1	12,624.0	12,357.9	14.9	15.2	-131.99	-71.6	-798.3	445.8	414.9	30.95	14.402	
12,300.0	12,197.6	12,645.6	12,359.4	14.9	15.3	-129.13	-92.9	-801.5	447.7	417.4	30.32	14.764	
12,325.0	12,215.1	12,666.1	12,360.0	14.9	15.3	-126.31	-113.1	-804.5	450.9	421.2	29.77	15.149	
12,350.0	12,231.8	12,678.9	12,360.0	14.9	15.3	-124.18	-125.8	-806.3	455.5	426.3	29.22	15.589	
12,375.0	12,247.4	12,691.5	12,360.1	14.9	15.3	-122.00	-138.3	-808.0	461.6	432.8	28.81	16.024	
12,400.0	12,261.9	12,700.0	12,360.1	15.0	15.4	-120.12	-146.8	-809.1	469.0	440.5	28.45	16.481	
12,425.0	12,275.5	12,717.9	12,360.2	15.0	15.4	-117.34	-164.6	-811.1	477.5	449.1	28.35	16.843	
12,450.0	12,287.8	12,731.6	12,360.2	15.0	15.4	-114.89	-178.2	-812.6	487.1	458.8	28.27	17.230	
12,475.0	12,299.1	12,745.6	12,360.2	15.1	15.4	-112.38	-192.1	-813.9	497.6	469.3	28.26	17.607	
12,500.0	12,309.2	12,759.8	12,360.3	15.1	15.5	-109.84	-206.3	-815.1	508.9	480.6	28.31	17.980	
12,525.0	12,318.0	12,774.2	12,360.3	15.2	15.5	-107.28	-220.6	-816.2	520.9	492.6	28.38	18.354	
12,550.0	12,325.7	12,800.0	12,360.4	15.2	15.6	-104.22	-246.4	-817.8	533.7	505.1	28.62	18.649	
12,575.0	12,332.1	12,800.0	12,360.4	15.3	15.6	-102.34	-246.4	-817.8	546.6	518.1	28.54	19.152	
12,600.0	12,337.2	12,817.9	12,360.4	15.3	15.6	-99.75	-264.3	-818.6	560.1	531.4	28.69	19.523	
12,625.0	12,341.0	12,832.5	12,360.5	15.4	15.6	-97.35	-278.9	-819.1	573.9	545.1	28.79	19.937	
12,650.0	12,343.6	12,847.1	12,360.5	15.4	15.7	-95.03	-293.4	-819.5	588.0	559.1	28.87	20.367	
12,675.0	12,344.9	12,861.6	12,360.5	15.5	15.7	-92.80	-307.9	-819.7	602.3	573.3	28.94	20.811	
12,684.3	12,345.0	12,866.9	12,360.6	15.5	15.7	-91.99	-313.2	-819.7	607.6	578.6	28.96	20.981	
12,700.0	12,345.1	12,883.2	12,360.6	15.5	15.8	-91.94	-329.6	-819.7	616.7	587.6	29.08	21.207	
12,800.0	12,345.6	12,956.4	12,360.8	15.8	15.9	-91.69	-402.7	-819.3	671.4	641.9	29.52	22.743	
12,900.0	12,346.1	13,043.6	12,361.0	16.2	16.2	-91.49	-489.9	-818.9	720.2	690.0	30.16	23.880	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EIDER 23 FEDERAL COM #704H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11907-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,000.0	12,346.6	13,134.0	12,361.3	16.5	16.5	-91.33	-580.4	-818.4	762.8	731.9	30.88	24.705	
13,100.0	12,347.1	13,227.2	12,361.5	16.9	16.8	-91.20	-673.5	-817.8	799.0	767.3	31.67	25.228	
13,200.0	12,347.6	13,322.7	12,361.8	17.3	17.2	-91.10	-769.0	-817.3	828.6	796.1	32.54	25.468	
13,300.0	12,348.1	13,420.0	12,362.1	17.7	17.6	-91.02	-866.4	-816.8	851.5	818.1	33.47	25.445	
13,400.0	12,348.6	13,518.7	12,362.3	18.1	18.1	-90.95	-965.0	-816.2	867.6	833.1	34.45	25.182	
13,500.0	12,349.1	13,618.3	12,362.6	18.5	18.6	-90.90	-1,064.6	-815.7	876.7	841.2	35.49	24.705	
13,581.1	12,349.5	13,699.3	12,362.8	18.9	19.1	-90.87	-1,145.6	-815.2	879.0	842.6	36.35	24.180	
13,600.0	12,349.6	13,718.2	12,362.9	19.0	19.2	-90.87	-1,164.6	-815.1	879.0	842.4	36.56	24.043	
13,700.0	12,350.1	13,818.2	12,363.1	19.4	19.7	-90.85	-1,264.5	-814.6	879.0	841.3	37.68	23.329	
13,800.0	12,350.6	13,918.2	12,363.4	19.8	20.3	-90.84	-1,364.5	-814.0	879.0	840.1	38.84	22.629	
13,900.0	12,351.0	14,018.2	12,363.7	20.3	21.0	-90.83	-1,464.5	-813.5	878.9	838.9	40.05	21.949	
14,000.0	12,351.5	14,118.2	12,364.0	20.8	21.6	-90.81	-1,564.5	-812.9	878.9	837.6	41.29	21.289	
14,100.0	12,352.0	14,218.2	12,364.2	21.4	22.3	-90.80	-1,664.5	-812.3	878.9	836.4	42.56	20.651	
14,200.0	12,352.5	14,318.2	12,364.5	21.9	22.9	-90.78	-1,764.5	-811.8	878.9	835.0	43.87	20.036	
14,300.0	12,353.0	14,418.2	12,364.8	22.5	23.6	-90.77	-1,864.5	-811.2	878.9	833.7	45.20	19.444	
14,400.0	12,353.4	14,518.2	12,365.1	23.1	24.3	-90.76	-1,964.5	-810.7	878.9	832.3	46.56	18.876	
14,500.0	12,353.9	14,618.2	12,365.3	23.7	25.0	-90.74	-2,064.5	-810.1	878.9	830.9	47.94	18.332	
14,600.0	12,354.4	14,718.2	12,365.6	24.4	25.8	-90.73	-2,164.5	-809.6	878.9	829.5	49.35	17.809	
14,700.0	12,354.9	14,818.2	12,365.9	25.0	26.5	-90.72	-2,264.5	-809.0	878.9	828.1	50.77	17.309	
14,800.0	12,355.4	14,918.2	12,366.1	25.7	27.2	-90.70	-2,364.5	-808.5	878.8	826.6	52.22	16.831	
14,900.0	12,355.9	15,018.2	12,366.4	26.4	28.0	-90.69	-2,464.5	-807.9	878.8	825.2	53.68	16.373	
15,000.0	12,356.3	15,118.2	12,366.7	27.1	28.7	-90.67	-2,564.5	-807.4	878.8	823.7	55.15	15.935	
15,100.0	12,356.8	15,218.2	12,367.0	27.8	29.5	-90.66	-2,664.5	-806.8	878.8	822.2	56.64	15.516	
15,200.0	12,357.3	15,318.2	12,367.2	28.5	30.2	-90.65	-2,764.5	-806.2	878.8	820.7	58.14	15.115	
15,300.0	12,357.8	15,418.2	12,367.5	29.2	31.0	-90.63	-2,864.5	-805.7	878.8	819.1	59.66	14.731	
15,400.0	12,358.3	15,518.2	12,367.8	29.9	31.8	-90.62	-2,964.5	-805.1	878.8	817.6	61.18	14.363	
15,500.0	12,358.8	15,618.2	12,368.0	30.6	32.6	-90.61	-3,064.5	-804.6	878.8	816.1	62.72	14.011	
15,600.0	12,359.2	15,718.2	12,368.3	31.4	33.4	-90.59	-3,164.5	-804.0	878.8	814.5	64.27	13.674	
15,700.0	12,359.7	15,818.2	12,368.6	32.1	34.1	-90.58	-3,264.5	-803.5	878.8	812.9	65.82	13.351	
15,800.0	12,360.2	15,918.2	12,368.9	32.9	34.9	-90.56	-3,364.5	-802.9	878.7	811.4	67.38	13.041	
15,900.0	12,360.7	16,018.2	12,369.1	33.6	35.7	-90.55	-3,464.5	-802.4	878.7	809.8	68.95	12.744	
16,000.0	12,361.2	16,118.2	12,369.4	34.4	36.5	-90.54	-3,564.5	-801.8	878.7	808.2	70.53	12.458	
16,100.0	12,361.6	16,218.2	12,369.7	35.2	37.3	-90.52	-3,664.5	-801.2	878.7	806.6	72.12	12.185	
16,200.0	12,362.1	16,318.2	12,369.9	35.9	38.1	-90.51	-3,764.5	-800.7	878.7	805.0	73.71	11.921	
16,300.0	12,362.6	16,418.2	12,370.2	36.7	38.9	-90.50	-3,864.5	-800.1	878.7	803.4	75.31	11.668	
16,400.0	12,363.1	16,518.2	12,370.5	37.5	39.8	-90.48	-3,964.5	-799.6	878.7	801.8	76.91	11.425	
16,500.0	12,363.6	16,618.2	12,370.8	38.3	40.6	-90.47	-4,064.5	-799.0	878.7	800.2	78.52	11.191	
16,600.0	12,364.1	16,718.2	12,371.0	39.1	41.4	-90.45	-4,164.5	-798.5	878.7	798.5	80.13	10.966	
16,700.0	12,364.5	16,818.2	12,371.3	39.9	42.2	-90.44	-4,264.5	-797.9	878.7	796.9	81.75	10.748	
16,800.0	12,365.0	16,918.2	12,371.6	40.7	43.0	-90.43	-4,364.5	-797.4	878.6	795.3	83.37	10.539	
16,900.0	12,365.5	17,018.2	12,371.9	41.4	43.8	-90.41	-4,464.5	-796.8	878.6	793.6	84.99	10.338	
17,000.0	12,366.0	17,118.2	12,372.1	42.2	44.7	-90.40	-4,564.5	-796.3	878.6	792.0	86.62	10.143	
17,100.0	12,366.5	17,218.2	12,372.4	43.1	45.5	-90.39	-4,664.5	-795.7	878.6	790.4	88.26	9.955	
17,200.0	12,367.0	17,318.2	12,372.7	43.9	46.3	-90.37	-4,764.5	-795.1	878.6	788.7	89.89	9.774	
17,300.0	12,367.4	17,418.2	12,372.9	44.7	47.1	-90.36	-4,864.5	-794.6	878.6	787.1	91.53	9.598	
17,400.0	12,367.9	17,518.2	12,373.2	45.5	48.0	-90.35	-4,964.5	-794.0	878.6	785.4	93.18	9.429	
17,500.0	12,368.4	17,618.2	12,373.5	46.3	48.8	-90.33	-5,064.5	-793.5	878.6	783.8	94.82	9.265	
17,600.0	12,368.9	17,718.2	12,373.8	47.1	49.6	-90.32	-5,164.5	-792.9	878.6	782.1	96.47	9.107	
17,700.0	12,369.4	17,818.2	12,374.0	47.9	50.4	-90.30	-5,264.5	-792.4	878.6	780.4	98.12	8.953	
17,800.0	12,369.8	17,918.2	12,374.3	48.7	51.3	-90.29	-5,364.5	-791.8	878.5	778.8	99.78	8.805	
17,900.0	12,370.3	18,018.2	12,374.6	49.5	52.1	-90.28	-5,464.5	-791.3	878.5	777.1	101.44	8.661	
18,000.0	12,370.8	18,118.2	12,374.8	50.4	52.9	-90.26	-5,564.5	-790.7	878.5	775.4	103.09	8.522	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EIDER 23 FEDERAL COM #704H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11907-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,100.0	12,371.3	18,218.2	12,375.1	51.2	53.8	-90.25	-5,664.5	-790.2	878.5	773.8	104.76	8.386	
18,200.0	12,371.8	18,318.2	12,375.4	52.0	54.6	-90.24	-5,764.5	-789.6	878.5	772.1	106.42	8.255	
18,300.0	12,372.3	18,418.2	12,375.7	52.8	55.4	-90.22	-5,864.5	-789.0	878.5	770.4	108.08	8.128	
18,400.0	12,372.7	18,518.2	12,375.9	53.7	56.3	-90.21	-5,964.4	-788.5	878.5	768.7	109.75	8.005	
18,500.0	12,373.2	18,618.2	12,376.2	54.5	57.1	-90.19	-6,064.4	-787.9	878.5	767.1	111.42	7.885	
18,600.0	12,373.7	18,718.2	12,376.5	55.3	58.0	-90.18	-6,164.4	-787.4	878.5	765.4	113.09	7.768	
18,700.0	12,374.2	18,818.2	12,376.7	56.1	58.8	-90.17	-6,264.4	-786.8	878.5	763.7	114.76	7.655	
18,800.0	12,374.7	18,918.2	12,377.0	57.0	59.6	-90.15	-6,364.4	-786.3	878.5	762.0	116.43	7.545	
18,900.0	12,375.2	19,018.2	12,377.3	57.8	60.5	-90.14	-6,464.4	-785.7	878.4	760.3	118.11	7.438	
19,000.0	12,375.6	19,118.2	12,377.6	58.6	61.3	-90.13	-6,564.4	-785.2	878.4	758.7	119.79	7.333	
19,100.0	12,376.1	19,218.2	12,377.8	59.5	62.2	-90.11	-6,664.4	-784.6	878.4	757.0	121.46	7.232	
19,200.0	12,376.6	19,318.2	12,378.1	60.3	63.0	-90.10	-6,764.4	-784.1	878.4	755.3	123.14	7.133	
19,300.0	12,377.1	19,418.2	12,378.4	61.1	63.8	-90.08	-6,864.4	-783.5	878.4	753.6	124.82	7.037	
19,400.0	12,377.6	19,518.2	12,378.7	62.0	64.7	-90.07	-6,964.4	-782.9	878.4	751.9	126.50	6.944	
19,500.0	12,378.1	19,618.2	12,378.9	62.8	65.5	-90.06	-7,064.4	-782.4	878.4	750.2	128.19	6.852	
19,600.0	12,378.5	19,718.2	12,379.2	63.6	66.4	-90.04	-7,164.4	-781.8	878.4	748.5	129.87	6.764	
19,700.0	12,379.0	19,818.2	12,379.5	64.5	67.2	-90.03	-7,264.4	-781.3	878.4	746.8	131.56	6.677	
19,800.0	12,379.5	19,918.2	12,379.7	65.3	68.1	-90.02	-7,364.4	-780.7	878.4	745.1	133.24	6.592	
19,892.4	12,379.9	20,010.7	12,380.0	66.1	68.9	-90.00	-7,456.8	-780.2	878.4	743.6	134.80	6.516	
19,904.0	12,380.0	20,013.0	12,380.0	66.2	68.9	-90.00	-7,459.2	-780.2	878.4	743.6	134.86	6.514	

