

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

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

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. [330324]
2. Name of Operator [229137]		9. API Well No. 30-025-49625
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 NMB000215
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 12/07/2021

SL

(Continued on page 2)



Approval Date: 04/22/2021

KZ

 12/07/2021

*(Instructions on page 2)

Additional Operator Remarks

Location of Well

0. SHL: SWNE / 1840 FNL / 1353 FEL / TWSP: 26S / RANGE: 32E / SECTION: 3 / LAT: 32.074639 / LONG: -103.658653 (TVD: 0 feet, MD: 0 feet)

PPP: NESE / 2540 FSL / 1000 FEL / TWSP: 26S / RANGE: 32E / SECTION: 3 / LAT: 32.071981 / LONG: -103.657505 (TVD: 12166 feet, MD: 12448 feet)

BHL: SESE / 50 FSL / 1000 FEL / TWSP: 26S / RANGE: 32E / SECTION: 10 / LAT: 32.050437 / LONG: -103.657368 (TVD: 12345 feet, MD: 20287 feet)

BLM Point of Contact

Name: Deborah Ham

Title: Legal Landlaw Examiner

Phone: (575) 234-5965

Email: dham@blm.gov

CONFIDENTIAL

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating, LLC
LEASE NO.:	NMNM-120910
WELL NAME & NO.:	Piledriver Federal 702H
SURFACE HOLE FOOTAGE:	1840' FNL & 1353' FEL
BOTTOM HOLE FOOTAGE:	0050' FSL & 1000' FEL Sec. 10, T.26 S., R.32 E.
LOCATION:	Section 03, T.26 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

Medium Cave/Karst

Possibility of water flows in the Salado and Castile.

Possibility of lost circulation in the Red Beds, Rustler, 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.

B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **1212** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Excess calculates to 24% - Additional cement may be required.**
 - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. 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**.
2. 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.**

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.

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 integrity 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).

- 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 01042021

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) 478-3460 Fax: (505) 478-3462

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 30-025- 49625	Pool Code 98065	Pool Name WC-025 G-08 S263205N; Upper Wolfcamp
Property Code 330324	Property Name PILEDRIER FEDERAL	Well Number 702H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3284.6'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	3	26-S	32-E		1840	NORTH	1353	EAST	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
P	10	26-S	32-E		50	SOUTH	1000	EAST	LEA
Dedicated Acres 480	Joint or Infill	Consolidation Code	Order No.						

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

NAD 83 NME <u>SURFACE LOCATION</u> Y=391544.5 N X=750312.9 E LAT.=32.074639° N LONG.=103.658653° W <table border="1"> <thead> <tr> <th colspan="2">POINT LEGEND</th> </tr> </thead> <tbody> <tr><td>1</td><td>Y=393397.2 N X=751651.4 E</td></tr> <tr><td>2</td><td>Y=390723.7 N X=751673.0 E</td></tr> <tr><td>3</td><td>Y=388048.2 N X=751701.8 E</td></tr> <tr><td>4</td><td>Y=385374.8 N X=751732.1 E</td></tr> <tr><td>5</td><td>Y=382701.2 N X=751768.6 E</td></tr> <tr><td>6</td><td>Y=382678.4 N X=749103.0 E</td></tr> <tr><td>7</td><td>Y=388026.2 N X=749038.7 E</td></tr> <tr><td>8</td><td>Y=393372.1 N X=748989.6 E</td></tr> </tbody> </table> NAD 83 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=382742.6 N X=750766.0 E LAT.=32.050437° N LONG.=103.657368° W	POINT LEGEND		1	Y=393397.2 N X=751651.4 E	2	Y=390723.7 N X=751673.0 E	3	Y=388048.2 N X=751701.8 E	4	Y=385374.8 N X=751732.1 E	5	Y=382701.2 N X=751768.6 E	6	Y=382678.4 N X=749103.0 E	7	Y=388026.2 N X=749038.7 E	8	Y=393372.1 N X=748989.6 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. <i>Stan Wagner</i> 12/14/2020 Signature Date Stan Wagner Printed Name 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. NOVEMBER 17, 2020 Date of Survey Signature & Seal of Professional Surveyor Certificate No. CHAD HARCROW 17777 W.O. # 20-1502 DRAWN BY: DS
POINT LEGEND																				
1	Y=393397.2 N X=751651.4 E																			
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8	Y=393372.1 N X=748989.6 E																			

Intent ☒ As Drilled ☐

API # 30-025 49625		
Operator Name: COG Operating LLC	Property Name: Piledriver Federal	Well Number 702H

Kick Off Point (KOP)

UL G	Section 3	Township 26S	Range 32E	Lot	Feet	From N/S	Feet	From E/W	County Lea
Latitude					Longitude				NAD 83

First Take Point (FTP)

UL I	Section 3	Township 26S	Range 32E	Lot	Feet 2540	From N/S South	Feet 1000	From E/W East	County Lea
Latitude 32.071981					Longitude -103.657505				NAD NAD 83

Last Take Point (LTP)

UL P	Section 10	Township 26S	Range 32E	Lot	Feet 100	From N/S South	Feet 1000	From E/W East	County Lea
Latitude 32.050575					Longitude -103.657369				NAD NAD 83

Is this well the defining well for the Horizontal Spacing Unit? ☐ YesIs this well an infill well? ☐ No

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

API # 30-025-		
Operator Name: COG Operating LLC	Property Name: Piledriver Federal	Well Number 702H

KZ 06/29/2018

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: _____ **OGRID:** _____ **Date:** ____/____/____

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
	49625					

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
	49625					

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.

Page 8

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

Signature: 
Printed Name:
Title:
E-mail Address:
Date:
Phone: 432-253-9685
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

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

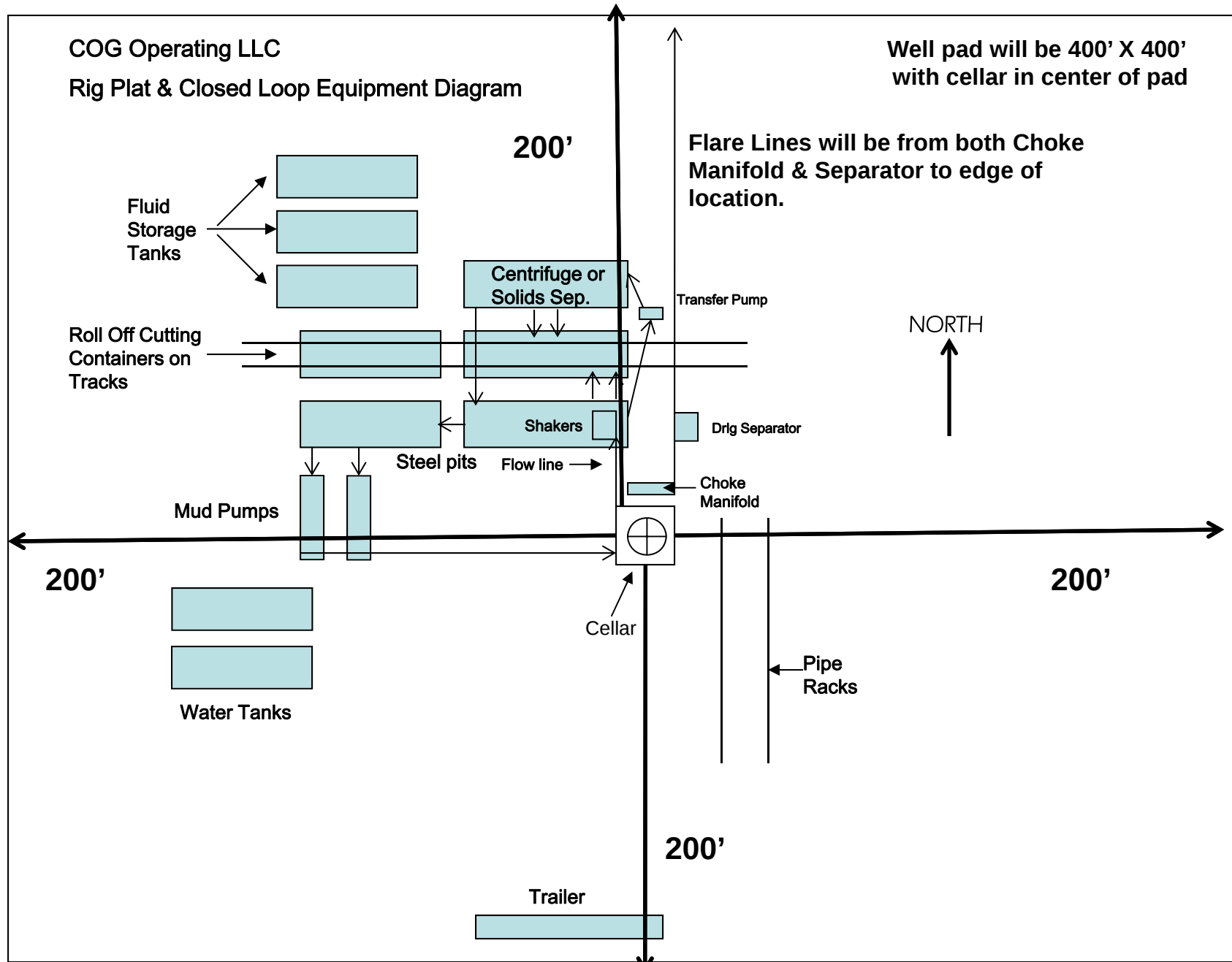


Exhibit 1

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

1. Geologic Formations

TVD of target	12,342' EOL	Pilot hole depth	NA
MD at TD:	20,275'	Deepest expected fresh water:	250'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	927	Water	
Top of Salt	1262	Salt	
Base of Salt	4357	Salt	
Lamar	4592	Salt Water	
Bell Canyon	4635	Salt Water	
Cherry Canyon	5637	Oil/Gas	
Brushy Canyon	7177	Oil/Gas	
Bone Spring Lime	8750	Oil/Gas	
1st Bone Spring Sand	9699	Oil/Gas	
2nd Bone Spring Sand	10334	Oil/Gas	
2nd BSS Base	10857	Oil/Gas	
3rd Bone Spring Sand	11477	Oil/Gas	
Wolfcamp	11933	Oil/Gas	
Wolfcamp A Shale	12123	Target Oil/Gas	
Wolfcamp B	12373	Not Penetrated	Abnormal Press.

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	1212	10.75"	45.5	N80	BTC	4.45	1.67	18.86	19.89
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.56	1.08	2.88	2.90
8.750"	8500	11427	7.625"	29.7	HCP110	TL-FJ	1.32	1.12	2.77	1.94
6.75"	0	11227	5.5"	23	P110	BTC	1.81	2.14	2.57	2.55
6.75"	11227	20,275	5.5"	23	P110	Talon HTQ	1.81	2.14	2.57	2.49
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 5.5" 23# Talon HTQ 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.

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

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	578	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter. Stage 1	830	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	521	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	853	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

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

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

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

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

COG Operating, LLC - Piledriver Federal 702H

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	3500 psi
			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.

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	7-5/8" Int shoe	Brine Diesel Emulsion	8.4 - 9	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	12 - 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	

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8025 psi at 12342' 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

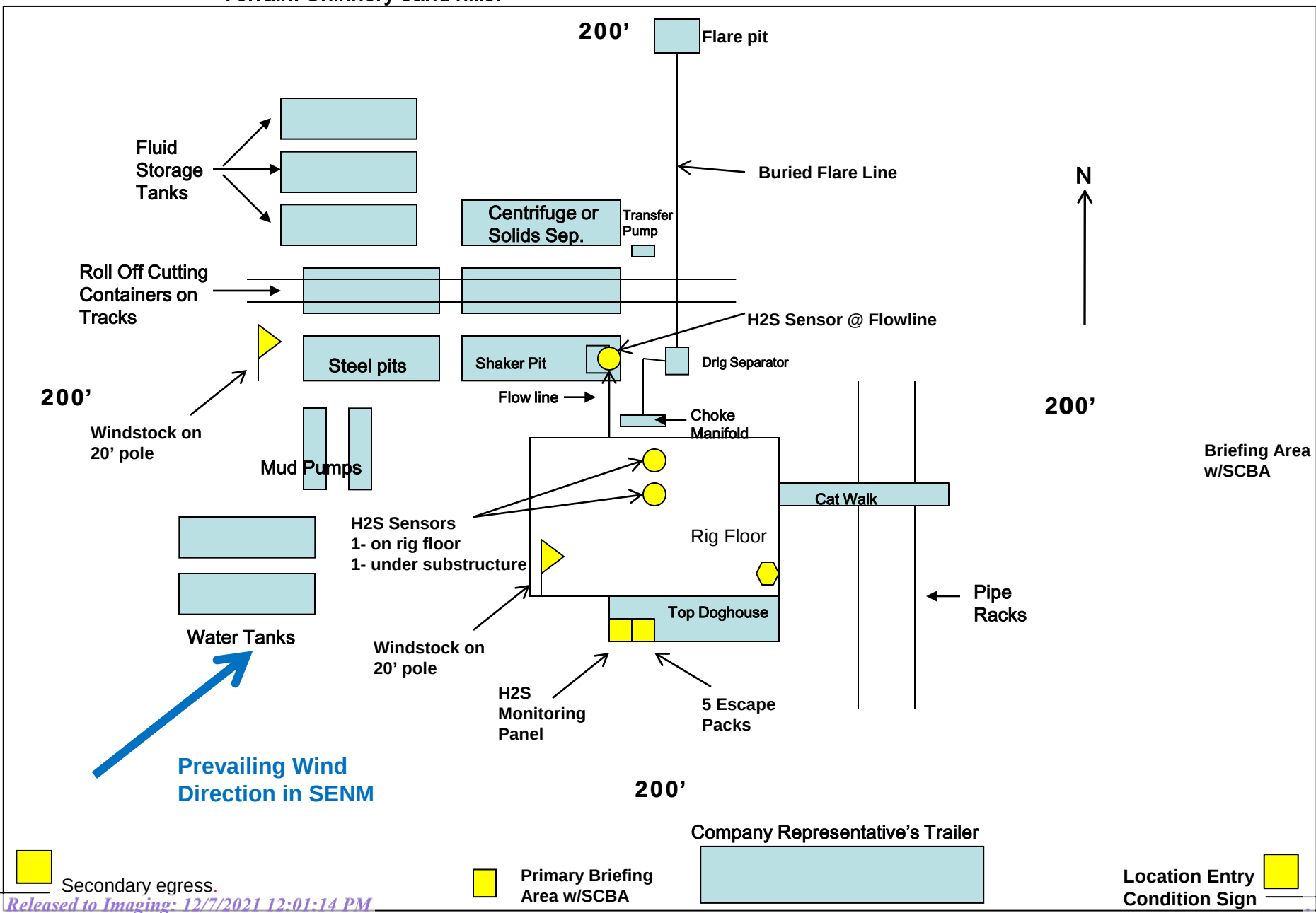
8. Other Facets of Operation

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

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

COC Operating LLC
H₂S Equipment Schematic
Terrain: Shinnery sand hills.

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



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

W A R N I N G

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

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

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

EMERGENCY RESPONSE NUMBERS

	<u>OFFICE</u>
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

DELAWARE BASIN EAST
BULLDOG PROSPECT (NM-E)
PILEDRIIVER FED & FIGURE FOUR FED PROJECT
PILEDRIIVER FEDERAL #702H

OWB
PWP2

Anticollision Report

03 December, 2020

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Reference	PWP2
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum ellipse separation of 2,000.0 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	12/3/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	20,287.1	PWP2 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
PILEDRIVER FED & FIGURE FOUR FED PROJECT						
FIGURE FOUR FED #701H - OWB - PWP1	12,570.5	12,109.7	452.7	366.7	5.263	CC, ES, SF
FIGURE FOUR FED #702H - OWB - PWP1	12,225.0	12,490.8	125.8	69.8	2.246	SF
FIGURE FOUR FED #702H - OWB - PWP1	12,248.1	12,470.7	125.1	69.5	2.251	CC, ES
FIGURE FOUR FED #703H - OWB - PWP1	12,600.0	12,100.0	426.5	341.8	5.035	SF
FIGURE FOUR FED #703H - OWB - PWP1	12,645.7	12,075.0	424.9	340.9	5.062	CC, ES
FIGURE FOUR FED #704H - OWB - PWP1						Out of range
PILEDRIVER FEDERAL #701H - OWB - PWP2	2,500.0	2,499.9	30.0	17.3	2.366	CC, ES
PILEDRIVER FEDERAL #701H - OWB - PWP2	2,600.0	2,599.0	30.6	17.5	2.345	SF
PILEDRIVER FEDERAL #703H - OWB - PWP2	2,500.0	2,500.4	29.9	17.2	2.359	CC, ES, SF
PILEDRIVER FEDERAL #704H - OWB - PWP2	2,416.3	2,417.3	59.9	47.5	4.844	CC
PILEDRIVER FEDERAL #704H - OWB - PWP2	2,500.0	2,501.0	59.9	47.2	4.725	ES, SF
PINTAIL 3 FED #1H - OWB - AWP						Out of range
PINTAIL 3 FED #2H - OWB - AWP	9,624.2	12,090.9	658.2	568.0	7.297	CC, ES, SF
PINTAIL 3 FED SWD - OWB - OWB	6,627.1	6,563.0	788.6	716.2	10.894	CC, ES, SF

Offset Design										PILED RIVER FED & FIGURE FOUR FED PROJECT - FIGURE FOUR FED #701H - OWB - PWP1			Offset Site Error:		3.0 usft
Survey Program:										0-MWD+IFR1+FDIR			Offset Well Error:		3.0 usft
Reference		Offset		Semi Major Axis			Distance								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
11,700.0	11,680.1	12,623.3	12,162.1	41.5	44.2	-46.34	-615.0	900.3	762.1	690.7	71.42	10.671			
11,735.2	11,715.2	12,622.1	12,162.1	41.6	44.2	-46.22	-616.2	900.0	738.2	665.5	72.65	10.161			
11,750.0	11,730.0	12,621.4	12,162.0	41.6	44.2	-58.33	-616.9	899.9	728.3	655.1	73.18	9.952			
11,775.0	11,754.8	12,619.1	12,162.0	41.7	44.2	-68.90	-619.1	899.5	712.0	637.9	74.09	9.610			
11,800.0	11,779.5	12,615.6	12,162.0	41.8	44.2	-74.96	-622.5	898.8	696.0	621.0	75.00	9.280			
11,825.0	11,803.9	12,610.9	12,161.9	41.9	44.2	-79.13	-627.2	897.9	680.5	604.6	75.91	8.965			
11,850.0	11,828.0	12,604.8	12,161.8	42.0	44.1	-82.26	-633.1	896.7	665.5	588.7	76.82	8.664			
11,875.0	11,851.7	12,597.6	12,161.7	42.1	44.1	-84.71	-640.2	895.3	651.0	573.3	77.71	8.378			
11,900.0	11,874.9	12,589.1	12,161.6	42.2	44.1	-86.65	-648.5	893.6	637.1	558.5	78.59	8.107			
11,925.0	11,897.7	12,579.5	12,161.5	42.3	44.1	-88.20	-658.0	891.8	623.8	544.4	79.45	7.852			
11,950.0	11,919.8	12,568.7	12,161.4	42.4	44.1	-89.41	-668.6	889.7	611.1	530.9	80.27	7.613			
11,975.0	11,941.4	12,556.7	12,161.2	42.5	44.1	-90.35	-680.3	887.4	599.1	518.0	81.07	7.390			
12,000.0	11,962.2	12,543.7	12,161.0	42.6	44.1	-91.04	-693.1	884.8	587.7	505.9	81.82	7.183			

