Form 3160-3
(June 2015)

FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.
[330324]

2. Name of Operator **[229137]**

9. API Well No.
30-025-48862

3a. Address	3b. Phone No. *(include area code)*	10. Field and Pool, or Exploratory **[98248]**

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.

GCP Rec 04/22/2021

SL

KZ
05/13/2021

APPROVED WITH CONDITIONS

(Continued on page 2)

*(Instructions on page 2)

Approval Date: 04/22/2021

PECOS DISTRICT
DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	**COG Operating, LLC**
LEASE NO.:	**NMNM-120910**
WELL NAME & NO.:	**Piledriver Federal 704H**
SURFACE HOLE FOOTAGE:	**1840' FNL & 1413' FEL**
BOTTOM HOLE FOOTAGE	**0050' FSL & 2310' 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.

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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.**

 Approval Date: 04/22/2021

GENERAL REQUIREMENTS

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

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

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

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

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

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

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

 Approval Date: 04/22/2021

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.

2. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing intergrity test can be done (prior to the cement setting up) immediately after bumping the plug.

3. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

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

5. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.

6. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

B. PRESSURE CONTROL

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

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

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

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

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

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

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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

COG Operating, LLC - Piledriver Federal 704H

1. Geologic Formations

TVD of target	12,320' EOL	Pilot hole depth	NA
MD at TD:	20,286'	Deepest expected fresh water:	250'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	987	Water	
Top of Salt	1322	Salt	
Base of Salt	4337	Salt	
Lamar	4572	Salt Water	
Bell Canyon	4617	Salt Water	
Cherry Canyon	5612	Oil/Gas	
Brushy Canyon	7139	Oil/Gas	
Bone Spring Lime	8717	Oil/Gas	
1st Bone Spring Sand	9666	Oil/Gas	
2nd Bone Spring Sand	10310	Oil/Gas	
2nd BSS Base	10856	Oil/Gas	
3rd Bone Spring Sand	11453	Oil/Gas	
Wolfcamp	11908	Oil/Gas	
Wolfcamp A Shale	12105	Target Oil/Gas	
Wolfcamp B	12359	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	1272	10.75"	45.5	N80	BTC	4.24	1.67	17.97	18.95
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.56	1.08	2.88	2.90
8.750"	8500	11403	7.625"	29.7	HCP110	TL-FJ	1.32	1.12	2.78	1.94
6.75"	0	11203	5.5"	23	P110	BTC	1.82	2.14	2.57	2.56
6.75"	11203	20,286	5.5"	23	P110	Talon HTQ	1.82	2.14	2.57	2.50
				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 3rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H_20 gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	607	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl2
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl2
Inter. Stage 1	830	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	520	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	857	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

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

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

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

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	8010 psi at 12320' TVD
Abnormal Temperature	NO 180 Deg. F.

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

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

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

8. Other Facets of Operation

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

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

COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H_2S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

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

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

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

g. Communication:
Company vehicles equipped with cellular telephone.

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

W A R N I N G

YOU ARE ENTERING AN H_2S AREA
AUTHORIZED PERSONNEL ONLY

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

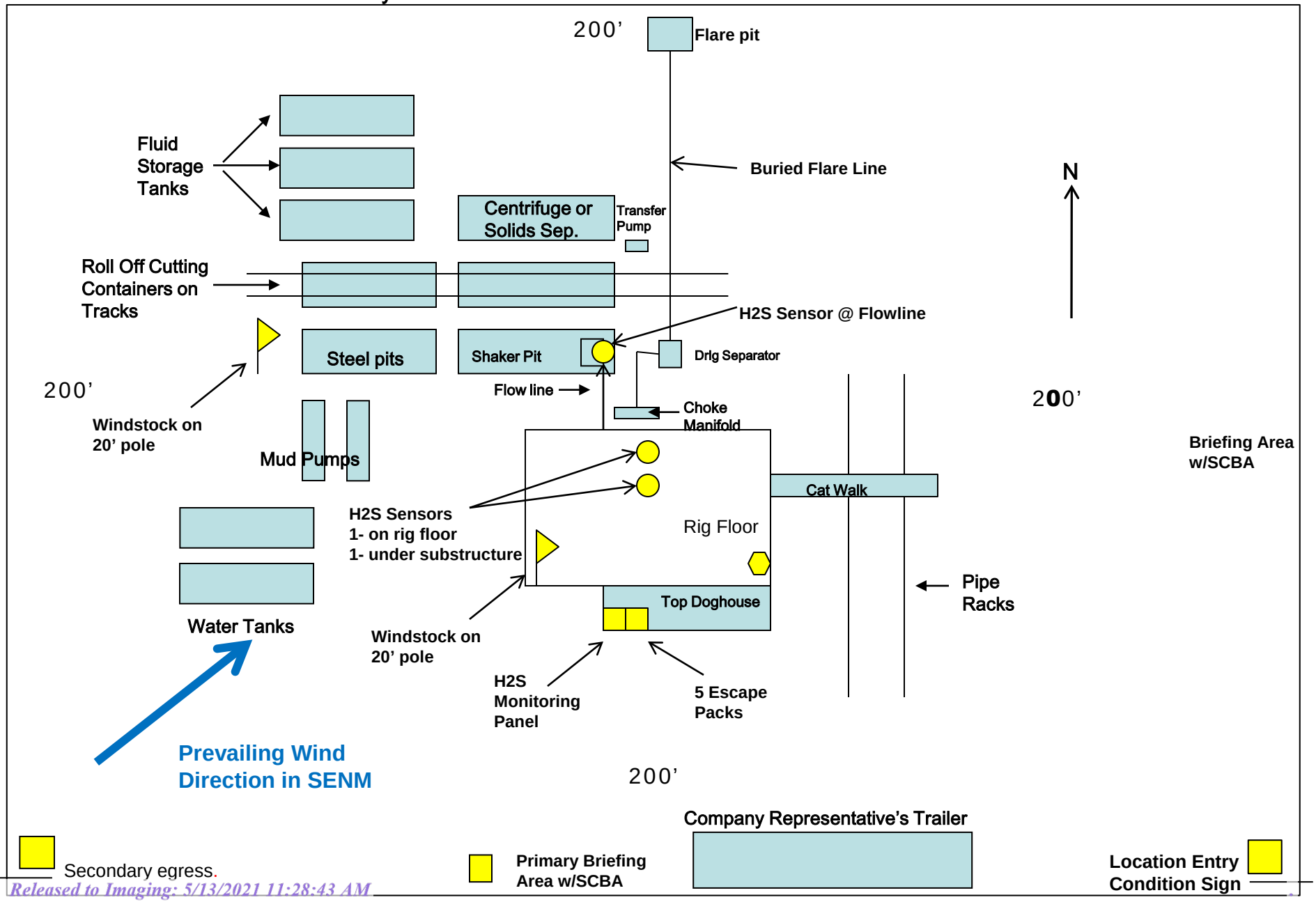
	OFFICE	MOBILE
COG OPERATING LLC OFFICE	575-748-6940	
SETH WILD	432-683-7443	432-528-3633
WALTER ROYE	575-748-6940	432-934-1886

EMERGENCY RESPONSE NUMBERS

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

COG Operating LLC
H_2S Equipment Schematic
Terrain: Shinnery sand hills.

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



DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)
PILEDRIVER FED & FIGURE FOUR FED PROJECT
PILEDRIVER FEDERAL #704H

OWB
PWP2

Anticollision Report

03 December, 2020

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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	**Error Model:**	ISCWSA
Depth Range:	Unlimited	**Scan Method:**	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 2,000.0 usft	**Error Surface:**	Pedal Curve
Warning Levels Evaluated at:	2.00 **Sigma**	**Casing Method:**	Not applied

Survey Tool Program **Date** 12/3/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,726.8	PWP2 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
11,726.8	20,299.6	PWP2 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction

Summary

Site Name / Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
PILEDRIVER FED & FIGURE FOUR FED PROJECT						
FIGURE FOUR FED #701H - OWB - PWP1						Out of range
FIGURE FOUR FED #702H - OWB - PWP1						Out of range
FIGURE FOUR FED #703H - OWB - PWP1	12,065.7	12,812.6	729.3	672.8	12.910	CC, ES
FIGURE FOUR FED #703H - OWB - PWP1	12,075.0	12,800.0	729.4	672.9	12.908	SF
FIGURE FOUR FED #704H - OWB - PWP1	12,175.0	12,648.9	117.2	75.8	2.828	SF
FIGURE FOUR FED #704H - OWB - PWP1	12,200.0	12,629.8	111.2	73.0	2.909	ES
FIGURE FOUR FED #704H - OWB - PWP1	12,244.8	12,594.1	107.1	74.9	3.324	CC
PILEDRIVER FEDERAL #701H - OWB - PWP2	2,500.0	2,498.9	89.9	83.0	13.037	CC, ES, SF
PILEDRIVER FEDERAL #702H - OWB - PWP2	2,500.0	2,499.0	59.9	47.2	4.726	CC, ES, SF
PILEDRIVER FEDERAL #703H - OWB - PWP2	2,500.0	2,499.4	30.0	23.1	4.350	CC, ES, SF
PINTAIL 3 FED #1H - OWB - AWP	9,600.0	12,118.2	164.8	97.3	2.442	SF
PINTAIL 3 FED #1H - OWB - AWP	9,608.1	12,117.9	164.6	97.3	2.446	CC, ES
PINTAIL 3 FED SWD - OWB - OWB						Out of range

Offset Design PILEDRIVER FED & FIGURE FOUR FED PROJECT - FIGURE FOUR FED #703H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,775.0	11,720.8	12,900.0	12,139.6	13.4	44.4	-141.17	-406.5	-199.3	796.0	740.0	55.99	14.217	
11,800.0	11,745.4	12,900.0	12,139.6	13.4	44.4	-132.55	-406.5	-199.3	785.0	728.9	56.07	14.000	
11,825.0	11,769.8	12,900.0	12,139.6	13.4	44.4	-127.62	-406.5	-199.3	775.0	718.8	56.15	13.802	
11,850.0	11,794.0	12,889.1	12,139.5	13.4	44.3	-123.79	-417.3	-197.4	765.9	709.6	56.22	13.623	
11,875.0	11,817.8	12,883.8	12,139.4	13.4	44.3	-121.49	-422.5	-196.5	757.7	701.5	56.27	13.465	
11,900.0	11,841.2	12,877.5	12,139.3	13.4	44.3	-119.74	-428.7	-195.5	750.6	694.3	56.32	13.329	
11,925.0	11,864.1	12,870.2	12,139.2	13.4	44.3	-118.31	-435.9	-194.2	744.5	688.2	56.35	13.213	
11,950.0	11,886.4	12,862.0	12,139.1	13.4	44.3	-117.04	-444.0	-192.8	739.5	683.1	56.38	13.117	
11,975.0	11,908.2	12,852.9	12,139.0	13.4	44.3	-115.85	-452.9	-191.1	735.5	679.1	56.40	13.040	
12,000.0	11,929.3	12,842.9	12,138.8	13.4	44.3	-114.69	-462.8	-189.3	732.5	676.1	56.42	12.982	
12,025.0	11,949.7	12,832.0	12,138.7	13.4	44.2	-113.51	-473.4	-187.3	730.5	674.0	56.45	12.941	
12,050.0	11,969.3	12,820.3	12,138.5	13.4	44.2	-112.31	-484.9	-185.0	729.5	673.0	56.47	12.917	
12,065.7	11,981.2	12,812.6	12,138.4	13.4	44.2	-111.53	-492.5	-183.5	729.3	672.8	56.49	12.910	CC, ES

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - FIGURE FOUR FED #703H - OWB - PWP1

Offset Site Error: 3.0 usft

Survey Program: 0-MWD+IFR1+FDIR

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,075.0	11,988.0	12,800.0	12,138.2	13.5	44.2	-110.59	-504.9	-181.1	729.4	672.9	56.51	12.908 SF	
12,100.0	12,005.9	12,800.0	12,138.2	13.5	44.2	-110.09	-504.9	-181.1	730.1	673.6	56.53	12.915	
12,125.0	12,022.9	12,780.7	12,138.0	13.5	44.2	-108.45	-523.7	-177.2	731.7	675.1	56.58	12.931	
12,150.0	12,038.9	12,766.1	12,137.8	13.5	44.1	-107.09	-538.0	-174.1	734.0	677.3	56.63	12.961	
12,175.0	12,053.9	12,750.9	12,137.6	13.5	44.1	-105.71	-552.9	-170.9	737.0	680.3	56.68	13.002	
12,200.0	12,067.8	12,735.1	12,137.4	13.6	44.1	-104.30	-568.3	-167.4	740.6	683.9	56.74	13.053	
12,225.0	12,080.6	12,718.8	12,137.1	13.6	44.1	-102.89	-584.2	-163.8	744.8	688.0	56.80	13.113	
12,250.0	12,092.3	12,700.0	12,136.9	13.6	44.0	-101.41	-602.5	-159.5	749.5	692.7	56.87	13.181	
12,275.0	12,102.8	12,684.8	12,136.7	13.7	44.0	-100.09	-617.3	-155.9	754.7	697.7	56.93	13.256	
12,300.0	12,112.1	12,667.2	12,136.4	13.7	44.0	-98.73	-634.3	-151.6	760.2	703.2	56.99	13.338	
12,325.0	12,120.2	12,649.3	12,136.2	13.8	44.0	-97.41	-651.7	-147.2	766.0	709.0	57.06	13.426	
12,350.0	12,127.0	12,631.1	12,135.9	13.8	43.9	-96.15	-669.3	-142.6	772.1	715.0	57.12	13.519	
12,375.0	12,132.6	12,612.7	12,135.7	13.9	43.9	-94.94	-687.1	-137.8	778.5	721.3	57.17	13.616	
12,400.0	12,136.9	12,600.0	12,135.5	13.9	43.9	-93.88	-699.3	-134.5	785.0	727.8	57.22	13.719	
12,425.0	12,140.0	12,575.4	12,135.2	14.0	43.9	-92.73	-723.0	-127.8	791.6	734.3	57.27	13.823	
12,450.0	12,141.7	12,556.6	12,134.9	14.0	43.8	-91.75	-741.0	-122.6	798.3	741.0	57.31	13.931	