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EXXON 23 FEDERAL #1 - OWB - AWP — **Offset Site Error:** 3.0 usft

Survey Program: 499-INC-ONLY — **Offset Well Error:** 5.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	5.0	-123.37	-249.2	-378.3	453.2				
100.0	100.0	89.9	89.9	3.0	5.1	-123.37	-249.2	-378.3	453.1	445.0	8.06	56.223	
200.0	200.0	189.9	189.9	3.0	5.3	-123.37	-249.2	-378.3	453.1	444.8	8.26	54.871	
300.0	300.0	289.9	289.9	3.0	5.6	-123.37	-249.2	-378.3	453.1	444.5	8.58	52.788	
400.0	400.0	389.9	389.9	3.0	6.0	-123.37	-249.2	-378.3	453.1	444.0	9.02	50.254	
500.0	500.0	489.9	489.9	3.1	6.5	-123.37	-249.2	-378.3	453.1	443.5	9.54	47.515	
600.0	600.0	589.9	589.9	3.1	7.7	-123.37	-249.2	-378.3	453.1	442.3	10.74	42.187	
634.6	634.6	624.5	624.5	3.1	8.2	-123.36	-249.1	-378.3	453.0	441.8	11.22	40.371	
700.0	700.0	689.6	689.6	3.1	9.1	-123.36	-249.1	-378.3	453.0	440.8	12.17	37.217	
800.0	800.0	789.9	789.9	3.2	10.6	-123.37	-249.2	-378.3	453.1	439.3	13.72	33.018	
900.0	900.0	889.9	889.9	3.2	12.2	-123.37	-249.2	-378.3	453.1	437.7	15.34	29.543	
937.9	937.9	927.8	927.8	3.2	12.9	-123.35	-249.0	-378.3	453.0	437.0	15.96	28.380	
1,000.0	1,000.0	989.7	989.7	3.2	13.9	-123.36	-249.1	-378.3	453.0	436.0	16.99	26.656	
1,100.0	1,100.0	1,089.4	1,089.4	3.3	15.5	-123.37	-249.2	-378.3	453.1	434.4	18.68	24.252	
1,200.0	1,200.0	1,189.9	1,189.9	3.4	17.3	-123.37	-249.2	-378.3	453.1	432.6	20.43	22.176	
1,300.0	1,300.0	1,289.9	1,289.9	3.4	19.0	-123.37	-249.2	-378.3	453.1	430.9	22.19	20.415	
1,356.6	1,356.6	1,346.5	1,346.5	3.4	20.0	-123.35	-249.0	-378.3	452.9	429.7	23.20	19.525	
1,400.0	1,400.0	1,389.8	1,389.8	3.5	20.7	-123.35	-249.0	-378.3	452.9	429.0	23.97	18.897	
1,500.0	1,500.0	1,489.6	1,489.6	3.5	22.5	-123.36	-249.1	-378.3	453.0	427.2	25.75	17.590	
1,600.0	1,600.0	1,589.4	1,589.4	3.6	24.2	-123.37	-249.2	-378.3	453.1	425.5	27.55	16.448	
1,700.0	1,700.0	1,689.9	1,689.9	3.7	26.0	-123.37	-249.2	-378.3	453.1	423.7	29.39	15.413	
1,800.0	1,800.0	1,789.9	1,789.9	3.8	27.8	-123.37	-249.2	-378.3	453.1	421.8	31.24	14.502	
1,840.3	1,840.3	1,830.2	1,830.1	3.8	28.6	-123.32	-248.7	-378.3	452.8	420.8	31.99	14.155	
1,900.0	1,900.0	1,889.6	1,889.6	3.9	29.6	-123.33	-248.8	-378.3	452.8	419.7	33.09	13.684	
2,000.0	2,000.0	1,989.1	1,989.1	3.9	31.4	-123.35	-249.0	-378.3	452.9	418.0	34.94	12.963	
2,100.0	2,100.0	2,089.9	2,089.9	4.0	33.3	-123.37	-249.2	-378.3	453.1	416.2	36.82	12.305	
2,200.0	2,200.0	2,189.9	2,189.9	4.1	35.1	-123.37	-249.2	-378.3	453.1	414.4	38.69	11.709	
2,300.0	2,300.0	2,289.9	2,289.9	4.2	36.9	-123.37	-249.2	-378.3	453.1	412.5	40.57	11.168	
2,338.8	2,338.8	2,328.6	2,328.5	4.2	37.6	-123.32	-248.7	-378.3	452.8	411.5	41.29	10.965	
2,400.0	2,400.0	2,389.5	2,389.5	4.3	38.7	-123.33	-248.8	-378.3	452.8	410.4	42.44	10.670	
2,500.0	2,500.0	2,489.1	2,489.0	4.4	40.6	-123.36	-249.1	-378.3	453.0	408.7	44.31	10.222	
2,600.0	2,600.0	2,589.9	2,589.9	4.5	42.4	-36.09	-249.2	-378.3	451.7	405.4	46.21	9.773	
2,700.0	2,699.8	2,689.8	2,689.7	4.5	44.3	-36.53	-249.2	-378.3	447.4	399.3	48.09	9.304	
2,800.0	2,799.5	2,789.4	2,789.4	4.5	46.2	-37.29	-249.2	-378.3	440.5	390.5	49.97	8.814	
2,844.8	2,844.0	2,833.9	2,833.9	4.5	47.0	-37.74	-249.2	-378.3	436.5	385.6	50.82	8.588	
2,900.0	2,898.8	2,888.6	2,888.6	4.6	48.0	-38.20	-248.5	-378.3	430.8	379.0	51.86	8.308	
3,000.0	2,998.0	2,987.6	2,987.5	4.6	49.9	-39.22	-248.6	-378.3	421.5	367.7	53.74	7.843	
3,100.0	3,097.3	3,086.5	3,086.5	4.7	51.7	-40.29	-248.9	-378.3	412.4	356.7	55.63	7.413	
3,200.0	3,196.6	3,186.6	3,186.5	4.7	53.6	-41.44	-249.2	-378.3	403.5	345.9	57.54	7.012	
3,300.0	3,295.9	3,285.9	3,285.8	4.8	55.6	-42.59	-249.2	-378.3	394.5	335.0	59.54	6.626	
3,400.0	3,395.2	3,385.1	3,385.1	4.8	57.6	-43.79	-249.2	-378.3	385.7	324.2	61.55	6.267	
3,500.0	3,494.4	3,484.2	3,484.1	4.9	59.5	-44.95	-248.4	-378.3	376.6	313.0	63.56	5.925	
3,600.0	3,593.7	3,582.9	3,582.8	5.0	61.5	-46.28	-248.6	-378.3	368.3	302.7	65.56	5.618	
3,700.0	3,693.0	3,681.5	3,681.4	5.0	63.4	-47.70	-249.0	-378.3	360.4	292.8	67.56	5.334	
3,800.0	3,792.3	3,782.3	3,782.2	5.1	65.5	-49.18	-249.2	-378.3	352.5	282.8	69.70	5.057	
3,900.0	3,891.5	3,881.6	3,881.4	5.2	67.6	-50.68	-249.2	-378.3	344.7	272.9	71.86	4.798	
4,000.0	3,990.8	3,980.9	3,980.7	5.2	69.7	-52.25	-249.2	-378.3	337.2	263.2	74.01	4.556	
4,100.0	4,090.1	4,079.3	4,079.2	5.3	71.8	-53.77	-248.2	-378.3	329.2	253.0	76.16	4.323	
4,200.0	4,189.4	4,177.8	4,177.6	5.4	73.9	-55.52	-248.7	-378.3	322.6	244.3	78.30	4.120	
4,300.0	4,288.6	4,278.8	4,278.5	5.5	76.0	-57.39	-249.2	-378.3	316.4	235.8	80.52	3.929	
4,400.0	4,387.9	4,378.1	4,377.8	5.6	78.2	-59.25	-249.2	-378.3	310.0	227.3	82.73	3.747	
4,500.0	4,487.2	4,477.4	4,477.1	5.6	80.3	-61.19	-249.2	-378.3	304.0	219.1	84.94	3.579	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 23 FED COM PROJECT - EXXON 23 FEDERAL #1 - OWB - AWP — **Offset Site Error:** 3.0 usft

Survey Program: 499-INC-ONLY — **Offset Well Error:** 5.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,600.0	4,586.5	4,576.6	4,576.4	5.7	82.4	-63.20	-249.2	-378.3	298.4	211.2	87.16	3.424	
4,700.0	4,685.7	4,675.9	4,675.6	5.8	84.5	-65.28	-249.2	-378.3	293.1	203.8	89.38	3.280	
4,800.0	4,785.0	4,775.2	4,774.9	5.9	86.7	-67.43	-249.2	-378.3	288.3	196.7	91.61	3.147	
4,900.0	4,884.3	4,874.5	4,874.2	6.0	88.8	-69.66	-249.2	-378.3	283.9	190.0	93.84	3.025	
5,000.0	4,983.6	4,973.7	4,973.5	6.1	90.9	-71.95	-249.2	-378.3	279.9	183.8	96.08	2.913	
5,016.6	5,000.0	4,980.0	4,979.6	6.1	91.1	-72.09	-249.2	-378.3	279.5	183.3	96.17	2.906	CC, ES, SF
5,100.0	5,082.9	4,980.0	4,979.6	6.2	91.1	-72.09	-249.2	-378.3	291.7	199.8	91.84	3.176	
5,200.0	5,182.1	4,980.0	4,979.6	6.3	91.1	-72.09	-249.2	-378.3	334.3	253.4	80.94	4.130	
5,300.0	5,281.4	4,980.0	4,979.6	6.4	91.1	-72.09	-249.2	-378.3	398.1	328.6	69.46	5.730	
5,400.0	5,380.7	4,980.0	4,979.6	6.5	91.1	-72.09	-249.2	-378.3	474.5	414.4	60.05	7.901	
5,500.0	5,480.0	4,980.0	4,979.6	6.6	91.1	-72.09	-249.2	-378.3	558.4	505.5	52.93	10.550	
5,600.0	5,579.2	4,980.0	4,979.6	6.7	91.1	-72.09	-249.2	-378.3	646.9	599.3	47.63	13.583	
5,700.0	5,678.5	4,980.0	4,979.6	6.8	91.1	-72.09	-249.2	-378.3	738.4	694.7	43.68	16.905	
5,800.0	5,777.8	4,980.0	4,979.6	6.9	91.1	-72.09	-249.2	-378.3	831.8	791.1	40.70	20.435	
5,900.0	5,877.1	4,980.0	4,979.6	7.0	91.1	-72.09	-249.2	-378.3	926.6	888.1	38.45	24.100	
6,000.0	5,976.3	4,980.0	4,979.6	7.1	91.1	-72.09	-249.2	-378.3	1,022.4	985.7	36.72	27.842	
6,100.0	6,075.6	4,980.0	4,979.6	7.2	91.1	-72.09	-249.2	-378.3	1,118.9	1,083.5	35.39	31.616	
6,200.0	6,174.9	4,980.0	4,979.6	7.4	91.1	-72.09	-249.2	-378.3	1,216.0	1,181.6	34.36	35.387	
6,300.0	6,274.2	4,980.0	4,979.6	7.5	91.1	-72.09	-249.2	-378.3	1,313.5	1,279.9	33.57	39.129	
6,400.0	6,373.4	4,980.0	4,979.6	7.6	91.1	-72.09	-249.2	-378.3	1,411.4	1,378.4	32.96	42.823	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER 35 FED PROJECT - *EIDER 35 FED #701H - OWB - PWP0 — **Offset Site Error:** 3.0 usft