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

Concho Resources LLC

Anticollision Report

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Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
12,025.0	11,982.3	12,529.5	12,160.8	42.6	44.0	-91.52	-707.0	882.1	576.9	494.4	82.52	6.991		
12,050.0	12,001.6	12,514.4	12,160.6	42.7	44.0	-91.81	-721.8	879.2	566.8	483.6	83.18	6.814		
12,075.0	12,020.0	12,498.3	12,160.4	42.8	44.0	-91.95	-737.7	876.0	557.2	473.5	83.78	6.651		
12,100.0	12,037.6	12,481.2	12,160.2	42.9	44.0	-91.96	-754.4	872.7	548.3	463.9	84.33	6.502		
12,125.0	12,054.1	12,463.2	12,160.0	43.0	44.0	-91.86	-772.0	869.2	539.8	455.0	84.82	6.365		
12,150.0	12,069.7	12,437.4	12,159.0	43.0	43.9	-91.16	-797.3	864.2	531.8	446.6	85.27	6.237		
12,175.0	12,084.2	12,412.2	12,156.8	43.1	43.9	-90.41	-822.0	859.2	524.0	438.4	85.68	6.116		
12,200.0	12,097.7	12,388.0	12,153.4	43.2	43.9	-89.67	-845.4	854.4	516.5	430.5	86.05	6.003		
12,225.0	12,110.0	12,364.9	12,149.0	43.3	43.8	-88.92	-867.6	849.8	509.3	423.0	86.38	5.897		
12,250.0	12,121.2	12,342.7	12,143.7	43.3	43.8	-88.16	-888.8	845.3	502.5	415.8	86.65	5.799		
12,275.0	12,131.2	12,321.2	12,137.7	43.4	43.8	-87.39	-908.9	841.0	496.0	409.1	86.87	5.710		
12,300.0	12,139.9	12,300.3	12,131.0	43.5	43.8	-86.60	-928.2	836.9	489.9	402.9	87.03	5.629		
12,325.0	12,147.5	12,280.1	12,123.6	43.5	43.7	-85.80	-946.6	832.8	484.2	397.0	87.13	5.557		
12,350.0	12,153.8	12,260.4	12,115.7	43.6	43.7	-84.97	-964.3	828.9	478.8	391.6	87.18	5.492		
12,375.0	12,158.8	12,241.1	12,107.3	43.7	43.7	-84.13	-981.1	825.1	473.9	386.7	87.18	5.436		
12,400.0	12,162.5	12,222.3	12,098.4	43.7	43.7	-83.26	-997.3	821.4	469.4	382.3	87.14	5.387		
12,425.0	12,164.9	12,203.8	12,089.0	43.8	43.6	-82.37	-1,012.9	817.8	465.3	378.3	87.06	5.345		
12,448.0	12,166.0	12,187.1	12,080.0	43.8	43.6	-81.53	-1,026.5	814.6	461.9	375.0	86.95	5.312		
12,500.0	12,167.2	12,150.0	12,058.3	43.9	43.5	-78.61	-1,055.8	807.7	455.9	369.3	86.61	5.264		
12,570.5	12,168.8	12,109.7	12,032.1	44.0	43.4	-75.08	-1,085.5	800.4	452.7	366.7	86.02	5.263 CC, ES, SF		
12,600.0	12,169.5	12,094.1	12,021.3	44.1	43.4	-73.64	-1,096.5	797.6	453.3	367.6	85.73	5.288		
12,700.0	12,171.8	12,050.0	11,988.9	44.3	43.3	-69.37	-1,125.3	790.1	465.0	380.2	84.76	5.486		
12,800.0	12,174.0	12,011.6	11,958.5	44.6	43.2	-65.50	-1,148.0	783.9	491.9	408.0	83.87	5.865		
12,900.0	12,176.3	11,981.8	11,933.7	44.8	43.1	-62.47	-1,163.8	779.4	533.0	449.6	83.39	6.392		
13,000.0	12,178.6	11,957.4	11,912.6	45.1	43.0	-59.99	-1,175.7	775.9	586.2	503.0	83.24	7.043		
13,100.0	12,180.9	11,937.1	11,894.7	45.3	42.9	-57.95	-1,184.7	773.1	649.0	565.7	83.31	7.791		
13,200.0	12,183.2	11,925.0	11,883.8	45.6	42.9	-56.75	-1,189.7	771.5	719.3	635.6	83.66	8.598		
13,300.0	12,185.5	11,900.0	11,860.8	45.9	42.8	-54.32	-1,199.2	768.4	795.2	711.6	83.61	9.511		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11704-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
11,400.0	11,380.8	12,742.6	12,148.5	40.4	16.0	152.65	-485.5	285.9	789.2	738.8	50.45	15.645		
11,500.0	11,480.6	12,739.2	12,148.5	40.7	16.0	150.36	-488.9	285.3	689.8	639.0	50.84	13.570		
11,600.0	11,580.4	12,735.8	12,148.4	41.1	16.0	148.01	-492.2	284.8	590.6	539.4	51.24	11.526		
11,700.0	11,680.1	12,732.5	12,148.4	41.5	16.0	145.61	-495.6	284.3	491.7	440.0	51.69	9.512		
11,735.2	11,715.2	12,731.3	12,148.4	41.6	16.0	144.75	-496.7	284.1	457.0	405.2	51.87	8.812		
11,750.0	11,730.0	12,730.5	12,148.3	41.6	16.0	142.45	-497.5	284.0	442.4	390.5	51.94	8.518		
11,775.0	11,754.8	12,728.3	12,148.3	41.7	16.0	144.54	-499.7	283.6	418.0	365.9	52.07	8.027		
11,800.0	11,779.5	12,724.7	12,148.3	41.8	16.0	147.43	-503.2	283.0	393.8	341.6	52.21	7.542		
11,825.0	11,803.9	12,719.9	12,148.2	41.9	16.0	149.65	-507.9	282.3	369.9	317.5	52.36	7.064		
11,850.0	11,828.0	12,713.9	12,148.1	42.0	16.0	151.12	-513.9	281.3	346.5	293.9	52.53	6.596		
11,875.0	11,851.7	12,706.5	12,148.0	42.1	16.0	151.93	-521.1	280.1	323.5	270.8	52.70	6.139		
11,900.0	11,874.9	12,698.0	12,147.9	42.2	16.0	152.20	-529.6	278.8	301.2	248.3	52.90	5.694		
11,925.0	11,897.7	12,688.3	12,147.7	42.3	16.0	152.00	-539.2	277.2	279.6	226.5	53.13	5.263		
11,950.0	11,919.8	12,677.4	12,147.6	42.4	16.0	151.38	-549.9	275.5	258.8	205.4	53.39	4.848		
11,975.0	11,941.4	12,665.3	12,147.4	42.5	16.0	150.37	-561.8	273.6	239.0	185.3	53.69	4.452		
12,000.0	11,962.2	12,652.2	12,147.2	42.6	16.0	148.96	-574.8	271.5	220.3	166.2	54.04	4.077		
12,025.0	11,982.3	12,638.0	12,147.0	42.6	16.0	147.15	-588.8	269.2	202.8	148.3	54.43	3.726		
12,050.0	12,001.6	12,622.7	12,146.8	42.7	16.0	144.93	-603.9	266.8	186.7	131.8	54.86	3.403		
12,075.0	12,020.0	12,606.5	12,146.6	42.8	16.0	142.28	-619.9	264.2	172.1	116.8	55.31	3.112		
12,100.0	12,037.6	12,589.3	12,146.4	42.9	16.0	139.18	-636.9	261.5	159.3	103.6	55.77	2.857		
12,125.0	12,054.1	12,571.2	12,146.1	43.0	16.0	135.63	-654.8	258.6	148.4	92.3	56.16	2.643		
12,150.0	12,069.7	12,552.2	12,145.8	43.0	16.0	131.64	-673.5	255.6	139.6	83.2	56.43	2.474		
12,175.0	12,084.2	12,532.5	12,145.6	43.1	15.9	127.27	-693.0	252.4	132.9	76.4	56.50	2.352		
12,200.0	12,097.7	12,512.0	12,145.3	43.2	15.9	122.60	-713.2	249.2	128.3	72.0	56.35	2.277		
12,225.0	12,110.0	12,490.8	12,145.0	43.3	15.9	117.76	-734.1	245.8	125.8	69.8	56.00	2.246 SF		
12,248.1	12,120.4	12,470.7	12,144.7	43.3	15.9	113.27	-754.0	242.6	125.1	69.5	55.57	2.251 CC, ES		
12,250.0	12,121.2	12,469.0	12,144.7	43.3	15.9	112.91	-755.6	242.3	125.1	69.6	55.53	2.253		
12,275.0	12,131.2	12,446.6	12,144.3	43.4	15.9	108.22	-777.7	238.8	125.9	70.9	55.03	2.289		
12,300.0	12,139.9	12,423.7	12,144.0	43.5	15.9	103.84	-800.3	235.1	128.0	73.4	54.58	2.345		
12,325.0	12,147.5	12,399.6	12,143.1	43.5	15.9	99.57	-824.1	231.3	130.9	76.7	54.23	2.414		
12,350.0	12,153.8	12,375.8	12,141.1	43.6	15.9	95.48	-847.5	227.5	134.5	80.5	53.99	2.491		
12,375.0	12,158.8	12,352.4	12,137.9	43.7	15.9	91.59	-870.4	223.8	138.6	84.7	53.87	2.572		
12,400.0	12,162.5	12,329.4	12,133.7	43.7	15.8	87.91	-892.8	220.2	143.1	89.3	53.85	2.657		
12,425.0	12,164.9	12,306.6	12,128.4	43.8	15.8	84.47	-914.6	216.7	148.1	94.2	53.90	2.747		
12,448.0	12,166.0	12,286.1	12,122.8	43.8	15.8	81.50	-934.1	213.6	152.9	98.9	53.98	2.832		
12,500.0	12,167.2	12,241.3	12,107.6	43.9	15.8	76.13	-975.7	206.9	165.3	111.1	54.26	3.047		
12,600.0	12,169.5	12,164.9	12,072.8	44.1	15.7	65.86	-1,042.7	196.3	198.0	143.1	54.85	3.609		
12,700.0	12,171.8	12,100.0	12,035.1	44.3	15.6	57.05	-1,094.9	188.0	243.9	188.7	55.21	4.418		
12,800.0	12,174.0	12,050.0	12,001.3	44.6	15.6	50.75	-1,131.3	182.2	302.0	246.5	55.49	5.442		
12,900.0	12,176.3	12,008.1	11,970.2	44.8	15.5	45.94	-1,159.0	177.8	369.6	313.8	55.78	6.625		
13,000.0	12,178.6	11,975.0	11,943.9	45.1	15.5	42.49	-1,178.9	174.7	444.2	388.1	56.09	7.919		
13,100.0	12,180.9	11,950.0	11,923.2	45.3	15.5	40.08	-1,192.7	172.6	524.0	467.6	56.39	9.294		
13,200.0	12,183.2	11,925.0	11,901.8	45.6	15.5	37.84	-1,205.4	170.6	607.7	551.0	56.63	10.731		
13,300.0	12,185.5	11,900.0	11,879.7	45.9	15.4	35.75	-1,217.0	168.8	694.2	637.4	56.82	12.217		
13,400.0	12,187.8	11,885.0	11,866.2	46.2	15.4	34.57	-1,223.4	167.8	782.9	725.9	57.02	13.730		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
11,700.0	11,680.1	12,657.6	12,136.3	41.5	44.0	112.21	-644.2	-209.2	740.8	667.1	73.64	10.059	
11,735.2	11,715.2	12,655.5	12,136.3	41.6	44.0	112.00	-646.2	-208.6	719.3	644.4	74.92	9.601	
11,750.0	11,730.0	12,654.3	12,136.3	41.6	44.0	102.54	-647.4	-208.4	710.6	635.1	75.47	9.415	
11,775.0	11,754.8	12,651.0	12,136.2	41.7	44.0	96.07	-650.5	-207.5	696.1	619.7	76.39	9.113	
11,800.0	11,779.5	12,646.2	12,136.2	41.8	44.0	93.66	-655.2	-206.3	682.1	604.8	77.30	8.824	
11,825.0	11,803.9	12,639.8	12,136.1	41.9	43.9	92.67	-661.3	-204.7	668.5	590.3	78.20	8.549	
11,850.0	11,828.0	12,631.9	12,136.0	42.0	43.9	92.25	-669.0	-202.7	655.5	576.4	79.08	8.289	
11,875.0	11,851.7	12,622.5	12,135.8	42.1	43.9	92.05	-678.1	-200.3	642.9	563.0	79.92	8.044	
11,900.0	11,874.9	12,611.6	12,135.7	42.2	43.9	91.90	-688.6	-197.5	630.9	550.1	80.74	7.814	
11,925.0	11,897.7	12,599.3	12,135.5	42.3	43.9	91.73	-700.5	-194.2	619.4	537.9	81.52	7.598	
11,950.0	11,919.8	12,585.6	12,135.3	42.4	43.9	91.50	-713.7	-190.5	608.4	526.1	82.25	7.397	
11,975.0	11,941.4	12,570.5	12,135.1	42.5	43.9	91.18	-728.2	-186.4	597.9	515.0	82.93	7.210	
12,000.0	11,962.2	12,554.2	12,134.9	42.6	43.8	90.77	-743.9	-181.8	587.9	504.3	83.56	7.036	
12,025.0	11,982.3	12,536.6	12,134.7	42.6	43.8	90.29	-760.7	-176.8	578.3	494.2	84.13	6.874	
12,050.0	12,001.6	12,517.8	12,134.4	42.7	43.8	89.73	-778.7	-171.3	569.2	484.5	84.65	6.724	
12,075.0	12,020.0	12,497.9	12,134.1	42.8	43.8	89.11	-797.7	-165.4	560.4	475.3	85.10	6.585	
12,100.0	12,037.6	12,477.0	12,133.9	42.9	43.7	88.46	-817.6	-159.0	551.9	466.4	85.51	6.454	
12,125.0	12,054.1	12,455.1	12,133.6	43.0	43.7	87.78	-838.4	-152.2	543.6	457.7	85.85	6.332	
12,150.0	12,069.7	12,432.3	12,133.3	43.0	43.7	87.11	-860.0	-144.9	535.5	449.3	86.14	6.216	
12,175.0	12,084.2	12,409.0	12,132.9	43.1	43.7	86.48	-882.0	-137.3	527.5	441.1	86.38	6.106	
12,200.0	12,097.7	12,387.0	12,131.9	43.2	43.6	85.93	-902.8	-130.1	519.6	433.0	86.58	6.001	
12,225.0	12,110.0	12,365.6	12,129.9	43.3	43.6	85.41	-922.9	-123.1	511.8	425.1	86.74	5.900	
12,250.0	12,121.2	12,344.8	12,127.1	43.3	43.6	84.91	-942.4	-116.4	504.2	417.3	86.87	5.804	
12,275.0	12,131.2	12,324.5	12,123.5	43.4	43.6	84.41	-961.2	-109.8	496.7	409.8	86.94	5.713	
12,300.0	12,139.9	12,304.7	12,119.1	43.5	43.5	83.92	-979.5	-103.5	489.5	402.5	86.98	5.627	
12,325.0	12,147.5	12,285.3	12,114.1	43.5	43.5	83.44	-997.2	-97.4	482.4	395.4	86.97	5.546	
12,350.0	12,153.8	12,266.2	12,108.4	43.6	43.5	82.96	-1,014.4	-91.5	475.5	388.6	86.92	5.470	
12,375.0	12,158.8	12,247.5	12,102.1	43.7	43.4	82.48	-1,031.1	-85.7	468.8	382.0	86.84	5.399	
12,400.0	12,162.5	12,229.0	12,095.2	43.7	43.4	81.99	-1,047.3	-80.2	462.4	375.7	86.72	5.332	
12,425.0	12,164.9	12,210.8	12,087.8	43.8	43.4	81.51	-1,063.0	-74.8	456.2	369.6	86.57	5.270	
12,448.0	12,166.0	12,194.3	12,080.5	43.8	43.3	81.06	-1,077.0	-70.0	450.7	364.3	86.41	5.216	
12,500.0	12,167.2	12,158.7	12,063.1	43.9	43.3	78.48	-1,106.5	-59.9	439.6	353.7	85.95	5.115	
12,600.0	12,169.5	12,100.0	12,029.5	44.1	43.1	73.51	-1,152.0	-44.5	426.5	341.8	84.69	5.035 SF	
12,645.7	12,170.5	12,075.0	12,013.5	44.2	43.1	71.15	-1,170.2	-38.3	424.9	340.9	83.94	5.062 CC, ES	
12,700.0	12,171.8	12,050.0	11,996.5	44.3	43.0	68.69	-1,187.5	-32.5	427.2	344.1	83.07	5.142	
12,800.0	12,174.0	12,008.2	11,965.9	44.6	42.9	64.39	-1,214.6	-23.4	443.9	362.4	81.54	5.444	
12,900.0	12,176.3	11,975.0	11,940.0	44.8	42.8	60.90	-1,234.2	-16.9	476.7	396.1	80.59	5.914	
13,000.0	12,178.6	11,950.0	11,919.5	45.1	42.7	58.28	-1,247.8	-12.4	523.4	443.0	80.35	6.514	
13,100.0	12,180.9	11,925.0	11,898.3	45.3	42.6	55.69	-1,260.4	-8.3	581.4	501.1	80.34	7.236	
13,200.0	12,183.2	11,900.0	11,876.5	45.6	42.6	53.17	-1,272.0	-4.5	648.2	567.7	80.46	8.056	
13,300.0	12,185.5	11,885.0	11,863.1	45.9	42.5	51.70	-1,278.4	-2.4	721.5	640.6	80.96	8.912	
13,400.0	12,187.8	11,875.0	11,854.0	46.2	42.5	50.73	-1,282.4	-1.1	799.9	718.4	81.55	9.809	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11794-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	89.62	0.2	30.0	30.0				
100.0	100.0	99.9	99.9	3.0	3.0	89.62	0.2	30.0	30.0	24.0	6.00	4.998	
200.0	200.0	199.9	199.9	3.0	3.0	89.62	0.2	30.0	30.0	24.0	6.04	4.967	
300.0	300.0	299.9	299.9	3.1	3.0	89.62	0.2	30.0	30.0	23.9	6.12	4.902	
400.0	400.0	399.9	399.9	3.2	3.0	89.62	0.2	30.0	30.0	23.8	6.24	4.807	
500.0	500.0	499.9	499.9	3.4	3.1	89.62	0.2	30.0	30.0	23.6	6.40	4.690	
600.0	600.0	599.9	599.9	3.6	3.1	89.62	0.2	30.0	30.0	23.4	6.58	4.557	
700.0	700.0	699.9	699.9	3.8	3.1	89.62	0.2	30.0	30.0	23.2	6.80	4.413	
800.0	800.0	799.9	799.9	4.0	3.2	89.62	0.2	30.0	30.0	23.0	7.04	4.264	
900.0	900.0	899.9	899.9	4.2	3.2	89.62	0.2	30.0	30.0	22.7	7.29	4.113	
1,000.0	1,000.0	999.9	999.9	4.5	3.2	89.62	0.2	30.0	30.0	22.4	7.57	3.964	
1,100.0	1,100.0	1,099.9	1,099.9	4.8	3.3	89.62	0.2	30.0	30.0	22.1	7.86	3.818	
1,200.0	1,200.0	1,199.9	1,199.9	5.1	3.4	89.62	0.2	30.0	30.0	21.8	8.16	3.677	
1,300.0	1,300.0	1,299.9	1,299.9	5.3	3.4	89.62	0.2	30.0	30.0	21.5	8.47	3.542	
1,400.0	1,400.0	1,399.9	1,399.9	5.6	3.5	89.62	0.2	30.0	30.0	21.2	8.79	3.413	
1,500.0	1,500.0	1,499.9	1,499.9	6.0	3.5	89.62	0.2	30.0	30.0	20.9	9.12	3.290	
1,600.0	1,600.0	1,599.9	1,599.9	6.3	3.6	89.62	0.2	30.0	30.0	20.5	9.45	3.174	
1,700.0	1,700.0	1,699.9	1,699.9	6.6	3.7	89.62	0.2	30.0	30.0	20.2	9.79	3.063	
1,800.0	1,800.0	1,799.9	1,799.9	6.9	3.8	89.62	0.2	30.0	30.0	19.9	10.14	2.958	
1,900.0	1,900.0	1,899.9	1,899.9	7.2	3.9	89.62	0.2	30.0	30.0	19.5	10.49	2.859	
2,000.0	2,000.0	1,999.9	1,999.9	7.6	3.9	89.62	0.2	30.0	30.0	19.2	10.85	2.766	
2,100.0	2,100.0	2,099.9	2,099.9	7.9	4.0	89.62	0.2	30.0	30.0	18.8	11.21	2.677	
2,200.0	2,200.0	2,199.9	2,199.9	8.2	4.1	89.62	0.2	30.0	30.0	18.4	11.57	2.593	
2,300.0	2,300.0	2,299.9	2,299.9	8.6	4.2	89.62	0.2	30.0	30.0	18.1	11.94	2.513	
2,400.0	2,400.0	2,399.9	2,399.9	8.9	4.3	89.62	0.2	30.0	30.0	17.7	12.31	2.438	
2,500.0	2,500.0	2,499.9	2,499.9	9.2	4.4	89.62	0.2	30.0	30.0	17.3	12.68	2.366 CC, ES	
2,600.0	2,600.0	2,599.0	2,599.0	9.6	4.4	-57.28	-0.6	31.5	30.6	17.5	13.03	2.345 SF	
2,689.6	2,689.4	2,687.7	2,687.5	9.8	4.4	-60.15	-2.6	35.5	32.1	18.7	13.35	2.403	
2,700.0	2,699.8	2,698.0	2,697.9	9.9	4.4	-60.55	-3.0	36.1	32.3	18.9	13.39	2.415	
2,800.0	2,799.6	2,796.9	2,796.4	10.2	4.4	-62.33	-6.9	43.6	36.4	22.7	13.74	2.649	
2,900.0	2,899.4	2,896.3	2,895.1	10.5	4.5	-61.56	-12.1	53.7	42.8	28.7	14.09	3.039	
3,000.0	2,999.2	2,996.1	2,994.2	10.8	4.5	-60.81	-17.5	64.1	49.5	35.0	14.46	3.424	
3,100.0	3,099.0	3,095.8	3,093.3	11.1	4.5	-60.23	-22.9	74.5	56.2	41.4	14.83	3.789	
3,200.0	3,198.7	3,195.6	3,192.4	11.5	4.5	-59.78	-28.3	84.9	62.9	47.7	15.21	4.135	
3,300.0	3,298.5	3,295.4	3,291.4	11.8	4.5	-59.42	-33.7	95.3	69.6	54.0	15.59	4.462	
3,400.0	3,398.3	3,395.2	3,390.5	12.1	4.6	-59.12	-39.1	105.7	76.3	60.3	15.98	4.773	
3,500.0	3,498.1	3,494.9	3,489.6	12.5	4.6	-58.86	-44.5	116.1	83.0	66.6	16.37	5.067	
3,600.0	3,597.9	3,594.7	3,588.7	12.8	4.6	-58.65	-49.9	126.5	89.7	72.9	16.77	5.346	
3,700.0	3,697.7	3,694.5	3,687.8	13.1	4.7	-58.47	-55.3	136.9	96.4	79.2	17.17	5.611	
3,800.0	3,797.4	3,794.3	3,786.9	13.5	4.7	-58.31	-60.7	147.3	103.1	85.5	17.58	5.863	
3,900.0	3,897.2	3,894.0	3,886.0	13.8	4.8	-58.16	-66.1	157.7	109.8	91.8	17.99	6.102	
4,000.0	3,997.0	3,993.8	3,985.0	14.1	4.8	-58.04	-71.5	168.1	116.5	98.1	18.40	6.329	
4,100.0	4,096.8	4,093.6	4,084.1	14.5	4.9	-57.93	-76.9	178.5	123.2	104.4	18.82	6.545	
4,200.0	4,196.6	4,193.4	4,183.2	14.8	4.9	-57.83	-82.3	188.9	129.9	110.6	19.24	6.750	
4,300.0	4,296.3	4,293.1	4,282.3	15.2	5.0	-57.74	-87.7	199.3	136.6	116.9	19.66	6.946	
4,400.0	4,396.1	4,392.9	4,381.4	15.5	5.1	-57.66	-93.1	209.7	143.3	123.2	20.09	7.132	
4,500.0	4,495.9	4,492.7	4,480.5	15.8	5.1	-57.58	-98.5	220.1	150.0	129.5	20.52	7.310	
4,600.0	4,595.7	4,592.5	4,579.5	16.2	5.2	-57.52	-103.9	230.5	156.7	135.7	20.95	7.480	
4,700.0	4,695.5	4,692.2	4,678.6	16.5	5.3	-57.45	-109.3	240.9	163.4	142.0	21.38	7.642	
4,800.0	4,795.2	4,792.0	4,777.7	16.9	5.4	-57.40	-114.7	251.3	170.1	148.3	21.82	7.796	
4,900.0	4,895.0	4,891.8	4,876.8	17.2	5.4	-57.34	-120.1	261.6	176.8	154.6	22.26	7.944	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11794-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,994.8	4,991.6	4,975.9	17.6	5.5	-57.29	-125.5	272.0	183.5	160.8	22.70	8.085	
5,100.0	5,094.6	5,091.3	5,075.0	17.9	5.6	-57.25	-130.9	282.4	190.2	167.1	23.14	8.221	
5,200.0	5,194.4	5,191.1	5,174.1	18.3	5.7	-57.21	-136.3	292.8	196.9	173.3	23.58	8.350	
5,300.0	5,294.1	5,290.9	5,273.1	18.6	5.8	-57.17	-141.7	303.2	203.6	179.6	24.03	8.474	
5,400.0	5,393.9	5,390.7	5,372.2	19.0	5.9	-57.13	-147.1	313.6	210.3	185.9	24.48	8.593	
5,500.0	5,493.7	5,490.4	5,471.3	19.3	6.0	-57.09	-152.5	324.0	217.0	192.1	24.93	8.707	
5,600.0	5,593.5	5,590.2	5,570.4	19.7	6.1	-57.06	-157.9	334.4	223.7	198.4	25.38	8.817	
5,700.0	5,693.3	5,690.0	5,669.5	20.0	6.2	-57.03	-163.3	344.8	230.5	204.6	25.83	8.922	
5,800.0	5,793.1	5,789.8	5,768.6	20.4	6.3	-57.00	-168.7	355.2	237.2	210.9	26.28	9.023	
5,900.0	5,892.8	5,889.5	5,867.6	20.7	6.4	-56.97	-174.1	365.6	243.9	217.1	26.74	9.120	
6,000.0	5,992.6	5,989.3	5,966.7	21.1	6.5	-56.95	-179.5	376.0	250.6	223.4	27.19	9.214	