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - FIGURE FOUR FED #704H - OWB - PWP1 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11710-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,400.0	11,348.1	12,838.4	12,126.8	12.9	15.8	178.40	-506.5	-850.7	799.1	748.9	50.24	15.906	
11,500.0	11,447.5	12,836.0	12,126.7	13.0	15.8	-179.04	-508.9	-850.3	699.3	648.8	50.57	13.828	
11,600.0	11,546.9	12,833.6	12,126.7	13.2	15.8	-176.42	-511.3	-849.8	599.6	548.7	50.90	11.781	
11,700.0	11,646.3	12,831.1	12,126.7	13.3	15.8	-173.74	-513.7	-849.4	500.1	448.8	51.21	9.765	
11,746.8	11,692.8	12,830.0	12,126.7	13.4	15.8	-172.47	-514.8	-849.2	453.5	402.0	51.44	8.816	
11,750.0	11,696.0	12,829.9	12,126.7	13.4	15.8	-172.60	-514.9	-849.2	450.3	398.9	51.45	8.753	
11,775.0	11,720.8	12,828.5	12,126.6	13.4	15.8	-173.18	-516.3	-848.9	425.5	374.0	51.51	8.262	
11,800.0	11,745.4	12,825.8	12,126.6	13.4	15.8	-173.08	-518.9	-848.4	400.9	349.3	51.56	7.776	
11,825.0	11,769.8	12,821.9	12,126.5	13.4	15.8	-172.59	-522.8	-847.7	376.5	324.9	51.60	7.297	
11,850.0	11,794.0	12,816.7	12,126.5	13.4	15.7	-171.90	-527.9	-846.7	352.4	300.8	51.62	6.827	
11,875.0	11,817.8	12,810.3	12,126.4	13.4	15.7	-171.04	-534.2	-845.5	328.7	277.1	51.62	6.368	
11,900.0	11,841.2	12,802.6	12,126.3	13.4	15.7	-170.02	-541.7	-844.0	305.5	253.9	51.59	5.921	
11,925.0	11,864.1	12,793.8	12,126.2	13.4	15.7	-168.84	-550.4	-842.3	282.8	231.3	51.53	5.489	
11,950.0	11,886.4	12,783.8	12,126.0	13.4	15.7	-167.47	-560.1	-840.3	260.8	209.4	51.41	5.073	
11,975.0	11,908.2	12,772.7	12,125.9	13.4	15.7	-165.89	-571.0	-838.1	239.6	188.4	51.23	4.677	
12,000.0	11,929.3	12,760.6	12,125.7	13.4	15.6	-164.05	-582.9	-835.6	219.3	168.4	50.96	4.304	
12,025.0	11,949.7	12,747.3	12,125.5	13.4	15.6	-161.91	-595.8	-832.8	200.1	149.5	50.56	3.957	
12,050.0	11,969.3	12,733.1	12,125.3	13.4	15.6	-159.42	-609.7	-829.8	182.0	132.0	49.98	3.641	
12,075.0	11,988.0	12,718.0	12,125.1	13.5	15.6	-156.52	-624.5	-826.4	165.3	116.1	49.14	3.363	
12,100.0	12,005.9	12,701.9	12,124.9	13.5	15.5	-153.15	-640.1	-822.8	150.2	102.2	47.97	3.131	
12,125.0	12,022.9	12,685.0	12,124.6	13.5	15.5	-149.27	-656.6	-818.9	137.0	90.6	46.35	2.955	
12,150.0	12,038.9	12,667.3	12,124.4	13.5	15.5	-144.84	-673.8	-814.8	125.9	81.7	44.19	2.849	
12,175.0	12,053.9	12,648.9	12,124.1	13.5	15.5	-139.85	-691.6	-810.3	117.2	75.8	41.45	2.828	SF
12,200.0	12,067.8	12,629.8	12,123.9	13.6	15.4	-134.38	-710.1	-805.5	111.2	73.0	38.23	2.909	ES
12,225.0	12,080.6	12,610.1	12,123.6	13.6	15.4	-128.54	-729.2	-800.5	107.9	73.1	34.79	3.100	
12,244.8	12,089.9	12,594.1	12,123.4	13.6	15.4	-123.79	-744.6	-796.3	107.1	74.9	32.21	3.324	CC
12,250.0	12,092.3	12,589.8	12,123.3	13.6	15.4	-122.53	-748.8	-795.2	107.1	75.6	31.58	3.393	
12,275.0	12,102.8	12,569.0	12,123.0	13.7	15.4	-116.59	-768.8	-789.6	108.7	79.8	28.99	3.751	
12,300.0	12,112.1	12,547.8	12,122.7	13.7	15.3	-110.97	-789.2	-783.7	112.3	85.1	27.23	4.123	
12,325.0	12,120.2	12,526.2	12,122.4	13.8	15.3	-105.85	-809.9	-777.6	117.3	91.1	26.26	4.467	
12,350.0	12,127.0	12,504.3	12,122.1	13.8	15.3	-101.38	-830.9	-771.3	123.5	97.6	25.87	4.773	
12,375.0	12,132.6	12,482.1	12,121.8	13.9	15.3	-97.61	-852.0	-764.7	130.3	104.5	25.81	5.050	
12,400.0	12,136.9	12,459.8	12,121.5	13.9	15.3	-94.55	-873.2	-757.8	137.7	111.8	25.89	5.319	
12,425.0	12,140.0	12,437.4	12,121.2	14.0	15.2	-92.15	-894.5	-750.8	145.4	119.4	25.99	5.593	
12,450.0	12,141.7	12,414.7	12,120.9	14.0	15.2	-90.33	-916.0	-743.6	153.2	127.1	26.06	5.879	
12,459.5	12,142.0	12,405.8	12,120.5	14.0	15.2	-89.71	-924.4	-740.7	156.2	130.1	26.09	5.988	
12,500.0	12,142.9	12,368.7	12,117.3	14.1	15.2	-88.29	-959.4	-728.7	169.1	142.8	26.28	6.434	
12,600.0	12,145.3	12,281.8	12,098.7	14.4	15.1	-82.32	-1,039.3	-700.5	203.2	175.8	27.49	7.394	
12,700.0	12,147.6	12,205.0	12,069.7	14.8	15.0	-75.19	-1,106.0	-676.1	243.7	214.2	29.45	8.274	
12,800.0	12,149.9	12,139.9	12,036.5	15.1	14.9	-68.59	-1,158.4	-656.4	292.6	261.3	31.32	9.345	
12,900.0	12,152.2	12,085.9	12,003.4	15.6	14.9	-63.13	-1,198.1	-640.9	350.5	318.0	32.56	10.765	
13,000.0	12,154.5	12,041.4	11,972.6	16.0	14.8	-58.78	-1,227.9	-628.9	416.3	383.1	33.17	12.552	
13,100.0	12,156.9	12,000.0	11,941.5	16.5	14.8	-54.93	-1,253.1	-618.5	488.6	455.0	33.56	14.559	
13,200.0	12,159.2	11,975.0	11,921.5	17.0	14.8	-52.72	-1,267.0	-612.6	565.9	532.7	33.21	17.041	
13,300.0	12,161.5	11,950.0	11,900.9	17.6	14.7	-50.59	-1,279.9	-607.0	647.2	614.3	32.98	19.624	
13,400.0	12,163.8	11,925.0	11,879.5	18.2	14.7	-48.56	-1,291.7	-601.7	731.7	698.8	32.85	22.275	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - PILEDRIVER FEDERAL #701H - OWB - PWP2 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11794-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	89.55	0.7	89.9	89.9				
100.0	100.0	98.9	98.9	3.0	3.0	89.55	0.7	89.9	89.9	83.9	6.00	14.983	
200.0	200.0	198.9	198.9	3.0	3.0	89.55	0.7	89.9	89.9	83.9	6.00	14.976	
300.0	300.0	298.9	298.9	3.0	3.0	89.55	0.7	89.9	89.9	83.9	6.01	14.962	
400.0	400.0	398.9	398.9	3.0	3.0	89.55	0.7	89.9	89.9	83.9	6.02	14.939	
500.0	500.0	498.9	498.9	3.1	3.1	89.55	0.7	89.9	89.9	83.9	6.03	14.908	
600.0	600.0	598.9	598.9	3.1	3.1	89.55	0.7	89.9	89.9	83.9	6.05	14.869	
700.0	700.0	698.9	698.9	3.1	3.1	89.55	0.7	89.9	89.9	83.8	6.07	14.823	
800.0	800.0	798.9	798.9	3.2	3.2	89.55	0.7	89.9	89.9	83.8	6.09	14.770	
900.0	900.0	898.9	898.9	3.2	3.2	89.55	0.7	89.9	89.9	83.8	6.11	14.709	
1,000.0	1,000.0	998.9	998.9	3.2	3.2	89.55	0.7	89.9	89.9	83.8	6.14	14.642	
1,100.0	1,100.0	1,098.9	1,098.9	3.3	3.3	89.55	0.7	89.9	89.9	83.7	6.17	14.568	
1,200.0	1,200.0	1,198.9	1,198.9	3.4	3.4	89.55	0.7	89.9	89.9	83.7	6.21	14.487	
1,300.0	1,300.0	1,298.9	1,298.9	3.4	3.4	89.55	0.7	89.9	89.9	83.7	6.24	14.401	
1,400.0	1,400.0	1,398.9	1,398.9	3.5	3.5	89.55	0.7	89.9	89.9	83.6	6.28	14.310	
1,500.0	1,500.0	1,498.9	1,498.9	3.5	3.5	89.55	0.7	89.9	89.9	83.6	6.33	14.213	
1,600.0	1,600.0	1,598.9	1,598.9	3.6	3.6	89.55	0.7	89.9	89.9	83.5	6.37	14.111	
1,700.0	1,700.0	1,698.9	1,698.9	3.7	3.7	89.55	0.7	89.9	89.9	83.5	6.42	14.005	
1,800.0	1,800.0	1,798.9	1,798.9	3.8	3.8	89.55	0.7	89.9	89.9	83.4	6.47	13.895	
1,900.0	1,900.0	1,898.9	1,898.9	3.9	3.9	89.55	0.7	89.9	89.9	83.4	6.52	13.780	
2,000.0	2,000.0	1,998.9	1,998.9	3.9	3.9	89.55	0.7	89.9	89.9	83.3	6.58	13.663	
2,100.0	2,100.0	2,098.9	2,098.9	4.0	4.0	89.55	0.7	89.9	89.9	83.3	6.64	13.543	
2,200.0	2,200.0	2,198.9	2,198.9	4.1	4.1	89.55	0.7	89.9	89.9	83.2	6.70	13.419	
2,300.0	2,300.0	2,298.9	2,298.9	4.2	4.2	89.55	0.7	89.9	89.9	83.1	6.76	13.294	
2,400.0	2,400.0	2,398.9	2,398.9	4.3	4.3	89.55	0.7	89.9	89.9	83.1	6.83	13.166	
2,500.0	2,500.0	2,498.9	2,498.9	4.4	4.4	89.55	0.7	89.9	89.9	83.0	6.90	13.037	CC, ES, SF
2,600.0	2,600.0	2,596.1	2,596.1	4.4	4.4	-149.63	0.0	91.3	92.9	85.9	6.96	13.334	
2,700.0	2,699.8	2,692.8	2,692.7	4.4	4.4	-149.69	-2.3	95.7	101.8	94.8	7.04	14.467	
2,800.0	2,799.5	2,788.5	2,788.0	4.4	4.4	-149.76	-6.0	102.8	116.7	109.6	7.12	16.395	
2,813.3	2,812.7	2,801.2	2,800.6	4.4	4.4	-149.76	-6.6	103.9	119.2	112.0	7.13	16.710	
2,900.0	2,898.9	2,884.8	2,883.7	4.4	4.5	-149.78	-11.0	112.5	136.0	128.8	7.21	18.868	
3,000.0	2,998.3	2,982.9	2,981.1	4.5	4.5	-149.75	-16.3	122.7	155.7	148.4	7.31	21.312	
3,100.0	3,097.7	3,080.9	3,078.4	4.5	4.5	-149.72	-21.6	132.9	175.4	168.0	7.41	23.672	
3,200.0	3,197.1	3,178.9	3,175.8	4.5	4.5	-149.70	-26.9	143.1	195.1	187.6	7.52	25.944	
3,300.0	3,296.5	3,277.0	3,273.2	4.5	4.5	-149.69	-32.2	153.3	214.8	207.2	7.64	28.130	
3,400.0	3,395.9	3,375.0	3,370.5	4.5	4.6	-149.67	-37.5	163.5	234.5	226.7	7.76	30.227	
3,500.0	3,495.3	3,473.1	3,467.9	4.6	4.6	-149.66	-42.8	173.7	254.2	246.3	7.88	32.237	
3,600.0	3,594.7	3,571.1	3,565.3	4.6	4.6	-149.65	-48.1	184.0	273.9	265.9	8.02	34.160	
3,700.0	3,694.1	3,669.2	3,662.6	4.6	4.7	-149.64	-53.5	194.2	293.6	285.4	8.15	35.999	
3,800.0	3,793.5	3,767.2	3,760.0	4.7	4.7	-149.63	-58.8	204.4	313.3	305.0	8.30	37.754	
3,900.0	3,892.9	3,865.2	3,857.3	4.7	4.8	-149.63	-64.1	214.6	333.0	324.5	8.44	39.428	
4,000.0	3,992.3	3,963.3	3,954.7	4.8	4.8	-149.62	-69.4	224.8	352.6	344.1	8.60	41.023	
4,100.0	4,091.7	4,061.3	4,052.1	4.8	4.9	-149.62	-74.7	235.0	372.3	363.6	8.75	42.543	
4,200.0	4,191.1	4,159.4	4,149.4	4.9	4.9	-149.61	-80.0	245.2	392.0	383.1	8.91	43.989	
4,300.0	4,290.5	4,257.4	4,246.8	4.9	5.0	-149.61	-85.3	255.5	411.7	402.7	9.08	45.364	
4,400.0	4,389.9	4,355.4	4,344.2	5.0	5.0	-149.60	-90.6	265.7	431.4	422.2	9.24	46.672	
4,500.0	4,489.3	4,453.5	4,441.5	5.1	5.1	-149.60	-95.9	275.9	451.1	441.7	9.41	47.914	
4,600.0	4,588.7	4,551.5	4,538.9	5.1	5.2	-149.60	-101.2	286.1	470.8	461.2	9.59	49.095	
4,700.0	4,688.1	4,649.6	4,636.3	5.2	5.3	-149.59	-106.5	296.3	490.5	480.7	9.77	50.217	
4,800.0	4,787.5	4,747.6	4,733.6	5.3	5.3	-149.59	-111.8	306.5	510.2	500.2	9.95	51.283	
4,900.0	4,886.9	4,845.7	4,831.0	5.4	5.4	-149.59	-117.1	316.7	529.9	519.8	10.13	52.295	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - PILEDRIVER FEDERAL #701H - OWB - PWP2

Offset Site Error: 3.0 usft

Survey Program: 0-Standard Keeper 104, 11794-MWD+IFR1+FDIR

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,986.3	4,943.7	4,928.3	5.4	5.5	-149.59	-122.4	327.0	549.6	539.3	10.32	53.256	
5,100.0	5,085.7	5,041.7	5,025.7	5.5	5.6	-149.58	-127.7	337.2	569.3	558.8	10.51	54.168	
5,200.0	5,185.1	5,139.8	5,123.1	5.6	5.7	-149.58	-133.0	347.4	589.0	578.3	10.70	55.035	
5,300.0	5,284.5	5,237.8	5,220.4	5.7	5.7	-149.58	-138.3	357.6	608.7	597.8	10.90	55.857	
5,400.0	5,383.9	5,335.9	5,317.8	5.8	5.8	-149.58	-143.6	367.8	628.4	617.3	11.09	56.639	
5,500.0	5,483.3	5,433.9	5,415.2	5.9	5.9	-149.58	-148.9	378.0	648.0	636.8	11.29	57.381	
5,600.0	5,582.7	5,531.9	5,512.5	6.0	6.0	-149.58	-154.2	388.2	667.7	656.2	11.50	58.086	
5,700.0	5,682.1	5,630.0	5,609.9	6.1	6.1	-149.57	-159.6	398.5	687.4	675.7	11.70	58.756	
5,800.0	5,781.5	5,728.0	5,707.3	6.2	6.2	-149.57	-164.9	408.7	707.1	695.2	11.91	59.392	
5,900.0	5,880.9	5,826.1	5,804.6	6.3	6.3	-149.57	-170.2	418.9	726.8	714.7	12.11	59.997	
6,000.0	5,980.3	5,924.1	5,902.0	6.3	6.4	-149.57	-175.5	429.1	746.5	734.2	12.32	60.572	
6,100.0	6,079.7	6,022.2	5,999.3	6.4	6.5	-149.57	-180.8	439.3	766.2	753.7	12.54	61.118	
6,200.0	6,179.1	6,120.2	6,096.7	6.5	6.6	-149.57	-186.1	449.5	785.9	773.2	12.75	61.637	