Survey Program: 0-MWD — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
18,600.0	12,373.7	19,951.9	12,360.0	55.4	134.0	179.98	-7,560.9	-1,658.1	1,431.7	1,358.2	73.48	19.484	
18,700.0	12,374.2	19,951.9	12,360.0	56.2	134.0	179.98	-7,560.9	-1,658.1	1,334.6	1,260.3	74.35	17.951	
18,800.0	12,374.7	19,951.9	12,360.0	57.0	134.0	179.98	-7,560.9	-1,658.1	1,238.0	1,162.6	75.36	16.427	
18,900.0	12,375.2	19,951.9	12,360.0	57.9	134.0	179.98	-7,560.9	-1,658.1	1,141.9	1,065.3	76.57	14.913	
19,000.0	12,375.6	19,951.9	12,360.0	58.7	134.0	179.98	-7,560.9	-1,658.1	1,046.5	968.5	78.04	13.411	
19,100.0	12,376.1	19,951.9	12,360.0	59.5	134.0	179.98	-7,560.9	-1,658.1	952.2	872.3	79.84	11.926	
19,200.0	12,376.6	19,951.9	12,360.0	60.4	134.0	179.98	-7,560.9	-1,658.1	859.1	777.0	82.10	10.463	
19,300.0	12,377.1	19,951.9	12,360.0	61.2	134.0	179.98	-7,560.9	-1,658.1	767.7	682.7	84.99	9.032	
19,400.0	12,377.6	19,951.9	12,360.0	62.0	134.0	179.98	-7,560.9	-1,658.1	678.8	590.0	88.76	7.647	
19,500.0	12,378.1	19,951.9	12,360.0	62.9	134.0	179.98	-7,560.9	-1,658.1	593.4	499.6	93.73	6.331	
19,600.0	12,378.5	19,951.9	12,360.0	63.7	134.0	179.98	-7,560.9	-1,658.1	513.3	413.0	100.32	5.116	
19,700.0	12,379.0	19,951.9	12,360.0	64.5	134.0	179.98	-7,560.9	-1,658.1	441.4	332.5	108.86	4.055	
19,800.0	12,379.5	19,951.9	12,360.0	65.4	134.0	179.98	-7,560.9	-1,658.1	382.4	263.4	118.97	3.214	
19,904.0	12,380.0	19,951.9	12,360.0	66.3	134.0	179.98	-7,560.9	-1,658.1	341.8	213.1	128.68	2.656	CC, ES, SF

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER FEDERAL PROJECT (BULLDOG 2434) - CHARRO FED #1H - OWB - ACTUAL WELLPATH — **Offset Site Error:** 0.0 usft

Survey Program: 100-MWD — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,700.0	9,649.6	15,443.0	10,969.3	12.0	87.2	-10.67	-5.0	-1,356.0	1,413.3	1,344.2	69.08	20.457	
9,800.0	9,748.9	15,443.0	10,969.3	12.1	87.2	-10.67	-5.0	-1,356.0	1,316.7	1,246.7	70.05	18.798	
9,900.0	9,848.1	15,443.0	10,969.3	12.3	87.2	-10.67	-5.0	-1,356.0	1,220.7	1,149.6	71.13	17.162	
10,000.0	9,947.4	15,443.0	10,969.3	12.4	87.2	-10.67	-5.0	-1,356.0	1,125.4	1,053.0	72.36	15.552	
10,100.0	10,046.7	15,443.0	10,969.3	12.5	87.2	-10.67	-5.0	-1,356.0	1,031.0	957.2	73.79	13.972	
10,200.0	10,146.0	15,443.0	10,969.3	12.7	87.2	-10.67	-5.0	-1,356.0	937.7	862.3	75.46	12.428	
10,300.0	10,245.2	15,446.7	10,969.5	12.8	87.3	-10.08	-1.3	-1,356.1	846.0	768.5	77.49	10.918	
10,400.0	10,344.5	15,451.2	10,969.6	12.9	87.4	-9.35	3.2	-1,356.3	756.4	676.4	79.93	9.462	
10,500.0	10,443.8	15,455.6	10,969.7	13.1	87.4	-8.64	7.6	-1,356.5	669.6	586.8	82.88	8.080	
10,600.0	10,543.1	15,459.8	10,969.8	13.2	87.5	-7.96	11.8	-1,356.7	587.1	500.7	86.41	6.794	
10,700.0	10,642.3	15,463.9	10,970.0	13.3	87.5	-7.30	15.9	-1,356.9	510.9	420.3	90.53	5.643	
10,800.0	10,741.6	15,467.9	10,970.1	13.5	87.6	-6.66	19.9	-1,357.1	444.1	349.1	94.94	4.677	
10,900.0	10,840.9	15,471.7	10,970.2	13.6	87.7	-6.04	23.7	-1,357.3	391.7	292.9	98.74	3.966	
11,000.0	10,940.2	15,475.4	10,970.3	13.7	87.7	-5.43	27.4	-1,357.5	359.9	259.5	100.42	3.584	
11,069.3	11,009.0	15,477.9	10,970.3	13.8	87.7	-5.03	29.9	-1,357.6	353.2	253.5	99.73	3.542	CC, ES, SF
11,100.0	11,039.4	15,479.0	10,970.4	13.9	87.8	-4.85	31.0	-1,357.6	354.5	255.6	98.95	3.583	
11,200.0	11,138.7	15,482.5	10,970.5	14.0	87.8	-4.29	34.5	-1,357.8	376.6	281.8	94.76	3.974	
11,300.0	11,238.0	15,485.9	10,970.5	14.1	87.9	-3.74	37.8	-1,357.9	421.8	332.5	89.27	4.725	
11,400.0	11,337.3	15,489.2	10,970.6	14.3	87.9	-3.21	41.1	-1,358.1	483.7	399.7	84.03	5.756	
11,500.0	11,436.6	15,492.4	10,970.7	14.4	88.0	-2.69	44.3	-1,358.3	556.8	477.0	79.82	6.975	
11,600.0	11,535.8	15,495.4	10,970.8	14.6	88.0	-2.19	47.4	-1,358.4	637.2	560.5	76.75	8.303	
11,700.0	11,635.1	15,498.5	10,970.8	14.7	88.1	-1.71	50.4	-1,358.5	722.5	647.9	74.61	9.685	
11,800.0	11,734.4	15,501.4	10,970.9	14.9	88.1	-1.23	53.3	-1,358.7	811.2	738.0	73.17	11.086	
11,900.0	11,833.7	15,504.2	10,971.0	15.0	88.1	-0.78	56.1	-1,358.8	902.2	830.0	72.25	12.488	
11,967.8	11,901.0	15,506.1	10,971.0	15.1	88.2	-0.47	58.0	-1,358.9	965.0	893.1	71.83	13.433	
11,975.0	11,908.1	15,506.3	10,971.0	15.1	88.2	3.35	58.2	-1,358.9	971.6	899.8	71.80	13.533	
12,000.0	11,932.8	15,506.2	10,971.0	15.1	88.2	11.80	58.2	-1,358.9	994.7	923.1	71.67	13.880	
12,025.0	11,957.4	15,505.3	10,971.0	15.1	88.2	15.35	57.3	-1,358.9	1,017.6	946.1	71.53	14.227	
12,050.0	11,981.7	15,503.6	10,970.9	15.1	88.1	16.45	55.5	-1,358.8	1,040.2	968.8	71.38	14.572	
12,075.0	12,005.7	15,501.0	10,970.9	15.1	88.1	16.35	52.9	-1,358.7	1,062.4	991.2	71.24	14.914	
12,100.0	12,029.4	15,497.5	10,970.8	15.1	88.0	15.68	49.4	-1,358.5	1,084.3	1,013.2	71.09	15.252	
12,125.0	12,052.6	15,493.2	10,970.7	15.1	88.0	14.74	45.1	-1,358.3	1,105.7	1,034.8	70.94	15.586	
12,150.0	12,075.3	15,488.1	10,970.6	15.1	87.9	13.70	40.1	-1,358.1	1,126.7	1,055.9	70.80	15.914	
12,175.0	12,097.4	15,482.2	10,970.4	15.1	87.8	12.64	34.2	-1,357.8	1,147.1	1,076.5	70.65	16.236	
12,200.0	12,118.9	15,475.6	10,970.3	15.1	87.7	11.60	27.5	-1,357.5	1,167.0	1,096.5	70.51	16.551	
12,225.0	12,139.7	15,468.2	10,970.1	15.1	87.6	10.61	20.1	-1,357.1	1,186.3	1,116.0	70.38	16.857	
12,250.0	12,159.8	15,460.0	10,969.9	15.1	87.5	9.68	12.0	-1,356.7	1,205.0	1,134.8	70.24	17.155	
12,275.0	12,179.1	15,461.1	10,970.0	15.2	87.5	9.32	13.0	-1,356.8	1,223.0	1,152.8	70.18	17.427	
12,300.0	12,197.6	15,440.2	10,969.3	15.2	87.2	7.91	-7.8	-1,355.8	1,240.3	1,170.3	69.99	17.722	
12,325.0	12,215.1	15,417.0	10,968.7	15.2	86.8	6.57	-30.9	-1,354.8	1,256.8	1,187.0	69.80	18.007	
12,350.0	12,231.8	15,391.6	10,968.2	15.2	86.5	5.29	-56.3	-1,353.8	1,272.3	1,202.7	69.60	18.280	
12,375.0	12,247.4	15,363.9	10,968.1	15.2	86.1	4.07	-84.0	-1,352.8	1,286.9	1,217.5	69.40	18.543	
12,400.0	12,261.9	15,349.0	10,968.1	15.3	85.8	3.43	-98.9	-1,352.4	1,300.4	1,231.1	69.29	18.767	
12,425.0	12,275.5	15,332.1	10,968.2	15.3	85.6	2.78	-115.8	-1,351.8	1,313.0	1,243.8	69.18	18.978	
12,450.0	12,287.8	15,320.3	10,968.1	15.3	85.4	2.34	-127.5	-1,351.5	1,324.7	1,255.5	69.12	19.165	
12,475.0	12,299.1	15,308.2	10,968.1	15.4	85.2	1.91	-139.7	-1,351.2	1,335.4	1,266.4	69.06	19.337	
12,500.0	12,309.2	15,295.7	10,968.0	15.4	85.0	1.50	-152.2	-1,350.8	1,345.2	1,276.2	69.01	19.492	
12,525.0	12,318.0	15,282.9	10,967.8	15.4	84.9	1.10	-165.0	-1,350.5	1,354.1	1,285.1	68.98	19.631	
12,550.0	12,325.7	15,269.7	10,967.6	15.5	84.7	0.72	-178.1	-1,350.2	1,361.9	1,293.0	68.95	19.753	
12,575.0	12,332.1	15,258.3	10,967.4	15.5	84.5	0.39	-189.5	-1,349.9	1,368.8	1,299.8	68.94	19.855	
12,600.0	12,337.2	15,224.6	10,966.7	15.6	84.0	-0.50	-223.2	-1,349.2	1,374.5	1,305.7	68.81	19.974	
12,625.0	12,341.0	15,190.1	10,966.5	15.7	83.5	-1.39	-257.7	-1,348.5	1,378.9	1,310.2	68.69	20.074	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER FEDERAL PROJECT (BULLDOG 2434) - CHARRO FED #1H - OWB - ACTUAL WELLPATH — **Offset Site Error:** 0.0 usft