6,100.0	6,092.4	6,089.1	6,065.8	21.4	6.6	-56.92	-184.9	386.4	257.3	229.6	27.65	9.304	
6,200.0	6,192.2	6,188.9	6,164.9	21.8	6.7	-56.90	-190.3	396.8	264.0	235.9	28.11	9.391	
6,300.0	6,292.0	6,288.6	6,264.0	22.1	6.8	-56.88	-195.7	407.2	270.7	242.1	28.57	9.474	
6,400.0	6,391.7	6,388.4	6,363.1	22.5	6.9	-56.86	-201.1	417.6	277.4	248.4	29.03	9.555	
6,500.0	6,491.5	6,488.2	6,462.2	22.8	7.0	-56.83	-206.5	428.0	284.1	254.6	29.50	9.632	
6,600.0	6,591.3	6,588.0	6,561.2	23.2	7.1	-56.82	-211.9	438.4	290.8	260.8	29.96	9.707	
6,700.0	6,691.1	6,687.7	6,660.3	23.5	7.2	-56.80	-217.3	448.8	297.5	267.1	30.42	9.779	
6,800.0	6,790.9	6,787.5	6,759.4	23.9	7.3	-56.78	-222.7	459.2	304.2	273.3	30.89	9.849	
6,900.0	6,890.6	6,887.3	6,858.5	24.3	7.4	-56.76	-228.1	469.5	310.9	279.6	31.35	9.916	
7,000.0	6,990.4	6,987.1	6,957.6	24.6	7.5	-56.75	-233.5	479.9	317.6	285.8	31.82	9.982	
7,100.0	7,090.2	7,086.8	7,056.7	25.0	7.6	-56.73	-238.9	490.3	324.3	292.0	32.29	10.045	
7,200.0	7,190.0	7,186.6	7,155.8	25.3	7.7	-56.72	-244.3	500.7	331.0	298.3	32.76	10.106	
7,300.0	7,289.8	7,286.4	7,254.8	25.7	7.9	-56.70	-249.7	511.1	337.7	304.5	33.23	10.165	
7,400.0	7,389.6	7,386.2	7,353.9	26.0	8.0	-56.69	-255.1	521.5	344.5	310.8	33.70	10.222	
7,500.0	7,489.3	7,485.9	7,453.0	26.4	8.1	-56.67	-260.5	531.9	351.2	317.0	34.17	10.277	
7,600.0	7,589.1	7,585.7	7,552.1	26.7	8.2	-56.66	-265.9	542.3	357.9	323.2	34.64	10.331	
7,700.0	7,688.9	7,685.5	7,651.2	27.1	8.3	-56.65	-271.3	552.7	364.6	329.5	35.11	10.382	
7,800.0	7,788.7	7,785.3	7,750.3	27.5	8.4	-56.64	-276.7	563.1	371.3	335.7	35.59	10.433	
7,900.0	7,888.5	7,885.0	7,849.3	27.8	8.6	-56.63	-282.1	573.5	378.0	341.9	36.06	10.482	
8,000.0	7,988.2	7,984.8	7,948.4	28.2	8.7	-56.62	-287.5	583.9	384.7	348.2	36.54	10.529	
8,100.0	8,088.0	8,084.6	8,047.5	28.5	8.8	-56.61	-292.9	594.3	391.4	354.4	37.01	10.575	
8,200.0	8,187.8	8,184.4	8,146.6	28.9	8.9	-56.60	-298.3	604.7	398.1	360.6	37.49	10.620	
8,300.0	8,287.6	8,284.1	8,245.7	29.2	9.1	-56.59	-303.7	615.1	404.8	366.8	37.96	10.663	
8,400.0	8,387.4	8,383.9	8,344.8	29.6	9.2	-56.58	-309.1	625.5	411.5	373.1	38.44	10.705	
8,500.0	8,487.1	8,483.7	8,443.9	30.0	9.3	-56.57	-314.5	635.9	418.2	379.3	38.92	10.746	
8,600.0	8,586.9	8,583.5	8,542.9	30.3	9.4	-56.56	-319.9	646.3	424.9	385.5	39.40	10.786	
8,700.0	8,686.7	8,683.2	8,642.0	30.7	9.6	-56.55	-325.3	656.7	431.6	391.8	39.88	10.824	
8,800.0	8,786.5	8,783.0	8,741.1	31.0	9.7	-56.54	-330.7	667.1	438.3	398.0	40.36	10.862	
8,900.0	8,886.3	8,882.8	8,840.2	31.4	9.8	-56.53	-336.1	677.5	445.1	404.2	40.84	10.898	
9,000.0	8,986.1	8,982.6	8,939.3	31.8	9.9	-56.52	-341.5	687.8	451.8	410.4	41.32	10.934	
9,100.0	9,085.8	9,082.3	9,038.4	32.1	10.1	-56.52	-346.9	698.2	458.5	416.7	41.80	10.969	
9,200.0	9,185.6	9,182.1	9,137.5	32.5	10.2	-56.51	-352.3	708.6	465.2	422.9	42.28	11.002	
9,300.0	9,285.4	9,281.9	9,236.5	32.8	10.3	-56.50	-357.7	719.0	471.9	429.1	42.76	11.035	
9,400.0	9,385.2	9,381.7	9,335.6	33.2	10.5	-56.49	-363.1	729.4	478.6	435.3	43.24	11.067	
9,500.0	9,485.0	9,481.4	9,434.7	33.5	10.6	-56.49	-368.5	739.8	485.3	441.6	43.73	11.098	
9,600.0	9,584.7	9,581.2	9,533.8	33.9	10.7	-56.48	-373.9	750.2	492.0	447.8	44.21	11.129	
9,700.0	9,684.5	9,681.0	9,632.9	34.3	10.8	-56.47	-379.2	760.6	498.7	454.0	44.69	11.158	
9,800.0	9,784.3	9,780.8	9,732.0	34.6	11.0	-56.47	-384.6	771.0	505.4	460.2	45.18	11.187	
9,900.0	9,884.1	9,880.5	9,831.0	35.0	11.1	-56.46	-390.0	781.4	512.1	466.5	45.66	11.215	
10,000.0	9,983.9	9,980.3	9,930.1	35.3	11.3	-56.46	-395.4	791.8	518.8	472.7	46.15	11.243	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11794-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,100.0	10,083.6	10,080.1	10,029.2	35.7	11.4	-56.45	-400.8	802.2	525.5	478.9	46.63	11.269	
10,200.0	10,183.4	10,179.9	10,128.3	36.1	11.5	-56.44	-406.2	812.6	532.2	485.1	47.12	11.295	
10,300.0	10,283.2	10,279.6	10,227.4	36.4	11.7	-56.44	-411.6	823.0	538.9	491.3	47.61	11.321	
10,400.0	10,383.0	10,379.4	10,326.5	36.8	11.8	-56.43	-417.0	833.4	545.7	497.6	48.09	11.346	
10,500.0	10,482.8	10,479.2	10,425.6	37.1	11.9	-56.43	-422.4	843.8	552.4	503.8	48.58	11.370	
10,600.0	10,582.5	10,579.0	10,524.6	37.5	12.1	-56.42	-427.8	854.2	559.1	510.0	49.07	11.394	
10,700.0	10,682.3	10,678.7	10,623.7	37.9	12.2	-56.42	-433.2	864.6	565.8	516.2	49.56	11.417	
10,800.0	10,782.1	10,778.5	10,722.8	38.2	12.4	-56.41	-438.6	875.0	572.5	522.4	50.04	11.440	
10,900.0	10,881.9	10,878.3	10,821.9	38.6	12.5	-56.41	-444.0	885.4	579.2	528.7	50.53	11.462	
11,000.0	10,981.7	10,978.1	10,921.0	38.9	12.6	-56.40	-449.4	895.7	585.9	534.9	51.02	11.483	
11,100.0	11,081.5	11,077.8	11,020.1	39.3	12.8	-56.40	-454.8	906.1	592.6	541.1	51.51	11.504	
11,200.0	11,181.2	11,177.6	11,119.1	39.7	12.9	-56.39	-460.2	916.5	599.3	547.3	52.00	11.525	
11,300.0	11,281.0	11,277.4	11,218.2	40.0	13.1	-56.39	-465.6	926.9	606.0	553.5	52.49	11.545	
11,400.0	11,380.8	11,377.2	11,317.3	40.4	13.2	-56.39	-471.0	937.3	612.7	559.7	52.98	11.565	
11,500.0	11,480.6	11,476.9	11,416.4	40.7	13.4	-56.38	-476.4	947.7	619.4	566.0	53.47	11.584	
11,600.0	11,580.4	11,576.7	11,515.5	41.1	13.5	-56.38	-481.8	958.1	626.1	572.2	53.96	11.603	
11,700.0	11,680.1	11,676.5	11,614.6	41.5	13.7	-56.37	-487.2	968.5	632.8	578.4	54.46	11.621	
11,735.2	11,715.2	11,711.6	11,649.4	41.6	13.7	-56.37	-489.1	972.2	635.2	580.6	54.62	11.629	
11,750.0	11,730.0	11,726.4	11,664.1	41.6	13.7	-66.89	-489.9	973.7	636.2	581.5	54.69	11.634	
11,775.0	11,754.8	11,751.3	11,688.8	41.7	13.8	-75.06	-491.3	976.3	637.9	583.1	54.80	11.641	
11,800.0	11,779.5	11,776.1	11,713.5	41.8	13.8	-79.04	-492.6	978.9	639.6	584.6	54.91	11.647	
11,825.0	11,803.9	11,800.9	11,738.1	41.9	13.8	-81.48	-494.0	981.5	641.3	586.2	55.03	11.653	
11,850.0	11,828.0	11,826.3	11,763.2	42.0	13.8	-83.15	-496.4	984.1	643.0	587.8	55.14	11.661	
11,875.0	11,851.7	11,851.9	11,788.5	42.1	13.8	-84.38	-500.2	986.8	644.7	589.4	55.25	11.669	
11,900.0	11,874.9	11,877.8	11,813.7	42.2	13.8	-85.33	-505.4	989.5	646.4	591.0	55.36	11.676	
11,925.0	11,897.7	11,903.9	11,838.8	42.3	13.8	-86.09	-512.1	992.1	648.1	592.6	55.47	11.683	
11,950.0	11,919.8	11,930.4	11,863.8	42.4	13.8	-86.73	-520.2	994.8	649.8	594.2	55.59	11.689	
11,975.0	11,941.4	11,957.0	11,888.6	42.5	13.8	-87.28	-529.7	997.5	651.4	595.7	55.70	11.695	
12,000.0	11,962.2	11,984.0	11,913.0	42.6	13.8	-87.75	-540.8	1,000.1	653.1	597.2	55.82	11.699	
12,025.0	11,982.3	12,011.2	11,936.9	42.6	13.8	-88.17	-553.4	1,002.7	654.7	598.7	55.94	11.703	
12,050.0	12,001.6	12,038.6	11,960.4	42.7	13.9	-88.55	-567.4	1,005.3	656.2	600.2	56.06	11.706	
12,075.0	12,020.0	12,066.4	11,983.2	42.8	13.9	-88.89	-583.0	1,007.8	657.7	601.5	56.18	11.708	
12,100.0	12,037.6	12,094.4	12,005.3	42.9	13.9	-89.20	-600.0	1,010.3	659.2	602.9	56.30	11.708	
12,125.0	12,054.1	12,122.6	12,026.5	43.0	13.9	-89.48	-618.5	1,012.6	660.5	604.1	56.42	11.708	
12,150.0	12,069.7	12,151.1	12,046.8	43.0	13.9	-89.73	-638.4	1,014.9	661.8	605.3	56.54	11.705	
12,175.0	12,084.2	12,179.9	12,066.1	43.1	13.9	-89.96	-659.6	1,017.1	663.1	606.4	56.66	11.702	
12,200.0	12,097.7	12,208.8	12,084.1	43.2	14.0	-90.17	-682.2	1,019.2	664.2	607.4	56.79	11.697	
12,225.0	12,110.0	12,238.0	12,100.9	43.3	14.0	-90.36	-706.0	1,021.1	665.3	608.4	56.91	11.690	
12,250.0	12,121.2	12,267.4	12,116.3	43.3	14.0	-90.53	-730.9	1,022.9	666.3	609.2	57.04	11.681	
12,275.0	12,131.2	12,297.0	12,130.2	43.4	14.1	-90.68	-756.9	1,024.6	667.1	610.0	57.16	11.671	
12,300.0	12,139.9	12,326.7	12,142.6	43.5	14.1	-90.81	-783.9	1,026.1	667.9	610.6	57.29	11.659	
12,325.0	12,147.5	12,356.6	12,153.3	43.5	14.2	-90.92	-811.8	1,027.5	668.5	611.1	57.41	11.645	
12,350.0	12,153.8	12,386.6	12,162.3	43.6	14.2	-91.02	-840.4	1,028.7	669.1	611.6	57.53	11.630	
12,375.0	12,158.8	12,416.8	12,169.5	43.7	14.3	-91.09	-869.7	1,029.7	669.5	611.9	57.65	11.613	
12,400.0	12,162.5	12,447.0	12,174.9	43.7	14.3	-91.15	-899.4	1,030.5	669.8	612.0	57.77	11.594	
12,425.0	12,164.9	12,477.2	12,178.4	43.8	14.4	-91.19	-929.4	1,031.1	670.0	612.1	57.89	11.574	
12,448.0	12,166.0	12,505.1	12,180.0	43.8	14.4	-91.20	-957.2	1,031.5	670.1	612.1	57.99	11.555	
12,500.0	12,167.2	12,557.5	12,181.1	43.9	14.6	-91.20	-1,009.6	1,032.0	670.1	611.8	58.23	11.507	
12,600.0	12,169.5	12,657.5	12,183.4	44.1	14.8	-91.20	-1,109.5	1,033.1	670.1	611.3	58.74	11.408	
12,700.0	12,171.8	12,757.5	12,185.6	44.3	15.1	-91.19	-1,209.5	1,034.2	670.1	610.8	59.30	11.300	
12,800.0	12,174.0	12,857.5	12,187.8	44.6	15.5	-91.19	-1,309.5	1,035.2	670.1	610.2	59.92	11.183	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11794-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
12,900.0	12,176.3	12,957.5	12,190.1	44.8	15.9	-91.18	-1,409.5	1,036.3	670.1	609.5	60.59	11.059	
13,000.0	12,178.6	13,057.5	12,192.3	45.1	16.4	-91.18	-1,509.4	1,037.4	670.1	608.8	61.31	10.929	
13,100.0	12,180.9	13,157.5	12,194.5	45.3	16.8	-91.17	-1,609.4	1,038.4	670.1	608.0	62.08	10.794	
13,200.0	12,183.2	13,257.5	12,196.8	45.6	17.3	-91.17	-1,709.4	1,039.5	670.1	607.2	62.89	10.655	
13,300.0	12,185.5	13,357.5	12,199.0	45.9	17.9	-91.16	-1,809.3	1,040.6	670.1	606.3	63.74	10.512	
13,400.0	12,187.8	13,457.5	12,201.2	46.2	18.5	-91.16	-1,909.3	1,041.6	670.1	605.5	64.64	10.367	
13,500.0	12,190.1	13,557.5	12,203.5	46.6	19.0	-91.16	-2,009.3	1,042.7	670.1	604.5	65.56	10.221	
13,600.0	12,192.3	13,657.5	12,205.7	46.9	19.7	-91.15	-2,109.2	1,043.7	670.1	603.6	66.52	10.073	
13,700.0	12,194.6	13,757.5	12,207.9	47.3	20.3	-91.15	-2,209.2	1,044.8	670.1	602.6	67.51	9.925	
13,800.0	12,196.9	13,857.5	12,210.2	47.7	20.9	-91.14	-2,309.2	1,045.9	670.1	601.6	68.54	9.778	
13,900.0	12,199.2	13,957.5	12,212.4	48.0	21.6	-91.14	-2,409.1	1,046.9	670.1	600.5	69.58	9.630	
14,000.0	12,201.5	14,057.5	12,214.6	48.4	22.3	-91.13	-2,509.1	1,048.0	670.1	599.5	70.66	9.484	
14,100.0	12,203.8	14,157.5	12,216.9	48.8	23.0	-91.13	-2,609.1	1,049.1	670.1	598.4	71.76	9.339	
14,200.0	12,206.1	14,257.5	12,219.1	49.3	23.7	-91.12	-2,709.1	1,050.1	670.1	597.2	72.88	9.195	
14,300.0	12,208.3	14,357.5	12,221.3	49.7	24.4	-91.12	-2,809.0	1,051.2	670.1	596.1	74.02	9.053	
14,400.0	12,210.6	14,457.5	12,223.6	50.1	25.1	-91.12	-2,909.0	1,052.3	670.1	594.9	75.19	8.913	
14,500.0	12,212.9	14,557.5	12,225.8	50.6	25.9	-91.11	-3,009.0	1,053.3	670.1	593.8	76.37	8.774	
14,600.0	12,215.2	14,657.5	12,228.0	51.1	26.6	-91.11	-3,108.9	1,054.4	670.1	592.6	77.58	8.638	
14,700.0	12,217.5	14,757.5	12,230.3	51.5	27.3	-91.10	-3,208.9	1,055.5	670.1	591.3	78.80	8.505	
14,800.0	12,219.8	14,857.5	12,232.5	52.0	28.1	-91.10	-3,308.9	1,056.5	670.1	590.1	80.03	8.373	
14,900.0	12,222.1	14,957.5	12,234.7	52.5	28.9	-91.09	-3,408.8	1,057.6	670.1	588.9	81.29	8.244	
14,907.8	12,222.2	14,965.2	12,234.9	52.5	28.9	-91.09	-3,416.6	1,057.7	670.1	588.8	81.39	8.234	
14,994.4	12,224.2	15,051.3	12,236.8	53.0	29.6	-91.09	-3,502.7	1,058.6	670.1	587.7	82.48	8.125	
14,998.7	12,224.3	15,055.1	12,236.9	53.0	29.6	-91.09	-3,506.5	1,058.6	670.1	587.6	82.53	8.120	
15,000.0	12,224.3	15,056.5	12,236.9	53.0	29.6	-91.09	-3,507.8	1,058.6	670.1	587.6	82.55	8.118	
15,100.0	12,226.6	15,156.5	12,239.2	53.5	30.4	-91.08	-3,607.8	1,059.9	670.1	586.3	83.83	7.994	
15,200.0	12,228.9	15,256.5	12,241.4	54.0	31.2	-91.08	-3,707.8	1,061.1	670.1	585.0	85.13	7.872	
15,300.0	12,231.2	15,356.5	12,243.6	54.6	31.9	-91.07	-3,807.7	1,062.3	670.1	583.7	86.44	7.753	
15,400.0	12,233.5	15,456.5	12,245.9	55.1	32.7	-91.07	-3,907.7	1,063.5	670.1	582.4	87.76	7.636	
15,500.0	12,235.8	15,556.5	12,248.1	55.7	33.5	-91.07	-4,007.7	1,064.7	670.1	581.0	89.10	7.521	
15,600.0	12,238.0	15,656.5	12,250.3	56.2	34.3	-91.06	-4,107.6	1,065.9	670.1	579.7	90.44	7.409	
15,700.0	12,240.3	15,756.5	12,252.6	56.8	35.1	-91.06	-4,207.6	1,067.1	670.1	578.3	91.80	7.300	
15,800.0	12,242.6	15,856.5	12,254.8	57.3	35.9	-91.05	-4,307.6	1,068.3	670.1	577.0	93.17	7.193	
15,900.0	12,244.9	15,956.5	12,257.0	57.9	36.7	-91.05	-4,407.5	1,069.5	670.1	575.6	94.55	7.088	
16,000.0	12,247.2	16,056.5	12,259.3	58.5	37.5	-91.04	-4,507.5	1,070.8	670.1	574.2	95.94	6.985	
16,100.0	12,249.4	16,156.5	12,261.5	59.1	38.3	-91.04	-4,607.5	1,072.0	670.1	572.8	97.34	6.885	
16,200.0	12,251.7	16,256.5	12,263.7	59.7	39.1	-91.03	-4,707.4	1,073.2	670.1	571.4	98.74	6.787	
16,300.0	12,254.0	16,356.5	12,266.0	60.3	39.9	-91.03	-4,807.4	1,074.4	670.1	570.0	100.16	6.691	
16,400.0	12,256.3	16,456.5	12,268.2	60.9	40.8	-91.03	-4,907.4	1,075.6	670.1	568.5	101.58	6.597	
16,500.0	12,258.6	16,556.5	12,270.4	61.5	41.6	-91.02	-5,007.3	1,076.8	670.1	567.1	103.02	6.505	
16,600.0	12,260.9	16,656.5	12,272.7	62.2	42.4	-91.02	-5,107.3	1,078.0	670.1	565.7	104.46	6.415	
16,700.0	12,263.1	16,756.5	12,274.9	62.8	43.2	-91.01	-5,207.3	1,079.2	670.1	564.2	105.91	6.328	
16,800.0	12,265.4	16,856.5	12,277.1	63.4	44.0	-91.01	-5,307.2	1,080.4	670.1	562.8	107.36	6.242	
16,900.0	12,267.7	16,956.5	12,279.4	64.1	44.9	-91.00	-5,407.2	1,081.7	670.1	561.3	108.82	6.158	
17,000.0	12,270.0	17,056.5	12,281.6	64.7	45.7	-91.00	-5,507.2	1,082.9	670.1	559.8	110.29	6.076	
17,100.0	12,272.3	17,156.5	12,283.8	65.3	46.5	-91.00	-5,607.2	1,084.1	670.1	558.4	111.77	5.996	
17,200.0	12,274.5	17,256.5	12,286.0	66.0	47.3	-90.99	-5,707.1	1,085.3	670.1	556.9	113.25	5.917	
17,300.0	12,276.8	17,356.5	12,288.3	66.7	48.2	-90.99	-5,807.1	1,086.5	670.1	555.4	114.74	5.841	
17,400.0	12,279.1	17,456.5	12,290.5	67.3	49.0	-90.98	-5,907.1	1,087.7	670.1	553.9	116.23	5.765	
17,500.0	12,281.4	17,556.5	12,292.7	68.0	49.8	-90.98	-6,007.0	1,088.9	670.1	552.4	117.73	5.692	
17,600.0	12,283.7	17,656.5	12,295.0	68.7	50.7	-90.97	-6,107.0	1,090.1	670.1	550.9	119.24	5.620	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11794-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
17,700.0	12,286.0	17,756.5	12,297.2	69.3	51.5	-90.97	-6,207.0	1,091.3	670.1	549.4	120.75	5.550		
17,800.0	12,288.2	17,856.5	12,299.4	70.0	52.3	-90.97	-6,306.9	1,092.6	670.1	547.9	122.26	5.481		
17,900.0	12,290.5	17,956.5	12,301.7	70.7	53.2	-90.96	-6,406.9	1,093.8	670.1	546.3	123.78	5.414		
18,000.0	12,292.8	18,056.5	12,303.9	71.4	54.0	-90.96	-6,506.9	1,095.0	670.1	544.8	125.31	5.348		
18,100.0	12,295.1	18,156.5	12,306.1	72.1	54.8	-90.95	-6,606.8	1,096.2	670.1	543.3	126.84	5.283		
18,200.0	12,297.4	18,256.5	12,308.4	72.8	55.7	-90.95	-6,706.8	1,097.4	670.1	541.7	128.37	5.220		
18,300.0	12,299.7	18,356.5	12,310.6	73.5	56.5	-90.94	-6,806.8	1,098.6	670.1	540.2	129.91	5.158		
18,400.0	12,301.9	18,456.5	12,312.8	74.2	57.4	-90.94	-6,906.7	1,099.8	670.1	538.7	131.45	5.098		
18,500.0	12,304.2	18,556.5	12,315.1	74.9	58.2	-90.94	-7,006.7	1,101.0	670.1	537.1	133.00	5.038		
18,600.0	12,306.5	18,656.5	12,317.3	75.6	59.0	-90.93	-7,106.7	1,102.2	670.1	535.6	134.55	4.980		
18,700.0	12,308.8	18,756.5	12,319.5	76.3	59.9	-90.93	-7,206.6	1,103.4	670.1	534.0	136.10	4.923		
18,800.0	12,311.1	18,856.5	12,321.8	77.0	60.7	-90.92	-7,306.6	1,104.7	670.1	532.4	137.66	4.868		
18,900.0	12,313.3	18,956.5	12,324.0	77.8	61.6	-90.92	-7,406.6	1,105.9	670.1	530.9	139.23	4.813		
19,000.0	12,315.6	19,056.5	12,326.2	78.5	62.4	-90.91	-7,506.5	1,107.1	670.1	529.3	140.79	4.760		
19,100.0	12,317.9	19,156.5	12,328.4	79.2	63.2	-90.91	-7,606.5	1,108.3	670.1	527.7	142.36	4.707		
19,200.0	12,320.2	19,256.5	12,330.7	79.9	64.1	-90.91	-7,706.5	1,109.5	670.1	526.2	143.93	4.656		
19,300.0	12,322.5	19,356.5	12,332.9	80.7	64.9	-90.90	-7,806.4	1,110.7	670.1	524.6	145.51	4.605		
19,400.0	12,324.8	19,456.5	12,335.1	81.4	65.8	-90.90	-7,906.4	1,111.9	670.1	523.0	147.09	4.556		
19,500.0	12,327.0	19,556.5	12,337.4	82.1	66.6	-90.89	-8,006.4	1,113.1	670.1	521.4	148.67	4.507		
19,600.0	12,329.3	19,656.5	12,339.6	82.9	67.5	-90.89	-8,106.3	1,114.3	670.1	519.8	150.25	4.460		
19,700.0	12,331.6	19,756.5	12,341.8	83.6	68.3	-90.88	-8,206.3	1,115.6	670.1	518.3	151.84	4.413		
19,800.0	12,333.9	19,856.5	12,344.1	84.3	69.2	-90.88	-8,306.3	1,116.8	670.1	516.7	153.43	4.367		
19,900.0	12,336.2	19,956.5	12,346.3	85.1	70.0	-90.88	-8,406.2	1,118.0	670.1	515.1	155.02	4.323		
20,000.0	12,338.4	20,056.5	12,348.5	85.8	70.9	-90.87	-8,506.2	1,119.2	670.1	513.5	156.62	4.278		
20,100.0	12,340.7	20,156.5	12,350.8	86.6	71.7	-90.87	-8,606.2	1,120.4	670.1	511.9	158.22	4.235		
20,200.0	12,343.0	20,256.5	12,353.0	87.3	72.6	-90.86	-8,706.2	1,121.6	670.1	510.3	159.82	4.193		
20,287.2	12,345.0	20,343.7	12,354.9	88.0	73.3	-90.86	-8,793.4	1,122.7	670.1	508.9	161.22	4.156		