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - PILEDRIVER FEDERAL #702H - OWB - PWP2 — **Offset Site Error:** 3.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	89.52	0.5	59.9	59.9				
100.0	100.0	99.0	99.0	3.0	3.0	89.52	0.5	59.9	59.9	53.9	6.00	9.979	
200.0	200.0	199.0	199.0	3.0	3.0	89.52	0.5	59.9	59.9	53.9	6.04	9.918	
300.0	300.0	299.0	299.0	3.0	3.1	89.52	0.5	59.9	59.9	53.8	6.12	9.789	
400.0	400.0	399.0	399.0	3.0	3.2	89.52	0.5	59.9	59.9	53.7	6.24	9.601	
500.0	500.0	499.0	499.0	3.1	3.4	89.52	0.5	59.9	59.9	53.5	6.39	9.367	
600.0	600.0	599.0	599.0	3.1	3.6	89.52	0.5	59.9	59.9	53.3	6.58	9.101	
700.0	700.0	699.0	699.0	3.1	3.8	89.52	0.5	59.9	59.9	53.1	6.80	8.814	
800.0	800.0	799.0	799.0	3.2	4.0	89.52	0.5	59.9	59.9	52.9	7.03	8.516	
900.0	900.0	899.0	899.0	3.2	4.2	89.52	0.5	59.9	59.9	52.6	7.29	8.215	
1,000.0	1,000.0	999.0	999.0	3.2	4.5	89.52	0.5	59.9	59.9	52.3	7.57	7.918	
1,100.0	1,100.0	1,099.0	1,099.0	3.3	4.8	89.52	0.5	59.9	59.9	52.0	7.85	7.627	
1,200.0	1,200.0	1,199.0	1,199.0	3.4	5.1	89.52	0.5	59.9	59.9	51.7	8.16	7.345	
1,300.0	1,300.0	1,299.0	1,299.0	3.4	5.3	89.52	0.5	59.9	59.9	51.4	8.47	7.075	
1,400.0	1,400.0	1,399.0	1,399.0	3.5	5.6	89.52	0.5	59.9	59.9	51.1	8.79	6.817	
1,500.0	1,500.0	1,499.0	1,499.0	3.5	6.0	89.52	0.5	59.9	59.9	50.8	9.11	6.572	
1,600.0	1,600.0	1,599.0	1,599.0	3.6	6.3	89.52	0.5	59.9	59.9	50.5	9.45	6.339	
1,700.0	1,700.0	1,699.0	1,699.0	3.7	6.6	89.52	0.5	59.9	59.9	50.1	9.79	6.118	
1,800.0	1,800.0	1,799.0	1,799.0	3.8	6.9	89.52	0.5	59.9	59.9	49.8	10.14	5.909	
1,900.0	1,900.0	1,899.0	1,899.0	3.9	7.2	89.52	0.5	59.9	59.9	49.4	10.49	5.711	
2,000.0	2,000.0	1,999.0	1,999.0	3.9	7.6	89.52	0.5	59.9	59.9	49.1	10.84	5.524	
2,100.0	2,100.0	2,099.0	2,099.0	4.0	7.9	89.52	0.5	59.9	59.9	48.7	11.20	5.347	
2,200.0	2,200.0	2,199.0	2,199.0	4.1	8.2	89.52	0.5	59.9	59.9	48.3	11.57	5.179	
2,300.0	2,300.0	2,299.0	2,299.0	4.2	8.6	89.52	0.5	59.9	59.9	48.0	11.93	5.020	
2,400.0	2,400.0	2,399.0	2,399.0	4.3	8.9	89.52	0.5	59.9	59.9	47.6	12.30	4.869	
2,500.0	2,500.0	2,499.0	2,499.0	4.4	9.2	89.52	0.5	59.9	59.9	47.2	12.67	4.726	CC, ES, SF
2,600.0	2,600.0	2,597.8	2,597.8	4.4	9.5	-149.13	-0.9	60.8	62.4	49.3	13.03	4.786	
2,700.0	2,699.8	2,696.3	2,696.2	4.4	9.9	-147.79	-5.0	63.7	69.7	56.4	13.37	5.216	
2,800.0	2,799.5	2,795.7	2,795.3	4.4	10.2	-147.16	-10.5	67.4	81.0	67.2	13.73	5.898	
2,813.3	2,812.7	2,808.9	2,808.5	4.4	10.2	-147.18	-11.2	67.9	82.7	68.9	13.77	6.002	
2,900.0	2,898.9	2,894.8	2,894.2	4.4	10.5	-147.48	-15.9	71.1	94.0	79.9	14.08	6.673	
3,000.0	2,998.3	2,994.0	2,993.2	4.5	10.8	-147.75	-21.3	74.8	107.1	92.6	14.45	7.409	
3,100.0	3,097.7	3,093.1	3,092.1	4.5	11.1	-147.96	-26.7	78.5	120.1	105.3	14.82	8.105	
3,200.0	3,197.1	3,192.2	3,191.0	4.5	11.4	-148.13	-32.1	82.2	133.2	118.0	15.20	8.765	
3,300.0	3,296.5	3,291.4	3,289.9	4.5	11.8	-148.27	-37.6	85.8	146.3	130.7	15.58	9.389	
3,400.0	3,395.9	3,390.5	3,388.9	4.5	12.1	-148.38	-43.0	89.5	159.3	143.4	15.96	9.981	
3,500.0	3,495.3	3,489.7	3,487.8	4.6	12.4	-148.48	-48.4	93.2	172.4	156.0	16.35	10.542	
3,600.0	3,594.7	3,588.8	3,586.7	4.6	12.7	-148.56	-53.8	96.9	185.5	168.7	16.75	11.074	
3,700.0	3,694.1	3,687.9	3,685.6	4.6	13.1	-148.64	-59.2	100.6	198.5	181.4	17.15	11.578	
3,800.0	3,793.5	3,787.1	3,784.6	4.7	13.4	-148.70	-64.6	104.3	211.6	194.1	17.55	12.057	
3,900.0	3,892.9	3,886.2	3,883.5	4.7	13.7	-148.76	-70.1	108.0	224.7	206.7	17.96	12.512	
4,000.0	3,992.3	3,985.4	3,982.4	4.8	14.1	-148.81	-75.5	111.7	237.8	219.4	18.37	12.944	
4,100.0	4,091.7	4,084.5	4,081.3	4.8	14.4	-148.85	-80.9	115.4	250.8	232.1	18.78	13.355	
4,200.0	4,191.1	4,183.7	4,180.3	4.9	14.8	-148.90	-86.3	119.1	263.9	244.7	19.20	13.745	
4,300.0	4,290.5	4,282.8	4,279.2	4.9	15.1	-148.93	-91.7	122.8	277.0	257.4	19.62	14.117	
4,400.0	4,389.9	4,381.9	4,378.1	5.0	15.4	-148.97	-97.1	126.5	290.1	270.0	20.04	14.472	
4,500.0	4,489.3	4,481.1	4,477.0	5.1	15.8	-149.00	-102.6	130.2	303.1	282.7	20.47	14.810	
4,600.0	4,588.7	4,580.2	4,575.9	5.1	16.1	-149.02	-108.0	133.9	316.2	295.3	20.90	15.132	
4,700.0	4,688.1	4,679.4	4,674.9	5.2	16.5	-149.05	-113.4	137.5	329.3	307.9	21.33	15.439	
4,800.0	4,787.5	4,778.5	4,773.8	5.3	16.8	-149.07	-118.8	141.2	342.3	320.6	21.76	15.733	
4,900.0	4,886.9	4,877.7	4,872.7	5.4	17.1	-149.10	-124.2	144.9	355.4	333.2	22.20	16.013	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - PILEDRIVER FEDERAL #702H - OWB - PWP2 — **Offset Site Error:** 3.0 usft

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

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,986.3	4,976.8	4,971.6	5.4	17.5	-149.12	-129.6	148.6	368.5	345.9	22.63	16.281	
5,100.0	5,085.7	5,075.9	5,070.6	5.5	17.8	-149.14	-135.1	152.3	381.6	358.5	23.07	16.538	
5,200.0	5,185.1	5,175.1	5,169.5	5.6	18.2	-149.15	-140.5	156.0	394.6	371.1	23.51	16.784	
5,300.0	5,284.5	5,274.2	5,268.4	5.7	18.5	-149.17	-145.9	159.7	407.7	383.8	23.96	17.019	
5,400.0	5,383.9	5,373.4	5,367.3	5.8	18.9	-149.19	-151.3	163.4	420.8	396.4	24.40	17.244	
5,500.0	5,483.3	5,472.5	5,466.3	5.9	19.2	-149.20	-156.7	167.1	433.9	409.0	24.85	17.460	
5,600.0	5,582.7	5,571.6	5,565.2	6.0	19.6	-149.22	-162.1	170.8	446.9	421.6	25.30	17.668	
5,700.0	5,682.1	5,670.8	5,664.1	6.1	19.9	-149.23	-167.6	174.5	460.0	434.3	25.75	17.867	
5,800.0	5,781.5	5,769.9	5,763.0	6.2	20.3	-149.24	-173.0	178.2	473.1	446.9	26.20	18.058	
5,900.0	5,880.9	5,869.1	5,862.0	6.3	20.6	-149.25	-178.4	181.9	486.1	459.5	26.65	18.242	
6,000.0	5,980.3	5,968.2	5,960.9	6.3	21.0	-149.26	-183.8	185.6	499.2	472.1	27.10	18.419	
6,100.0	6,079.7	6,067.4	6,059.8	6.4	21.3	-149.27	-189.2	189.2	512.3	484.7	27.56	18.589	
6,200.0	6,179.1	6,166.5	6,158.7	6.5	21.7	-149.28	-194.6	192.9	525.4	497.4	28.02	18.752	
6,300.0	6,278.5	6,265.6	6,257.7	6.6	22.0	-149.29	-200.1	196.6	538.4	510.0	28.47	18.910	
6,400.0	6,377.9	6,364.8	6,356.6	6.8	22.4	-149.30	-205.5	200.3	551.5	522.6	28.93	19.062	
6,500.0	6,477.3	6,463.9	6,455.5	6.9	22.7	-149.31	-210.9	204.0	564.6	535.2	29.39	19.208	
6,600.0	6,576.7	6,563.1	6,554.4	7.0	23.1	-149.32	-216.3	207.7	577.7	547.8	29.85	19.349	
6,700.0	6,676.2	6,662.2	6,653.4	7.1	23.4	-149.33	-221.7	211.4	590.7	560.4	30.32	19.485	
6,800.0	6,775.6	6,761.3	6,752.3	7.2	23.8	-149.34	-227.1	215.1	603.8	573.0	30.78	19.616	
6,900.0	6,875.0	6,860.5	6,851.2	7.3	24.1	-149.34	-232.5	218.8	616.9	585.6	31.25	19.743	
7,000.0	6,974.4	6,959.6	6,950.1	7.4	24.5	-149.35	-238.0	222.5	630.0	598.2	31.71	19.866	
7,100.0	7,073.8	7,058.8	7,049.1	7.5	24.8	-149.36	-243.4	226.2	643.0	610.9	32.18	19.984	
7,200.0	7,173.2	7,157.9	7,148.0	7.6	25.2	-149.36	-248.8	229.9	656.1	623.5	32.64	20.099	
7,300.0	7,272.6	7,257.1	7,246.9	7.7	25.5	-149.37	-254.2	233.6	669.2	636.1	33.11	20.209	
7,400.0	7,372.0	7,356.2	7,345.8	7.8	25.9	-149.38	-259.6	237.3	682.2	648.7	33.58	20.316	
7,500.0	7,471.4	7,455.3	7,444.8	7.9	26.2	-149.38	-265.0	240.9	695.3	661.3	34.05	20.420	
7,600.0	7,570.8	7,554.5	7,543.7	8.1	26.6	-149.39	-270.5	244.6	708.4	673.9	34.52	20.520	
7,700.0	7,670.2	7,653.6	7,642.6	8.2	26.9	-149.39	-275.9	248.3	721.5	686.5	34.99	20.618	
7,800.0	7,769.6	7,752.8	7,741.5	8.3	27.3	-149.40	-281.3	252.0	734.5	699.1	35.47	20.712	
7,900.0	7,869.0	7,851.9	7,840.5	8.4	27.6	-149.40	-286.7	255.7	747.6	711.7	35.94	20.803	
8,000.0	7,968.4	7,951.0	7,939.4	8.5	28.0	-149.41	-292.1	259.4	760.7	724.3	36.41	20.891	
8,100.0	8,067.8	8,050.2	8,038.3	8.6	28.4	-149.41	-297.5	263.1	773.8	736.9	36.89	20.977	
8,200.0	8,167.2	8,149.3	8,137.2	8.8	28.7	-149.42	-303.0	266.8	786.8	749.5	37.36	21.060	
8,300.0	8,266.6	8,248.5	8,236.2	8.9	29.1	-149.42	-308.4	270.5	799.9	762.1	37.84	21.141	