Survey Program: 100-MWD — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,650.0	12,343.6	15,160.0	10,966.5	15.7	83.1	-2.14	-287.8	-1,348.1	1,381.9	1,313.3	68.60	20.144	
12,675.0	12,344.9	15,143.5	10,966.6	15.8	82.8	-2.54	-304.4	-1,347.8	1,383.8	1,315.2	68.61	20.170	
12,684.3	12,345.0	15,138.1	10,966.6	15.8	82.7	-2.68	-309.8	-1,347.8	1,384.2	1,315.6	68.62	20.173	
12,700.0	12,345.1	15,128.9	10,966.6	15.8	82.6	-2.92	-319.0	-1,347.6	1,384.9	1,316.2	68.63	20.178	
12,800.0	12,345.6	15,073.6	10,966.1	16.1	81.8	-4.41	-374.2	-1,346.9	1,390.9	1,322.0	68.84	20.205	
12,900.0	12,346.1	14,946.1	10,966.0	16.4	79.9	-7.26	-501.7	-1,345.1	1,397.2	1,328.5	68.68	20.343	
13,000.0	12,346.6	14,876.0	10,965.9	16.8	78.9	-8.76	-571.8	-1,344.1	1,404.5	1,335.6	68.90	20.383	
13,100.0	12,347.1	14,811.1	10,964.7	17.2	78.0	-10.04	-636.6	-1,343.2	1,413.3	1,344.2	69.13	20.444	
13,200.0	12,347.6	14,707.5	10,961.6	17.6	76.5	-11.59	-740.2	-1,342.2	1,422.8	1,353.7	69.06	20.601	
13,300.0	12,348.1	14,578.9	10,960.3	18.0	74.7	-12.98	-868.8	-1,341.2	1,429.3	1,360.6	68.75	20.789	
13,400.0	12,348.6	14,478.7	10,960.5	18.4	73.3	-13.74	-969.0	-1,340.7	1,433.4	1,364.8	68.53	20.915	
13,500.0	12,349.1	14,394.8	10,959.7	18.8	72.1	-14.11	-1,052.9	-1,340.9	1,436.7	1,368.4	68.30	21.034	
13,581.1	12,349.5	14,284.9	10,959.9	19.1	70.6	-14.18	-1,162.8	-1,341.9	1,437.1	1,369.3	67.74	21.214	
13,600.0	12,349.6	14,271.1	10,960.0	19.2	70.4	-14.17	-1,176.6	-1,342.1	1,437.0	1,369.3	67.69	21.228	
13,609.1	12,349.6	14,264.5	10,960.0	19.2	70.3	-14.17	-1,183.2	-1,342.1	1,437.0	1,369.3	67.67	21.235	
13,700.0	12,350.1	14,182.4	10,959.3	19.6	69.2	-14.09	-1,265.3	-1,343.4	1,437.7	1,370.3	67.32	21.355	
13,779.6	12,350.5	14,093.9	10,959.3	20.0	68.0	-14.00	-1,353.8	-1,345.2	1,437.5	1,370.6	66.91	21.484	
13,800.0	12,350.6	14,079.0	10,959.2	20.1	67.8	-13.98	-1,368.6	-1,345.5	1,437.6	1,370.7	66.86	21.500	
13,900.0	12,351.0	13,976.5	10,957.8	20.6	66.4	-13.84	-1,471.1	-1,348.1	1,438.6	1,372.2	66.42	21.660	
13,993.9	12,351.5	13,879.4	10,957.8	21.0	65.1	-13.68	-1,568.2	-1,351.5	1,438.1	1,372.1	66.01	21.784	
14,000.0	12,351.5	13,874.8	10,957.8	21.1	65.1	-13.68	-1,572.7	-1,351.7	1,438.1	1,372.1	66.00	21.788	
14,100.0	12,352.0	13,745.8	10,957.1	21.6	63.4	-13.42	-1,701.6	-1,357.4	1,438.1	1,372.7	65.40	21.991	
14,200.0	12,352.5	13,662.4	10,957.5	22.1	62.3	-13.21	-1,784.9	-1,362.2	1,436.7	1,371.6	65.19	22.038	
14,300.0	12,353.0	13,529.5	10,958.0	22.7	60.6	-12.86	-1,917.6	-1,370.5	1,435.4	1,370.8	64.59	22.222	
14,400.0	12,353.4	13,399.7	10,962.7	23.3	59.0	-12.50	-2,046.9	-1,379.8	1,430.4	1,366.3	64.04	22.336	
14,500.0	12,353.9	13,323.1	10,965.8	23.9	58.0	-12.38	-2,123.4	-1,383.2	1,426.0	1,362.0	63.99	22.285	
14,600.0	12,354.4	13,249.0	10,967.5	24.6	57.1	-12.32	-2,197.4	-1,384.4	1,423.6	1,359.6	64.01	22.242	
14,700.0	12,354.9	13,156.5	10,969.0	25.2	56.0	-12.28	-2,289.9	-1,385.1	1,422.3	1,358.3	63.93	22.248	
14,800.0	12,355.4	13,062.5	10,970.0	25.9	54.8	-12.23	-2,383.9	-1,386.0	1,421.3	1,357.4	63.86	22.256	
14,851.4	12,355.6	13,020.6	10,970.4	26.2	54.4	-12.23	-2,425.8	-1,385.8	1,421.1	1,357.2	63.89	22.244	
14,900.0	12,355.9	12,979.8	10,970.6	26.5	53.9	-12.25	-2,466.5	-1,385.0	1,421.3	1,357.4	63.91	22.237	
15,000.0	12,356.3	12,876.4	10,970.9	27.2	52.7	-12.31	-2,569.9	-1,383.0	1,421.7	1,357.9	63.86	22.262	
15,100.0	12,356.8	12,771.3	10,971.4	27.9	51.5	-12.35	-2,675.0	-1,381.5	1,421.9	1,358.1	63.82	22.279	
15,200.0	12,357.3	12,669.8	10,972.3	28.6	50.4	-12.36	-2,776.6	-1,380.7	1,421.6	1,357.8	63.82	22.273	
15,213.7	12,357.4	12,658.2	10,972.4	28.7	50.3	-12.36	-2,788.1	-1,380.6	1,421.6	1,357.7	63.84	22.266	
15,300.0	12,357.8	12,584.3	10,972.4	29.3	49.5	-12.36	-2,862.1	-1,380.0	1,422.0	1,358.0	63.96	22.234	
15,400.0	12,358.3	12,497.0	10,972.1	30.1	48.6	-12.43	-2,949.3	-1,377.6	1,423.2	1,359.1	64.11	22.200	
15,500.0	12,358.8	12,416.7	10,971.0	30.8	47.8	-12.51	-3,029.5	-1,374.8	1,425.7	1,361.4	64.34	22.160	
15,600.0	12,359.2	12,311.8	10,968.9	31.5	46.8	-12.60	-3,134.4	-1,371.4	1,428.7	1,364.3	64.43	22.174	
15,700.0	12,359.7	12,200.3	10,967.7	32.3	45.8	-12.77	-3,245.8	-1,365.9	1,431.2	1,366.6	64.54	22.176	
15,800.0	12,360.2	12,092.3	10,967.7	33.0	44.8	-12.95	-3,353.6	-1,360.6	1,432.6	1,367.9	64.70	22.144	
15,900.0	12,360.7	11,988.7	10,967.3	33.8	44.0	-13.07	-3,457.1	-1,356.7	1,434.2	1,369.3	64.90	22.098	
16,000.0	12,361.2	11,894.7	10,967.2	34.5	43.2	-13.14	-3,551.0	-1,354.2	1,435.3	1,370.1	65.16	22.027	
16,100.0	12,361.6	11,774.6	10,966.4	35.3	42.4	-13.22	-3,671.2	-1,351.3	1,436.9	1,371.7	65.29	22.010	
16,200.0	12,362.1	11,678.3	10,967.3	36.1	41.7	-13.31	-3,767.4	-1,348.4	1,437.0	1,371.4	65.62	21.898	
16,300.0	12,362.6	11,587.9	10,967.5	36.8	41.2	-13.39	-3,857.8	-1,345.9	1,437.9	1,371.9	65.98	21.792	
16,400.0	12,363.1	11,450.2	10,969.9	37.6	40.4	-13.51	-3,995.4	-1,342.5	1,436.8	1,370.8	66.07	21.746	
16,442.6	12,363.3	11,428.8	10,970.2	37.9	40.3	-13.53	-4,016.8	-1,341.9	1,436.5	1,370.2	66.35	21.649	
16,500.0	12,363.6	11,410.0	10,970.3	38.4	40.2	-13.55	-4,035.6	-1,341.3	1,437.2	1,370.4	66.79	21.518	
16,600.0	12,364.1	11,347.0	10,968.4	39.2	39.9	-13.59	-4,098.5	-1,339.3	1,441.2	1,373.8	67.40	21.381	
16,700.0	12,364.5	11,303.5	10,966.0	40.0	39.8	-13.62	-4,141.9	-1,337.8	1,448.1	1,380.0	68.11	21.261	
16,800.0	12,365.0	11,284.0	10,964.0	40.8	39.7	-13.62	-4,161.3	-1,337.0	1,459.8	1,390.9	68.94	21.175	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER FEDERAL PROJECT (BULLDOG 2434) - CHARRO FED #1H - OWB - ACTUAL WELLPATH — **Offset Site Error:** 0.0 usft

Survey Program: 100-MWD — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
16,900.0	12,365.5	11,252.0	10,959.5	41.6	39.5	-13.63	-4,192.9	-1,335.5	1,476.1	1,406.4	69.70	21.179	
17,000.0	12,366.0	11,220.0	10,953.3	42.4	39.4	-13.63	-4,224.3	-1,333.8	1,497.1	1,426.7	70.45	21.251	

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER FEDERAL PROJECT (BULLDOG 2434) - EXXON A FED #1 - OWB - ACTUAL WELLPATH — **Offset Site Error:** 0.0 usft