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

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:		3.0 usft
Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR													Offset Well Error:		3.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
0.0	0.0	0.4	0.4	3.0	3.0	-90.77	-0.4	-29.9	29.9						
100.0	100.0	100.4	100.4	3.0	3.0	-90.77	-0.4	-29.9	29.9	23.9	6.00	4.982			
200.0	200.0	200.4	200.4	3.0	3.0	-90.77	-0.4	-29.9	29.9	23.9	6.04	4.951			
300.0	300.0	300.4	300.4	3.1	3.0	-90.77	-0.4	-29.9	29.9	23.8	6.12	4.886			
400.0	400.0	400.4	400.4	3.2	3.0	-90.77	-0.4	-29.9	29.9	23.7	6.24	4.792			
500.0	500.0	500.4	500.4	3.4	3.1	-90.77	-0.4	-29.9	29.9	23.5	6.40	4.675			
600.0	600.0	600.4	600.4	3.6	3.1	-90.77	-0.4	-29.9	29.9	23.3	6.58	4.542			
700.0	700.0	700.4	700.4	3.8	3.1	-90.77	-0.4	-29.9	29.9	23.1	6.80	4.398			
800.0	800.0	800.4	800.4	4.0	3.2	-90.77	-0.4	-29.9	29.9	22.9	7.04	4.250			
900.0	900.0	900.4	900.4	4.2	3.2	-90.77	-0.4	-29.9	29.9	22.6	7.29	4.100			
1,000.0	1,000.0	1,000.4	1,000.4	4.5	3.2	-90.77	-0.4	-29.9	29.9	22.3	7.57	3.951			
1,100.0	1,100.0	1,100.4	1,100.4	4.8	3.3	-90.77	-0.4	-29.9	29.9	22.0	7.86	3.806			
1,200.0	1,200.0	1,200.4	1,200.4	5.1	3.4	-90.77	-0.4	-29.9	29.9	21.7	8.16	3.665			
1,300.0	1,300.0	1,300.4	1,300.4	5.3	3.4	-90.77	-0.4	-29.9	29.9	21.4	8.47	3.531			
1,400.0	1,400.0	1,400.4	1,400.4	5.6	3.5	-90.77	-0.4	-29.9	29.9	21.1	8.79	3.402			
1,500.0	1,500.0	1,500.4	1,500.4	6.0	3.5	-90.77	-0.4	-29.9	29.9	20.8	9.12	3.280			
1,600.0	1,600.0	1,600.4	1,600.4	6.3	3.6	-90.77	-0.4	-29.9	29.9	20.4	9.45	3.163			
1,700.0	1,700.0	1,700.4	1,700.4	6.6	3.7	-90.77	-0.4	-29.9	29.9	20.1	9.79	3.053			
1,800.0	1,800.0	1,800.4	1,800.4	6.9	3.8	-90.77	-0.4	-29.9	29.9	19.8	10.14	2.949			
1,900.0	1,900.0	1,900.4	1,900.4	7.2	3.9	-90.77	-0.4	-29.9	29.9	19.4	10.49	2.850			
2,000.0	2,000.0	2,000.4	2,000.4	7.6	3.9	-90.77	-0.4	-29.9	29.9	19.1	10.85	2.757			
2,100.0	2,100.0	2,100.4	2,100.4	7.9	4.0	-90.77	-0.4	-29.9	29.9	18.7	11.21	2.668			
2,200.0	2,200.0	2,200.4	2,200.4	8.2	4.1	-90.77	-0.4	-29.9	29.9	18.3	11.57	2.584			
2,300.0	2,300.0	2,300.4	2,300.4	8.6	4.2	-90.77	-0.4	-29.9	29.9	18.0	11.94	2.505			
2,400.0	2,400.0	2,400.4	2,400.4	8.9	4.3	-90.77	-0.4	-29.9	29.9	17.6	12.31	2.430			
2,500.0	2,500.0	2,500.4	2,500.4	9.2	4.4	-90.77	-0.4	-29.9	29.9	17.2	12.68	2.359 CC, ES, SF			
2,600.0	2,600.0	2,600.4	2,600.4	9.6	4.5	126.20	-0.4	-29.9	30.9	17.9	13.04	2.370			
2,689.6	2,689.4	2,689.8	2,689.8	9.8	4.6	132.36	-0.4	-29.9	33.8	20.4	13.37	2.526			
2,700.0	2,699.8	2,700.2	2,700.2	9.9	4.6	133.21	-0.4	-29.9	34.2	20.8	13.41	2.553			
2,800.0	2,799.6	2,800.0	2,800.0	10.2	4.7	140.29	-0.4	-29.9	39.1	25.2	13.83	2.825			
2,900.0	2,899.4	2,899.8	2,899.8	10.5	4.8	145.75	-0.4	-29.9	44.4	30.1	14.27	3.109			
3,000.0	2,999.2	2,999.6	2,999.6	10.8	4.9	150.02	-0.4	-29.9	50.0	35.3	14.71	3.396			
3,100.0	3,099.0	3,099.4	3,099.4	11.1	5.0	153.41	-0.4	-29.9	55.8	40.6	15.16	3.681			
3,200.0	3,198.7	3,199.1	3,199.1	11.5	5.1	156.16	-0.4	-29.9	61.8	46.2	15.61	3.959			
3,300.0	3,298.5	3,298.9	3,298.9	11.8	5.2	158.41	-0.4	-29.9	67.9	51.8	16.05	4.229			
3,400.0	3,398.3	3,398.7	3,398.7	12.1	5.3	160.29	-0.4	-29.9	74.1	57.6	16.50	4.491			
3,500.0	3,498.1	3,498.5	3,498.5	12.5	5.4	161.88	-0.4	-29.9	80.3	63.4	16.94	4.742			
3,600.0	3,597.9	3,598.3	3,598.3	12.8	5.5	163.24	-0.4	-29.9	86.6	69.3	17.38	4.984			
3,700.0	3,697.7	3,698.1	3,698.1	13.1	5.7	164.42	-0.4	-29.9	93.0	75.2	17.83	5.216			
3,800.0	3,797.4	3,797.8	3,797.8	13.5	5.8	165.44	-0.4	-29.9	99.4	81.1	18.27	5.439			
3,900.0	3,897.2	3,897.6	3,897.6	13.8	5.9	166.34	-0.4	-29.9	105.8	87.1	18.72	5.652			
4,000.0	3,997.0	3,997.4	3,997.4	14.1	6.0	167.14	-0.4	-29.9	112.2	93.1	19.16	5.857			
4,100.0	4,096.8	4,097.2	4,097.2	14.5	6.1	167.85	-0.4	-29.9	118.7	99.1	19.61	6.053			
4,200.0	4,196.6	4,197.0	4,197.0	14.8	6.2	168.49	-0.4	-29.9	125.2	105.1	20.06	6.241			
4,300.0	4,296.3	4,296.7	4,296.7	15.2	6.3	169.06	-0.4	-29.9	131.7	111.1	20.50	6.421			
4,400.0	4,396.1	4,396.5	4,396.5	15.5	6.5	169.58	-0.4	-29.9	138.1	117.2	20.95	6.594			
4,500.0	4,495.9	4,496.3	4,496.3	15.8	6.6	170.05	-0.4	-29.9	144.7	123.3	21.40	6.760			
4,600.0	4,595.7	4,596.1	4,596.1	16.2	6.7	170.49	-0.4	-29.9	151.2	129.3	21.85	6.919			
4,700.0	4,695.5	4,695.9	4,695.9	16.5	6.8	170.88	-0.4	-29.9	157.7	135.4	22.30	7.072			
4,800.0	4,795.2	4,795.6	4,795.6	16.9	6.9	171.25	-0.4	-29.9	164.2	141.5	22.75	7.218			
4,900.0	4,895.0	4,895.4	4,895.4	17.2	7.0	171.59	-0.4	-29.9	170.8	147.6	23.20	7.360			