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - PILEDRIVER FEDERAL #703H - OWB - PWP2 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	89.81	0.1	30.0	30.0				
100.0	100.0	99.4	99.4	3.0	3.0	89.81	0.1	30.0	30.0	24.0	6.00	5.000	
200.0	200.0	199.4	199.4	3.0	3.0	89.81	0.1	30.0	30.0	24.0	6.00	4.998	
300.0	300.0	299.4	299.4	3.0	3.0	89.81	0.1	30.0	30.0	24.0	6.01	4.993	
400.0	400.0	399.4	399.4	3.0	3.0	89.81	0.1	30.0	30.0	24.0	6.02	4.985	
500.0	500.0	499.4	499.4	3.1	3.1	89.81	0.1	30.0	30.0	24.0	6.03	4.975	
600.0	600.0	599.4	599.4	3.1	3.1	89.81	0.1	30.0	30.0	24.0	6.05	4.962	
700.0	700.0	699.4	699.4	3.1	3.1	89.81	0.1	30.0	30.0	23.9	6.07	4.946	
800.0	800.0	799.4	799.4	3.2	3.2	89.81	0.1	30.0	30.0	23.9	6.09	4.929	
900.0	900.0	899.4	899.4	3.2	3.2	89.81	0.1	30.0	30.0	23.9	6.11	4.908	
1,000.0	1,000.0	999.4	999.4	3.2	3.2	89.81	0.1	30.0	30.0	23.9	6.14	4.886	
1,100.0	1,100.0	1,099.4	1,099.4	3.3	3.3	89.81	0.1	30.0	30.0	23.8	6.17	4.861	
1,200.0	1,200.0	1,199.4	1,199.4	3.4	3.4	89.81	0.1	30.0	30.0	23.8	6.21	4.834	
1,300.0	1,300.0	1,299.4	1,299.4	3.4	3.4	89.81	0.1	30.0	30.0	23.8	6.24	4.806	
1,400.0	1,400.0	1,399.4	1,399.4	3.5	3.5	89.81	0.1	30.0	30.0	23.7	6.28	4.775	
1,500.0	1,500.0	1,499.4	1,499.4	3.5	3.5	89.81	0.1	30.0	30.0	23.7	6.33	4.743	
1,600.0	1,600.0	1,599.4	1,599.4	3.6	3.6	89.81	0.1	30.0	30.0	23.6	6.37	4.709	
1,700.0	1,700.0	1,699.4	1,699.4	3.7	3.7	89.81	0.1	30.0	30.0	23.6	6.42	4.673	
1,800.0	1,800.0	1,799.4	1,799.4	3.8	3.8	89.81	0.1	30.0	30.0	23.5	6.47	4.636	
1,900.0	1,900.0	1,899.4	1,899.4	3.9	3.9	89.81	0.1	30.0	30.0	23.5	6.52	4.598	
2,000.0	2,000.0	1,999.4	1,999.4	3.9	3.9	89.81	0.1	30.0	30.0	23.4	6.58	4.559	
2,100.0	2,100.0	2,099.4	2,099.4	4.0	4.0	89.81	0.1	30.0	30.0	23.4	6.64	4.519	
2,200.0	2,200.0	2,199.4	2,199.4	4.1	4.1	89.81	0.1	30.0	30.0	23.3	6.70	4.478	
2,300.0	2,300.0	2,299.4	2,299.4	4.2	4.2	89.81	0.1	30.0	30.0	23.2	6.76	4.436	
2,400.0	2,400.0	2,399.4	2,399.4	4.3	4.3	89.81	0.1	30.0	30.0	23.2	6.83	4.393	
2,500.0	2,500.0	2,499.4	2,499.4	4.4	4.4	89.81	0.1	30.0	30.0	23.1	6.90	4.350	CC, ES, SF
2,600.0	2,600.0	2,599.4	2,599.4	4.4	4.5	-150.94	0.1	30.0	31.5	24.5	6.97	4.523	
2,700.0	2,699.8	2,699.2	2,699.2	4.4	4.6	-154.93	0.1	30.0	36.2	29.1	7.05	5.129	
2,800.0	2,799.5	2,798.9	2,798.9	4.4	4.7	-159.66	0.1	30.0	44.2	37.1	7.17	6.173	
2,813.3	2,812.7	2,812.1	2,812.1	4.4	4.7	-160.27	0.1	30.0	45.6	38.4	7.18	6.345	
2,900.0	2,898.9	2,898.3	2,898.3	4.4	4.8	-163.63	0.1	30.0	54.6	47.3	7.29	7.485	
3,000.0	2,998.3	2,997.7	2,997.7	4.5	4.9	-166.33	0.1	30.0	65.1	57.7	7.41	8.787	
3,100.0	3,097.7	3,097.1	3,097.1	4.5	5.0	-168.28	0.1	30.0	75.8	68.2	7.53	10.067	
3,200.0	3,197.1	3,196.5	3,196.5	4.5	5.1	-169.75	0.1	30.0	86.5	78.9	7.64	11.321	
3,300.0	3,296.5	3,295.9	3,295.9	4.5	5.2	-170.90	0.1	30.0	97.3	89.5	7.75	12.546	
3,400.0	3,395.9	3,395.3	3,395.3	4.5	5.3	-171.81	0.1	30.0	108.1	100.2	7.86	13.739	
3,500.0	3,495.3	3,494.7	3,494.7	4.6	5.4	-172.56	0.1	30.0	118.9	110.9	7.98	14.899	
3,600.0	3,594.7	3,594.1	3,594.1	4.6	5.5	-173.19	0.1	30.0	129.7	121.6	8.09	16.024	
3,700.0	3,694.1	3,693.5	3,693.5	4.6	5.6	-173.71	0.1	30.0	140.5	132.3	8.21	17.114	
3,800.0	3,793.5	3,792.9	3,792.9	4.7	5.8	-174.17	0.1	30.0	151.4	143.1	8.33	18.169	
3,900.0	3,892.9	3,892.3	3,892.3	4.7	5.9	-174.56	0.1	30.0	162.3	153.8	8.46	19.188	
4,000.0	3,992.3	3,991.7	3,991.7	4.8	6.0	-174.90	0.1	30.0	173.1	164.5	8.58	20.171	
4,100.0	4,091.7	4,091.1	4,091.1	4.8	6.1	-175.20	0.1	30.0	184.0	175.3	8.71	21.118	
4,200.0	4,191.1	4,190.5	4,190.5	4.9	6.2	-175.47	0.1	30.0	194.9	186.0	8.85	22.031	
4,300.0	4,290.5	4,289.9	4,289.9	4.9	6.3	-175.71	0.1	30.0	205.8	196.8	8.98	22.909	
4,400.0	4,389.9	4,389.3	4,389.3	5.0	6.4	-175.93	0.1	30.0	216.7	207.5	9.12	23.754	
4,500.0	4,489.3	4,488.7	4,488.7	5.1	6.6	-176.12	0.1	30.0	227.5	218.3	9.26	24.565	
4,600.0	4,588.7	4,588.1	4,588.1	5.1	6.7	-176.30	0.1	30.0	238.4	229.0	9.41	25.345	
4,700.0	4,688.1	4,687.5	4,687.5	5.2	6.8	-176.46	0.1	30.0	249.3	239.8	9.56	26.094	
4,800.0	4,787.5	4,786.9	4,786.9	5.3	6.9	-176.61	0.1	30.0	260.2	250.5	9.71	26.813	
4,900.0	4,886.9	4,886.3	4,886.3	5.4	7.0	-176.75	0.1	30.0	271.1	261.3	9.86	27.503	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - PILEDRIVER FEDERAL #703H - OWB - PWP2 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,986.3	4,985.7	4,985.7	5.4	7.1	-176.87	0.1	30.0	282.0	272.0	10.01	28.165	
5,100.0	5,085.7	5,085.1	5,085.1	5.5	7.3	-176.99	0.1	30.0	292.9	282.8	10.17	28.800	
5,200.0	5,185.1	5,184.5	5,184.5	5.6	7.4	-177.10	0.1	30.0	303.8	293.5	10.33	29.409	
5,300.0	5,284.5	5,283.9	5,283.9	5.7	7.5	-177.20	0.1	30.0	314.7	304.2	10.49	29.993	
5,400.0	5,383.9	5,383.3	5,383.3	5.8	7.6	-177.29	0.1	30.0	325.6	315.0	10.66	30.553	
5,500.0	5,483.3	5,482.7	5,482.7	5.9	7.7	-177.38	0.1	30.0	336.5	325.7	10.82	31.091	
5,600.0	5,582.7	5,591.1	5,591.0	6.0	7.8	-177.33	-1.2	29.4	346.4	335.4	10.95	31.623	
5,700.0	5,682.1	5,701.7	5,701.6	6.1	7.8	-176.88	-6.3	26.9	353.2	342.1	11.04	31.992	
5,800.0	5,781.5	5,807.7	5,807.2	6.2	7.7	-176.12	-14.4	22.9	357.2	346.1	11.13	32.099	
5,900.0	5,880.9	5,907.5	5,906.6	6.3	7.7	-175.36	-22.7	18.9	360.8	349.6	11.22	32.160	
6,000.0	5,980.3	6,007.4	6,006.0	6.3	7.7	-174.61	-30.9	14.9	364.4	353.1	11.32	32.203	
6,100.0	6,079.7	6,107.2	6,105.4	6.4	7.6	-173.88	-39.2	10.9	368.2	356.7	11.42	32.229	
6,200.0	6,179.1	6,207.0	6,204.7	6.5	7.6	-173.17	-47.4	6.9	371.9	360.4	11.54	32.238	
6,300.0	6,278.5	6,306.8	6,304.1	6.6	7.6	-172.46	-55.7	2.8	375.8	364.1	11.66	32.232	
6,400.0	6,377.9	6,406.6	6,403.5	6.8	7.6	-171.78	-63.9	-1.2	379.7	367.9	11.79	32.213	
6,500.0	6,477.3	6,506.5	6,502.9	6.9	7.5	-171.10	-72.2	-5.2	383.6	371.7	11.92	32.181	
6,600.0	6,576.7	6,606.3	6,602.3	7.0	7.5	-170.44	-80.4	-9.2	387.6	375.5	12.06	32.137	
6,700.0	6,676.2	6,706.1	6,701.7	7.1	7.5	-169.80	-88.6	-13.2	391.6	379.4	12.21	32.083	
6,800.0	6,775.6	6,805.9	6,801.1	7.2	7.5	-169.16	-96.9	-17.2	395.7	383.4	12.36	32.020	
6,900.0	6,875.0	6,905.7	6,900.5	7.3	7.5	-168.54	-105.1	-21.2	399.9	387.4	12.52	31.949	
7,000.0	6,974.4	7,005.6	6,999.9	7.4	7.5	-167.94	-113.4	-25.3	404.1	391.4	12.68	31.871	
7,100.0	7,073.8	7,105.4	7,099.3	7.5	7.5	-167.34	-121.6	-29.3	408.3	395.4	12.84	31.787	
7,200.0	7,173.2	7,205.2	7,198.7	7.6	7.5	-166.76	-129.9	-33.3	412.6	399.6	13.02	31.697	
7,300.0	7,272.6	7,305.0	7,298.1	7.7	7.4	-166.19	-138.1	-37.3	416.9	403.7	13.19	31.603	
7,400.0	7,372.0	7,404.9	7,397.5	7.8	7.4	-165.63	-146.4	-41.3	421.2	407.9	13.37	31.506	
7,500.0	7,471.4	7,504.7	7,496.9	7.9	7.5	-165.08	-154.6	-45.3	425.6	412.1	13.55	31.406	
7,600.0	7,570.8	7,604.5	7,596.3	8.1	7.5	-164.55	-162.8	-49.4	430.1	416.3	13.74	31.303	
7,700.0	7,670.2	7,704.3	7,695.7	8.2	7.5	-164.02	-171.1	-53.4	434.5	420.6	13.93	31.199	
7,800.0	7,769.6	7,804.1	7,795.1	8.3	7.5	-163.51	-179.3	-57.4	439.0	424.9	14.12	31.093	
7,900.0	7,869.0	7,904.0	7,894.5	8.4	7.5	-163.00	-187.6	-61.4	443.6	429.3	14.32	30.987	
8,000.0	7,968.4	8,003.8	7,993.9	8.5	7.5	-162.51	-195.8	-65.4	448.2	433.7	14.51	30.880	
8,100.0	8,067.8	8,103.6	8,093.3	8.6	7.5	-162.02	-204.1	-69.4	452.8	438.1	14.71	30.774	
8,200.0	8,167.2	8,203.4	8,192.7	8.8	7.6	-161.55	-212.3	-73.4	457.4	442.5	14.92	30.667	
8,300.0	8,266.6	8,303.2	8,292.1	8.9	7.6	-161.09	-220.6	-77.5	462.1	447.0	15.12	30.561	
8,400.0	8,366.0	8,403.1	8,391.5	9.0	7.6	-160.63	-228.8	-81.5	466.8	451.5	15.33	30.455	
8,500.0	8,465.4	8,502.9	8,490.9	9.1	7.6	-160.18	-237.0	-85.5	471.5	456.0	15.54	30.351	
8,600.0	8,564.8	8,602.7	8,590.3	9.2	7.7	-159.75	-245.3	-89.5	476.3	460.5	15.75	30.247	
8,700.0	8,664.2	8,702.5	8,689.7	9.4	7.7	-159.32	-253.5	-93.5	481.1	465.1	15.96	30.145	
8,800.0	8,763.6	8,802.4	8,789.1	9.5	7.8	-158.90	-261.8	-97.5	485.9	469.7	16.17	30.044	
8,900.0	8,863.0	8,902.2	8,888.5	9.6	7.8	-158.49	-270.0	-101.6	490.7	474.3	16.39	29.944	
9,000.0	8,962.4	9,002.0	8,987.9	9.7	7.8	-158.08	-278.3	-105.6	495.6	479.0	16.60	29.846	
9,100.0	9,061.8	9,101.8	9,087.3	9.9	7.9	-157.69	-286.5	-109.6	500.4	483.6	16.82	29.749	
9,200.0	9,161.2	9,201.6	9,186.7	10.0	8.0	-157.30	-294.8	-113.6	505.4	488.3	17.04	29.654	
9,300.0	9,260.6	9,301.5	9,286.1	10.1	8.0	-156.92	-303.0	-117.6	510.3	493.0	17.26	29.560	
9,400.0	9,360.0	9,401.3	9,385.5	10.2	8.1	-156.54	-311.3	-121.6	515.2	497.8	17.48	29.468	
9,500.0	9,459.4	9,501.1	9,484.9	10.4	8.1	-156.18	-319.5	-125.6	520.2	502.5	17.71	29.377	
9,600.0	9,558.8	9,600.9	9,584.3	10.5	8.2	-155.82	-327.7	-129.7	525.2	507.3	17.93	29.288	
9,700.0	9,658.2	9,700.7	9,683.7	10.6	8.3	-155.47	-336.0	-133.7	530.2	512.1	18.16	29.201	
9,800.0	9,757.6	9,800.6	9,783.1	10.7	8.3	-155.12	-344.2	-137.7	535.3	516.9	18.38	29.114	
9,900.0	9,857.0	9,900.4	9,882.5	10.9	8.4	-154.78	-352.5	-141.7	540.3	521.7	18.61	29.030	
10,000.0	9,956.4	10,000.2	9,981.9	11.0	8.5	-154.45	-360.7	-145.7	545.4	526.5	18.84	28.946	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - PILEDRIVER FEDERAL #703H - OWB - PWP2 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,100.0	10,055.8	10,100.0	10,081.3	11.1	8.6	-154.12	-369.0	-149.7	550.5	531.4	19.07	28.864	
10,200.0	10,155.2	10,199.9	10,180.7	11.3	8.6	-153.80	-377.2	-153.8	555.6	536.3	19.30	28.784	
10,300.0	10,254.6	10,299.7	10,280.1	11.4	8.7	-153.48	-385.5	-157.8	560.7	541.2	19.53	28.705	
10,400.0	10,354.0	10,399.5	10,379.5	11.5	8.8	-153.17	-393.7	-161.8	565.8	546.1	19.77	28.627	
10,500.0	10,453.4	10,499.3	10,478.9	11.7	8.9	-152.87	-401.9	-165.8	571.0	551.0	20.00	28.550	
10,600.0	10,552.8	10,599.1	10,578.3	11.8	9.0	-152.57	-410.2	-169.8	576.2	555.9	20.23	28.475	
10,700.0	10,652.3	10,699.0	10,677.7	11.9	9.1	-152.28	-418.4	-173.8	581.4	560.9	20.47	28.400	
10,800.0	10,751.7	10,798.8	10,777.1	12.1	9.2	-151.99	-426.7	-177.8	586.6	565.9	20.71	28.327	
10,900.0	10,851.1	10,898.6	10,876.5	12.2	9.3	-151.71	-434.9	-181.9	591.8	570.8	20.94	28.255	
11,000.0	10,950.5	10,998.4	10,975.9	12.3	9.4	-151.43	-443.2	-185.9	597.0	575.8	21.18	28.184	
11,100.0	11,049.9	11,098.2	11,075.3	12.5	9.4	-151.16	-451.4	-189.9	602.3	580.9	21.42	28.114	
11,200.0	11,149.3	11,198.1	11,174.7	12.6	9.5	-150.89	-459.7	-193.9	607.5	585.9	21.66	28.045	
11,300.0	11,248.7	11,297.9	11,274.1	12.7	9.6	-150.62	-467.9	-197.9	612.8	590.9	21.90	27.977	
11,400.0	11,348.1	11,397.7	11,373.5	12.9	9.7	-150.36	-476.1	-201.9	618.1	595.9	22.15	27.910	
11,500.0	11,447.5	11,497.5	11,472.9	13.0	9.8	-150.11	-484.4	-206.0	623.4	601.0	22.39	27.844	
11,600.0	11,546.9	11,597.4	11,572.3	13.2	9.9	-149.86	-492.6	-210.0	628.7	606.1	22.63	27.778	
11,700.0	11,646.3	11,697.2	11,671.7	13.3	10.0	-149.61	-500.9	-214.0	634.0	611.1	22.88	27.713	
11,746.8	11,692.8	11,743.9	11,718.3	13.4	10.1	-149.50	-504.7	-215.9	636.5	613.5	22.99	27.691	
11,750.0	11,696.0	11,747.0	11,721.4	13.4	10.1	-146.57	-505.0	-216.0	636.7	613.7	22.99	27.695	
11,775.0	11,720.8	11,771.8	11,745.9	13.4	10.1	-129.13	-508.0	-217.0	638.0	615.0	23.00	27.746	
11,800.0	11,745.4	11,796.5	11,770.3	13.4	10.1	-118.85	-512.2	-217.9	639.3	616.3	23.00	27.795	
11,825.0	11,769.8	11,821.2	11,794.3	13.4	10.1	-112.42	-517.6	-218.9	640.7	617.6	23.01	27.841	
11,850.0	11,794.0	11,845.9	11,818.0	13.4	10.1	-108.09	-524.3	-219.8	641.9	618.9	23.02	27.884	
11,875.0	11,817.8	11,870.5	11,841.3	13.4	10.1	-104.98	-532.2	-220.6	643.2	620.2	23.03	27.924	
11,900.0	11,841.2	11,895.0	11,864.1	13.4	10.1	-102.64	-541.3	-221.5	644.5	621.4	23.05	27.959	
11,925.0	11,864.1	11,919.6	11,886.5	13.4	10.1	-100.81	-551.5	-222.3	645.7	622.6	23.07	27.989	
11,950.0	11,886.4	11,944.1	11,908.2	13.4	10.1	-99.34	-562.8	-223.0	646.9	623.8	23.09	28.014	
11,975.0	11,908.2	11,968.6	11,929.3	13.4	10.1	-98.12	-575.2	-223.8	648.0	624.9	23.12	28.034	
12,000.0	11,929.3	11,993.1	11,949.7	13.4	10.2	-97.11	-588.7	-224.5	649.2	626.0	23.15	28.046	
12,025.0	11,949.7	12,017.5	11,969.3	13.4	10.2	-96.24	-603.2	-225.1	650.2	627.1	23.18	28.052	
12,050.0	11,969.3	12,041.9	11,988.2	13.4	10.2	-95.49	-618.6	-225.7	651.3	628.1	23.22	28.050	
12,075.0	11,988.0	12,066.3	12,006.3	13.5	10.2	-94.84	-635.0	-226.3	652.3	629.0	23.26	28.040	
12,100.0	12,005.9	12,090.7	12,023.5	13.5	10.2	-94.28	-652.3	-226.8	653.2	629.9	23.31	28.021	
12,125.0	12,022.9	12,115.0	12,039.7	13.5	10.3	-93.78	-670.4	-227.2	654.1	630.7	23.37	27.992	
12,150.0	12,038.9	12,139.3	12,055.1	13.5	10.3	-93.34	-689.3	-227.7	655.0	631.5	23.43	27.954	
12,175.0	12,053.9	12,163.7	12,069.4	13.5	10.3	-92.95	-708.9	-228.0	655.7	632.2	23.50	27.906	
12,200.0	12,067.8	12,188.0	12,082.7	13.6	10.4	-92.61	-729.2	-228.3	656.5	632.9	23.57	27.847	
12,225.0	12,080.6	12,212.2	12,094.9	13.6	10.4	-92.31	-750.2	-228.6	657.1	633.5	23.66	27.779	
12,250.0	12,092.3	12,236.5	12,106.1	13.6	10.5	-92.05	-771.8	-228.8	657.7	634.0	23.75	27.699	
12,275.0	12,102.8	12,260.8	12,116.1	13.7	10.5	-91.82	-793.9	-229.0	658.3	634.4	23.84	27.610	
12,300.0	12,112.1	12,285.0	12,125.0	13.7	10.6	-91.63	-816.4	-229.1	658.7	634.8	23.95	27.510	
12,325.0	12,120.2	12,309.3	12,132.8	13.8	10.6	-91.47	-839.4	-229.1	659.1	635.1	24.06	27.401	
12,350.0	12,127.0	12,333.5	12,139.4	13.8	10.7	-91.34	-862.7	-229.1	659.5	635.3	24.17	27.282	
12,375.0	12,132.6	12,357.8	12,144.7	13.9	10.7	-91.24	-886.4	-229.1	659.7	635.5	24.30	27.155	
12,400.0	12,136.9	12,382.0	12,148.9	13.9	10.8	-91.16	-910.3	-229.0	659.9	635.5	24.42	27.020	
12,425.0	12,140.0	12,406.3	12,151.9	14.0	10.9	-91.11	-934.3	-228.8	660.1	635.5	24.56	26.877	
12,450.0	12,141.7	12,430.5	12,153.6	14.0	11.0	-91.09	-958.5	-228.6	660.1	635.4	24.70	26.728	
12,459.5	12,142.0	12,439.8	12,154.0	14.0	11.0	-91.09	-967.8	-228.5	660.1	635.4	24.75	26.670	
12,500.0	12,142.9	12,480.2	12,154.9	14.1	11.1	-91.09	-1,008.1	-228.1	660.1	635.1	25.00	26.402	
12,600.0	12,145.3	12,580.2	12,157.2	14.4	11.5	-91.09	-1,108.1	-227.0	660.1	634.4	25.71	25.680	
12,700.0	12,147.6	12,680.2	12,159.5	14.8	11.9	-91.09	-1,208.1	-226.0	660.1	633.6	26.50	24.909	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - PILEDRIVER FEDERAL #703H - OWB - PWP2 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,800.0	12,149.9	12,780.2	12,161.8	15.1	12.4	-91.08	-1,308.0	-224.9	660.1	632.7	27.38	24.106	
12,900.0	12,152.2	12,880.2	12,164.1	15.6	12.9	-91.08	-1,408.0	-223.8	660.1	631.8	28.34	23.289	
13,000.0	12,154.5	12,980.2	12,166.4	16.0	13.5	-91.08	-1,508.0	-222.8	660.1	630.7	29.37	22.472	
13,100.0	12,156.9	13,080.2	12,168.7	16.5	14.1	-91.08	-1,607.9	-221.7	660.1	629.6	30.47	21.666	
13,200.0	12,159.2	13,180.2	12,171.0	17.0	14.7	-91.08	-1,707.9	-220.7	660.1	628.5	31.62	20.878	
13,300.0	12,161.5	13,280.2	12,173.3	17.6	15.3	-91.08	-1,807.9	-219.6	660.1	627.3	32.82	20.115	
13,400.0	12,163.8	13,380.2	12,175.6	18.2	16.0	-91.08	-1,907.8	-218.5	660.1	626.0	34.06	19.379	
13,500.0	12,166.1	13,480.2	12,177.9	18.8	16.7	-91.07	-2,007.8	-217.5	660.1	624.7	35.35	18.675	
13,600.0	12,168.5	13,580.2	12,180.2	19.4	17.4	-91.07	-2,107.8	-216.4	660.1	623.4	36.67	18.002	
13,700.0	12,170.8	13,680.2	12,182.5	20.0	18.1	-91.07	-2,207.8	-215.3	660.1	622.0	38.02	17.361	
13,800.0	12,173.1	13,780.2	12,184.8	20.7	18.8	-91.07	-2,307.7	-214.3	660.1	620.7	39.40	16.751	
13,900.0	12,175.4	13,880.2	12,187.1	21.4	19.5	-91.07	-2,407.7	-213.2	660.0	619.2	40.81	16.173	
14,000.0	12,177.8	13,980.2	12,189.4	22.0	20.3	-91.07	-2,507.7	-212.2	660.0	617.8	42.24	15.625	
14,100.0	12,180.1	14,080.2	12,191.7	22.7	21.0	-91.07	-2,607.6	-211.1	660.0	616.3	43.70	15.105	
14,200.0	12,182.4	14,180.2	12,194.0	23.4	21.8	-91.06	-2,707.6	-210.0	660.0	614.9	45.17	14.612	
14,300.0	12,184.7	14,280.2	12,196.4	24.2	22.6	-91.06	-2,807.6	-209.0	660.0	613.4	46.66	14.146	
14,400.0	12,187.0	14,380.2	12,198.7	24.9	23.3	-91.06	-2,907.5	-207.9	660.0	611.9	48.16	13.703	
14,500.0	12,189.4	14,480.2	12,201.0	25.6	24.1	-91.06	-3,007.5	-206.8	660.0	610.3	49.68	13.284	
14,600.0	12,191.7	14,580.2	12,203.3	26.4	24.9	-91.06	-3,107.5	-205.8	660.0	608.8	51.22	12.886	
14,700.0	12,194.0	14,680.2	12,205.6	27.1	25.7	-91.06	-3,207.4	-204.7	660.0	607.2	52.76	12.509	
14,800.0	12,196.3	14,780.2	12,207.9	27.9	26.5	-91.05	-3,307.4	-203.7	660.0	605.7	54.32	12.150	
14,900.0	12,198.6	14,880.2	12,210.2	28.6	27.3	-91.05	-3,407.4	-202.6	660.0	604.1	55.88	11.810	
15,000.0	12,201.0	14,980.2	12,212.5	29.4	28.1	-91.05	-3,507.3	-201.5	660.0	602.5	57.46	11.486	
15,012.6	12,201.3	14,992.7	12,212.8	29.5	28.2	-91.05	-3,519.9	-201.4	660.0	602.3	57.66	11.447	
15,015.1	12,201.3	14,994.8	12,212.8	29.5	28.2	-91.05	-3,521.9	-201.4	660.0	602.3	57.69	11.440	
15,019.1	12,201.4	14,998.3	12,212.9	29.5	28.2	-91.05	-3,525.4	-201.3	660.0	602.2	57.75	11.428	
15,100.0	12,203.3	15,079.2	12,214.8	30.2	28.9	-91.05	-3,606.3	-200.4	660.0	601.0	59.03	11.180	
15,200.0	12,205.6	15,179.2	12,217.1	31.0	29.7	-91.05	-3,706.3	-199.1	660.0	599.4	60.62	10.886	
15,300.0	12,207.9	15,279.2	12,219.4	31.7	30.5	-91.05	-3,806.2	-197.9	660.0	597.8	62.22	10.607	
15,400.0	12,210.3	15,379.2	12,221.7	32.5	31.3	-91.05	-3,906.2	-196.7	660.0	596.2	63.83	10.340	
15,500.0	12,212.6	15,479.2	12,224.0	33.3	32.2	-91.05	-4,006.2	-195.5	660.0	594.6	65.44	10.085	
15,600.0	12,214.9	15,579.2	12,226.3	34.1	33.0	-91.04	-4,106.1	-194.3	660.0	592.9	67.06	9.842	
15,700.0	12,217.2	15,679.2	12,228.6	34.9	33.8	-91.04	-4,206.1	-193.1	660.0	591.3	68.68	9.610	
15,800.0	12,219.5	15,779.2	12,230.9	35.7	34.6	-91.04	-4,306.1	-191.9	660.0	589.7	70.31	9.387	
15,900.0	12,221.9	15,879.2	12,233.3	36.5	35.5	-91.04	-4,406.0	-190.7	660.0	588.1	71.94	9.174	
16,000.0	12,224.2	15,979.2	12,235.6	37.3	36.3	-91.04	-4,506.0	-189.4	660.0	586.4	73.58	8.970	
16,100.0	12,226.5	16,079.2	12,237.9	38.1	37.1	-91.04	-4,606.0	-188.2	660.0	584.8	75.22	8.774	
16,200.0	12,228.8	16,179.2	12,240.2	38.9	38.0	-91.04	-4,705.9	-187.0	660.0	583.1	76.86	8.587	
16,300.0	12,231.1	16,279.2	12,242.5	39.8	38.8	-91.04	-4,805.9	-185.8	660.0	581.5	78.51	8.406	
16,400.0	12,233.5	16,379.2	12,244.8	40.6	39.6	-91.04	-4,905.9	-184.6	660.0	579.9	80.17	8.233	
16,500.0	12,235.8	16,479.2	12,247.1	41.4	40.5	-91.04	-5,005.8	-183.4	660.0	578.2	81.82	8.067	
16,600.0	12,238.1	16,579.2	12,249.4	42.2	41.3	-91.04	-5,105.8	-182.2	660.0	576.5	83.48	7.907	
16,700.0	12,240.4	16,679.2	12,251.7	43.0	42.1	-91.03	-5,205.8	-181.0	660.0	574.9	85.14	7.752	
16,800.0	12,242.8	16,779.2	12,254.1	43.9	43.0	-91.03	-5,305.7	-179.7	660.0	573.2	86.80	7.604	
16,900.0	12,245.1	16,879.2	12,256.4	44.7	43.8	-91.03	-5,405.7	-178.5	660.0	571.6	88.47	7.461	
17,000.0	12,247.4	16,979.2	12,258.7	45.5	44.7	-91.03	-5,505.7	-177.3	660.0	569.9	90.14	7.323	
17,100.0	12,249.7	17,079.2	12,261.0	46.3	45.5	-91.03	-5,605.6	-176.1	660.0	568.2	91.81	7.189	
17,200.0	12,252.0	17,179.2	12,263.3	47.2	46.3	-91.03	-5,705.6	-174.9	660.0	566.6	93.48	7.061	
17,300.0	12,254.4	17,279.2	12,265.6	48.0	47.2	-91.03	-5,805.6	-173.7	660.0	564.9	95.15	6.937	
17,400.0	12,256.7	17,379.2	12,267.9	48.8	48.0	-91.03	-5,905.5	-172.5	660.0	563.2	96.83	6.817	
17,500.0	12,259.0	17,479.2	12,270.2	49.7	48.9	-91.03	-6,005.5	-171.3	660.0	561.5	98.51	6.700	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 - PILEDRIVER FEDERAL #703H - OWB - PWP2 — **Offset Site Error:** 3.0 usft