Survey Program: 499-INC-ONLY — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	4.2	3.0	-77.54	84.0	-380.3	390.7				
100.0	100.0	69.9	69.9	4.2	3.1	-77.54	84.0	-380.3	389.5	382.2	7.31	53.313	
200.0	200.0	169.9	169.9	4.2	3.4	-77.54	84.0	-380.3	389.5	381.9	7.60	51.249	
300.0	300.0	269.9	269.9	4.3	3.8	-77.54	84.0	-380.3	389.5	381.4	8.08	48.192	
400.0	400.0	369.9	369.9	4.3	4.4	-77.54	84.0	-380.3	389.5	380.8	8.69	44.809	
500.0	500.0	469.9	469.9	4.3	5.1	-77.54	84.0	-380.3	389.5	380.1	9.39	41.500	
600.0	600.0	569.9	569.9	4.3	6.4	-77.54	84.0	-380.3	389.5	378.8	10.68	36.466	
700.0	700.0	670.0	670.0	4.3	8.0	-77.53	84.1	-380.3	389.5	377.2	12.30	31.671	
800.0	800.0	769.9	769.9	4.4	9.7	-77.54	84.0	-380.3	389.5	375.5	13.97	27.876	
900.0	900.0	869.9	869.9	4.4	11.4	-77.54	84.0	-380.3	389.5	373.8	15.68	24.840	
1,000.0	1,000.0	970.0	969.9	4.4	13.1	-77.52	84.2	-380.3	389.5	372.1	17.41	22.374	
1,100.0	1,100.0	1,070.1	1,070.1	4.5	14.8	-77.54	84.1	-380.3	389.5	370.4	19.16	20.335	
1,197.2	1,197.2	1,167.1	1,167.1	4.5	16.6	-77.54	84.0	-380.3	389.5	368.6	20.87	18.660	
1,200.0	1,200.0	1,169.9	1,169.9	4.5	16.6	-77.54	84.0	-380.3	389.5	368.6	20.92	18.615	
1,300.0	1,300.0	1,269.9	1,269.9	4.5	18.4	-77.54	84.0	-380.3	389.5	366.8	22.71	17.149	
1,400.0	1,400.0	1,369.9	1,369.9	4.6	20.2	-77.51	84.3	-380.3	389.6	365.1	24.51	15.896	
1,500.0	1,500.0	1,470.0	1,470.0	4.6	21.9	-77.52	84.2	-380.3	389.6	363.2	26.31	14.807	
1,600.0	1,600.0	1,570.1	1,570.1	4.7	23.7	-77.54	84.1	-380.3	389.5	361.4	28.11	13.856	
1,663.8	1,663.8	1,633.7	1,633.7	4.7	24.9	-77.54	84.0	-380.3	389.5	360.2	29.28	13.304	
1,700.0	1,700.0	1,669.9	1,669.9	4.8	25.5	-77.54	84.0	-380.3	389.5	359.6	29.94	13.008	
1,800.0	1,800.0	1,769.9	1,769.9	4.8	27.4	-77.54	84.0	-380.3	389.5	357.7	31.79	12.253	
1,900.0	1,900.0	1,870.0	1,870.0	4.9	29.2	-77.48	84.5	-380.3	389.6	356.0	33.64	11.582	
2,000.0	2,000.0	1,970.2	1,970.1	5.0	31.0	-77.50	84.3	-380.3	389.6	354.1	35.49	10.976	
2,100.0	2,100.0	2,069.9	2,069.9	5.0	32.8	-77.54	84.0	-380.3	389.5	352.2	37.34	10.431	
2,200.0	2,200.0	2,169.9	2,169.9	5.1	34.7	-77.54	84.0	-380.3	389.5	350.3	39.20	9.936	
2,300.0	2,300.0	2,269.9	2,269.9	5.2	36.5	-77.54	84.0	-380.3	389.5	348.4	41.06	9.486	
2,400.0	2,400.0	2,370.1	2,370.0	5.2	38.3	-77.48	84.5	-380.3	389.6	346.7	42.93	9.076	
2,500.0	2,500.0	2,470.2	2,470.2	5.3	40.2	-77.51	84.2	-380.3	389.6	344.8	44.80	8.696	
2,600.0	2,600.0	2,569.9	2,569.9	5.4	42.0	9.94	84.0	-380.3	387.8	341.1	46.68	8.307	
2,700.0	2,699.8	2,669.8	2,669.7	5.4	43.9	10.09	84.0	-380.3	382.6	334.0	48.60	7.873	
2,800.0	2,799.5	2,769.4	2,769.4	5.4	45.8	10.36	84.0	-380.3	374.1	323.5	50.53	7.403	
2,844.8	2,844.0	2,813.9	2,813.9	5.4	46.6	10.51	84.0	-380.3	369.1	317.7	51.39	7.183	
2,900.0	2,898.8	2,868.7	2,868.7	5.5	47.7	10.82	84.7	-380.3	362.8	310.3	52.45	6.916	
3,000.0	2,998.0	2,968.1	2,968.1	5.5	49.5	11.17	84.6	-380.3	350.9	296.6	54.38	6.454	
3,100.0	3,097.3	3,067.5	3,067.5	5.5	51.4	11.53	84.4	-380.3	339.1	282.8	56.31	6.022	
3,200.0	3,196.6	3,166.9	3,166.8	5.6	53.3	11.89	84.1	-380.3	327.3	269.0	58.24	5.619	
3,300.0	3,295.9	3,265.9	3,265.8	5.6	55.2	12.33	84.0	-380.3	315.5	255.3	60.26	5.236	
3,400.0	3,395.2	3,365.1	3,365.1	5.7	57.2	12.81	84.0	-380.3	303.8	241.5	62.30	4.876	
3,500.0	3,494.4	3,464.5	3,464.4	5.7	59.2	13.50	84.9	-380.3	292.3	228.0	64.35	4.543	
3,600.0	3,593.7	3,563.9	3,563.8	5.8	61.2	14.04	84.7	-380.3	280.6	214.2	66.41	4.226	
3,700.0	3,693.0	3,663.4	3,663.3	5.8	63.1	14.58	84.3	-380.3	268.9	200.4	68.46	3.927	
3,800.0	3,792.3	3,762.3	3,762.2	5.9	65.2	15.18	84.0	-380.3	257.2	186.6	70.57	3.644	
3,900.0	3,891.5	3,861.6	3,861.4	6.0	67.3	15.91	84.0	-380.3	245.6	172.8	72.76	3.375	
4,000.0	3,990.8	3,960.9	3,960.7	6.0	69.4	16.72	84.0	-380.3	234.1	159.1	74.95	3.123	
4,100.0	4,090.1	4,060.4	4,060.2	6.1	71.5	17.87	85.1	-380.3	222.9	145.8	77.16	2.889	
4,200.0	4,189.4	4,159.9	4,159.7	6.2	73.6	18.76	84.7	-380.3	211.4	132.0	79.36	2.664	
4,300.0	4,288.6	4,258.8	4,258.5	6.2	75.7	19.69	84.0	-380.3	199.8	118.2	81.56	2.450	
4,400.0	4,387.9	4,358.1	4,357.8	6.3	77.8	20.92	84.0	-380.3	188.5	104.7	83.79	2.250	
4,500.0	4,487.2	4,457.4	4,457.1	6.4	79.9	22.30	84.0	-380.3	177.4	91.3	86.04	2.061	
4,600.0	4,586.5	4,556.6	4,556.4	6.5	82.1	23.87	84.0	-380.3	166.3	78.0	88.28	1.884	Advise and Monitor
4,700.0	4,685.7	4,655.9	4,655.6	6.6	84.2	25.66	84.0	-380.3	155.4	64.8	90.53	1.716	Advise and Monitor
4,800.0	4,785.0	4,755.2	4,754.9	6.6	86.3	27.72	84.0	-380.3	144.6	51.9	92.78	1.559	Advise and Monitor

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Offset Design EIDER FEDERAL PROJECT (BULLDOG 2434) - EXXON A FED #1 - OWB - ACTUAL WELLPATH — **Offset Site Error:** 0.0 usft

Survey Program: 499-INC-ONLY — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,900.0	4,884.3	4,854.5	4,854.2	6.7	88.5	30.10	84.0	-380.3	134.1	39.1	95.04	1.411	Shut in Producers
5,000.0	4,983.6	4,953.7	4,953.5	6.8	90.6	32.88	84.0	-380.3	123.8	26.5	97.30	1.273	Shut in Producers
5,038.4	5,021.7	4,980.0	4,979.6	6.8	91.2	33.69	84.0	-380.3	120.6	23.1	97.45	1.237	Shut in Producers, CC, ES, SF
5,100.0	5,082.9	4,980.0	4,979.6	6.9	91.2	33.69	84.0	-380.3	135.4	51.4	83.96	1.613	Advise and Monitor
5,200.0	5,182.1	4,980.0	4,979.6	7.0	91.2	33.69	84.0	-380.3	201.6	145.5	56.07	3.595	
5,300.0	5,281.4	4,980.0	4,979.6	7.1	91.2	33.69	84.0	-380.3	288.0	247.2	40.84	7.053	
5,400.0	5,380.7	4,980.0	4,979.6	7.2	91.2	33.69	84.0	-380.3	381.1	347.9	33.24	11.466	
5,500.0	5,480.0	4,980.0	4,979.6	7.3	91.2	33.69	84.0	-380.3	477.0	447.7	29.32	16.272	
5,600.0	5,579.2	4,980.0	4,979.6	7.3	91.2	33.69	84.0	-380.3	574.4	547.1	27.25	21.075	
5,700.0	5,678.5	4,980.0	4,979.6	7.4	91.2	33.69	84.0	-380.3	672.5	646.3	26.18	25.681	
5,800.0	5,777.8	4,980.0	4,979.6	7.5	91.2	33.69	84.0	-380.3	771.0	745.4	25.67	30.036	
5,900.0	5,877.1	4,980.0	4,979.6	7.6	91.2	33.69	84.0	-380.3	869.9	844.5	25.47	34.151	
6,000.0	5,976.3	4,980.0	4,979.6	7.7	91.2	33.69	84.0	-380.3	969.1	943.6	25.46	38.058	
6,100.0	6,075.6	4,980.0	4,979.6	7.8	91.2	33.69	84.0	-380.3	1,068.4	1,042.8	25.56	41.791	
6,200.0	6,174.9	4,980.0	4,979.6	7.9	91.2	33.69	84.0	-380.3	1,167.8	1,142.1	25.74	45.377	
6,300.0	6,274.2	4,980.0	4,979.6	8.0	91.2	33.69	84.0	-380.3	1,267.3	1,241.4	25.95	48.839	
6,400.0	6,373.4	4,980.0	4,979.6	8.1	91.2	33.69	84.0	-380.3	1,366.9	1,340.7	26.19	52.193	
6,500.0	6,472.7	4,980.0	4,979.6	8.3	91.2	33.69	84.0	-380.3	1,466.5	1,440.1	26.45	55.452	

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB=30' @ 3605.4usft (SCAN QUEST Coordinates are relative to: EIDER 23 FEDERAL COM #705H
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 20' 0.000 W Grid Convergence at Surface is: 0.37°

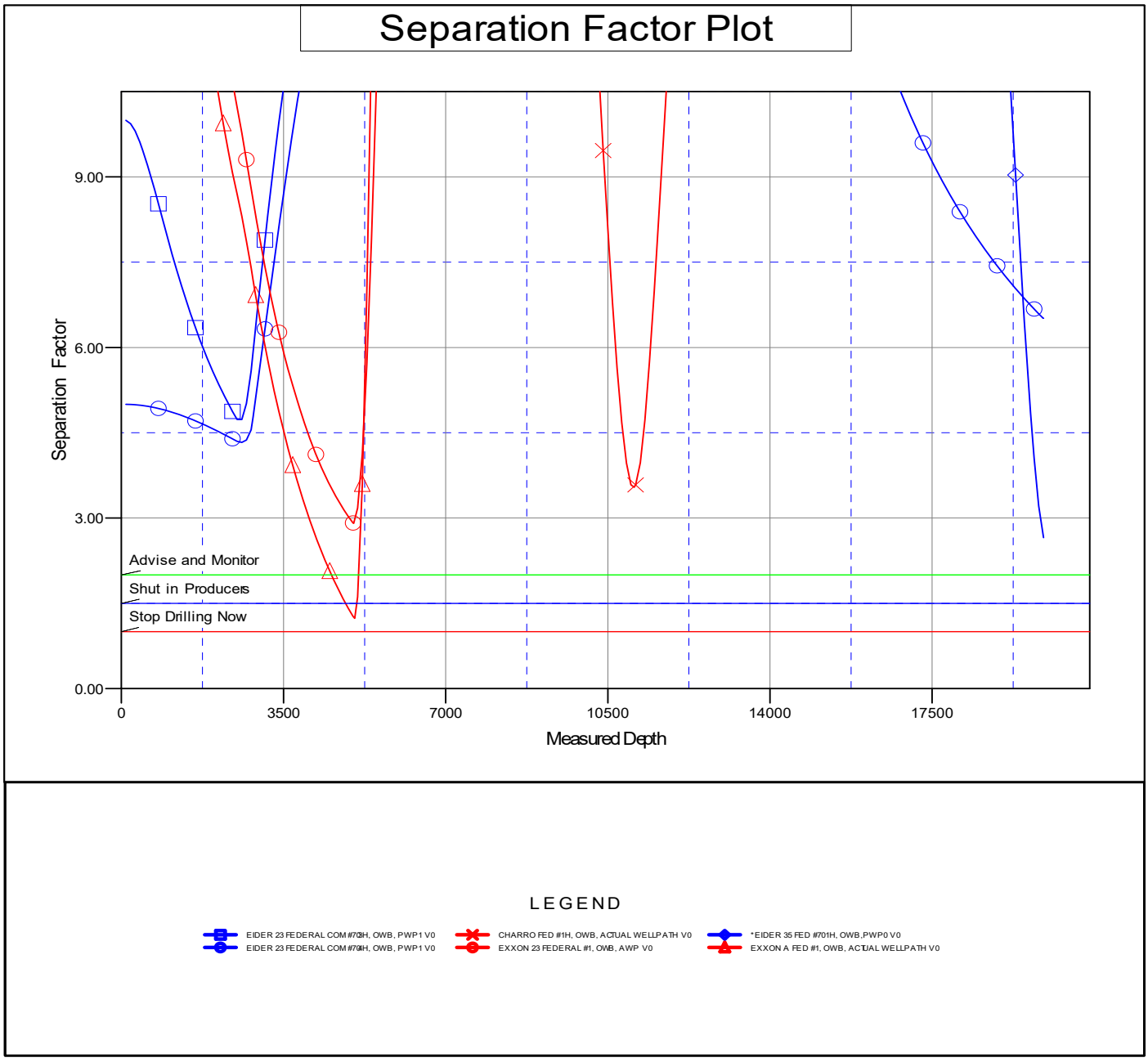
CC - Min centre to center distance or covergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well EIDER 23 FEDERAL COM #705H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Reference Site:	EIDER 23 FED COM PROJECT	**MD Reference:**	KB=30' @ 3605.4usft (SCAN QUEST)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	EIDER 23 FEDERAL COM #705H	**Survey Calculation Method:**	Minimum Curvature
Well Error:	3.0 usft	**Output errors are at**	2.00 sigma
Reference Wellbore	OWB	**Database:**	edm
Reference Design:	PWP1	**Offset TVD Reference:**	Offset Datum