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,994.8	4,995.2	4,995.2	17.6	7.2	171.90	-0.4	-29.9	177.3	153.7	23.66	7.495	
5,100.0	5,094.6	5,095.0	5,095.0	17.9	7.3	172.19	-0.4	-29.9	183.9	159.8	24.11	7.626	
5,200.0	5,194.4	5,194.8	5,194.8	18.3	7.4	172.46	-0.4	-29.9	190.4	165.9	24.56	7.752	
5,300.0	5,294.1	5,294.5	5,294.5	18.6	7.5	172.71	-0.4	-29.9	197.0	172.0	25.02	7.873	
5,400.0	5,393.9	5,394.3	5,394.3	19.0	7.6	172.95	-0.4	-29.9	203.5	178.1	25.48	7.990	
5,500.0	5,493.7	5,494.1	5,494.1	19.3	7.8	173.17	-0.4	-29.9	210.1	184.2	25.93	8.102	
5,600.0	5,593.5	5,596.7	5,596.7	19.7	7.8	172.99	-1.9	-30.6	216.0	189.7	26.34	8.204	
5,700.0	5,693.3	5,699.5	5,699.4	20.0	7.8	171.93	-6.6	-32.9	220.7	194.0	26.65	8.279	
5,800.0	5,793.1	5,801.0	5,800.5	20.4	7.7	170.12	-14.4	-36.7	224.2	197.2	26.94	8.321	
5,900.0	5,892.8	5,900.7	5,899.7	20.7	7.7	168.24	-22.6	-40.7	227.7	200.4	27.22	8.363	
6,000.0	5,992.6	6,000.3	5,999.0	21.1	7.7	166.41	-30.8	-44.7	231.4	203.9	27.52	8.409	
6,100.0	6,092.4	6,100.0	6,098.2	21.4	7.6	164.64	-39.1	-48.7	235.4	207.6	27.82	8.460	
6,200.0	6,192.2	6,199.7	6,197.4	21.8	7.6	162.94	-47.3	-52.7	239.6	211.5	28.14	8.515	
6,300.0	6,292.0	6,299.3	6,296.7	22.1	7.6	161.29	-55.5	-56.8	244.0	215.5	28.46	8.573	
6,400.0	6,391.7	6,399.0	6,395.9	22.5	7.6	159.70	-63.8	-60.8	248.6	219.8	28.79	8.635	
6,500.0	6,491.5	6,498.6	6,495.2	22.8	7.5	158.17	-72.0	-64.8	253.4	224.2	29.13	8.699	
6,600.0	6,591.3	6,598.3	6,594.4	23.2	7.5	156.70	-80.2	-68.8	258.3	228.8	29.47	8.765	
6,700.0	6,691.1	6,698.0	6,693.6	23.5	7.5	155.29	-88.5	-72.8	263.4	233.6	29.82	8.832	
6,800.0	6,790.9	6,797.6	6,792.9	23.9	7.5	153.93	-96.7	-76.8	268.7	238.5	30.18	8.902	
6,900.0	6,890.6	6,897.3	6,892.1	24.3	7.5	152.62	-104.9	-80.8	274.1	243.6	30.55	8.972	
7,000.0	6,990.4	6,996.9	6,991.3	24.6	7.5	151.36	-113.2	-84.8	279.7	248.7	30.92	9.044	
7,100.0	7,090.2	7,096.6	7,090.6	25.0	7.5	150.15	-121.4	-88.8	285.3	254.0	31.30	9.117	
7,200.0	7,190.0	7,196.3	7,189.8	25.3	7.5	148.99	-129.6	-92.8	291.2	259.5	31.68	9.190	
7,300.0	7,289.8	7,295.9	7,289.1	25.7	7.4	147.88	-137.9	-96.8	297.1	265.0	32.07	9.263	
7,400.0	7,389.6	7,395.6	7,388.3	26.0	7.4	146.81	-146.1	-100.9	303.1	270.6	32.46	9.337	
7,500.0	7,489.3	7,495.2	7,487.5	26.4	7.5	145.78	-154.3	-104.9	309.2	276.4	32.86	9.411	
7,600.0	7,589.1	7,594.9	7,586.8	26.7	7.5	144.79	-162.6	-108.9	315.5	282.2	33.26	9.485	
7,700.0	7,688.9	7,694.6	7,686.0	27.1	7.5	143.84	-170.8	-112.9	321.8	288.1	33.66	9.559	
7,800.0	7,788.7	7,794.2	7,785.3	27.5	7.5	142.93	-179.0	-116.9	328.2	294.1	34.07	9.632	
7,900.0	7,888.5	7,893.9	7,884.5	27.8	7.5	142.05	-187.2	-120.9	334.7	300.2	34.48	9.706	
8,000.0	7,988.2	7,993.5	7,983.7	28.2	7.5	141.20	-195.5	-124.9	341.2	306.3	34.89	9.779	
8,100.0	8,088.0	8,093.2	8,083.0	28.5	7.5	140.39	-203.7	-128.9	347.8	312.5	35.31	9.852	
8,200.0	8,187.8	8,192.9	8,182.2	28.9	7.5	139.61	-211.9	-132.9	354.5	318.8	35.73	9.924	
8,300.0	8,287.6	8,292.5	8,281.5	29.2	7.6	138.85	-220.2	-136.9	361.3	325.1	36.15	9.995	
8,400.0	8,387.4	8,392.2	8,380.7	29.6	7.6	138.13	-228.4	-140.9	368.1	331.5	36.57	10.066	
8,500.0	8,487.1	8,491.8	8,479.9	30.0	7.6	137.43	-236.6	-144.9	375.0	338.0	36.99	10.137	
8,600.0	8,586.9	8,591.5	8,579.2	30.3	7.7	136.76	-244.9	-149.0	381.9	344.5	37.42	10.206	
8,700.0	8,686.7	8,691.2	8,678.4	30.7	7.7	136.11	-253.1	-153.0	388.9	351.0	37.85	10.275	
8,800.0	8,786.5	8,790.8	8,777.7	31.0	7.7	135.48	-261.3	-157.0	395.9	357.6	38.28	10.343	
8,900.0	8,886.3	8,890.5	8,876.9	31.4	7.8	134.87	-269.6	-161.0	403.0	364.3	38.71	10.411	
9,000.0	8,986.1	8,990.1	8,976.1	31.8	7.8	134.29	-277.8	-165.0	410.1	371.0	39.14	10.477	
9,100.0	9,085.8	9,089.8	9,075.4	32.1	7.9	133.73	-286.0	-169.0	417.3	377.7	39.58	10.543	
9,200.0	9,185.6	9,189.5	9,174.6	32.5	7.9	133.18	-294.3	-173.0	424.5	384.4	40.01	10.608	
9,300.0	9,285.4	9,289.1	9,273.8	32.8	8.0	132.65	-302.5	-177.0	431.7	391.2	40.45	10.672	
9,400.0	9,385.2	9,388.8	9,373.1	33.2	8.1	132.14	-310.7	-181.0	439.0	398.1	40.89	10.735	
9,500.0	9,485.0	9,488.5	9,472.3	33.5	8.1	131.65	-319.0	-185.0	446.3	404.9	41.33	10.798	
9,600.0	9,584.7	9,588.1	9,571.6	33.9	8.2	131.17	-327.2	-189.0	453.6	411.8	41.77	10.859	
9,700.0	9,684.5	9,687.8	9,670.8	34.3	8.3	130.71	-335.4	-193.1	461.0	418.7	42.21	10.920	
9,800.0	9,784.3	9,787.4	9,770.0	34.6	8.3	130.26	-343.6	-197.1	468.4	425.7	42.66	10.979	
9,900.0	9,884.1	9,887.1	9,869.3	35.0	8.4	129.83	-351.9	-201.1	475.8	432.7	43.10	11.038	
10,000.0	9,983.9	9,986.8	9,968.5	35.3	8.5	129.41	-360.1	-205.1	483.2	439.7	43.55	11.096	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.0	10,083.6	10,086.4	10,067.8	35.7	8.6	129.00	-368.3	-209.1	490.7	446.7	44.00	11.153		
10,200.0	10,183.4	10,186.1	10,167.0	36.1	8.6	128.61	-376.6	-213.1	498.2	453.7	44.44	11.209		
10,300.0	10,283.2	10,285.7	10,266.2	36.4	8.7	128.22	-384.8	-217.1	505.7	460.8	44.89	11.265		
10,400.0	10,383.0	10,385.4	10,365.5	36.8	8.8	127.85	-393.0	-221.1	513.2	467.9	45.34	11.319		
10,500.0	10,482.8	10,485.1	10,464.7	37.1	8.9	127.49	-401.3	-225.1	520.8	475.0	45.79	11.373		
10,600.0	10,582.5	10,584.7	10,564.0	37.5	9.0	127.14	-409.5	-229.1	528.4	482.1	46.25	11.426		
10,700.0	10,682.3	10,684.4	10,663.2	37.9	9.1	126.80	-417.7	-233.1	536.0	489.3	46.70	11.478		
10,800.0	10,782.1	10,784.0	10,762.4	38.2	9.2	126.47	-426.0	-237.2	543.6	496.5	47.15	11.529		
10,900.0	10,881.9	10,883.7	10,861.7	38.6	9.2	126.14	-434.2	-241.2	551.2	503.6	47.61	11.579		
11,000.0	10,981.7	10,983.4	10,960.9	38.9	9.3	125.83	-442.4	-245.2	558.9	510.8	48.06	11.628		
11,100.0	11,081.5	11,083.0	11,060.2	39.3	9.4	125.53	-450.7	-249.2	566.6	518.1	48.52	11.677		
11,200.0	11,181.2	11,182.7	11,159.4	39.7	9.5	125.23	-458.9	-253.2	574.3	525.3	48.98	11.725		
11,300.0	11,281.0	11,282.3	11,258.6	40.0	9.6	124.94	-467.1	-257.2	582.0	532.5	49.44	11.772		
11,400.0	11,380.8	11,382.0	11,357.9	40.4	9.7	124.66	-475.4	-261.2	589.7	539.8	49.90	11.818		
11,500.0	11,480.6	11,481.7	11,457.1	40.7	9.8	124.38	-483.6	-265.2	597.4	547.0	50.35	11.864		
11,600.0	11,580.4	11,581.3	11,556.3	41.1	9.9	124.12	-491.8	-269.2	605.1	554.3	50.82	11.909		
11,700.0	11,680.1	11,681.0	11,655.6	41.5	10.0	123.86	-500.0	-273.2	612.9	561.6	51.28	11.953		
11,735.2	11,715.2	11,716.0	11,690.5	41.6	10.1	123.77	-502.9	-274.6	615.6	564.2	51.44	11.968		
11,750.0	11,730.0	11,730.8	11,705.2	41.6	10.1	112.99	-504.2	-275.2	616.8	565.3	51.51	11.974		
11,775.0	11,754.8	11,755.8	11,730.1	41.7	10.1	104.57	-506.4	-276.2	618.7	567.1	51.62	11.987		
11,800.0	11,779.5	11,781.0	11,755.0	41.8	10.1	100.45	-509.9	-277.2	620.6	568.9	51.71	12.002		
11,825.0	11,803.9	11,806.2	11,779.7	41.9	10.1	98.00	-514.7	-278.2	622.5	570.7	51.80	12.017		
11,850.0	11,828.0	11,831.4	11,804.2	42.0	10.1	96.34	-520.8	-279.1	624.4	572.5	51.90	12.031		
11,875.0	11,851.7	11,856.6	11,828.3	42.1	10.1	95.14	-528.1	-280.0	626.3	574.3	52.00	12.044		
11,900.0	11,874.9	11,881.9	11,852.0	42.2	10.1	94.22	-536.8	-280.9	628.1	576.0	52.10	12.056		
11,925.0	11,897.7	11,907.3	11,875.3	42.3	10.1	93.48	-546.7	-281.8	629.8	577.6	52.20	12.066		
11,950.0	11,919.8	11,932.7	11,898.1	42.4	10.1	92.87	-557.9	-282.6	631.5	579.2	52.30	12.076		
11,975.0	11,941.4	11,958.1	11,920.3	42.5	10.1	92.35	-570.3	-283.4	633.2	580.8	52.40	12.084		
12,000.0	11,962.2	11,983.5	11,941.8	42.6	10.1	91.91	-583.8	-284.1	634.8	582.3	52.51	12.091		
12,025.0	11,982.3	12,009.0	11,962.6	42.6	10.2	91.52	-598.5	-284.8	636.4	583.8	52.61	12.096		
12,050.0	12,001.6	12,034.5	11,982.6	42.7	10.2	91.18	-614.3	-285.4	637.9	585.1	52.72	12.099		
12,075.0	12,020.0	12,060.1	12,001.7	42.8	10.2	90.87	-631.2	-286.0	639.3	586.5	52.83	12.101		
12,100.0	12,037.6	12,085.6	12,020.0	42.9	10.2	90.60	-649.1	-286.6	640.6	587.7	52.94	12.101		
12,125.0	12,054.1	12,111.2	12,037.3	43.0	10.3	90.35	-668.0	-287.1	641.9	588.8	53.05	12.099		
12,150.0	12,069.7	12,136.9	12,053.6	43.0	10.3	90.14	-687.8	-287.5	643.1	589.9	53.17	12.095		
12,175.0	12,084.2	12,162.5	12,068.7	43.1	10.3	89.94	-708.5	-287.9	644.2	590.9	53.29	12.089		
12,200.0	12,097.7	12,188.2	12,082.8	43.2	10.4	89.76	-730.0	-288.2	645.2	591.8	53.41	12.081		
12,225.0	12,110.0	12,213.9	12,095.7	43.3	10.4	89.60	-752.2	-288.5	646.1	592.6	53.53	12.071		
12,250.0	12,121.2	12,239.7	12,107.5	43.3	10.5	89.46	-775.1	-288.7	647.0	593.3	53.65	12.059		
12,275.0	12,131.2	12,265.4	12,117.9	43.4	10.5	89.34	-798.6	-288.9	647.7	593.9	53.78	12.044		
12,300.0	12,139.9	12,291.2	12,127.1	43.5	10.6	89.24	-822.7	-289.0	648.4	594.5	53.90	12.028		
12,325.0	12,147.5	12,317.0	12,135.0	43.5	10.6	89.14	-847.2	-289.0	648.9	594.9	54.03	12.009		
12,350.0	12,153.8	12,342.7	12,141.5	43.6	10.7	89.07	-872.2	-289.0	649.4	595.2	54.16	11.989		
12,375.0	12,158.8	12,368.5	12,146.7	43.7	10.8	89.01	-897.4	-288.9	649.7	595.4	54.29	11.967		
12,400.0	12,162.5	12,394.3	12,150.6	43.7	10.8	88.96	-922.9	-288.8	650.0	595.5	54.42	11.942		
12,425.0	12,164.9	12,420.1	12,153.0	43.8	10.9	88.93	-948.6	-288.6	650.1	595.5	54.55	11.917		
12,448.0	12,166.0	12,443.7	12,154.0	43.8	11.0	88.91	-972.2	-288.4	650.1	595.5	54.67	11.891		
12,500.0	12,167.2	12,495.8	12,155.2	43.9	11.2	88.91	-1,024.2	-287.8	650.1	595.2	54.95	11.831		
12,600.0	12,169.5	12,595.8	12,157.6	44.1	11.6	88.91	-1,124.2	-286.8	650.1	594.6	55.54	11.705		
12,700.0	12,171.8	12,695.8	12,159.9	44.3	12.0	88.91	-1,224.1	-285.7	650.1	593.9	56.20	11.568		
12,800.0	12,174.0	12,795.8	12,162.2	44.6	12.5	88.92	-1,324.1	-284.6	650.1	593.2	56.92	11.422		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,900.0	12,176.3	12,895.8	12,164.5	44.8	13.0	88.92	-1,424.1	-283.6	650.1	592.4	57.69	11.269	
13,000.0	12,178.6	12,995.8	12,166.8	45.1	13.6	88.92	-1,524.1	-282.5	650.1	591.6	58.51	11.111	
13,100.0	12,180.9	13,095.8	12,169.1	45.3	14.2	88.92	-1,624.0	-281.5	650.1	590.7	59.38	10.948	
13,200.0	12,183.2	13,195.8	12,171.4	45.6	14.8	88.92	-1,724.0	-280.4	650.1	589.8	60.29	10.783	
13,300.0	12,185.5	13,295.8	12,173.7	45.9	15.4	88.92	-1,824.0	-279.3	650.1	588.9	61.24	10.616	
13,400.0	12,187.8	13,395.8	12,176.0	46.2	16.1	88.93	-1,923.9	-278.3	650.1	587.9	62.22	10.449	
13,500.0	12,190.1	13,495.8	12,178.3	46.6	16.8	88.93	-2,023.9	-277.2	650.1	586.9	63.23	10.281	
13,600.0	12,192.3	13,595.8	12,180.6	46.9	17.5	88.93	-2,123.9	-276.1	650.1	585.8	64.28	10.114	
13,700.0	12,194.6	13,695.8	12,182.9	47.3	18.2	88.93	-2,223.8	-275.1	650.1	584.8	65.35	9.949	
13,800.0	12,196.9	13,795.8	12,185.2	47.7	18.9	88.93	-2,323.8	-274.0	650.1	583.7	66.44	9.784	
13,900.0	12,199.2	13,895.8	12,187.5	48.0	19.6	88.93	-2,423.8	-273.0	650.1	582.5	67.56	9.622	
14,000.0	12,201.5	13,995.8	12,189.8	48.4	20.4	88.93	-2,523.7	-271.9	650.1	581.4	68.71	9.462	
14,100.0	12,203.8	14,095.8	12,192.1	48.8	21.1	88.94	-2,623.7	-270.8	650.1	580.2	69.87	9.304	
14,200.0	12,206.1	14,195.8	12,194.4	49.3	21.9	88.94	-2,723.7	-269.8	650.1	579.0	71.05	9.149	
14,300.0	12,208.3	14,295.8	12,196.7	49.7	22.7	88.94	-2,823.6	-268.7	650.1	577.8	72.26	8.997	
14,400.0	12,210.6	14,395.8	12,199.0	50.1	23.5	88.94	-2,923.6	-267.6	650.1	576.6	73.48	8.848	
14,500.0	12,212.9	14,495.8	12,201.3	50.6	24.2	88.94	-3,023.6	-266.6	650.1	575.4	74.71	8.701	
14,600.0	12,215.2	14,595.8	12,203.6	51.1	25.0	88.94	-3,123.5	-265.5	650.1	574.1	75.96	8.558	
14,700.0	12,217.5	14,695.8	12,205.9	51.5	25.8	88.95	-3,223.5	-264.5	650.1	572.9	77.23	8.417	
14,800.0	12,219.8	14,795.8	12,208.2	52.0	26.6	88.95	-3,323.5	-263.4	650.1	571.6	78.51	8.280	
14,900.0	12,222.1	14,895.8	12,210.5	52.5	27.4	88.95	-3,423.4	-262.3	650.1	570.3	79.81	8.145	
14,994.4	12,224.2	14,990.1	12,212.7	53.0	28.2	88.95	-3,517.8	-261.3	650.1	569.0	81.04	8.021	
14,994.4	12,224.2	14,990.2	12,212.7	53.0	28.2	88.95	-3,517.8	-261.3	650.1	569.0	81.05	8.021	
14,998.7	12,224.3	14,994.9	12,212.8	53.0	28.2	88.95	-3,522.6	-261.3	650.1	569.0	81.11	8.015	
15,000.0	12,224.3	14,996.7	12,212.9	53.0	28.2	88.95	-3,524.3	-261.3	650.1	569.0	81.13	8.013	
15,100.0	12,226.6	15,096.7	12,215.2	53.5	29.0	88.95	-3,624.3	-260.0	650.1	567.6	82.45	7.885	
15,200.0	12,228.9	15,196.7	12,217.5	54.0	29.9	88.96	-3,724.3	-258.8	650.1	566.3	83.78	7.759	
15,300.0	12,231.2	15,296.7	12,219.8	54.6	30.7	88.96	-3,824.3	-257.6	650.1	565.0	85.13	7.636	
15,400.0	12,233.5	15,396.7	12,222.1	55.1	31.5	88.96	-3,924.2	-256.4	650.1	563.6	86.49	7.517	
15,500.0	12,235.8	15,496.7	12,224.4	55.7	32.3	88.97	-4,024.2	-255.2	650.1	562.2	87.85	7.400	
15,600.0	12,238.0	15,596.7	12,226.7	56.2	33.1	88.97	-4,124.2	-254.0	650.1	560.9	89.23	7.285	
15,700.0	12,240.3	15,696.7	12,229.0	56.8	34.0	88.97	-4,224.1	-252.8	650.1	559.5	90.62	7.174	
15,800.0	12,242.6	15,796.7	12,231.3	57.3	34.8	88.97	-4,324.1	-251.6	650.1	558.1	92.01	7.065	
15,900.0	12,244.9	15,896.7	12,233.7	57.9	35.6	88.98	-4,424.1	-250.3	650.1	556.7	93.42	6.959	
16,000.0	12,247.2	15,996.7	12,236.0	58.5	36.4	88.98	-4,524.0	-249.1	650.1	555.2	94.83	6.855	
16,100.0	12,249.4	16,096.7	12,238.3	59.1	37.3	88.98	-4,624.0	-247.9	650.1	553.8	96.26	6.753	
16,200.0	12,251.7	16,196.7	12,240.6	59.7	38.1	88.98	-4,724.0	-246.7	650.1	552.4	97.69	6.655	
16,300.0	12,254.0	16,296.7	12,242.9	60.3	38.9	88.99	-4,823.9	-245.5	650.1	550.9	99.13	6.558	
16,400.0	12,256.3	16,396.7	12,245.2	60.9	39.8	88.99	-4,923.9	-244.3	650.1	549.5	100.57	6.464	
16,500.0	12,258.6	16,496.7	12,247.5	61.5	40.6	88.99	-5,023.9	-243.1	650.1	548.0	102.03	6.372	
16,600.0	12,260.9	16,596.7	12,249.8	62.2	41.4	88.99	-5,123.8	-241.9	650.1	546.6	103.49	6.282	
16,700.0	12,263.1	16,696.7	12,252.2	62.8	42.3	89.00	-5,223.8	-240.6	650.1	545.1	104.96	6.194	
16,800.0	12,265.4	16,796.7	12,254.5	63.4	43.1	89.00	-5,323.8	-239.4	650.1	543.6	106.43	6.108	
16,900.0	12,267.7	16,896.7	12,256.8	64.1	44.0	89.00	-5,423.7	-238.2	650.1	542.1	107.91	6.024	
17,000.0	12,270.0	16,996.7	12,259.1	64.7	44.8	89.00	-5,523.7	-237.0	650.1	540.7	109.40	5.942	
17,100.0	12,272.3	17,096.7	12,261.4	65.3	45.7	89.01	-5,623.7	-235.8	650.1	539.2	110.89	5.862	
17,200.0	12,274.5	17,196.7	12,263.7	66.0	46.5	89.01	-5,723.6	-234.6	650.1	537.7	112.39	5.784	
17,300.0	12,276.8	17,296.7	12,266.0	66.7	47.3	89.01	-5,823.6	-233.4	650.1	536.2	113.89	5.708	
17,400.0	12,279.1	17,396.7	12,268.3	67.3	48.2	89.01	-5,923.6	-232.2	650.1	534.7	115.40	5.633	
17,500.0	12,281.4	17,496.7	12,270.6	68.0	49.0	89.02	-6,023.5	-231.0	650.0	533.1	116.91	5.560	
17,600.0	12,283.7	17,596.7	12,273.0	68.7	49.9	89.02	-6,123.5	-229.7	650.0	531.6	118.43	5.489	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,700.0	12,286.0	17,696.7	12,275.3	69.3	50.7	89.02	-6,223.5	-228.5	650.0	530.1	119.96	5.419	
17,800.0	12,288.2	17,796.7	12,277.6	70.0	51.6	89.02	-6,323.4	-227.3	650.0	528.6	121.49	5.351	
17,900.0	12,290.5	17,896.7	12,279.9	70.7	52.4	89.03	-6,423.4	-226.1	650.0	527.0	123.02	5.284	
18,000.0	12,292.8	17,996.7	12,282.2	71.4	53.3	89.03	-6,523.4	-224.9	650.0	525.5	124.56	5.219	
18,100.0	12,295.1	18,096.7	12,284.5	72.1	54.1	89.03	-6,623.3	-223.7	650.0	523.9	126.10	5.155	
18,200.0	12,297.4	18,196.7	12,286.8	72.8	55.0	89.03	-6,723.3	-222.5	650.0	522.4	127.64	5.093	
18,300.0	12,299.7	18,296.7	12,289.1	73.5	55.8	89.04	-6,823.3	-221.3	650.0	520.8	129.19	5.031	
18,400.0	12,301.9	18,396.7	12,291.4	74.2	56.7	89.04	-6,923.2	-220.0	650.0	519.3	130.75	4.972	
18,500.0	12,304.2	18,496.7	12,293.8	74.9	57.5	89.04	-7,023.2	-218.8	650.0	517.7	132.31	4.913	
18,600.0	12,306.5	18,596.7	12,296.1	75.6	58.4	89.04	-7,123.2	-217.6	650.0	516.2	133.87	4.856	
18,700.0	12,308.8	18,696.7	12,298.4	76.3	59.2	89.05	-7,223.1	-216.4	650.0	514.6	135.43	4.800	
18,800.0	12,311.1	18,796.7	12,300.7	77.0	60.1	89.05	-7,323.1	-215.2	650.0	513.0	137.00	4.745	
18,900.0	12,313.3	18,896.7	12,303.0	77.8	60.9	89.05	-7,423.1	-214.0	650.0	511.5	138.57	4.691	
19,000.0	12,315.6	18,996.7	12,305.3	78.5	61.8	89.06	-7,523.0	-212.8	650.0	509.9	140.15	4.638	
19,100.0	12,317.9	19,096.7	12,307.6	79.2	62.6	89.06	-7,623.0	-211.6	650.0	508.3	141.73	4.586	
19,200.0	12,320.2	19,196.7	12,309.9	79.9	63.5	89.06	-7,723.0	-210.3	650.0	506.7	143.31	4.536	
19,300.0	12,322.5	19,296.7	12,312.2	80.7	64.3	89.06	-7,822.9	-209.1	650.0	505.1	144.89	4.486	
19,400.0	12,324.8	19,396.7	12,314.6	81.4	65.2	89.07	-7,922.9	-207.9	650.0	503.5	146.48	4.438	
19,500.0	12,327.0	19,496.7	12,316.9	82.1	66.0	89.07	-8,022.8	-206.7	650.0	501.9	148.07	4.390	
19,600.0	12,329.3	19,596.7	12,319.2	82.9	66.9	89.07	-8,122.8	-205.5	650.0	500.4	149.66	4.343	
19,700.0	12,331.6	19,696.7	12,321.5	83.6	67.8	89.07	-8,222.8	-204.3	650.0	498.8	151.26	4.297	
19,800.0	12,333.9	19,796.7	12,323.8	84.3	68.6	89.08	-8,322.7	-203.1	650.0	497.2	152.85	4.252	
19,900.0	12,336.2	19,896.7	12,326.1	85.1	69.5	89.08	-8,422.7	-201.9	650.0	495.6	154.46	4.208	
20,000.0	12,338.4	19,996.7	12,328.4	85.8	70.3	89.08	-8,522.7	-200.6	650.0	493.9	156.06	4.165	
20,100.0	12,340.7	20,096.7	12,330.7	86.6	71.2	89.08	-8,622.6	-199.4	650.0	492.3	157.66	4.123	
20,200.0	12,343.0	20,196.7	12,333.0	87.3	72.0	89.09	-8,722.6	-198.2	650.0	490.7	159.27	4.081	
20,283.6	12,344.9	20,280.4	12,335.0	88.0	72.7	89.09	-8,806.2	-197.2	650.0	489.4	160.62	4.047	
20,287.2	12,345.0	20,281.4	12,335.0	88.0	72.8	89.09	-8,807.2	-197.2	650.0	489.4	160.64	4.046	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11727-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	1.0	1.0	3.0	3.0	-90.48	-0.5	-59.9	59.9				
100.0	100.0	101.0	101.0	3.0	3.0	-90.48	-0.5	-59.9	59.9	53.9	6.00	9.979	
200.0	200.0	201.0	201.0	3.0	3.0	-90.48	-0.5	-59.9	59.9	53.9	6.04	9.917	
300.0	300.0	301.0	301.0	3.1	3.0	-90.48	-0.5	-59.9	59.9	53.8	6.12	9.787	
400.0	400.0	401.0	401.0	3.2	3.0	-90.48	-0.5	-59.9	59.9	53.7	6.24	9.599	
500.0	500.0	501.0	501.0	3.4	3.1	-90.48	-0.5	-59.9	59.9	53.5	6.40	9.365	
600.0	600.0	601.0	601.0	3.6	3.1	-90.48	-0.5	-59.9	59.9	53.3	6.58	9.098	
700.0	700.0	701.0	701.0	3.8	3.1	-90.48	-0.5	-59.9	59.9	53.1	6.80	8.811	
800.0	800.0	801.0	801.0	4.0	3.2	-90.48	-0.5	-59.9	59.9	52.9	7.04	8.513	
900.0	900.0	901.0	901.0	4.2	3.2	-90.48	-0.5	-59.9	59.9	52.6	7.29	8.212	
1,000.0	1,000.0	1,001.0	1,001.0	4.5	3.2	-90.48	-0.5	-59.9	59.9	52.3	7.57	7.915	
1,100.0	1,100.0	1,101.0	1,101.0	4.8	3.3	-90.48	-0.5	-59.9	59.9	52.0	7.86	7.624	
1,200.0	1,200.0	1,201.0	1,201.0	5.1	3.4	-90.48	-0.5	-59.9	59.9	51.7	8.16	7.343	
1,300.0	1,300.0	1,301.0	1,301.0	5.3	3.4	-90.48	-0.5	-59.9	59.9	51.4	8.47	7.073	
1,400.0	1,400.0	1,401.0	1,401.0	5.6	3.5	-90.48	-0.5	-59.9	59.9	51.1	8.79	6.815	
1,500.0	1,500.0	1,501.0	1,501.0	6.0	3.5	-90.48	-0.5	-59.9	59.9	50.8	9.12	6.570	
1,600.0	1,600.0	1,601.0	1,601.0	6.3	3.6	-90.48	-0.5	-59.9	59.9	50.4	9.45	6.337	
1,700.0	1,700.0	1,701.0	1,701.0	6.6	3.7	-90.48	-0.5	-59.9	59.9	50.1	9.79	6.116	
1,800.0	1,800.0	1,801.0	1,801.0	6.9	3.8	-90.48	-0.5	-59.9	59.9	49.8	10.14	5.907	
1,900.0	1,900.0	1,901.0	1,901.0	7.2	3.9	-90.48	-0.5	-59.9	59.9	49.4	10.49	5.709	
2,000.0	2,000.0	2,001.0	2,001.0	7.6	3.9	-90.48	-0.5	-59.9	59.9	49.1	10.85	5.522	
2,100.0	2,100.0	2,101.0	2,101.0	7.9	4.0	-90.48	-0.5	-59.9	59.9	48.7	11.21	5.345	
2,200.0	2,200.0	2,201.0	2,201.0	8.2	4.1	-90.48	-0.5	-59.9	59.9	48.3	11.57	5.177	
2,300.0	2,300.0	2,301.0	2,301.0	8.6	4.2	-90.48	-0.5	-59.9	59.9	48.0	11.94	5.018	
2,400.0	2,400.0	2,401.0	2,401.0	8.9	4.3	-90.48	-0.5	-59.9	59.9	47.6	12.31	4.868	
2,416.3	2,416.3	2,417.3	2,417.3	8.9	4.3	-90.48	-0.5	-59.9	59.9	47.5	12.37	4.844 CC	
2,500.0	2,500.0	2,501.0	2,501.0	9.2	4.4	-90.48	-0.5	-59.9	59.9	47.2	12.68	4.725 ES, SF	
2,600.0	2,600.0	2,600.0	2,600.0	9.6	4.4	124.29	-1.4	-61.4	62.4	49.4	13.04	4.786	
2,689.6	2,689.4	2,686.8	2,686.6	9.8	4.4	125.36	-3.6	-65.1	68.8	55.4	13.34	5.157	
2,700.0	2,699.8	2,696.9	2,696.8	9.9	4.4	125.51	-4.0	-65.7	69.8	56.4	13.37	5.217	
2,800.0	2,799.6	2,794.2	2,793.7	10.2	4.4	126.08	-8.2	-72.9	80.9	67.1	13.71	5.897	
2,900.0	2,899.4	2,892.9	2,891.8	10.5	4.4	125.75	-13.7	-82.0	93.9	79.8	14.06	6.674	
3,000.0	2,999.2	2,992.0	2,990.3	10.8	4.4	125.48	-19.3	-91.3	106.9	92.5	14.43	7.411	
3,100.0	3,099.0	3,091.1	3,088.9	11.1	4.5	125.27	-24.8	-100.6	120.0	105.2	14.80	8.109	
3,200.0	3,198.7	3,190.3	3,187.4	11.5	4.5	125.10	-30.4	-109.9	133.1	117.9	15.17	8.769	
3,300.0	3,298.5	3,289.4	3,286.0	11.8	4.5	124.96	-35.9	-119.2	146.1	130.6	15.55	9.395	
3,400.0	3,398.3	3,388.6	3,384.5	12.1	4.5	124.84	-41.5	-128.5	159.2	143.3	15.94	9.988	
3,500.0	3,498.1	3,487.7	3,483.1	12.5	4.6	124.75	-47.0	-137.8	172.3	155.9	16.33	10.550	
3,600.0	3,597.9	3,586.9	3,581.6	12.8	4.6	124.66	-52.6	-147.1	185.3	168.6	16.72	11.083	
3,700.0	3,697.7	3,686.0	3,680.2	13.1	4.6	124.59	-58.1	-156.4	198.4	181.3	17.12	11.588	
3,800.0	3,797.4	3,785.1	3,778.7	13.5	4.7	124.52	-63.7	-165.7	211.5	194.0	17.52	12.068	
3,900.0	3,897.2	3,884.3	3,877.3	13.8	4.7	124.47	-69.2	-175.0	224.6	206.6	17.93	12.524	
4,000.0	3,997.0	3,983.4	3,975.8	14.1	4.8	124.42	-74.8	-184.2	237.6	219.3	18.34	12.957	
4,100.0	4,096.8	4,082.6	4,074.4	14.5	4.8	124.37	-80.3	-193.5	250.7	232.0	18.75	13.369	
4,200.0	4,196.6	4,181.7	4,172.9	14.8	4.9	124.33	-85.9	-202.8	263.8	244.6	19.17	13.761	
4,300.0	4,296.3	4,280.8	4,271.5	15.2	4.9	124.29	-91.4	-212.1	276.8	257.3	19.59	14.134	
4,400.0	4,396.1	4,380.0	4,370.0	15.5	5.0	124.26	-97.0	-221.4	289.9	269.9	20.01	14.490	
4,500.0	4,495.9	4,479.1	4,468.5	15.8	5.1	124.23	-102.5	-230.7	303.0	282.6	20.43	14.828	
4,600.0	4,495.7	4,578.3	4,567.1	16.2	5.1	124.20	-108.1	-240.0	316.1	295.2	20.86	15.152	
4,700.0	4,695.5	4,677.4	4,665.6	16.5	5.2	124.17	-113.6	-249.3	329.1	307.9	21.29	15.460	
4,800.0	4,795.2	4,776.6	4,764.2	16.9	5.3	124.15	-119.2	-258.6	342.2	320.5	21.72	15.755	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11727-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
4,900.0	4,895.0	4,875.7	4,862.7	17.2	5.3	124.13	-124.7	-267.9	355.3	333.1	22.16	16.036		
5,000.0	4,994.8	4,974.8	4,961.3	17.6	5.4	124.11	-130.3	-277.1	368.4	345.8	22.59	16.305		
5,100.0	5,094.6	5,074.0	5,059.8	17.9	5.5	124.09	-135.8	-286.4	381.4	358.4	23.03	16.563		
5,200.0	5,194.4	5,173.1	5,158.4	18.3	5.6	124.07	-141.4	-295.7	394.5	371.0	23.47	16.810		
5,300.0	5,294.1	5,272.3	5,256.9	18.6	5.7	124.05	-146.9	-305.0	407.6	383.7	23.91	17.046		
5,400.0	5,393.9	5,371.4	5,355.5	19.0	5.8	124.04	-152.5	-314.3	420.7	396.3	24.35	17.272		
5,500.0	5,493.7	5,470.5	5,454.0	19.3	5.9	124.02	-158.0	-323.6	433.7	408.9	24.80	17.490		
5,600.0	5,593.5	5,569.7	5,552.6	19.7	5.9	124.01	-163.6	-332.9	446.8	421.6	25.25	17.698		
5,700.0	5,693.3	5,668.8	5,651.1	20.0	6.0	124.00	-169.1	-342.2	459.9	434.2	25.69	17.898		
5,800.0	5,793.1	5,768.0	5,749.7	20.4	6.1	123.98	-174.7	-351.5	472.9	446.8	26.14	18.091		
5,900.0	5,892.8	5,867.1	5,848.2	20.7	6.2	123.97	-180.2	-360.8	486.0	459.4	26.59	18.275		
6,000.0	5,992.6	5,966.3	5,946.8	21.1	6.3	123.96	-185.8	-370.1	499.1	472.0	27.05	18.453		
6,100.0	6,092.4	6,065.4	6,045.3	21.4	6.4	123.95	-191.3	-379.3	512.2	484.7	27.50	18.624		
6,200.0	6,192.2	6,164.5	6,143.9	21.8	6.5	123.94	-196.9	-388.6	525.2	497.3	27.95	18.789		
6,300.0	6,292.0	6,263.7	6,242.4	22.1	6.6	123.93	-202.4	-397.9	538.3	509.9	28.41	18.948		
6,400.0	6,391.7	6,362.8	6,341.0	22.5	6.7	123.92	-208.0	-407.2	551.4	522.5	28.87	19.101		
6,500.0	6,491.5	6,462.0	6,439.5	22.8	6.8	123.91	-213.5	-416.5	564.5	535.1	29.33	19.248		
6,600.0	6,591.3	6,561.1	6,538.1	23.2	6.9	123.90	-219.1	-425.8	577.5	547.7	29.78	19.390		
6,700.0	6,691.1	6,660.2	6,636.6	23.5	7.0	123.90	-224.6	-435.1	590.6	560.4	30.24	19.527		
6,800.0	6,790.9	6,759.4	6,735.2	23.9	7.1	123.89	-230.2	-444.4	603.7	573.0	30.71	19.660		
6,900.0	6,890.6	6,858.5	6,833.7	24.3	7.2	123.88	-235.7	-453.7	616.8	585.6	31.17	19.788		
7,000.0	6,990.4	6,957.7	6,932.3	24.6	7.3	123.88	-241.3	-463.0	629.8	598.2	31.63	19.912		
7,100.0	7,090.2	7,056.8	7,030.8	25.0	7.4	123.87	-246.8	-472.2	642.9	610.8	32.10	20.031		
7,200.0	7,190.0	7,156.0	7,129.4	25.3	7.6	123.86	-252.4	-481.5	656.0	623.4	32.56	20.147		
7,300.0	7,289.8	7,255.1	7,227.9	25.7	7.7	123.86	-257.9	-490.8	669.0	636.0	33.03	20.258		
7,400.0	7,389.6	7,354.2	7,326.5	26.0	7.8	123.85	-263.5	-500.1	682.1	648.6	33.49	20.367		
7,500.0	7,489.3	7,453.4	7,425.0	26.4	7.9	123.84	-269.0	-509.4	695.2	661.2	33.96	20.471		
7,600.0	7,589.1	7,552.5	7,523.6	26.7	8.0	123.84	-274.6	-518.7	708.3	673.8	34.43	20.573		
7,700.0	7,688.9	7,651.7	7,622.1	27.1	8.1	123.83	-280.1	-528.0	721.3	686.4	34.90	20.671		
7,800.0	7,788.7	7,750.8	7,720.7	27.5	8.2	123.83	-285.7	-537.3	734.4	699.0	35.37	20.767		
7,900.0	7,888.5	7,849.9	7,819.2	27.8	8.3	123.82	-291.2	-546.6	747.5	711.7	35.84	20.859		
8,000.0	7,988.2	7,949.1	7,917.8	28.2	8.5	123.82	-296.8	-555.9	760.6	724.3	36.31	20.949		
8,100.0	8,088.0	8,048.2	8,016.3	28.5	8.6	123.81	-302.3	-565.1	773.6	736.9	36.78	21.035		
8,200.0	8,187.8	8,147.4	8,114.9	28.9	8.7	123.81	-307.9	-574.4	786.7	749.5	37.25	21.120		
8,300.0	8,287.6	8,246.5	8,213.4	29.2	8.8	123.81	-313.4	-583.7	799.8	762.1	37.72	21.202		