Survey Program: 0-Standard Keeper 104, 11742-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,600.0	12,261.3	17,579.2	12,272.5	50.5	49.7	-91.03	-6,105.5	-170.1	660.0	559.9	100.19	6.588	
17,700.0	12,263.6	17,679.2	12,274.9	51.3	50.6	-91.03	-6,205.4	-168.8	660.1	558.2	101.87	6.479	
17,800.0	12,266.0	17,779.2	12,277.2	52.2	51.4	-91.02	-6,305.4	-167.6	660.1	556.5	103.55	6.374	
17,900.0	12,268.3	17,879.2	12,279.5	53.0	52.3	-91.02	-6,405.4	-166.4	660.1	554.8	105.24	6.272	
18,000.0	12,270.6	17,979.2	12,281.8	53.8	53.1	-91.02	-6,505.3	-165.2	660.1	553.1	106.92	6.173	
18,100.0	12,272.9	18,079.2	12,284.1	54.7	54.0	-91.02	-6,605.3	-164.0	660.1	551.5	108.61	6.077	
18,200.0	12,275.3	18,179.2	12,286.4	55.5	54.8	-91.02	-6,705.3	-162.8	660.1	549.8	110.30	5.984	
18,300.0	12,277.6	18,279.2	12,288.7	56.3	55.7	-91.02	-6,805.2	-161.6	660.1	548.1	111.99	5.894	
18,400.0	12,279.9	18,379.2	12,291.0	57.2	56.5	-91.02	-6,905.2	-160.4	660.1	546.4	113.68	5.807	
18,500.0	12,282.2	18,479.2	12,293.3	58.0	57.4	-91.02	-7,005.2	-159.1	660.1	544.7	115.37	5.721	
18,600.0	12,284.5	18,579.2	12,295.7	58.9	58.2	-91.02	-7,105.1	-157.9	660.1	543.0	117.06	5.639	
18,700.0	12,286.9	18,679.2	12,298.0	59.7	59.1	-91.02	-7,205.1	-156.7	660.1	541.3	118.76	5.558	
18,800.0	12,289.2	18,779.2	12,300.3	60.6	59.9	-91.02	-7,305.1	-155.5	660.1	539.6	120.45	5.480	
18,900.0	12,291.5	18,879.2	12,302.6	61.4	60.8	-91.01	-7,405.0	-154.3	660.1	537.9	122.15	5.404	
19,000.0	12,293.8	18,979.2	12,304.9	62.2	61.6	-91.01	-7,505.0	-153.1	660.1	536.2	123.84	5.330	
19,100.0	12,296.2	19,079.2	12,307.2	63.1	62.5	-91.01	-7,604.9	-151.9	660.1	534.5	125.54	5.258	
19,200.0	12,298.5	19,179.2	12,309.5	63.9	63.3	-91.01	-7,704.9	-150.7	660.1	532.9	127.24	5.188	
19,300.0	12,300.8	19,279.2	12,311.8	64.8	64.2	-91.01	-7,804.9	-149.4	660.1	531.2	128.94	5.119	
19,400.0	12,303.1	19,379.2	12,314.1	65.6	65.0	-91.01	-7,904.8	-148.2	660.1	529.5	130.64	5.053	
19,500.0	12,305.4	19,479.2	12,316.5	66.5	65.9	-91.01	-8,004.8	-147.0	660.1	527.8	132.34	4.988	
19,600.0	12,307.8	19,579.2	12,318.8	67.3	66.7	-91.01	-8,104.8	-145.8	660.1	526.1	134.04	4.925	
19,700.0	12,310.1	19,679.2	12,321.1	68.2	67.6	-91.01	-8,204.7	-144.6	660.1	524.4	135.74	4.863	
19,800.0	12,312.4	19,779.2	12,323.4	69.0	68.4	-91.01	-8,304.7	-143.4	660.1	522.7	137.45	4.803	
19,900.0	12,314.7	19,879.2	12,325.7	69.9	69.3	-91.01	-8,404.7	-142.2	660.1	521.0	139.15	4.744	
20,000.0	12,317.0	19,979.2	12,328.0	70.7	70.2	-91.00	-8,504.6	-141.0	660.1	519.3	140.85	4.687	
20,100.0	12,319.4	20,079.2	12,330.3	71.6	71.0	-91.00	-8,604.6	-139.8	660.1	517.6	142.56	4.631	
20,200.0	12,321.7	20,179.2	12,332.6	72.4	71.9	-91.00	-8,704.6	-138.5	660.1	515.9	144.26	4.576	
20,299.6	12,324.0	20,278.8	12,334.9	73.3	72.7	-91.00	-8,804.1	-137.3	660.1	514.2	145.96	4.523	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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 #1H - OWB - AWP