Reference Depths are relative to KB=30' @ 3605.4usft (SCAN QUEST Coordinates are relative to: EIDER 23 FEDERAL COM #705H
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 20' 0.000 W Grid Convergence at Surface is: 0.37°



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

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other

1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone

7. If Unit or CA Agreement, Name and No.

8. Lease Name and Well No.

2. Name of Operator

9. API Well No.

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory

4. Location of Well *(Report location clearly and in accordance with any State requirements.*)*

At surface

At proposed prod. zone

11. Sec., T. R. M. or Blk. and Survey or Area

14. Distance in miles and direction from nearest town or post office*	12. County or Parish	13. State

15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well

18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file

21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration

24. Attachments

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

1. Well plat certified by a registered surveyor.
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	Name *(Printed/Typed)*	Date

Title

Approved by *(Signature)*	Name *(Printed/Typed)*	Date

Title	Office

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

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

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 04/22/2021

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 wen, 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 directionany 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 wen 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 win 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 conects this information to anow 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 Conection Clearance Officer (WO-630), 1849 C Street, N.W., Mail Stop 401 LS, Washington, D.C. 20240.

Approval Date: 04/22/2021

Additional Operator Remarks

Location of Well

0. SHL: NENW / 415 FNL / 2030 FWL / TWSP: 24S / RANGE: 32E / SECTION: 23 / LAT: 32.209224 / LONG: -103.647403 (TVD: 0 feet, MD: 0 feet)

PPP: NWNW / 100 FNL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 23 / LAT: 32.210067 / LONG: -103.652898 (TVD: 12267 feet, MD: 12409 feet)

PPP: SWNW / 1321 FNL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 23 / LAT: 32.206711 / LONG: -103.652901 (TVD: 12350 feet, MD: 13650 feet)

BHL: SWNW / 2590 FNL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 26 / LAT: 32.18871 / LONG: -103.652917 (TVD: 12380 feet, MD: 19904 feet)

BLM Point of Contact

Name: Deborah Ham
Title: Legal Landlaw Examiner
Phone: (575) 234-5965
Email: dham@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.

PECOS DISTRICT
SURFACE USE
CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating LLC
LEASE NO.:	NMNM029694
COUNTY:	Lea

Wells:

Well Pad 1
Eider 23 Federal Com 703H
Surface Hole Location: 415' FNL & 2,090' FWL, Section 23, T24S, R32E
Bottom Hole Location: 2,590' FNL & 2,090' FWL, Section 26, T24S, R32E

Eider 23 Federal Com 704H
Surface Hole Location: 415' FNL & 2,060' FWL, Section 23, T24S, R32E
Bottom Hole Location: 2,590' FNL & 1,210' FWL, Section 26, T24S, R32E

Eider 23 Federal Com 705H
Surface Hole Location: 415' FNL & 2,030' FWL, Section 23, T24S, R32E
Bottom Hole Location: 2,590' FNL & 330' FWL, Section 26, T24S, R32E

TABLE OF CONTENTS

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

Approval Date: 04/22/2021

I. GENERAL PROVISIONS

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

II. PERMIT EXPIRATION

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

III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

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

OR

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

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

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

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

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

IV. NOXIOUS WEEDS

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

SPECIAL REQUIREMENT(S)

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

TANK BATTERY:
Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

BURIED/SURFACE LINE(S):
When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

ELECTRIC LINE(S):
Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

Range:

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

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

Livestock Watering Requirement
Any damage to structures that provide water to livestock throughout the life of the well, caused by operations from the well site, must be immediately corrected by the operator. The operator must notify the BLM office (575-234-5972) and the private surface landowner or the grazing allotment holder if any damage occurs to structures that provide water to livestock.

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

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

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

V. CONSTRUCTION

A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972 .

E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

F. EXCLOSURE FENCING (CELLARS & PITS)

Exclosure Fencing
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

G. ON LEASE ACCESS ROADS

Road Width
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

Surfacing
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

Crowning
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

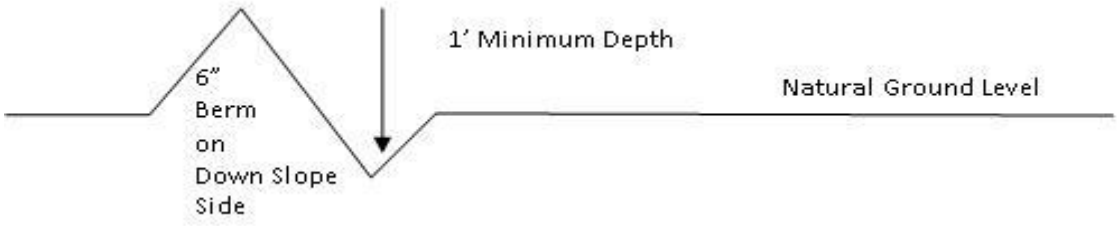
Ditching
Ditching shall be required on both sides of the road.

Turnouts
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

Drainage
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

Cross Section of a Typical Lead-off Ditch



All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

Formula for Spacing Interval of Lead-off Ditches

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

Cattle guards
An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

Fence Requirement
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

Public Access
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.

Approval Date: 04/22/2021

Construction Steps

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

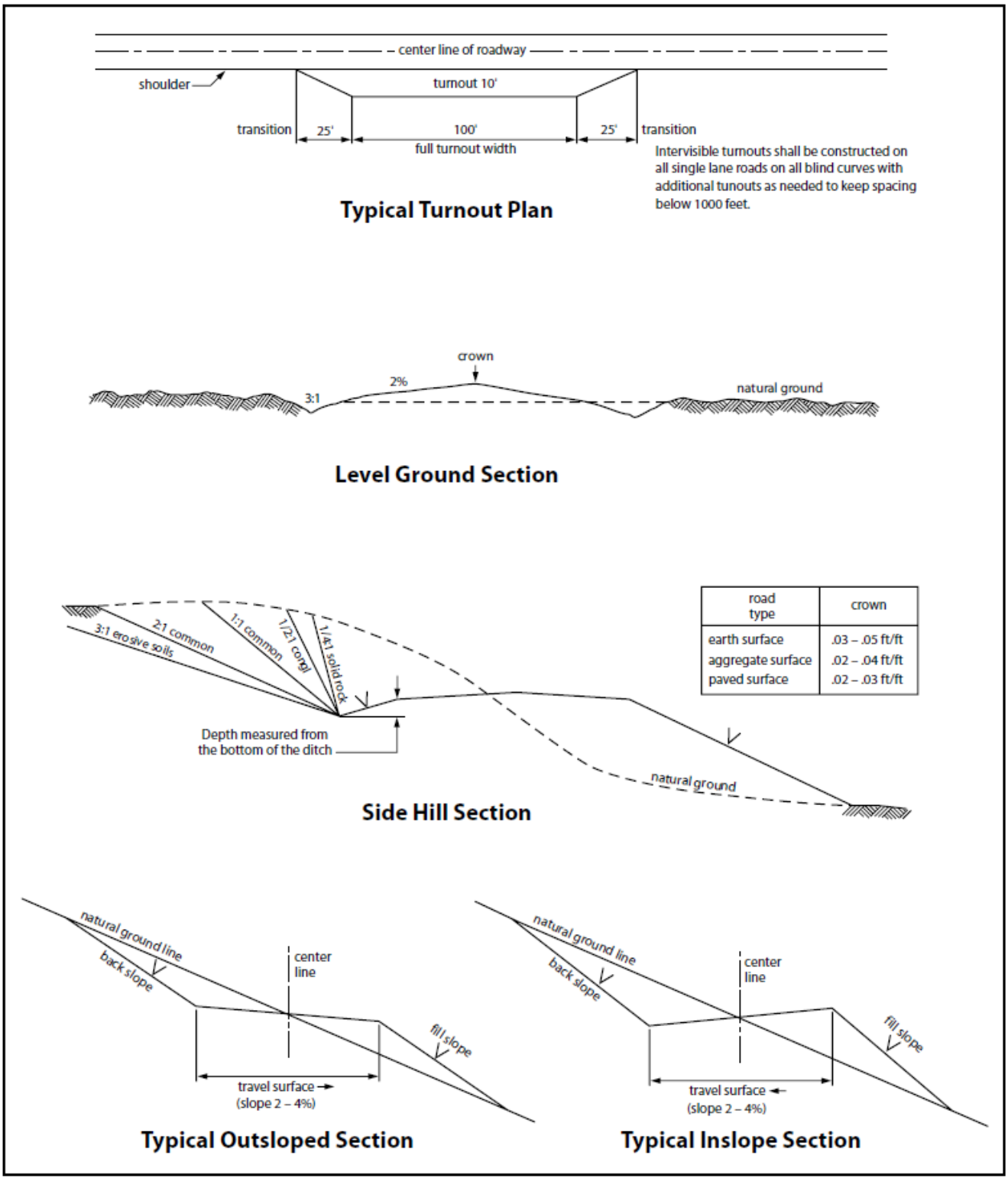


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.

Approval Date: 04/22/2021

VI. PRODUCTION (POST DRILLING)

A. WELL STRUCTURES & FACILITIES

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

Exclosure Netting (Open-top Tanks)
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

Chemical and Fuel Secondary Containment and Exclosure Screening
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1½ inches.

Open-Vent Exhaust Stack Exclosures
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone*.) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

Containment Structures
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

Painting Requirement
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

B. PIPELINES

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

Approval Date: 04/22/2021

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation*.)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

Approval Date: 04/22/2021

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

( ) seed mixture 1	( ) seed mixture 3
(X) seed mixture 2	( ) seed mixture 4
( ) seed mixture 2/LPC	( ) Aplomado Falcon Mixture

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

Approval Date: 04/22/2021

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

OR

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

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

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

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

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

Approval Date: 04/22/2021

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

20. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.
b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

C. ELECTRIC LINES

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
- No further construction will be done until clearance has been issued by the Authorized Officer.
- Special restoration stipulations or realignment may be required.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in "Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

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

OR

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

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 11 for more information.

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

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

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

13. Special Stipulations:
For reclamation remove poles, lines, transformer, etc. and dispose of properly.
Fill in any holes from the poles removed.

Approval Date: 04/22/2021

VII. INTERIM RECLAMATION

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

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

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

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

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

VIII. FINAL ABANDONMENT & RECLAMATION

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

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

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

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

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

Approval Date: 04/22/2021

Seed Mixture 2, for Sandy Sites

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

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

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

Species	lb/acre
Sand dropseed (Sporobolus cryptandrus)	1.0
Sand love grass (Eragrostis trichodes)	1.0
Plains bristlegrass (Setaria macrostachya)	2.0

*Pounds of pure live seed:

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

Approval Date: 04/22/2021

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**COG Production, LLC**
LEASE NO.:	**NMNM-113966**
WELL NAME & NO.:	**Eider 23 Federal Com 705H**
SURFACE HOLE FOOTAGE:	**0415' FNL & 2030' FWL**
BOTTOM HOLE FOOTAGE	**2590' FNL & 0330' FWL Sec. 26, T.24 S., R.32 E**
LOCATION:	**Section 23, T.24 S., R.32 E., NMPM**
COUNTY:	**Lea County, New Mexico**

COA

H2S	◉ Yes	○ No	
Potash	◉ None	○ Secretary	○ R-111-P
Cave/Karst Potential	◉ Low	○ Medium	○ High
Cave/Karst Potential	○ Critical		
Variance	○ None	◉ Flex Hose	○ Other
Wellhead	○ Conventional	○ Multibowl	◉ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☐ Unit

Possible water flows in the Salado and Castile
Possible lost circulation in the Rustler, Red Beds, and Delaware

A. HYDROGEN SULFIDE

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

Approval Date: 04/22/2021

B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **1150** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.