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

12/3/2020 8:57:30AM

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design PILEDRIVER FED & FIGURE FOUR FED PROJECT - PINTAIL 3 FED #2H - OWB - AWP													Offset Site Error:	3.0 usft
Survey Program: 100-GYRO-NS, 8986-MWD													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,200.0	9,185.6	12,107.7	9,532.7	32.5	56.5	-55.18	-389.4	919.8	782.9	703.6	79.27	9.876		
9,300.0	9,285.4	12,103.5	9,532.7	32.8	56.4	-54.82	-393.6	919.6	733.6	650.6	83.05	8.833		
9,400.0	9,385.2	12,099.5	9,532.6	33.2	56.4	-54.46	-397.7	919.5	695.3	608.9	86.41	8.046		
9,500.0	9,485.0	12,095.5	9,532.6	33.5	56.3	-54.12	-401.6	919.3	669.8	580.9	88.92	7.533		
9,600.0	9,584.7	12,091.8	9,532.5	33.9	56.3	-53.79	-405.4	919.2	658.7	568.5	90.13	7.308		
9,624.2	9,608.8	12,090.9	9,532.5	34.0	56.3	-53.72	-406.3	919.2	658.2	568.0	90.20	7.297	CC, ES, SF	
9,700.0	9,684.5	12,088.1	9,532.4	34.3	56.2	-53.48	-409.0	919.1	662.6	572.7	89.85	7.374		
9,800.0	9,784.3	12,084.6	9,532.4	34.6	56.2	-53.17	-412.6	919.0	681.3	593.1	88.15	7.729		
9,900.0	9,884.1	12,081.2	9,532.3	35.0	56.1	-52.87	-416.0	918.8	713.6	628.2	85.40	8.356		
10,000.0	9,983.9	12,077.9	9,532.3	35.3	56.1	-52.59	-419.3	918.7	757.8	675.8	82.07	9.234		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design PILEDRIVER FED & FIGURE FOUR FED PROJECT - PINTAIL 3 FED SWD - OWB - OWB												Offset Site Error:	3.0 usft
Survey Program: 218-INC-ONLY, 1175-MWD												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,400.0	6,391.7	6,377.1	6,374.1	22.5	54.7	44.51	-995.2	0.9	799.8	729.2	70.66	11.320	
6,500.0	6,491.5	6,479.2	6,476.2	22.8	55.2	44.86	-994.5	0.9	794.5	722.9	71.53	11.107	
6,600.0	6,591.3	6,563.0	6,560.0	23.2	55.6	45.15	-993.7	0.9	789.1	716.7	72.33	10.910	
6,627.1	6,618.3	6,563.0	6,560.0	23.3	55.6	45.15	-993.7	0.9	788.6	716.2	72.39	10.894	CC, ES, SF
6,700.0	6,691.1	6,563.0	6,560.0	23.5	55.6	45.15	-993.7	0.9	792.0	719.8	72.18	10.972	

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

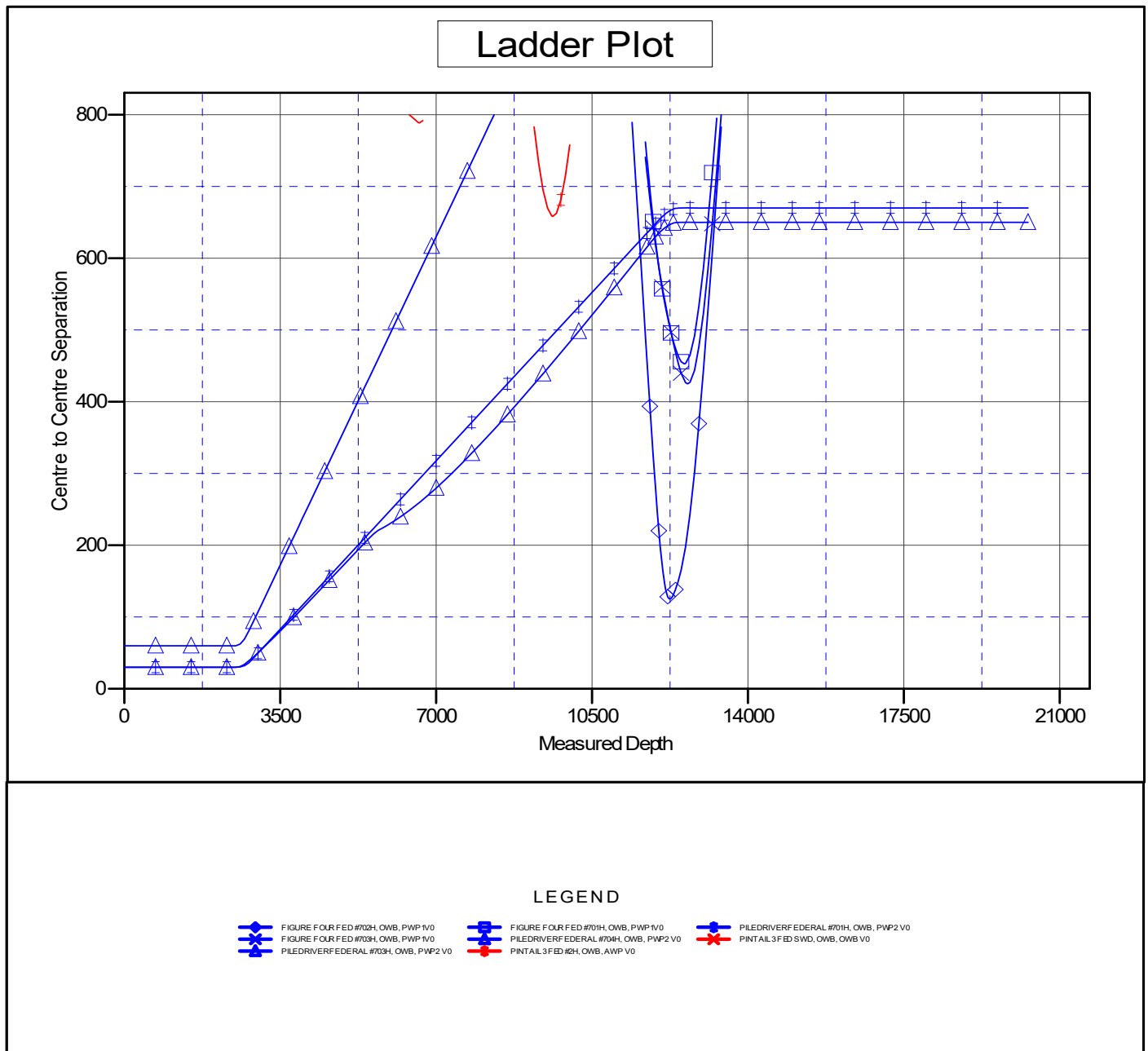
Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to *KB=30' @ 3314.6usft (TBD)
 Offset Depths are relative to Offset Datum
 Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PILEDRIVER FEDERAL #702H
 Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
 Grid Convergence at Surface is: 0.36°



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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #702H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Reference Depths are relative to *KB=30' @ 3314.6usft (TBD)

Offset Depths are relative to Offset Datum

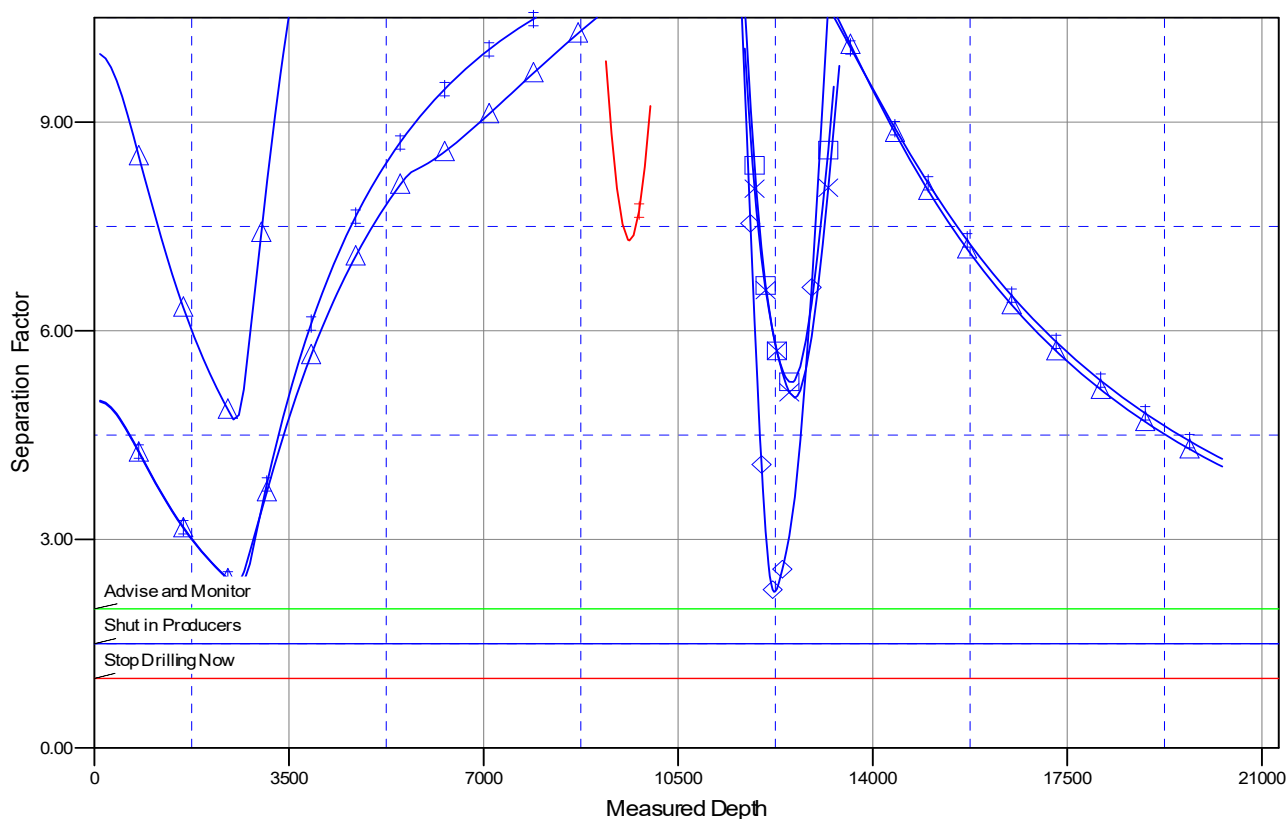
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PILEDRIVER FEDERAL #702H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.36°

Separation Factor Plot



LEGEND

- FIGURE FOUR FED #702H, OWB, PWP1 V0
- FIGURE FOUR FED #703H, OWB, PWP1 V0
- PILEDRIVER FEDERAL #703H, OWB, PWP2 V0
- FIGURE FOUR FED #704H, OWB, PWP1 V0
- PILEDRIVER FEDERAL #704H, OWB, PWP2 V0
- PINTAIL 3 FED #2H, OWB, AWP V0
- PILEDRIVER FEDERAL #701H, OWB, PWP2 V0
- PINTAIL 3 FED #2H, OWB, OWB V0

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)

PILEDRIIVER FED & FIGURE FOUR FED PROJECT

PILEDRIIVER FEDERAL #702H

OWB

Plan: PWP2

Standard Survey Report

03 December, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Well:	PILEDRIVER FEDERAL #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP2	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		

Well	PILEDRIVER FEDERAL #702H			
Well Position	+N/-S	0.0 usft	Northing:	391,487.00 usft
	+E/-W	0.0 usft	Easting:	709,126.30 usft
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft
			Latitude:	32° 4' 28.253 N
			Longitude:	103° 39' 29.452 W
			Ground Level:	3,284.6 usft

Wellbore	OWB
-----------------	-----

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	12/3/2020	6.64	59.77	47,452.63724081

Design	PWP2
---------------	------

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	177.06

Survey Tool Program		Date	12/3/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	20,287.1	PWP2 (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
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