Offset Site Error: 3.0 usft

Survey Program: 100-GYRO-NS, 8926-MWD

Offset Well Error: 3.0 usft

Reference Measured Depth (usft)	Reference Vertical Depth (usft)	Offset Measured Depth (usft)	Offset Vertical Depth (usft)	Semi Major Axis Reference (usft)	Semi Major Axis Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	Offset Wellbore Centre +E/-W (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
8,900.0	8,863.0	12,138.3	9,519.5	9.6	57.5	38.21	-367.5	-815.2	726.8	678.4	48.38	15.022	
9,000.0	8,962.4	12,135.2	9,519.4	9.7	57.5	37.16	-370.5	-815.2	629.8	580.4	49.41	12.747	
9,100.0	9,061.8	12,132.2	9,519.3	9.9	57.5	36.12	-373.5	-815.3	534.0	483.2	50.77	10.518	
9,200.0	9,161.2	12,129.3	9,519.3	10.0	57.4	35.11	-376.5	-815.3	439.9	387.3	52.66	8.354	
9,300.0	9,260.6	12,126.4	9,519.2	10.1	57.4	34.11	-379.3	-815.3	349.3	293.8	55.47	6.296	
9,400.0	9,360.0	12,123.6	9,519.1	10.2	57.3	33.13	-382.2	-815.3	265.3	205.6	59.74	4.441	
9,500.0	9,459.4	12,120.9	9,519.0	10.4	57.3	32.18	-384.9	-815.3	196.9	131.6	65.30	3.016	
9,600.0	9,558.8	12,118.2	9,518.9	10.5	57.3	31.24	-387.6	-815.3	164.8	97.3	67.50	2.442	SF
9,608.1	9,566.9	12,117.9	9,518.9	10.5	57.3	31.16	-387.8	-815.3	164.6	97.3	67.32	2.446	CC, ES
9,700.0	9,658.2	12,115.5	9,518.9	10.6	57.2	30.32	-390.2	-815.3	188.5	126.3	62.22	3.030	
9,800.0	9,757.6	12,112.9	9,518.8	10.7	57.2	29.42	-392.8	-815.4	252.8	197.2	55.53	4.552	
9,900.0	9,857.0	12,110.4	9,518.7	10.9	57.2	28.54	-395.4	-815.4	335.0	283.4	51.60	6.492	
10,000.0	9,956.4	12,107.9	9,518.6	11.0	57.1	27.68	-397.9	-815.4	424.9	375.2	49.73	8.545	
10,100.0	10,055.8	12,105.5	9,518.6	11.1	57.1	26.84	-400.3	-815.4	518.5	469.6	48.90	10.603	
10,200.0	10,155.2	12,103.1	9,518.5	11.3	57.1	26.01	-402.7	-815.4	614.1	565.5	48.60	12.637	
10,300.0	10,254.6	12,100.7	9,518.4	11.4	57.0	25.20	-405.0	-815.4	711.0	662.4	48.56	14.640	

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

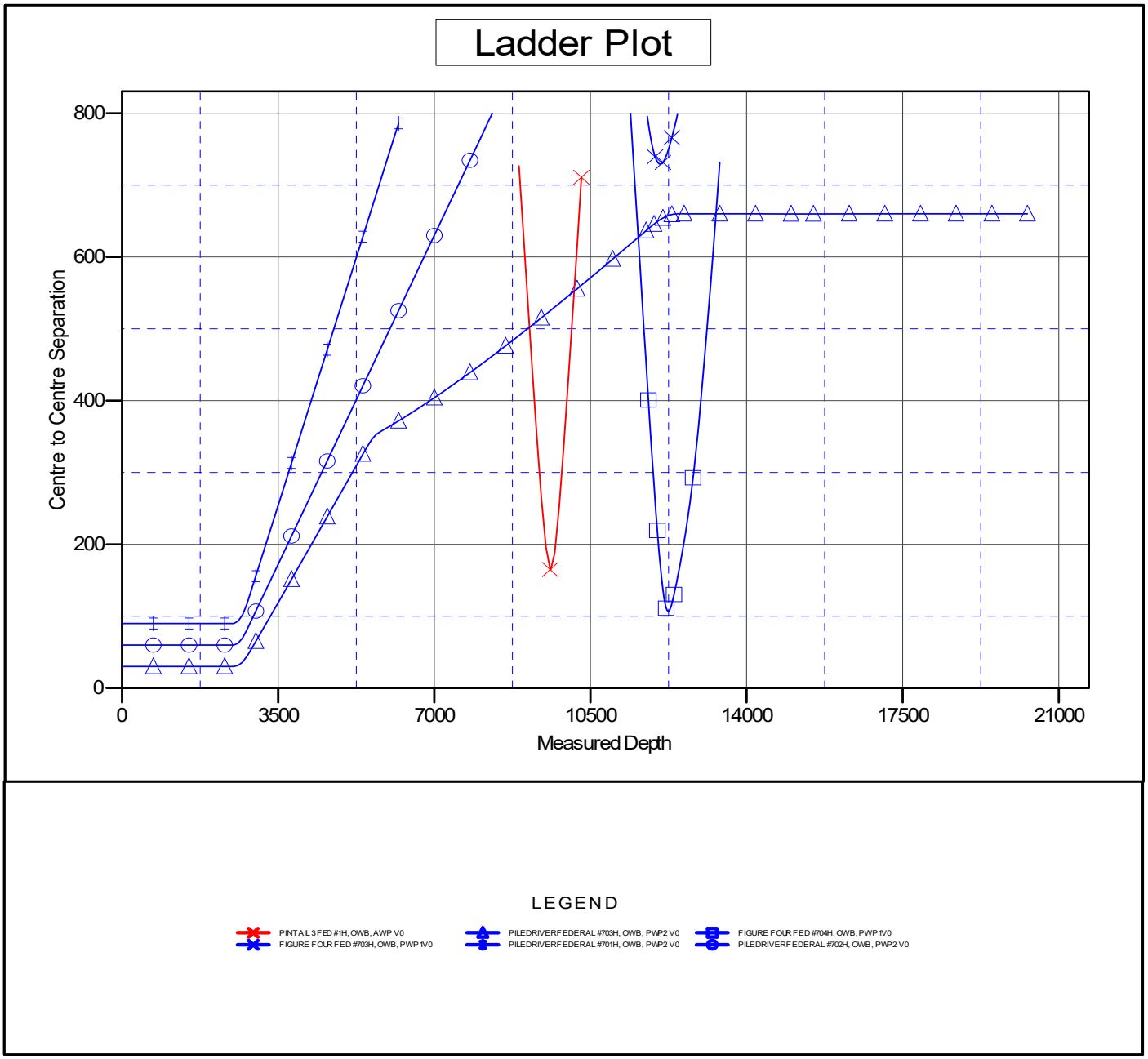
Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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' @ 3315.6usft (TBD)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PILEDRIVER FEDERAL #704H
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 covergent point, SF - min separation factor, ES - min ellipse separation

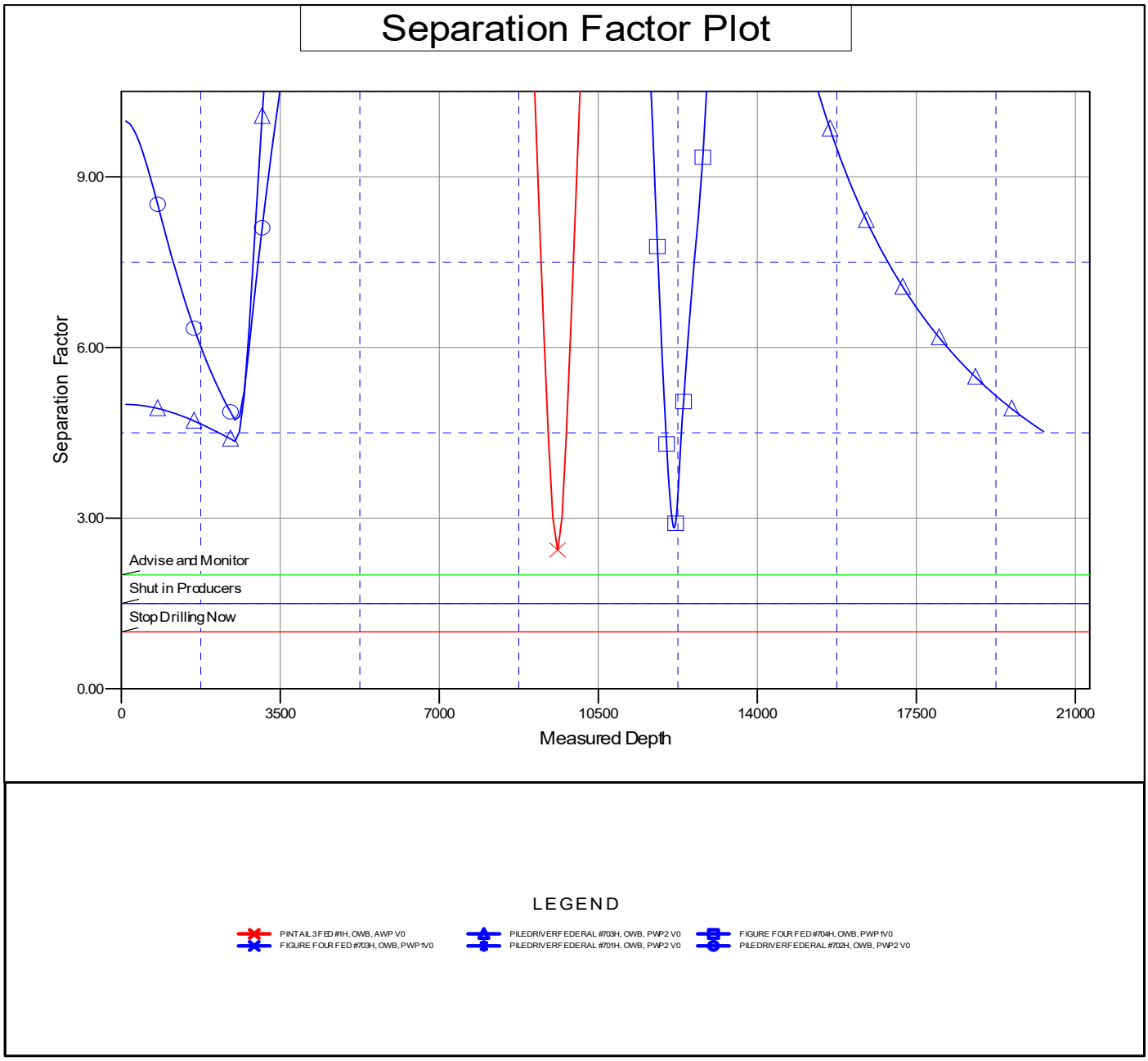
Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site Error:	3.0 usft	**North Reference:**	Grid
Reference Well:	PILEDRIVER FEDERAL #704H	**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' @ 3315.6usft (TBD)
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PILEDRIVER FEDERAL #704H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.36°



DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)
PILEDRIVER FED & FIGURE FOUR FED PROJECT
PILEDRIVER FEDERAL #704H

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 #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Well:	PILEDRIVER FEDERAL #704H	**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 #704H

Well Position	**+N/-S**	0.0 usft	**Northing:**	391,486.50 usft	**Latitude:**	32° 4' 28.251 N
	+E/-W	0.0 usft	**Easting:**	709,066.40 usft	**Longitude:**	103° 39' 30.148 W
Position Uncertainty		3.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,285.6 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	12/3/2020	6.64	59.77	47,452.60985945

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	185.17

Survey Tool Program **Date** 12/3/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	11,726.8	PWP2 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
11,726.8	20,299.6	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