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

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

    - Cement to surface. If cement does not circulate see B.1.a, c-d above.

3. The minimum required fill of cement behind the **5-1/2 X 5** inch production casing is:

    - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

Option 1:

a. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

b. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the intermediate casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 psi.**

Option 2:

1. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **10,000 (10M)** psi. **Variance is approved to use a 5000 (5M) Annular which shall be tested to 3500 psi.**

    a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
    b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
    c. Manufacturer representative shall install the test plug for the initial BOP test.
    d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
    e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

D. SPECIAL REQUIREMENT (S)

Communitization Agreement

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

Approval Date: 04/22/2021

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)

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

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

   a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
   b. When the operator proposes to set surface casing with Spudder Rig
      - Notify the BLM when moving in and removing the Spudder Rig.
      - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
      - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.

2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.

3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

Approval Date: 04/22/2021

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 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 intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. 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.

4. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.

5. 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.

6. 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.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.

2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.

3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.

5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.

    a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

    b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

Approval Date: 04/22/2021

c. 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.

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

e. 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.

f. 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.

g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

JAM 01082021

COG PRODUCTION LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

a. The hazards and characteristics of hydrogen sulfide (H_2S).
b. The proper use and maintenance of personal protective equipment and life support systems.
c. The proper use of H_2S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
d. The proper techniques for first aid and rescue procedures.

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

a. The effects of H2S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
c. The contents and requirements of the H_2S Drilling Operations Plan and the Public Protection Plan.

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

2. H_2S SAFETY EQUIPMENT AND SYSTEMS

Note: All H_2S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H2S. If H2S greater than 100 ppm is encountered in the gas stream we will shut in and install H2S equipment.

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

b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.

c. H2S detection and monitoring equipment:
2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.

d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.

e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.

f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.

g. Communication:
Company vehicles equipped with cellular telephone.

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

W A R N I N G

YOU ARE ENTERING AN H_2S AREA
AUTHORIZED PERSONNEL ONLY

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

COG PRODUCTION LLC

1-575-748-6940

EMERGENCY CALL LIST

	OFFICE	MOBILE
COG PRODUCTION LLC OFFICE	575-748-6940	
SETH WILD	432-683-7443	432-528-3633
WALTER ROYE	575-748-6940	432-934-1886

EMERGENCY RESPONSE NUMBERS

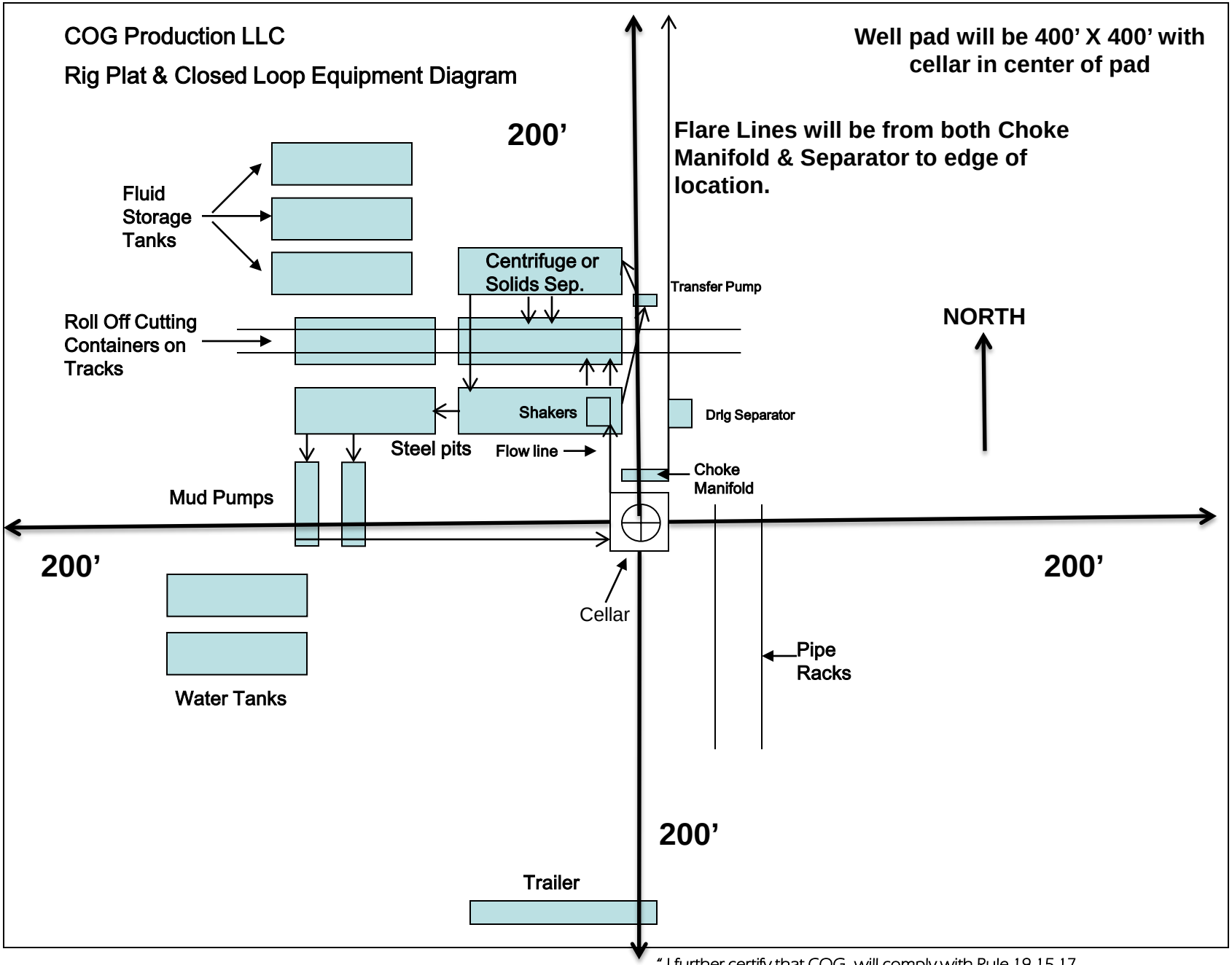
	OFFICE
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT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

COG Production LLC

Rig Plat & Closed Loop Equipment Diagram

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

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



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

Intent ☐ As Drilled ☐

API #		
Operator Name:	Property Name:	Well Number

Kick Off Point (KOP)

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

First Take Point (FTP)

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

Last Take Point (LTP)

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

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

Is this well an infill well? ☐

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

API #		
Operator Name:	Property Name:	Well Number

KZ 06/29/2018

COG Operating, LLC - Eider 23 Federal Com #705H

1. Geologic Formations

TVD of target	12,380' EOL	Pilot hole depth	NA
MD at TD:	19,904'	Deepest expected fresh water:	380'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	1108	Water	
Top of Salt	1427	Salt	
Base of Salt	4666	Salt	
Lamar	4859	Salt Water	
Bell Canyon	4948	Salt Water	
Cherry Canyon	5855	Oil/Gas	
Brushy Canyon	7266	Oil/Gas	
Bone Spring Lime	8824	Oil/Gas	
1st Bone Spring Sand	9946	Oil/Gas	
2nd Bone Spring Sand	10520	Oil/Gas	
3rd Bone Spring Sand	11815	Oil/Gas	
Wolfcamp A	12219	Target	
Wolfcamp B	0	Not Penetrated	
Wolfcamp D	0	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight	Grade	Conn.	SF	SF Burst	SF	SF
	From	To		(lbs)			Collapse		Body	Joint
14.75"	0	1150	10.75"	45.5	N80	BTC	4.69	1.67	19.88	20.97
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.56	1.07	2.88	2.90
8.750"	8500	11800	7.625"	29.7	HCP110	FJM	1.21	1.39	2.68	1.59
6.75"	0	11300	5.5"	23	P110	BTC	1.81	2.13	3.27	3.25
6.75"	11300	19,904	5.0"	18	P110	BTC	1.81	2.13	3.27	3.25
				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" casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

COG Operating, LLC - Eider 23 Federal Com #705H

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

COG Operating, LLC - Eider 23 Federal Com #705H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	548	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl2
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Inter. Stage 1	840	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	524	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	1090	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

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

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results
Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0’	50%
1st Intermediate	0’	50%
Production	8,000'	35% OH in Lateral (KOP to EOL)

COG Operating, LLC - Eider 23 Federal Com #705H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
9-7/8”	13-5/8”	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4”	13-5/8”	10M	5M Annular	x	5000psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

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

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

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

COG Operating, LLC - Eider 23 Federal Com #705H

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	9-5/8" Int shoe	Brine Diesel Emulsion	8.4 - 9	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9.6 - 12.5	35-45	<20

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

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

6. Logging and Testing Procedures

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

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

COG Operating, LLC - Eider 23 Federal Com #705H

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8050 psi at 12380' TVD
Abnormal Temperature	NO 180 Deg. F.

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

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

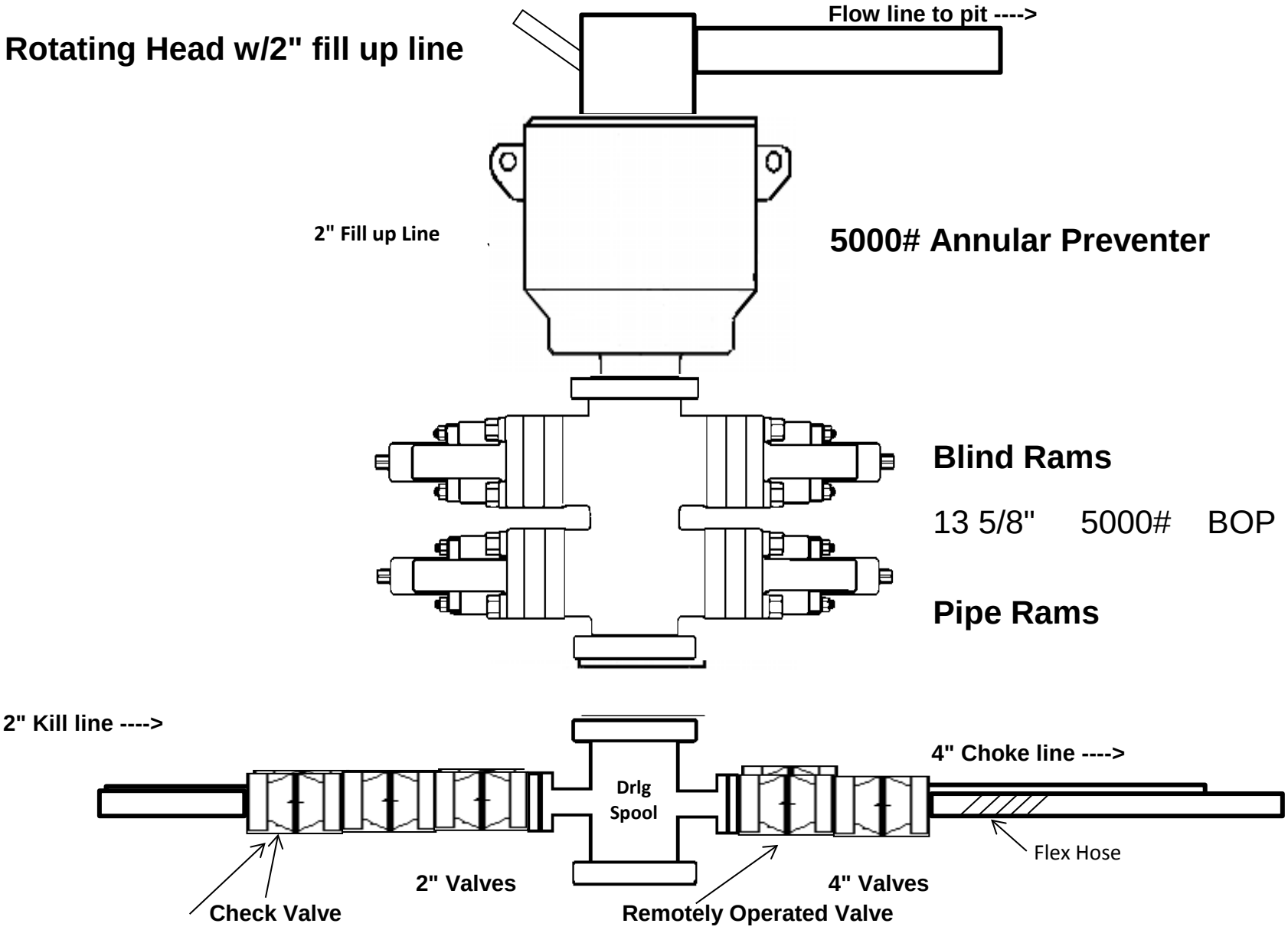
Hydrogen Sulfide (H2S) monitors will be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be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