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Well:	PILEDRIVER FEDERAL #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP2	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)
1,500.0	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	145.71	2,600.0	-1.4	1.0	1.5	2.00	2.00	0.00
2,689.6	3.79	145.71	2,689.4	-5.2	3.5	5.4	2.00	2.00	0.00
Start 9045.6 hold at 2689.6 MD									
2,700.0	3.79	145.71	2,699.8	-5.8	3.9	5.9	0.00	0.00	0.00
2,800.0	3.79	145.71	2,799.6	-11.2	7.6	11.6	0.00	0.00	0.00
2,900.0	3.79	145.71	2,899.4	-16.7	11.4	17.2	0.00	0.00	0.00
3,000.0	3.79	145.71	2,999.2	-22.1	15.1	22.9	0.00	0.00	0.00
3,100.0	3.79	145.71	3,099.0	-27.6	18.8	28.5	0.00	0.00	0.00
3,200.0	3.79	145.71	3,198.7	-33.1	22.5	34.2	0.00	0.00	0.00
3,300.0	3.79	145.71	3,298.5	-38.5	26.3	39.8	0.00	0.00	0.00
3,400.0	3.79	145.71	3,398.3	-44.0	30.0	45.5	0.00	0.00	0.00
3,500.0	3.79	145.71	3,498.1	-49.5	33.7	51.1	0.00	0.00	0.00
3,600.0	3.79	145.71	3,597.9	-54.9	37.4	56.8	0.00	0.00	0.00
3,700.0	3.79	145.71	3,697.7	-60.4	41.2	62.4	0.00	0.00	0.00
3,800.0	3.79	145.71	3,797.4	-65.8	44.9	68.1	0.00	0.00	0.00
3,900.0	3.79	145.71	3,897.2	-71.3	48.6	73.7	0.00	0.00	0.00
4,000.0	3.79	145.71	3,997.0	-76.8	52.3	79.4	0.00	0.00	0.00
4,100.0	3.79	145.71	4,096.8	-82.2	56.1	85.0	0.00	0.00	0.00
4,200.0	3.79	145.71	4,196.6	-87.7	59.8	90.7	0.00	0.00	0.00
4,300.0	3.79	145.71	4,296.3	-93.2	63.5	96.3	0.00	0.00	0.00
4,400.0	3.79	145.71	4,396.1	-98.6	67.2	101.9	0.00	0.00	0.00
4,500.0	3.79	145.71	4,495.9	-104.1	71.0	107.6	0.00	0.00	0.00
4,600.0	3.79	145.71	4,595.7	-109.6	74.7	113.2	0.00	0.00	0.00
4,700.0	3.79	145.71	4,695.5	-115.0	78.4	118.9	0.00	0.00	0.00
4,800.0	3.79	145.71	4,795.2	-120.5	82.1	124.5	0.00	0.00	0.00
4,900.0	3.79	145.71	4,895.0	-125.9	85.9	130.2	0.00	0.00	0.00
5,000.0	3.79	145.71	4,994.8	-131.4	89.6	135.8	0.00	0.00	0.00
5,100.0	3.79	145.71	5,094.6	-136.9	93.3	141.5	0.00	0.00	0.00
5,200.0	3.79	145.71	5,194.4	-142.3	97.0	147.1	0.00	0.00	0.00
5,300.0	3.79	145.71	5,294.1	-147.8	100.8	152.8	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Well:	PILEDRIVER FEDERAL #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP2	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)
5,400.0	3.79	145.71	5,393.9	-153.3	104.5	158.4	0.00	0.00	0.00
5,500.0	3.79	145.71	5,493.7	-158.7	108.2	164.1	0.00	0.00	0.00
5,600.0	3.79	145.71	5,593.5	-164.2	111.9	169.7	0.00	0.00	0.00
5,700.0	3.79	145.71	5,693.3	-169.6	115.7	175.4	0.00	0.00	0.00
5,800.0	3.79	145.71	5,793.1	-175.1	119.4	181.0	0.00	0.00	0.00
5,900.0	3.79	145.71	5,892.8	-180.6	123.1	186.7	0.00	0.00	0.00
6,000.0	3.79	145.71	5,992.6	-186.0	126.8	192.3	0.00	0.00	0.00
6,100.0	3.79	145.71	6,092.4	-191.5	130.6	198.0	0.00	0.00	0.00
6,200.0	3.79	145.71	6,192.2	-197.0	134.3	203.6	0.00	0.00	0.00
6,300.0	3.79	145.71	6,292.0	-202.4	138.0	209.2	0.00	0.00	0.00
6,400.0	3.79	145.71	6,391.7	-207.9	141.7	214.9	0.00	0.00	0.00
6,500.0	3.79	145.71	6,491.5	-213.4	145.5	220.5	0.00	0.00	0.00
6,600.0	3.79	145.71	6,591.3	-218.8	149.2	226.2	0.00	0.00	0.00
6,700.0	3.79	145.71	6,691.1	-224.3	152.9	231.8	0.00	0.00	0.00
6,800.0	3.79	145.71	6,790.9	-229.7	156.6	237.5	0.00	0.00	0.00
6,900.0	3.79	145.71	6,890.6	-235.2	160.4	243.1	0.00	0.00	0.00
7,000.0	3.79	145.71	6,990.4	-240.7	164.1	248.8	0.00	0.00	0.00
7,100.0	3.79	145.71	7,090.2	-246.1	167.8	254.4	0.00	0.00	0.00
7,200.0	3.79	145.71	7,190.0	-251.6	171.5	260.1	0.00	0.00	0.00
7,300.0	3.79	145.71	7,289.8	-257.1	175.3	265.7	0.00	0.00	0.00
7,400.0	3.79	145.71	7,389.6	-262.5	179.0	271.4	0.00	0.00	0.00
7,500.0	3.79	145.71	7,489.3	-268.0	182.7	277.0	0.00	0.00	0.00
7,600.0	3.79	145.71	7,589.1	-273.5	186.4	282.7	0.00	0.00	0.00
7,700.0	3.79	145.71	7,688.9	-278.9	190.2	288.3	0.00	0.00	0.00
7,800.0	3.79	145.71	7,788.7	-284.4	193.9	294.0	0.00	0.00	0.00
7,900.0	3.79	145.71	7,888.5	-289.8	197.6	299.6	0.00	0.00	0.00
8,000.0	3.79	145.71	7,988.2	-295.3	201.3	305.3	0.00	0.00	0.00
8,100.0	3.79	145.71	8,088.0	-300.8	205.1	310.9	0.00	0.00	0.00
8,200.0	3.79	145.71	8,187.8	-306.2	208.8	316.6	0.00	0.00	0.00
8,300.0	3.79	145.71	8,287.6	-311.7	212.5	322.2	0.00	0.00	0.00
8,400.0	3.79	145.71	8,387.4	-317.2	216.2	327.8	0.00	0.00	0.00
8,500.0	3.79	145.71	8,487.1	-322.6	220.0	333.5	0.00	0.00	0.00
8,600.0	3.79	145.71	8,586.9	-328.1	223.7	339.1	0.00	0.00	0.00
8,700.0	3.79	145.71	8,686.7	-333.5	227.4	344.8	0.00	0.00	0.00
8,800.0	3.79	145.71	8,786.5	-339.0	231.1	350.4	0.00	0.00	0.00
8,900.0	3.79	145.71	8,886.3	-344.5	234.9	356.1	0.00	0.00	0.00
9,000.0	3.79	145.71	8,986.1	-349.9	238.6	361.7	0.00	0.00	0.00
9,100.0	3.79	145.71	9,085.8	-355.4	242.3	367.4	0.00	0.00	0.00
9,200.0	3.79	145.71	9,185.6	-360.9	246.0	373.0	0.00	0.00	0.00
9,300.0	3.79	145.71	9,285.4	-366.3	249.8	378.7	0.00	0.00	0.00
9,400.0	3.79	145.71	9,385.2	-371.8	253.5	384.3	0.00	0.00	0.00
9,500.0	3.79	145.71	9,485.0	-377.3	257.2	390.0	0.00	0.00	0.00
9,600.0	3.79	145.71	9,584.7	-382.7	260.9	395.6	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Well:	PILEDRIVER FEDERAL #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP2	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)
9,700.0	3.79	145.71	9,684.5	-388.2	264.7	401.3	0.00	0.00	0.00
9,800.0	3.79	145.71	9,784.3	-393.6	268.4	406.9	0.00	0.00	0.00
9,900.0	3.79	145.71	9,884.1	-399.1	272.1	412.6	0.00	0.00	0.00
10,000.0	3.79	145.71	9,983.9	-404.6	275.8	418.2	0.00	0.00	0.00
10,100.0	3.79	145.71	10,083.6	-410.0	279.6	423.9	0.00	0.00	0.00
10,200.0	3.79	145.71	10,183.4	-415.5	283.3	429.5	0.00	0.00	0.00
10,300.0	3.79	145.71	10,283.2	-421.0	287.0	435.1	0.00	0.00	0.00
10,400.0	3.79	145.71	10,383.0	-426.4	290.7	440.8	0.00	0.00	0.00
10,500.0	3.79	145.71	10,482.8	-431.9	294.5	446.4	0.00	0.00	0.00
10,600.0	3.79	145.71	10,582.5	-437.3	298.2	452.1	0.00	0.00	0.00
10,700.0	3.79	145.71	10,682.3	-442.8	301.9	457.7	0.00	0.00	0.00
10,800.0	3.79	145.71	10,782.1	-448.3	305.6	463.4	0.00	0.00	0.00
10,900.0	3.79	145.71	10,881.9	-453.7	309.4	469.0	0.00	0.00	0.00
11,000.0	3.79	145.71	10,981.7	-459.2	313.1	474.7	0.00	0.00	0.00
11,100.0	3.79	145.71	11,081.5	-464.7	316.8	480.3	0.00	0.00	0.00
11,200.0	3.79	145.71	11,181.2	-470.1	320.5	486.0	0.00	0.00	0.00
11,300.0	3.79	145.71	11,281.0	-475.6	324.3	491.6	0.00	0.00	0.00
11,400.0	3.79	145.71	11,380.8	-481.1	328.0	497.3	0.00	0.00	0.00
11,500.0	3.79	145.71	11,480.6	-486.5	331.7	502.9	0.00	0.00	0.00
11,600.0	3.79	145.71	11,580.4	-492.0	335.4	508.6	0.00	0.00	0.00
11,700.0	3.79	145.71	11,680.1	-497.4	339.2	514.2	0.00	0.00	0.00
11,735.2	3.79	145.71	11,715.2	-499.4	340.5	516.2	0.00	0.00	0.00
Start DLS 12.00 TFO 33.78									
11,800.0	11.13	168.66	11,779.5	-507.3	342.9	524.2	12.00	11.32	35.39
11,900.0	23.03	174.47	11,874.9	-536.3	346.7	553.4	12.00	11.89	5.81
12,000.0	34.99	176.43	11,962.2	-584.6	350.4	601.8	12.00	11.96	1.95
12,100.0	46.97	177.47	12,037.6	-649.9	353.8	667.3	12.00	11.98	1.04
12,200.0	58.96	178.17	12,097.7	-729.6	356.8	746.9	12.00	11.99	0.70
12,300.0	70.95	178.71	12,139.9	-820.0	359.2	837.3	12.00	11.99	0.54
12,400.0	82.94	179.18	12,162.5	-917.2	361.0	934.5	12.00	11.99	0.47
12,448.0	88.69	179.39	12,166.0	-965.0	361.6	982.3	12.00	11.99	0.44
Start 2546.4 hold at 12448.0 MD									
12,500.0	88.69	179.39	12,167.2	-1,017.0	362.2	1,034.3	0.00	0.00	0.00
12,600.0	88.69	179.39	12,169.5	-1,117.0	363.2	1,134.2	0.00	0.00	0.00
12,700.0	88.69	179.39	12,171.8	-1,217.0	364.3	1,234.1	0.00	0.00	0.00
12,800.0	88.69	179.39	12,174.0	-1,316.9	365.3	1,334.0	0.00	0.00	0.00
12,900.0	88.69	179.39	12,176.3	-1,416.9	366.4	1,433.8	0.00	0.00	0.00
13,000.0	88.69	179.39	12,178.6	-1,516.9	367.5	1,533.7	0.00	0.00	0.00
13,100.0	88.69	179.39	12,180.9	-1,616.8	368.5	1,633.6	0.00	0.00	0.00
13,200.0	88.69	179.39	12,183.2	-1,716.8	369.6	1,733.5	0.00	0.00	0.00
13,300.0	88.69	179.39	12,185.5	-1,816.8	370.6	1,833.4	0.00	0.00	0.00
13,400.0	88.69	179.39	12,187.8	-1,916.7	371.7	1,933.3	0.00	0.00	0.00
13,500.0	88.69	179.39	12,190.1	-2,016.7	372.8	2,033.2	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Well:	PILEDRIVER FEDERAL #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP2	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)
13,600.0	88.69	179.39	12,192.3	-2,116.7	373.8	2,133.1	0.00	0.00	0.00
13,700.0	88.69	179.39	12,194.6	-2,216.6	374.9	2,233.0	0.00	0.00	0.00
13,800.0	88.69	179.39	12,196.9	-2,316.6	375.9	2,332.9	0.00	0.00	0.00
13,900.0	88.69	179.39	12,199.2	-2,416.6	377.0	2,432.8	0.00	0.00	0.00
14,000.0	88.69	179.39	12,201.5	-2,516.5	378.1	2,532.6	0.00	0.00	0.00
14,100.0	88.69	179.39	12,203.8	-2,616.5	379.1	2,632.5	0.00	0.00	0.00
14,200.0	88.69	179.39	12,206.1	-2,716.5	380.2	2,732.4	0.00	0.00	0.00
14,300.0	88.69	179.39	12,208.3	-2,816.4	381.2	2,832.3	0.00	0.00	0.00
14,400.0	88.69	179.39	12,210.6	-2,916.4	382.3	2,932.2	0.00	0.00	0.00
14,500.0	88.69	179.39	12,212.9	-3,016.4	383.4	3,032.1	0.00	0.00	0.00
14,600.0	88.69	179.39	12,215.2	-3,116.4	384.4	3,132.0	0.00	0.00	0.00
14,700.0	88.69	179.39	12,217.5	-3,216.3	385.5	3,231.9	0.00	0.00	0.00
14,800.0	88.69	179.39	12,219.8	-3,316.3	386.6	3,331.8	0.00	0.00	0.00
14,900.0	88.69	179.39	12,222.1	-3,416.3	387.6	3,431.7	0.00	0.00	0.00
14,994.4	88.69	179.39	12,224.2	-3,510.6	388.6	3,525.9	0.00	0.00	0.00
Start DLS 2.00 TFO -88.41									
14,998.7	88.69	179.31	12,224.3	-3,514.9	388.7	3,530.2	2.00	0.06	-2.00
Start 5288.6 hold at 14998.7 MD									
15,000.0	88.69	179.31	12,224.3	-3,516.2	388.7	3,531.5	0.00	0.00	0.00
15,100.0	88.69	179.31	12,226.6	-3,616.2	389.9	3,631.4	0.00	0.00	0.00
15,200.0	88.69	179.31	12,228.9	-3,716.2	391.1	3,731.3	0.00	0.00	0.00
15,300.0	88.69	179.31	12,231.2	-3,816.1	392.3	3,831.2	0.00	0.00	0.00
15,400.0	88.69	179.31	12,233.5	-3,916.1	393.5	3,931.1	0.00	0.00	0.00
15,500.0	88.69	179.31	12,235.8	-4,016.1	394.7	4,031.0	0.00	0.00	0.00
15,600.0	88.69	179.31	12,238.0	-4,116.0	395.9	4,130.9	0.00	0.00	0.00
15,700.0	88.69	179.31	12,240.3	-4,216.0	397.2	4,230.8	0.00	0.00	0.00
15,800.0	88.69	179.31	12,242.6	-4,316.0	398.4	4,330.7	0.00	0.00	0.00
15,900.0	88.69	179.31	12,244.9	-4,415.9	399.6	4,430.6	0.00	0.00	0.00
16,000.0	88.69	179.31	12,247.2	-4,515.9	400.8	4,530.5	0.00	0.00	0.00
16,100.0	88.69	179.31	12,249.4	-4,615.9	402.0	4,630.4	0.00	0.00	0.00
16,200.0	88.69	179.31	12,251.7	-4,715.8	403.2	4,730.3	0.00	0.00	0.00
16,300.0	88.69	179.31	12,254.0	-4,815.8	404.4	4,830.2	0.00	0.00	0.00
16,400.0	88.69	179.31	12,256.3	-4,915.8	405.6	4,930.1	0.00	0.00	0.00
16,500.0	88.69	179.31	12,258.6	-5,015.7	406.8	5,030.0	0.00	0.00	0.00
16,600.0	88.69	179.31	12,260.9	-5,115.7	408.1	5,129.9	0.00	0.00	0.00
16,700.0	88.69	179.31	12,263.1	-5,215.7	409.3	5,229.8	0.00	0.00	0.00
16,800.0	88.69	179.31	12,265.4	-5,315.6	410.5	5,329.7	0.00	0.00	0.00
16,900.0	88.69	179.31	12,267.7	-5,415.6	411.7	5,429.6	0.00	0.00	0.00
17,000.0	88.69	179.31	12,270.0	-5,515.6	412.9	5,529.5	0.00	0.00	0.00
17,100.0	88.69	179.31	12,272.3	-5,615.5	414.1	5,629.4	0.00	0.00	0.00
17,200.0	88.69	179.31	12,274.5	-5,715.5	415.3	5,729.3	0.00	0.00	0.00
17,300.0	88.69	179.31	12,276.8	-5,815.5	416.5	5,829.2	0.00	0.00	0.00
17,400.0	88.69	179.31	12,279.1	-5,915.4	417.7	5,929.1	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Well:	PILEDRIVER FEDERAL #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP2	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	88.69	179.31	12,281.4	-6,015.4	418.9	6,029.0	0.00	0.00	0.00
17,600.0	88.69	179.31	12,283.7	-6,115.4	420.2	6,128.9	0.00	0.00	0.00
17,700.0	88.69	179.31	12,286.0	-6,215.3	421.4	6,228.8	0.00	0.00	0.00
17,800.0	88.69	179.31	12,288.2	-6,315.3	422.6	6,328.7	0.00	0.00	0.00
17,900.0	88.69	179.31	12,290.5	-6,415.3	423.8	6,428.6	0.00	0.00	0.00
18,000.0	88.69	179.31	12,292.8	-6,515.2	425.0	6,528.5	0.00	0.00	0.00
18,100.0	88.69	179.31	12,295.1	-6,615.2	426.2	6,628.4	0.00	0.00	0.00
18,200.0	88.69	179.31	12,297.4	-6,715.2	427.4	6,728.2	0.00	0.00	0.00
18,300.0	88.69	179.31	12,299.7	-6,815.1	428.6	6,828.1	0.00	0.00	0.00
18,400.0	88.69	179.31	12,301.9	-6,915.1	429.8	6,928.0	0.00	0.00	0.00
18,500.0	88.69	179.31	12,304.2	-7,015.1	431.1	7,027.9	0.00	0.00	0.00
18,600.0	88.69	179.31	12,306.5	-7,115.0	432.3	7,127.8	0.00	0.00	0.00
18,700.0	88.69	179.31	12,308.8	-7,215.0	433.5	7,227.7	0.00	0.00	0.00
18,800.0	88.69	179.31	12,311.1	-7,315.0	434.7	7,327.6	0.00	0.00	0.00
18,900.0	88.69	179.31	12,313.3	-7,414.9	435.9	7,427.5	0.00	0.00	0.00
19,000.0	88.69	179.31	12,315.6	-7,514.9	437.1	7,527.4	0.00	0.00	0.00
19,100.0	88.69	179.31	12,317.9	-7,614.9	438.3	7,627.3	0.00	0.00	0.00
19,200.0	88.69	179.31	12,320.2	-7,714.8	439.5	7,727.2	0.00	0.00	0.00
19,300.0	88.69	179.31	12,322.5	-7,814.8	440.7	7,827.1	0.00	0.00	0.00
19,400.0	88.69	179.31	12,324.8	-7,914.8	442.0	7,927.0	0.00	0.00	0.00
19,500.0	88.69	179.31	12,327.0	-8,014.7	443.2	8,026.9	0.00	0.00	0.00
19,600.0	88.69	179.31	12,329.3	-8,114.7	444.4	8,126.8	0.00	0.00	0.00
19,700.0	88.69	179.31	12,331.6	-8,214.7	445.6	8,226.7	0.00	0.00	0.00
19,800.0	88.69	179.31	12,333.9	-8,314.6	446.8	8,326.6	0.00	0.00	0.00
19,900.0	88.69	179.31	12,336.2	-8,414.6	448.0	8,426.5	0.00	0.00	0.00
20,000.0	88.69	179.31	12,338.4	-8,514.6	449.2	8,526.4	0.00	0.00	0.00
20,100.0	88.69	179.31	12,340.7	-8,614.5	450.4	8,626.3	0.00	0.00	0.00
20,200.0	88.69	179.31	12,343.0	-8,714.5	451.6	8,726.2	0.00	0.00	0.00
20,287.2	88.69	179.31	12,345.0	-8,801.7	452.7	8,813.3	0.00	0.00	0.00
TD at 20287.2									

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #702H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3314.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3314.6usft (TBD)
Well:	PILEDRIVER FEDERAL #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP2	Database:	edm

Design Targets

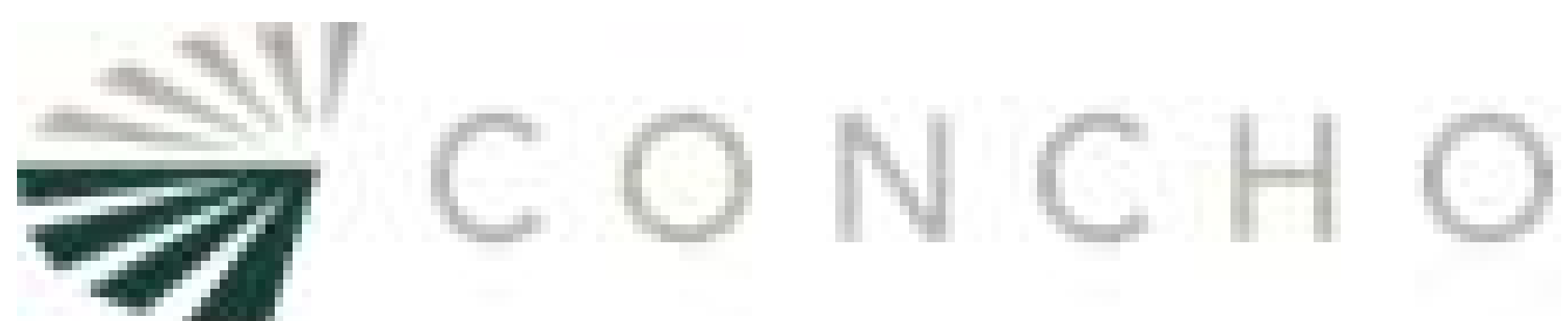
Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (PILEDRIVER FE - plan hits target center - Circle (radius 50.0)	0.00	0.00	12,166.0	-965.0	361.6	390,522.00	709,487.90	32° 4' 18.681 N	103° 39' 25.320 W
T1 (PILEDRIVER FE - plan misses target center by 0.1usft at 14994.4usft MD (12224.2 TVD, -3510.6 N, 388.6 E) - Rectangle (sides W100.0 H3,060.0 D20.0)	-1.31	359.31	12,224.3	-3,510.6	388.6	387,976.41	709,514.91	32° 3' 53.488 N	103° 39' 25.191 W
PBHL (PILEDRIVER F - plan hits target center - Rectangle (sides W100.0 H5,306.0 D20.0)	-1.31	359.39	12,345.0	-8,801.7	452.7	382,685.30	709,579.00	32° 3' 1.123 N	103° 39' 24.832 W
LTP (PILEDRIVER FE - plan misses target center by 37.3usft at 20200.0usft MD (12343.0 TVD, -8714.5 N, 451.6 E) - Point	0.00	0.00	12,345.0	-8,751.7	452.2	382,735.30	709,578.50	32° 3' 1.618 N	103° 39' 24.834 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
+N/-S (usft)	+E/-W (usft)			
2500	2500	0	0	Start Build 2.00
2690	2689	-5	4	Start 9045.6 hold at 2689.6 MD
11,735	11,715	-499	340	Start DLS 12.00 TFO 33.78
12,448	12,166	-965	362	Start 2546.4 hold at 12448.0 MD
14,994	12,224	-3511	389	Start DLS 2.00 TFO -88.41
14,999	12,224	-3515	389	Start 5288.6 hold at 14998.7 MD
20,287	12,345	-8802	453	TD at 20287.2

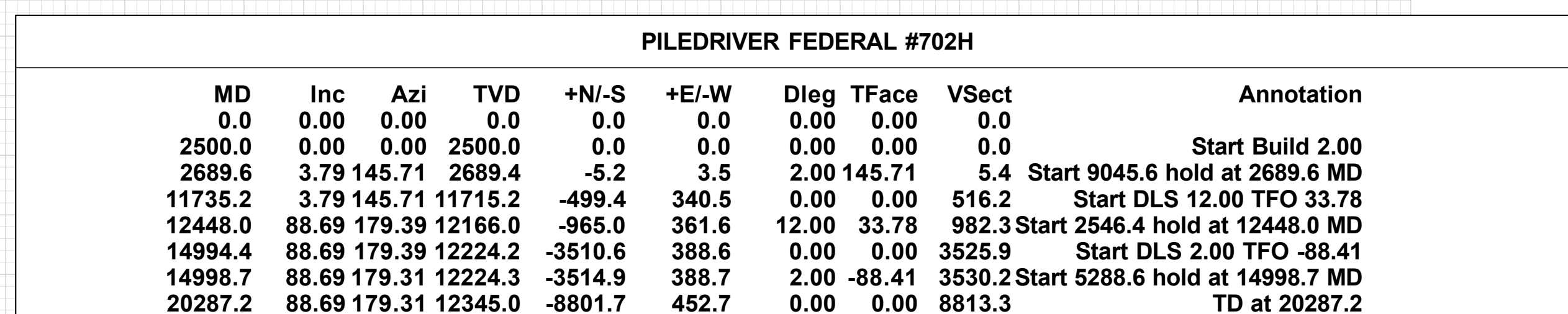
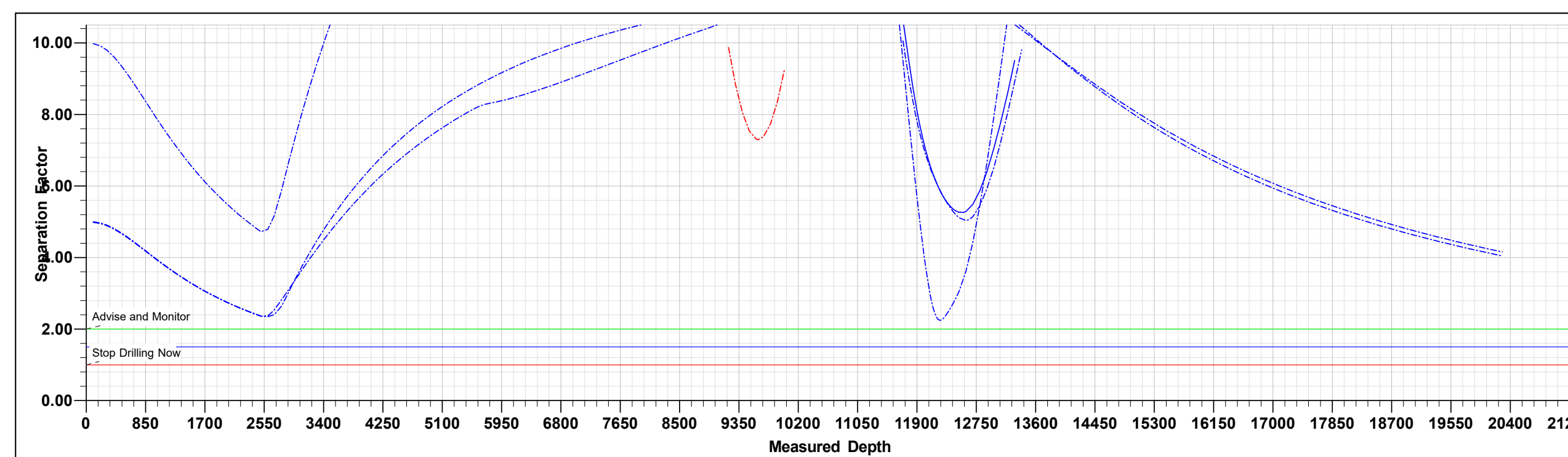
Checked By: _____ Approved By: _____ Date: _____