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Well:	PILEDRIVER FEDERAL #704H	**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)
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,600.0	2.00	239.15	2,600.0	-0.9	-1.5	1.0	2.00	2.00	0.00
2,700.0	4.00	239.15	2,699.8	-3.6	-6.0	4.1	2.00	2.00	0.00
2,800.0	6.00	239.15	2,799.5	-8.0	-13.5	9.2	2.00	2.00	0.00
2,813.3	6.27	239.15	2,812.7	-8.8	-14.7	10.1	2.00	2.00	0.00
Start 8933.5 hold at 2813.3 MD									
2,900.0	6.27	239.15	2,898.9	-13.6	-22.8	15.6	0.00	0.00	0.00
3,000.0	6.27	239.15	2,998.3	-19.2	-32.2	22.1	0.00	0.00	0.00
3,100.0	6.27	239.15	3,097.7	-24.8	-41.6	28.5	0.00	0.00	0.00
3,200.0	6.27	239.15	3,197.1	-30.4	-50.9	34.9	0.00	0.00	0.00
3,300.0	6.27	239.15	3,296.5	-36.0	-60.3	41.3	0.00	0.00	0.00
3,400.0	6.27	239.15	3,395.9	-41.6	-69.7	47.7	0.00	0.00	0.00
3,500.0	6.27	239.15	3,495.3	-47.2	-79.0	54.1	0.00	0.00	0.00
3,600.0	6.27	239.15	3,594.7	-52.8	-88.4	60.6	0.00	0.00	0.00
3,700.0	6.27	239.15	3,694.1	-58.4	-97.8	67.0	0.00	0.00	0.00
3,800.0	6.27	239.15	3,793.5	-64.0	-107.2	73.4	0.00	0.00	0.00
3,900.0	6.27	239.15	3,892.9	-69.6	-116.5	79.8	0.00	0.00	0.00
4,000.0	6.27	239.15	3,992.3	-75.2	-125.9	86.2	0.00	0.00	0.00
4,100.0	6.27	239.15	4,091.7	-80.8	-135.3	92.7	0.00	0.00	0.00
4,200.0	6.27	239.15	4,191.1	-86.4	-144.6	99.1	0.00	0.00	0.00
4,300.0	6.27	239.15	4,290.5	-92.0	-154.0	105.5	0.00	0.00	0.00
4,400.0	6.27	239.15	4,389.9	-97.6	-163.4	111.9	0.00	0.00	0.00
4,500.0	6.27	239.15	4,489.3	-103.2	-172.8	118.3	0.00	0.00	0.00
4,600.0	6.27	239.15	4,588.7	-108.8	-182.1	124.8	0.00	0.00	0.00
4,700.0	6.27	239.15	4,688.1	-114.4	-191.5	131.2	0.00	0.00	0.00
4,800.0	6.27	239.15	4,787.5	-120.0	-200.9	137.6	0.00	0.00	0.00
4,900.0	6.27	239.15	4,886.9	-125.6	-210.2	144.0	0.00	0.00	0.00
5,000.0	6.27	239.15	4,986.3	-131.2	-219.6	150.4	0.00	0.00	0.00
5,100.0	6.27	239.15	5,085.7	-136.8	-229.0	156.9	0.00	0.00	0.00
5,200.0	6.27	239.15	5,185.1	-142.4	-238.3	163.3	0.00	0.00	0.00
5,300.0	6.27	239.15	5,284.5	-148.0	-247.7	169.7	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Well:	PILEDRIVER FEDERAL #704H	**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	6.27	239.15	5,383.9	-153.6	-257.1	176.1	0.00	0.00	0.00
5,500.0	6.27	239.15	5,483.3	-159.2	-266.5	182.5	0.00	0.00	0.00
5,600.0	6.27	239.15	5,582.7	-164.8	-275.8	189.0	0.00	0.00	0.00
5,700.0	6.27	239.15	5,682.1	-170.4	-285.2	195.4	0.00	0.00	0.00
5,800.0	6.27	239.15	5,781.5	-176.0	-294.6	201.8	0.00	0.00	0.00
5,900.0	6.27	239.15	5,880.9	-181.6	-303.9	208.2	0.00	0.00	0.00
6,000.0	6.27	239.15	5,980.3	-187.2	-313.3	214.6	0.00	0.00	0.00
6,100.0	6.27	239.15	6,079.7	-192.8	-322.7	221.1	0.00	0.00	0.00
6,200.0	6.27	239.15	6,179.1	-198.4	-332.1	227.5	0.00	0.00	0.00
6,300.0	6.27	239.15	6,278.5	-204.0	-341.4	233.9	0.00	0.00	0.00
6,400.0	6.27	239.15	6,377.9	-209.6	-350.8	240.3	0.00	0.00	0.00
6,500.0	6.27	239.15	6,477.3	-215.2	-360.2	246.7	0.00	0.00	0.00
6,600.0	6.27	239.15	6,576.7	-220.8	-369.5	253.2	0.00	0.00	0.00
6,700.0	6.27	239.15	6,676.2	-226.4	-378.9	259.6	0.00	0.00	0.00
6,800.0	6.27	239.15	6,775.6	-232.0	-388.3	266.0	0.00	0.00	0.00
6,900.0	6.27	239.15	6,875.0	-237.5	-397.7	272.4	0.00	0.00	0.00
7,000.0	6.27	239.15	6,974.4	-243.1	-407.0	278.8	0.00	0.00	0.00
7,100.0	6.27	239.15	7,073.8	-248.7	-416.4	285.3	0.00	0.00	0.00
7,200.0	6.27	239.15	7,173.2	-254.3	-425.8	291.7	0.00	0.00	0.00
7,300.0	6.27	239.15	7,272.6	-259.9	-435.1	298.1	0.00	0.00	0.00
7,400.0	6.27	239.15	7,372.0	-265.5	-444.5	304.5	0.00	0.00	0.00
7,500.0	6.27	239.15	7,471.4	-271.1	-453.9	310.9	0.00	0.00	0.00
7,600.0	6.27	239.15	7,570.8	-276.7	-463.2	317.4	0.00	0.00	0.00
7,700.0	6.27	239.15	7,670.2	-282.3	-472.6	323.8	0.00	0.00	0.00
7,800.0	6.27	239.15	7,769.6	-287.9	-482.0	330.2	0.00	0.00	0.00
7,900.0	6.27	239.15	7,869.0	-293.5	-491.4	336.6	0.00	0.00	0.00
8,000.0	6.27	239.15	7,968.4	-299.1	-500.7	343.0	0.00	0.00	0.00
8,100.0	6.27	239.15	8,067.8	-304.7	-510.1	349.4	0.00	0.00	0.00
8,200.0	6.27	239.15	8,167.2	-310.3	-519.5	355.9	0.00	0.00	0.00
8,300.0	6.27	239.15	8,266.6	-315.9	-528.8	362.3	0.00	0.00	0.00
8,400.0	6.27	239.15	8,366.0	-321.5	-538.2	368.7	0.00	0.00	0.00
8,500.0	6.27	239.15	8,465.4	-327.1	-547.6	375.1	0.00	0.00	0.00
8,600.0	6.27	239.15	8,564.8	-332.7	-557.0	381.5	0.00	0.00	0.00
8,700.0	6.27	239.15	8,664.2	-338.3	-566.3	388.0	0.00	0.00	0.00
8,800.0	6.27	239.15	8,763.6	-343.9	-575.7	394.4	0.00	0.00	0.00
8,900.0	6.27	239.15	8,863.0	-349.5	-585.1	400.8	0.00	0.00	0.00
9,000.0	6.27	239.15	8,962.4	-355.1	-594.4	407.2	0.00	0.00	0.00
9,100.0	6.27	239.15	9,061.8	-360.7	-603.8	413.6	0.00	0.00	0.00
9,200.0	6.27	239.15	9,161.2	-366.3	-613.2	420.1	0.00	0.00	0.00
9,300.0	6.27	239.15	9,260.6	-371.9	-622.6	426.5	0.00	0.00	0.00
9,400.0	6.27	239.15	9,360.0	-377.5	-631.9	432.9	0.00	0.00	0.00
9,500.0	6.27	239.15	9,459.4	-383.1	-641.3	439.3	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Well:	PILEDRIVER FEDERAL #704H	**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)
9,600.0	6.27	239.15	9,558.8	-388.7	-650.7	445.7	0.00	0.00	0.00
9,700.0	6.27	239.15	9,658.2	-394.3	-660.0	452.2	0.00	0.00	0.00
9,800.0	6.27	239.15	9,757.6	-399.9	-669.4	458.6	0.00	0.00	0.00
9,900.0	6.27	239.15	9,857.0	-405.5	-678.8	465.0	0.00	0.00	0.00
10,000.0	6.27	239.15	9,956.4	-411.1	-688.1	471.4	0.00	0.00	0.00
10,100.0	6.27	239.15	10,055.8	-416.7	-697.5	477.8	0.00	0.00	0.00
10,200.0	6.27	239.15	10,155.2	-422.3	-706.9	484.3	0.00	0.00	0.00
10,300.0	6.27	239.15	10,254.6	-427.9	-716.3	490.7	0.00	0.00	0.00
10,400.0	6.27	239.15	10,354.0	-433.5	-725.6	497.1	0.00	0.00	0.00
10,500.0	6.27	239.15	10,453.4	-439.1	-735.0	503.5	0.00	0.00	0.00
10,600.0	6.27	239.15	10,552.8	-444.7	-744.4	509.9	0.00	0.00	0.00
10,700.0	6.27	239.15	10,652.3	-450.3	-753.7	516.4	0.00	0.00	0.00
10,800.0	6.27	239.15	10,751.7	-455.9	-763.1	522.8	0.00	0.00	0.00
10,900.0	6.27	239.15	10,851.1	-461.5	-772.5	529.2	0.00	0.00	0.00
11,000.0	6.27	239.15	10,950.5	-467.1	-781.9	535.6	0.00	0.00	0.00
11,100.0	6.27	239.15	11,049.9	-472.7	-791.2	542.0	0.00	0.00	0.00
11,200.0	6.27	239.15	11,149.3	-478.3	-800.6	548.5	0.00	0.00	0.00
11,300.0	6.27	239.15	11,248.7	-483.9	-810.0	554.9	0.00	0.00	0.00
11,400.0	6.27	239.15	11,348.1	-489.5	-819.3	561.3	0.00	0.00	0.00
11,500.0	6.27	239.15	11,447.5	-495.1	-828.7	567.7	0.00	0.00	0.00
11,600.0	6.27	239.15	11,546.9	-500.7	-838.1	574.1	0.00	0.00	0.00
11,700.0	6.27	239.15	11,646.3	-506.3	-847.5	580.6	0.00	0.00	0.00
11,746.8	6.27	239.15	11,692.8	-508.9	-851.8	583.6	0.00	0.00	0.00
Start DLS 12.00 TFO -60.03									
11,800.0	10.94	208.68	11,745.4	-514.8	-856.8	589.9	12.00	8.80	-57.31
11,900.0	22.16	192.75	11,841.2	-541.6	-865.5	617.4	12.00	11.22	-15.93
12,000.0	33.90	187.39	11,929.3	-587.8	-873.3	664.1	12.00	11.74	-5.36
12,100.0	45.77	184.57	12,005.9	-651.4	-879.7	728.1	12.00	11.87	-2.82
12,200.0	57.68	182.71	12,067.8	-729.7	-884.6	806.4	12.00	11.91	-1.86
12,300.0	69.61	181.28	12,112.1	-819.0	-887.7	895.7	12.00	11.93	-1.42
12,400.0	81.56	180.07	12,136.9	-915.7	-888.8	992.1	12.00	11.94	-1.22
12,459.5	88.67	179.39	12,142.0	-975.0	-888.5	1,051.1	12.00	11.95	-1.14
Start 2555.5 hold at 12459.5 MD									
12,500.0	88.67	179.39	12,142.9	-1,015.4	-888.1	1,091.3	0.00	0.00	0.00
12,600.0	88.67	179.39	12,145.3	-1,115.4	-887.0	1,190.8	0.00	0.00	0.00
12,700.0	88.67	179.39	12,147.6	-1,215.4	-885.9	1,290.3	0.00	0.00	0.00
12,800.0	88.67	179.39	12,149.9	-1,315.3	-884.9	1,389.7	0.00	0.00	0.00
12,900.0	88.67	179.39	12,152.2	-1,415.3	-883.8	1,489.2	0.00	0.00	0.00
13,000.0	88.67	179.39	12,154.5	-1,515.3	-882.7	1,588.7	0.00	0.00	0.00
13,100.0	88.67	179.39	12,156.9	-1,615.2	-881.7	1,688.1	0.00	0.00	0.00
13,200.0	88.67	179.39	12,159.2	-1,715.2	-880.6	1,787.6	0.00	0.00	0.00
13,300.0	88.67	179.39	12,161.5	-1,815.2	-879.5	1,887.0	0.00	0.00	0.00
13,400.0	88.67	179.39	12,163.8	-1,915.1	-878.5	1,986.5	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Well:	PILEDRIVER FEDERAL #704H	**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)
13,500.0	88.67	179.39	12,166.1	-2,015.1	-877.4	2,086.0	0.00	0.00	0.00
13,600.0	88.67	179.39	12,168.5	-2,115.1	-876.3	2,185.4	0.00	0.00	0.00
13,700.0	88.67	179.39	12,170.8	-2,215.0	-875.2	2,284.9	0.00	0.00	0.00
13,800.0	88.67	179.39	12,173.1	-2,315.0	-874.2	2,384.4	0.00	0.00	0.00
13,900.0	88.67	179.39	12,175.4	-2,415.0	-873.1	2,483.8	0.00	0.00	0.00
14,000.0	88.67	179.39	12,177.8	-2,515.0	-872.0	2,583.3	0.00	0.00	0.00
14,100.0	88.67	179.39	12,180.1	-2,614.9	-871.0	2,682.8	0.00	0.00	0.00
14,200.0	88.67	179.39	12,182.4	-2,714.9	-869.9	2,782.2	0.00	0.00	0.00
14,300.0	88.67	179.39	12,184.7	-2,814.9	-868.8	2,881.7	0.00	0.00	0.00
14,400.0	88.67	179.39	12,187.0	-2,914.8	-867.8	2,981.2	0.00	0.00	0.00
14,500.0	88.67	179.39	12,189.4	-3,014.8	-866.7	3,080.6	0.00	0.00	0.00
14,600.0	88.67	179.39	12,191.7	-3,114.8	-865.6	3,180.1	0.00	0.00	0.00
14,700.0	88.67	179.39	12,194.0	-3,214.7	-864.6	3,279.5	0.00	0.00	0.00
14,800.0	88.67	179.39	12,196.3	-3,314.7	-863.5	3,379.0	0.00	0.00	0.00
14,900.0	88.67	179.39	12,198.6	-3,414.7	-862.4	3,478.5	0.00	0.00	0.00
15,000.0	88.67	179.39	12,201.0	-3,514.6	-861.4	3,577.9	0.00	0.00	0.00
15,015.1	88.67	179.39	12,201.3	-3,529.7	-861.2	3,592.9	0.00	0.00	0.00
Start DLS 2.00 TFO -90.20									
15,019.1	88.67	179.31	12,201.4	-3,533.7	-861.2	3,596.9	2.00	-0.01	-2.00
Start 5280.5 hold at 15019.1 MD									
15,100.0	88.67	179.31	12,203.3	-3,614.6	-860.2	3,677.4	0.00	0.00	0.00
15,200.0	88.67	179.31	12,205.6	-3,714.6	-859.0	3,776.8	0.00	0.00	0.00
15,300.0	88.67	179.31	12,207.9	-3,814.5	-857.8	3,876.3	0.00	0.00	0.00
15,400.0	88.67	179.31	12,210.3	-3,914.5	-856.5	3,975.7	0.00	0.00	0.00
15,500.0	88.67	179.31	12,212.6	-4,014.5	-855.3	4,075.2	0.00	0.00	0.00
15,600.0	88.67	179.31	12,214.9	-4,114.4	-854.1	4,174.6	0.00	0.00	0.00
15,700.0	88.67	179.31	12,217.2	-4,214.4	-852.9	4,274.1	0.00	0.00	0.00
15,800.0	88.67	179.31	12,219.5	-4,314.4	-851.7	4,373.5	0.00	0.00	0.00
15,900.0	88.67	179.31	12,221.9	-4,414.3	-850.5	4,473.0	0.00	0.00	0.00
16,000.0	88.67	179.31	12,224.2	-4,514.3	-849.3	4,572.4	0.00	0.00	0.00
16,100.0	88.67	179.31	12,226.5	-4,614.2	-848.1	4,671.9	0.00	0.00	0.00
16,200.0	88.67	179.31	12,228.8	-4,714.2	-846.9	4,771.3	0.00	0.00	0.00
16,300.0	88.67	179.31	12,231.1	-4,814.2	-845.7	4,870.8	0.00	0.00	0.00
16,400.0	88.67	179.31	12,233.5	-4,914.1	-844.5	4,970.2	0.00	0.00	0.00
16,500.0	88.67	179.31	12,235.8	-5,014.1	-843.2	5,069.7	0.00	0.00	0.00
16,600.0	88.67	179.31	12,238.1	-5,114.1	-842.0	5,169.1	0.00	0.00	0.00
16,700.0	88.67	179.31	12,240.4	-5,214.0	-840.8	5,268.6	0.00	0.00	0.00
16,800.0	88.67	179.31	12,242.8	-5,314.0	-839.6	5,368.0	0.00	0.00	0.00
16,900.0	88.67	179.31	12,245.1	-5,414.0	-838.4	5,467.5	0.00	0.00	0.00
17,000.0	88.67	179.31	12,247.4	-5,513.9	-837.2	5,566.9	0.00	0.00	0.00
17,100.0	88.67	179.31	12,249.7	-5,613.9	-836.0	5,666.4	0.00	0.00	0.00
17,200.0	88.67	179.31	12,252.0	-5,713.9	-834.8	5,765.8	0.00	0.00	0.00
17,300.0	88.67	179.31	12,254.4	-5,813.8	-833.6	5,865.3	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Well:	PILEDRIVER FEDERAL #704H	**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)
17,400.0	88.67	179.31	12,256.7	-5,913.8	-832.4	5,964.7	0.00	0.00	0.00
17,500.0	88.67	179.31	12,259.0	-6,013.8	-831.2	6,064.2	0.00	0.00	0.00
17,600.0	88.67	179.31	12,261.3	-6,113.7	-829.9	6,163.6	0.00	0.00	0.00
17,700.0	88.67	179.31	12,263.6	-6,213.7	-828.7	6,263.1	0.00	0.00	0.00
17,800.0	88.67	179.31	12,266.0	-6,313.7	-827.5	6,362.5	0.00	0.00	0.00
17,900.0	88.67	179.31	12,268.3	-6,413.6	-826.3	6,462.0	0.00	0.00	0.00
18,000.0	88.67	179.31	12,270.6	-6,513.6	-825.1	6,561.4	0.00	0.00	0.00
18,100.0	88.67	179.31	12,272.9	-6,613.6	-823.9	6,660.9	0.00	0.00	0.00
18,200.0	88.67	179.31	12,275.3	-6,713.5	-822.7	6,760.3	0.00	0.00	0.00
18,300.0	88.67	179.31	12,277.6	-6,813.5	-821.5	6,859.8	0.00	0.00	0.00
18,400.0	88.67	179.31	12,279.9	-6,913.5	-820.3	6,959.2	0.00	0.00	0.00
18,500.0	88.67	179.31	12,282.2	-7,013.4	-819.1	7,058.7	0.00	0.00	0.00
18,600.0	88.67	179.31	12,284.5	-7,113.4	-817.9	7,158.1	0.00	0.00	0.00
18,700.0	88.67	179.31	12,286.9	-7,213.4	-816.6	7,257.6	0.00	0.00	0.00
18,800.0	88.67	179.31	12,289.2	-7,313.3	-815.4	7,357.0	0.00	0.00	0.00
18,900.0	88.67	179.31	12,291.5	-7,413.3	-814.2	7,456.5	0.00	0.00	0.00
19,000.0	88.67	179.31	12,293.8	-7,513.3	-813.0	7,555.9	0.00	0.00	0.00
19,100.0	88.67	179.31	12,296.2	-7,613.2	-811.8	7,655.4	0.00	0.00	0.00
19,200.0	88.67	179.31	12,298.5	-7,713.2	-810.6	7,754.8	0.00	0.00	0.00
19,300.0	88.67	179.31	12,300.8	-7,813.2	-809.4	7,854.3	0.00	0.00	0.00
19,400.0	88.67	179.31	12,303.1	-7,913.1	-808.2	7,953.8	0.00	0.00	0.00
19,500.0	88.67	179.31	12,305.4	-8,013.1	-807.0	8,053.2	0.00	0.00	0.00
19,600.0	88.67	179.31	12,307.8	-8,113.0	-805.8	8,152.7	0.00	0.00	0.00
19,700.0	88.67	179.31	12,310.1	-8,213.0	-804.6	8,252.1	0.00	0.00	0.00
19,800.0	88.67	179.31	12,312.4	-8,313.0	-803.3	8,351.6	0.00	0.00	0.00
19,900.0	88.67	179.31	12,314.7	-8,412.9	-802.1	8,451.0	0.00	0.00	0.00
20,000.0	88.67	179.31	12,317.0	-8,512.9	-800.9	8,550.5	0.00	0.00	0.00
20,100.0	88.67	179.31	12,319.4	-8,612.9	-799.7	8,649.9	0.00	0.00	0.00
20,200.0	88.67	179.31	12,321.7	-8,712.8	-798.5	8,749.4	0.00	0.00	0.00
20,299.6	88.67	179.31	12,324.0	-8,812.4	-797.3	8,848.4	0.00	0.00	0.00
TD at 20299.6									