8. Other Facets of Operation

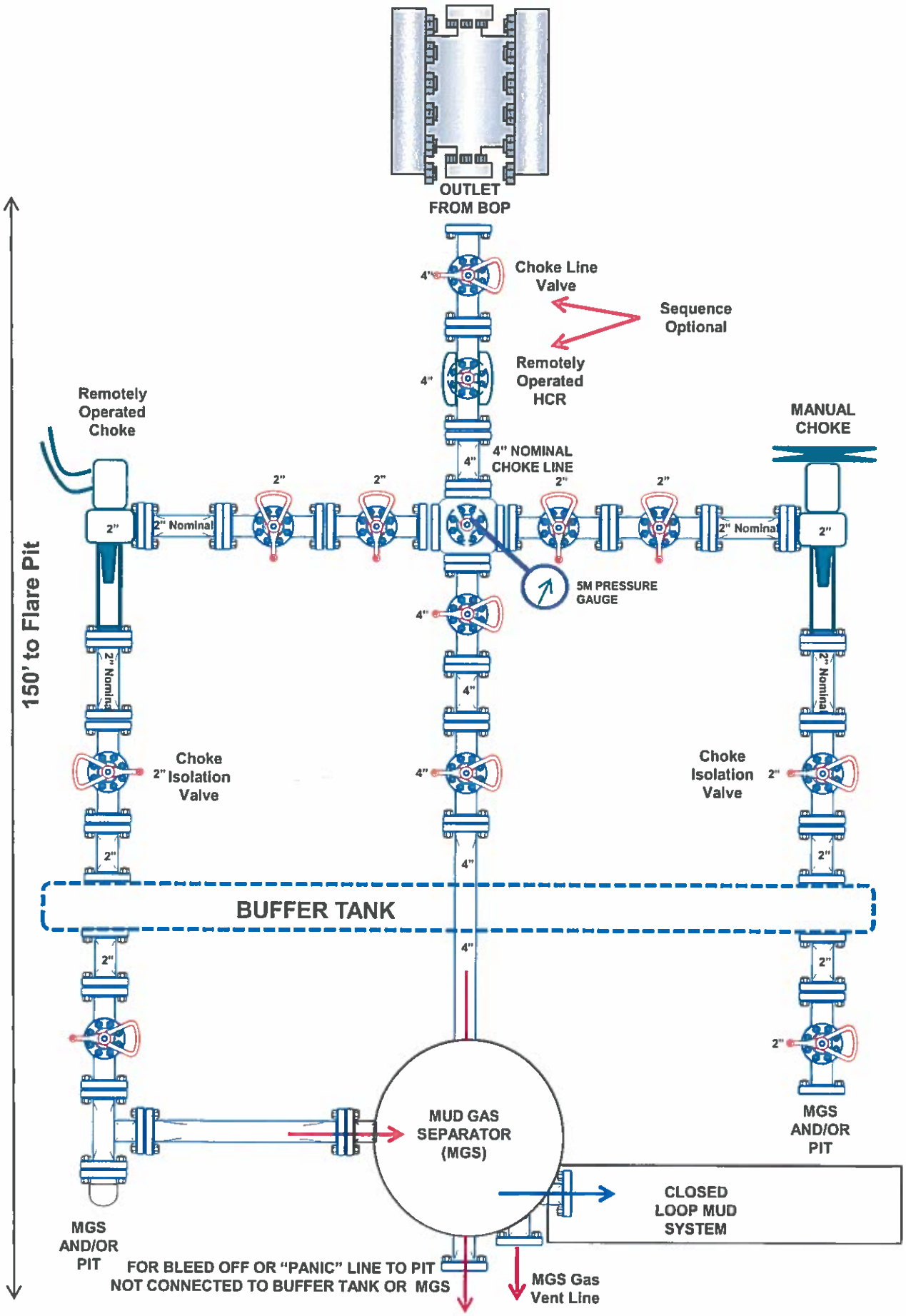
Y	Is it a walking operation?
Y	Is casing pre-set?

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

5,000 psi BOP Schematic

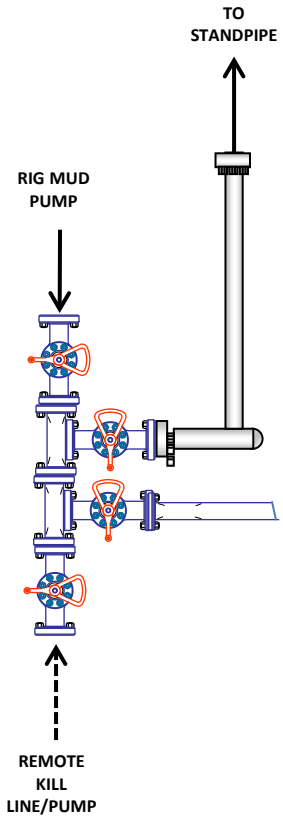


5M Choke Manifold Equipment (WITH MGS + CLOSED LOOP)

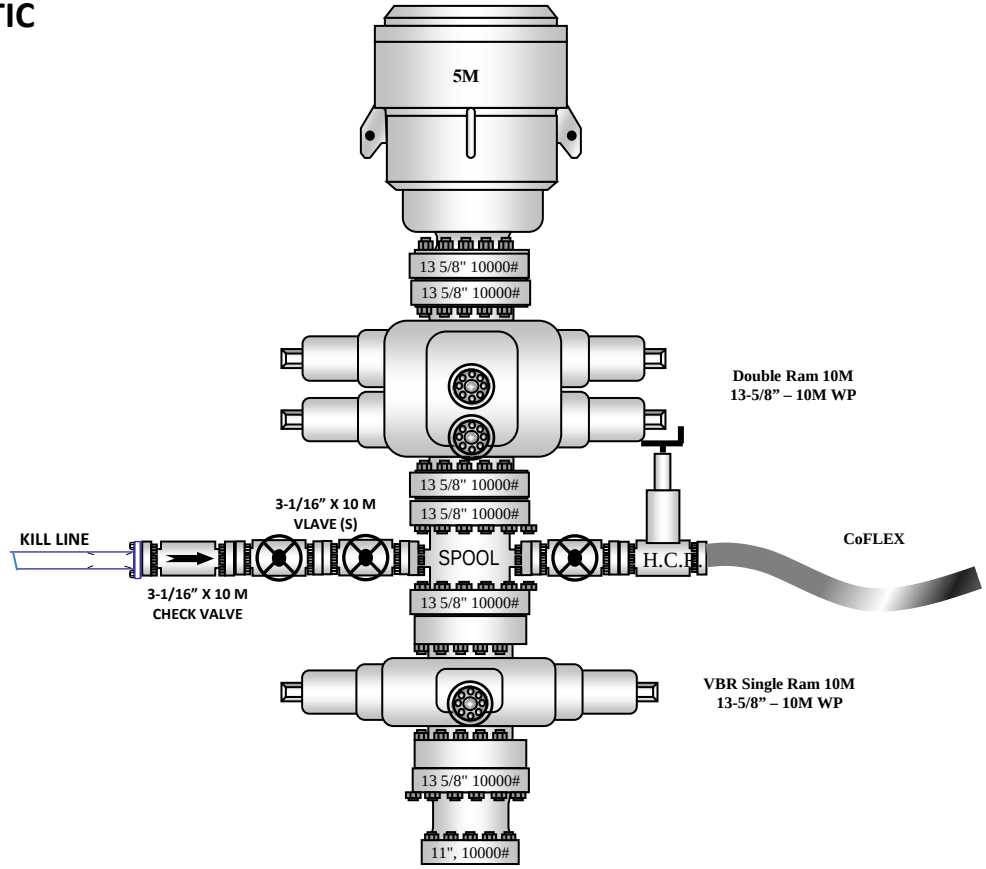


10M BOP Stack

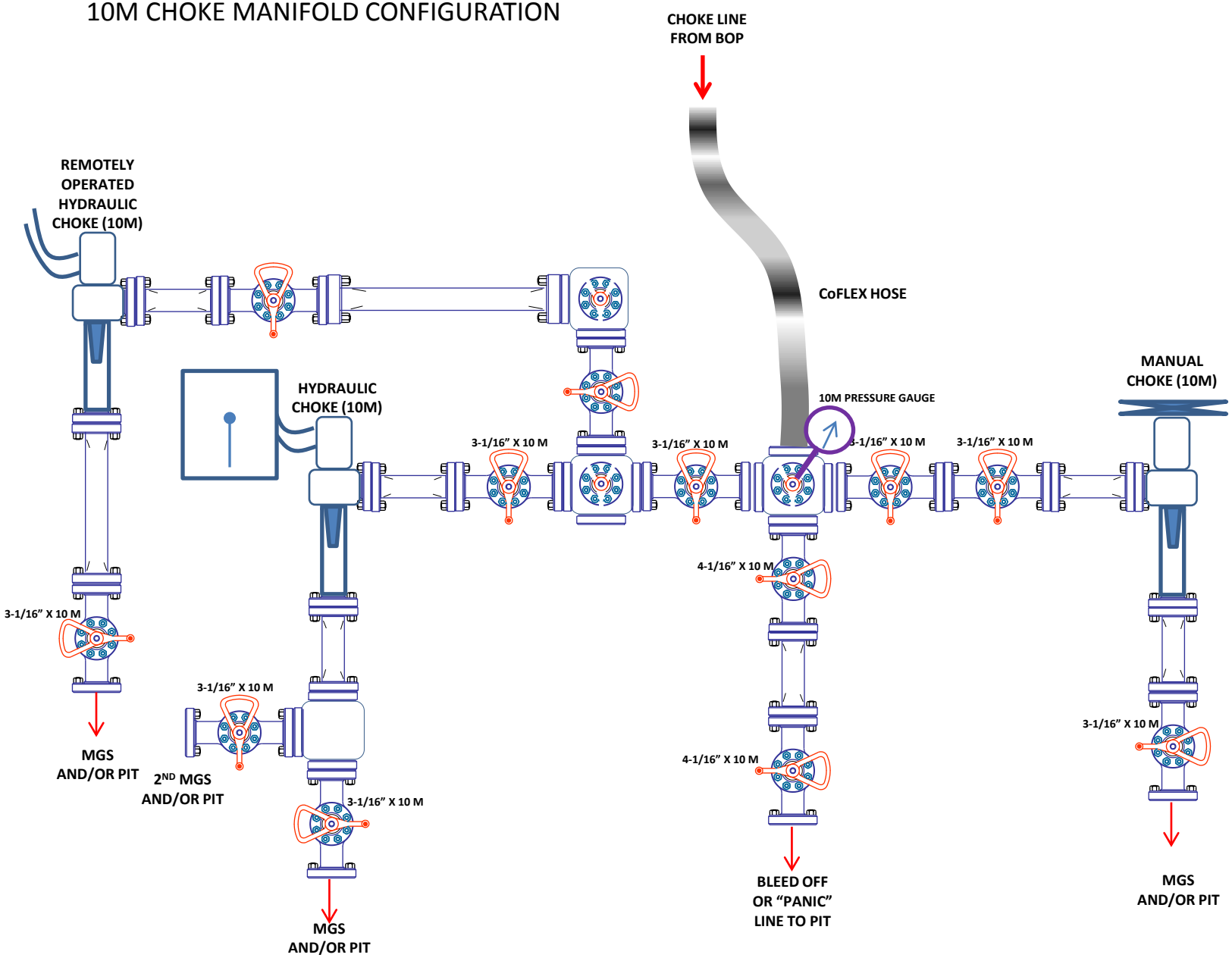
10M REMOTE KILL SCHEMATIC



10M BOP Stack
(5M Annular)



10M CHOKE MANIFOLD CONFIGURATION



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

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

CONDITIONS

Action 40257

CONDITIONS

Operator: COG PRODUCTION, LLC 600 W. Illinois Ave Midland, TX 79701	OGRID: 217955
	Action Number: 40257
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	8/6/2021
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	8/6/2021