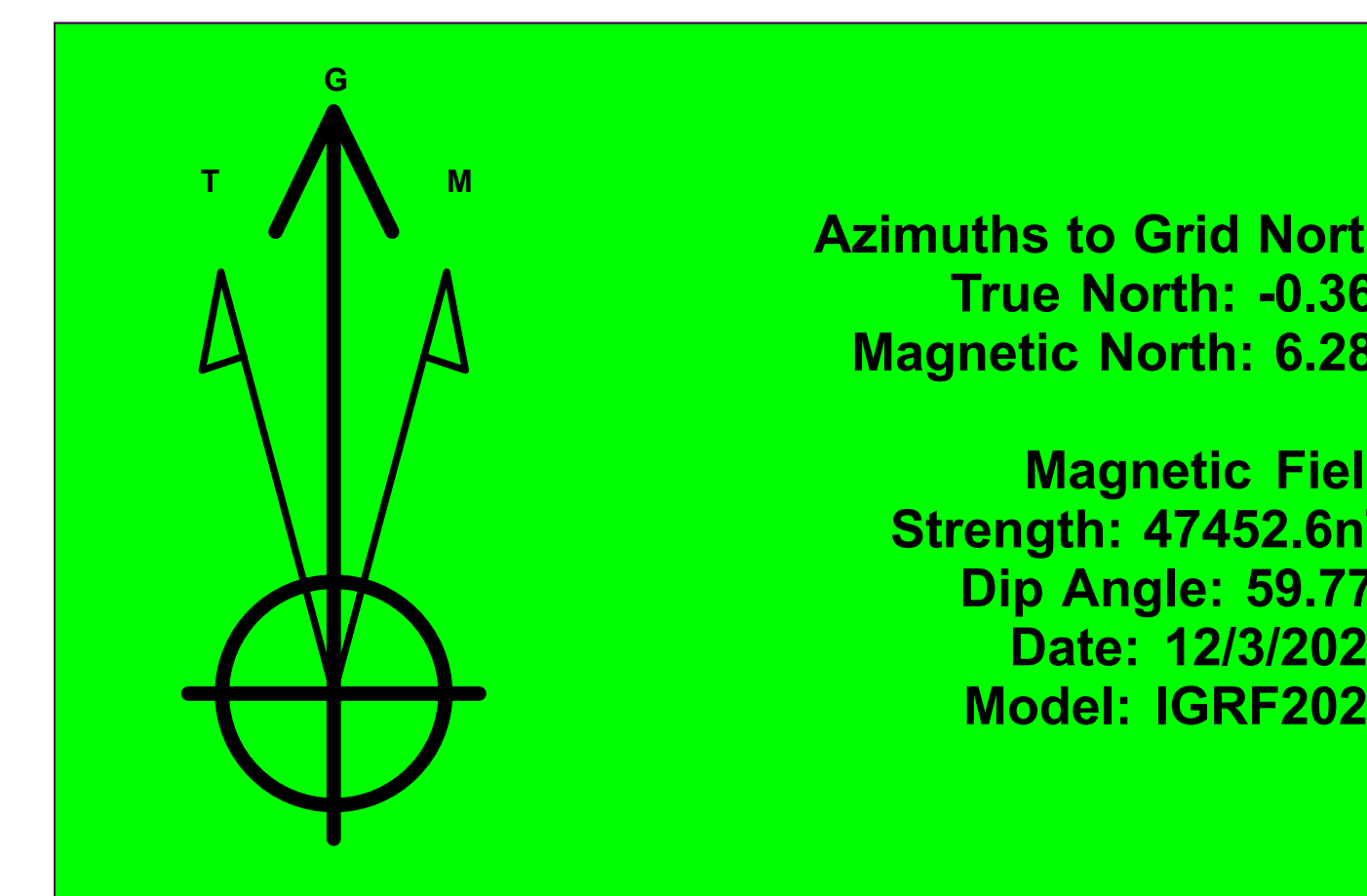
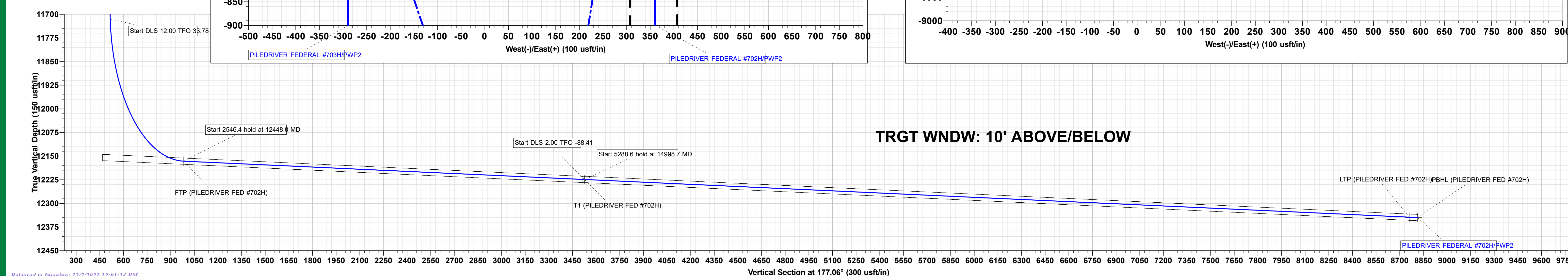
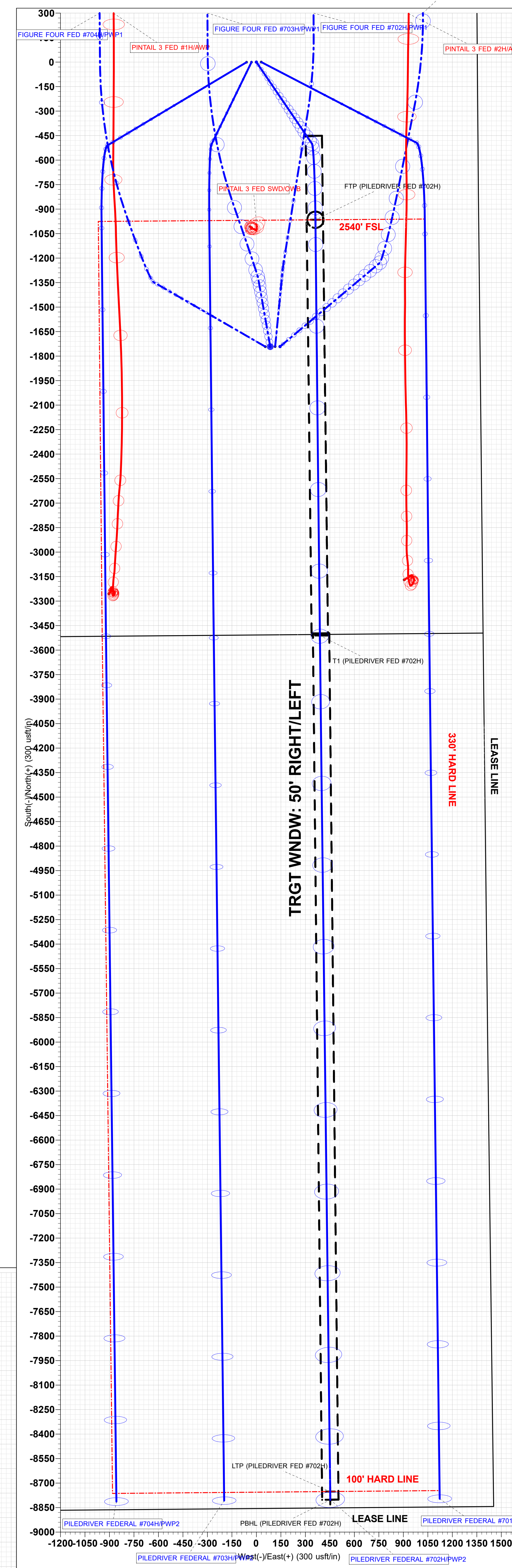
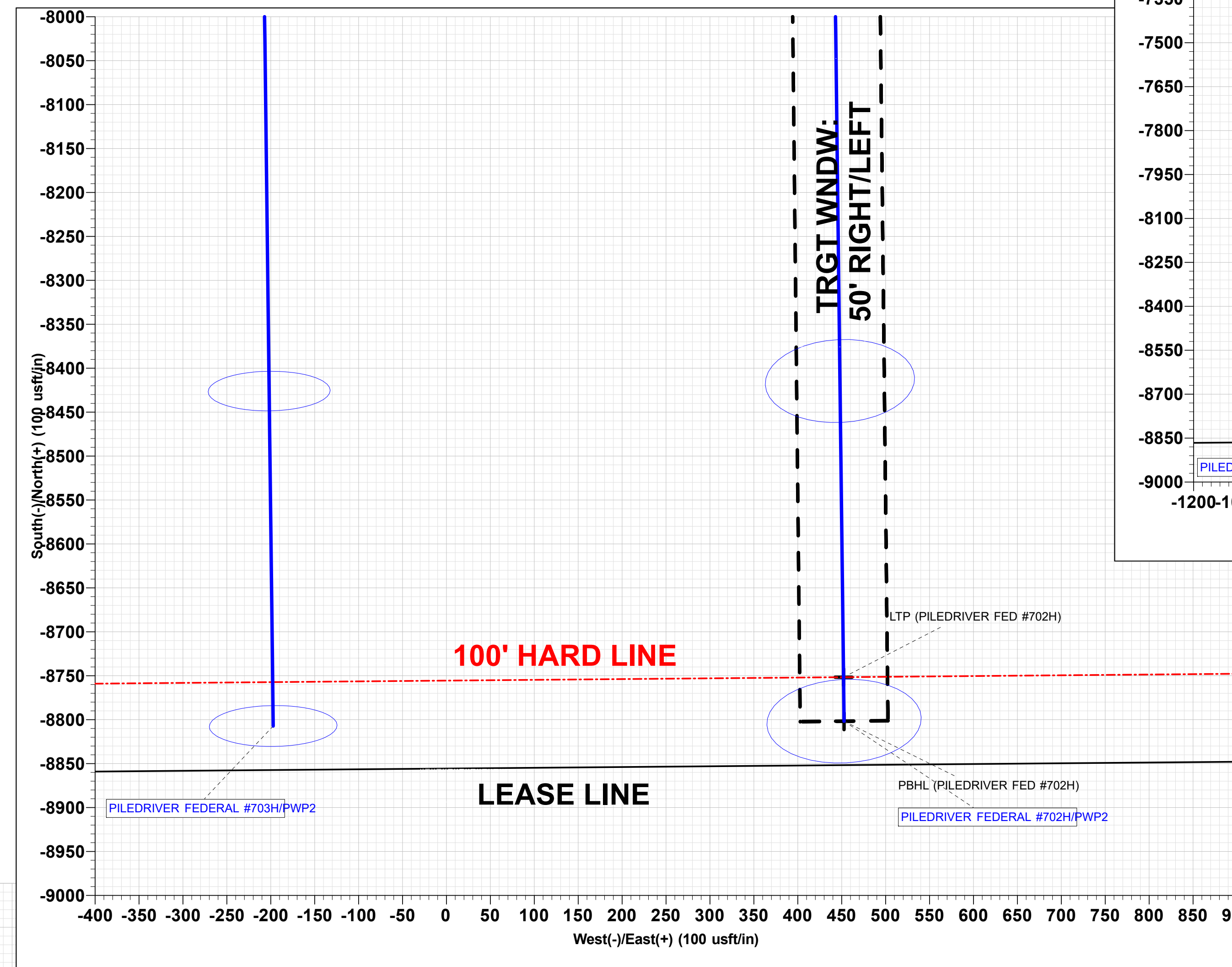
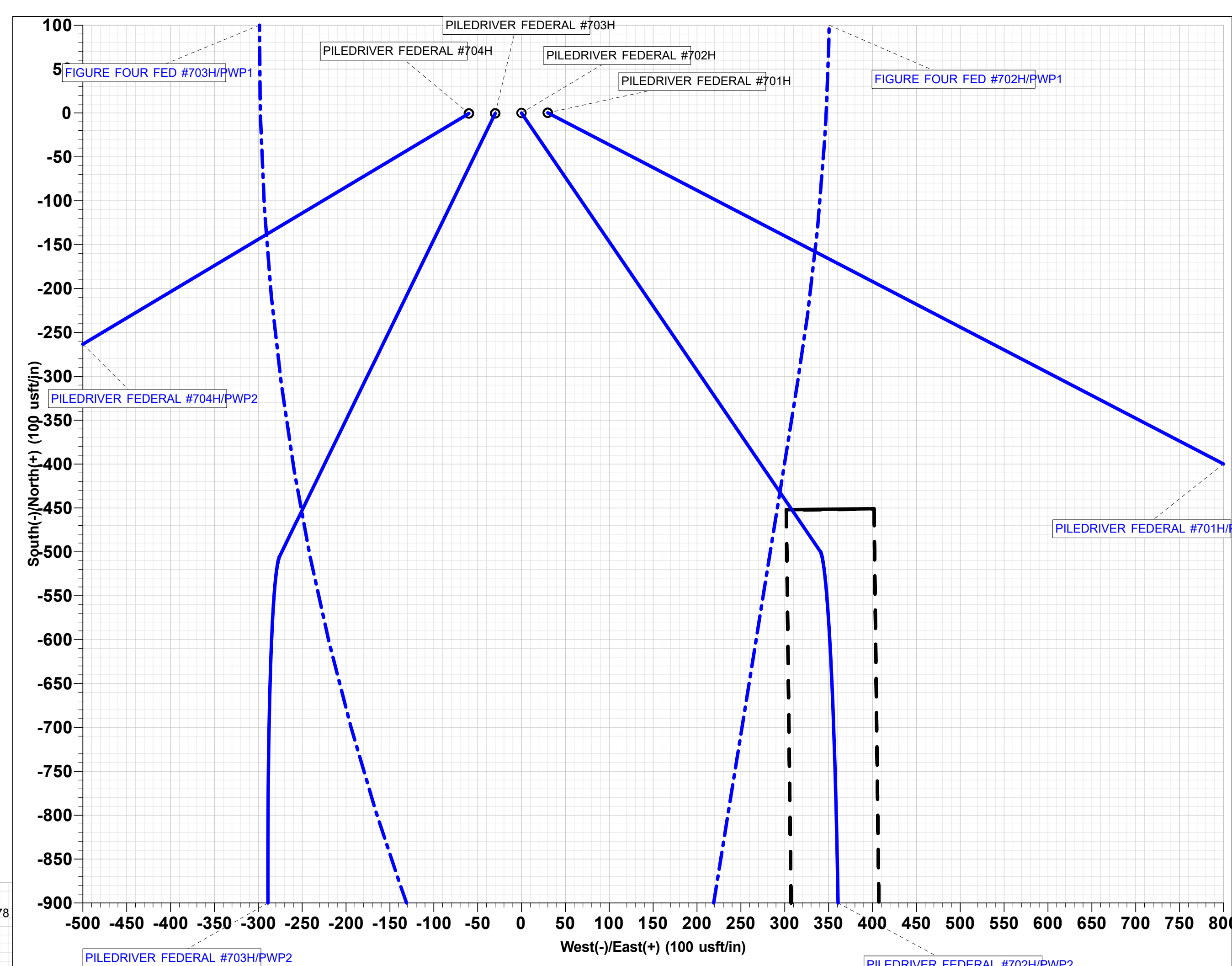
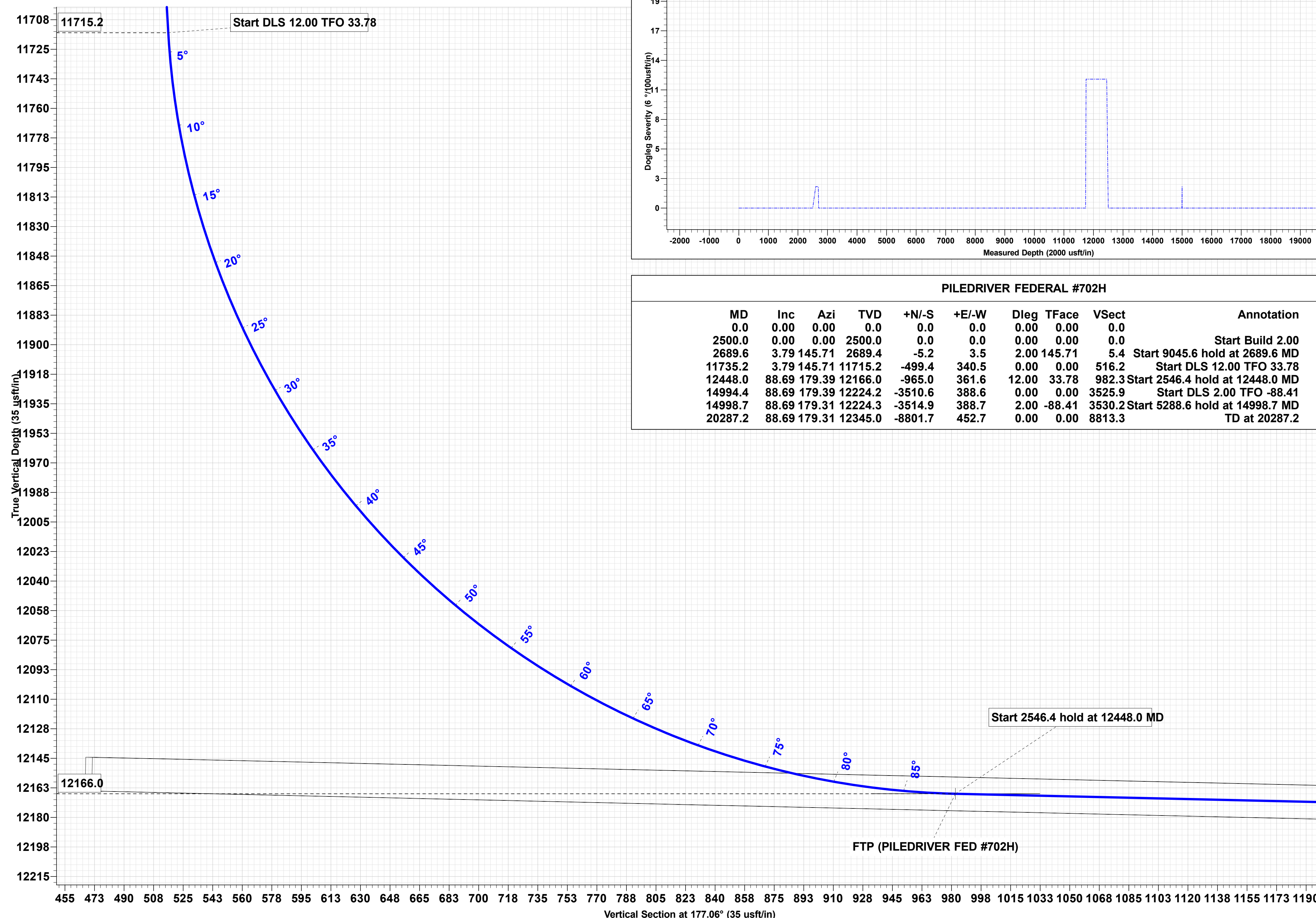
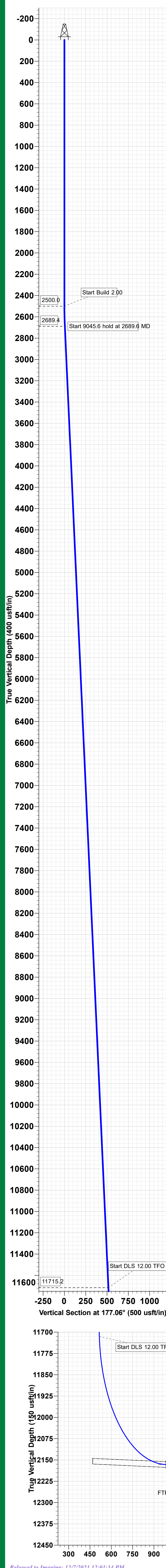
Project: BULLDOG PROSPECT (NM-E)
 Site: PILEDRIVER FED & FIGURE FOUR FED PROJECT
 Well: PILEDRIVER FEDERAL #702H
 Wellbore: OWB
 Design: PWP2
 GL: 3284.6
 *KB=30' @ 3314.6usft (TBD)

WELL DETAILS: PILEDRIVER FEDERAL #702H						
	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
	0.0	0.0	391487.00	709126.30	32° 4' 28.253 N	103° 39' 29.452 W

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
T1 (PILEDRIIVER FED #702H)	12166.0	-965.0	361.6	390522.0	709487.9	32° 4' 18.681 N	103° 39' 25.320 W
FT1 (PILEDRIIVER FED #702H)	12224.3	-3510.6	388.6	388796.41	709514.91	32° 3' 53.488 N	103° 39' 25.191 W
LT1 (PILEDRIIVER FED #702H)	12345.0	-8751.7	452.2	382735.30	709875.50	32° 3' 1.618 N	103° 39' 24.834 W
PBHL (PILEDRIIVER FED #702H)	12345.0	-8801.7	452.7	382685.30	709579.00	32° 3' 1.123 N	103° 39' 24.832 W



MD	Inc	Azi	VD	+N/S	+E/W	Dleg	TFace	VSet	Annotation
0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
2500.0	0.0	0.0	2500.0	0.0	0.0	0.0	0.0	0.0	Start Build 2.0
2689.6	3.79	145.71	2689.4	-5.2	3.5	200.145.71	5.4	Start 9045.6	Hold at 2689.6 MD
11743.8	3.79	145.71	11716.5	-49.0	340.5	0.0	0.0	0.0	Start DLS 12.00 TF 33.7
12448.0	8.69	179.31	12166.0	-96.5	361.6	12.00	33.78	986.2	Start 12448.0 MD
12628.0	8.69	179.31	12224.0	-30.0	362.0	362.0	0.0	0.0	Start DLS 2.00 TF 33.7
14998.7	8.69	179.31	12244.0	-3514.9	388.7	20.0	-88.41	3530.2	Start 5288.6 hold at 14998.7 MD
20287.2	8.69	179.31	12236.5	-8801.7	452.7	0.0	0.0	813.3	TD at 20287.2



District I

1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

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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 65353

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 65353
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	12/7/2021
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	12/7/2021
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	12/7/2021
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	12/7/2021