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	**Local Co-ordinate Reference:**	Well PILEDRIVER FEDERAL #704H
Project:	BULLDOG PROSPECT (NM-E)	**TVD Reference:**	*KB=30' @ 3315.6usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	**MD Reference:**	*KB=30' @ 3315.6usft (TBD)
Well:	PILEDRIVER FEDERAL #704H	**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	12,142.0	-975.0	-888.5	390,511.50	708,177.90	32° 4' 18.658 N	103° 39' 40.545 W
T1 (PILEDRIVER FEI - plan misses target center by 0.2usft at 15015.1usft MD (12201.3 TVD, -3529.7 N, -861.2 E) - Rectangle (sides W100.0 H3,060.0 D20.0)	-1.33	359.39	12,201.1	-3,529.7	-861.2	387,956.82	708,205.20	32° 3' 53.375 N	103° 39' 40.412 W
PBHL (PILEDRIVER F - plan hits target center - Rectangle (sides W100.0 H5,286.0 D20.0)	-1.33	359.31	12,324.0	-8,812.4	-797.3	382,674.10	708,269.10	32° 3' 1.094 N	103° 39' 40.052 W
LTP (PILEDRIVER FE - plan misses target center by 49.6usft at 20200.0usft MD (12321.7 TVD, -8712.8 N, -798.5 E) - Point	0.00	0.00	12,324.0	-8,762.4	-797.9	382,724.10	708,268.50	32° 3' 1.588 N	103° 39' 40.055 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
2500	2500	0	0	Start Build 2.00
2813	2813	-9	-15	Start 8933.5 hold at 2813.3 MD
11,747	11,693	-509	-852	Start DLS 12.00 TFO -60.03
12,460	12,142	-975	-889	Start 2555.5 hold at 12459.5 MD
15,015	12,201	-3530	-861	Start DLS 2.00 TFO -90.20
15,019	12,201	-3534	-861	Start 5280.5 hold at 15019.1 MD
20,300	12,324	-8812	-797	TD at 20299.6

Checked By: _____ Approved By: _____ Date: _____

CONCHO

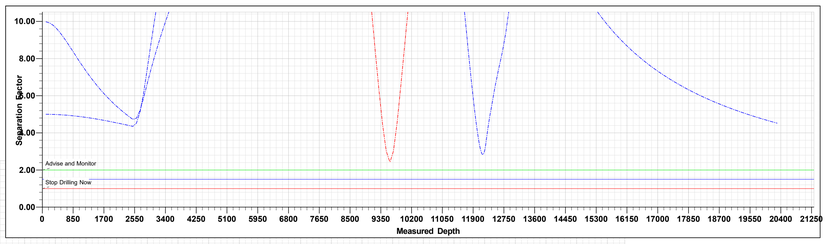
Project: BULLDOG PROSPECT (NM-E)
Site: PILEDRIVER FED & FIGURE FOUR FED PROJECT
Well: PILEDRIVER FEDERAL #704H
Wellbore: OWB
Design: PWP2
GL: 3285.6
***KB=30' @ 3315.6usft (TBD)**

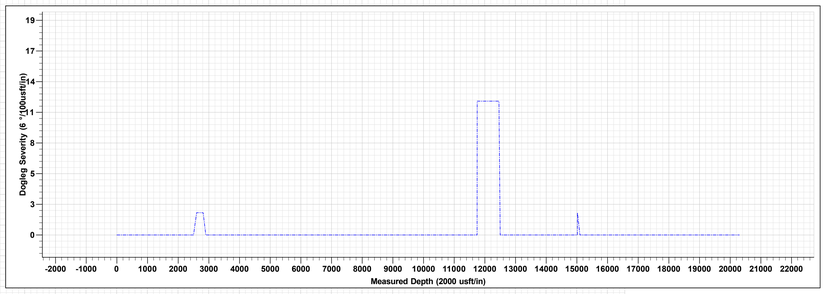
WELL DETAILS: PILEDRIVER FEDERAL #704H

+N/-S	+E/-W	Northing	Easting	Latittude	Longitude
0.0	0.0	391486.50	709066.40	32° 4' 28.251 N	103° 39' 30.148 W

DESIGN TARGET DETAILS

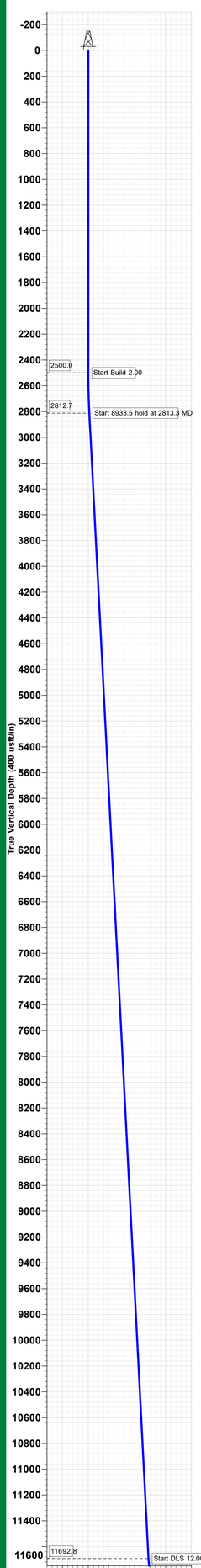
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (PILEDRIVER FED #704H)	12142.0	-975.0	-888.5	390511.50	708177.90	32° 4' 18.658 N	103° 39' 40.545 W
T1 (PILEDRIVER FED #704H)	12201.1	-3529.7	-861.2	387956.82	708205.20	32° 3' 53.375 N	103° 39' 40.412 W
LTP (PILEDRIVER FED #704H)	12324.0	-8762.4	-797.9	382724.10	708268.50	32° 3' 1.588 N	103° 39' 40.055 W
PBHL (PILEDRIVER FED #704H)	12324.0	-8812.4	-797.3	382674.10	708269.10	32° 3' 1.094 N	103° 39' 40.052 W

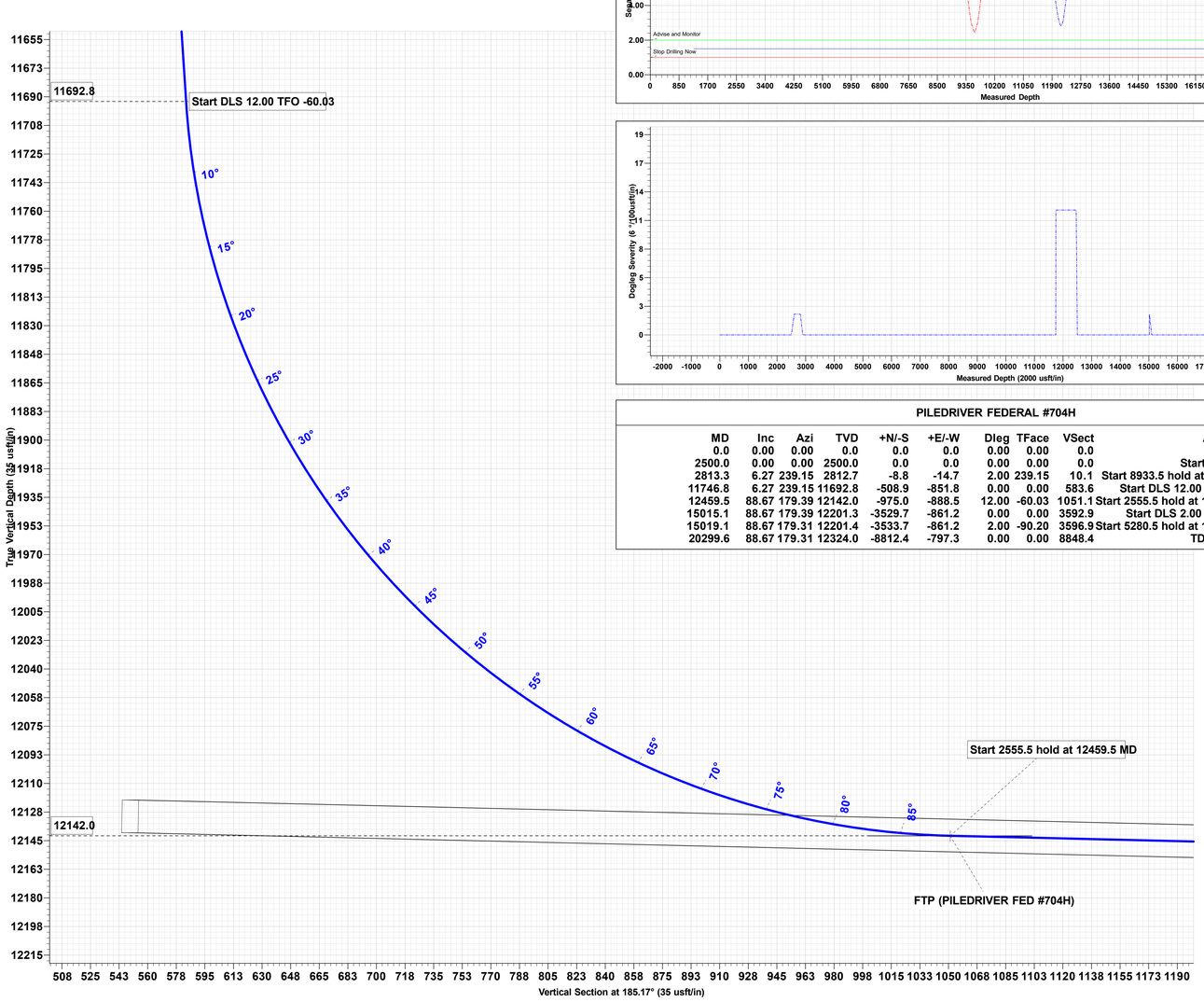


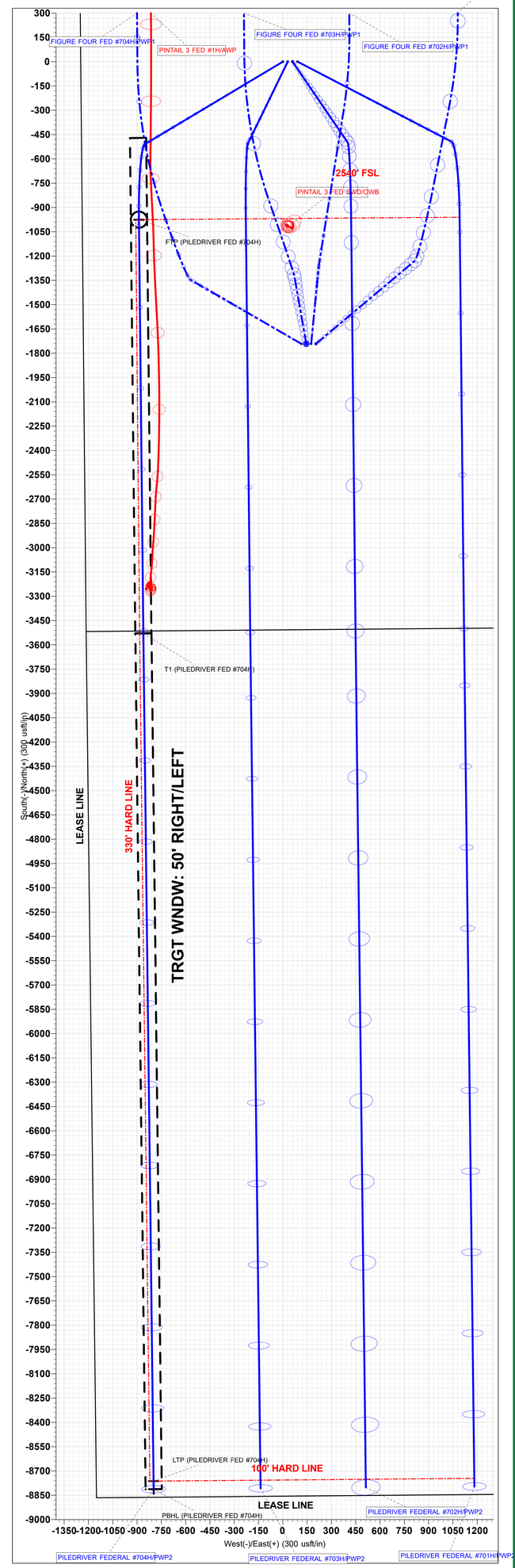


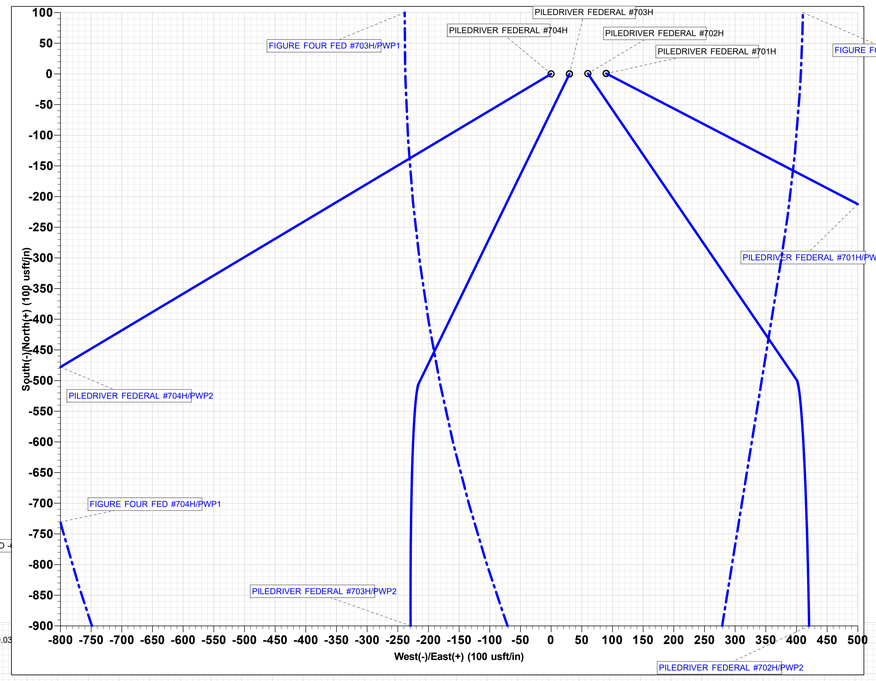
PILEDRIVER FEDERAL #704H

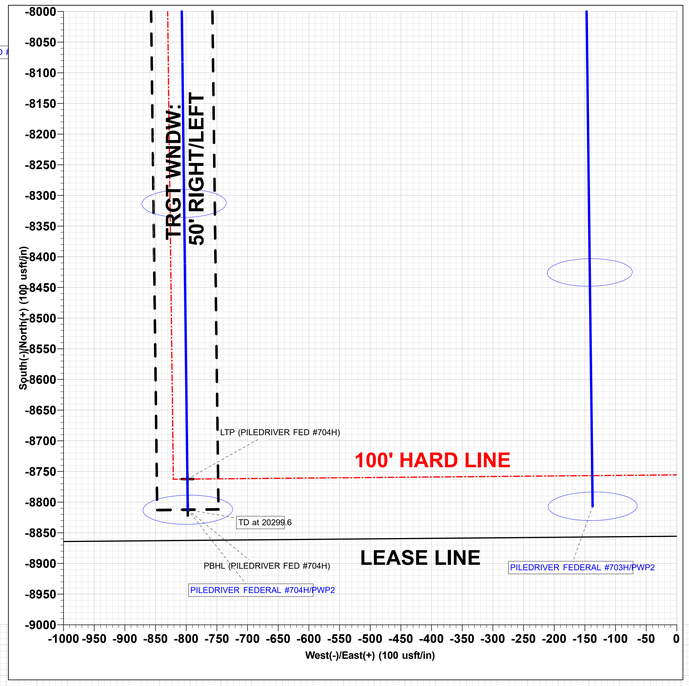
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2813.3	6.27	239.15	2812.7	-8.8	-14.7	2.00	239.15	10.1	Start 8933.5 hold at 2813.3 MD
11746.8	6.27	239.15	11692.8	-508.9	-851.8	0.00	0.00	583.6	Start DLS 12.00 TFO -60.03
12459.5	88.67	179.39	12142.0	-975.0	-888.5	12.00	-60.03	1051.1	Start 2555.5 hold at 12459.5 MD
15015.1	88.67	179.39	12201.3	-3529.7	-861.2	0.00	0.00	3592.9	Start DLS 2.00 TFO -90.20
15019.1	88.67	179.31	12201.4	-3533.7	-861.2	2.00	-90.20	3596.9	Start 5280.5 hold at 15019.1 MD
20299.6	88.67	179.31	12324.0	-8812.4	-797.3	0.00	0.00	8848.4	TD at 20299.6

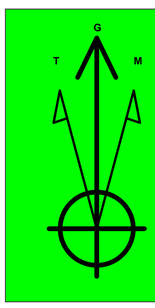












Azimuths to Grid North
True North: -0.36°
Magnetic North: 6.28°

Magnetic Field
Strength: 47452.6nT
Dip Angle: 59.77°
Date: 12/3/2020
Model: IGRF2020

COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

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

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

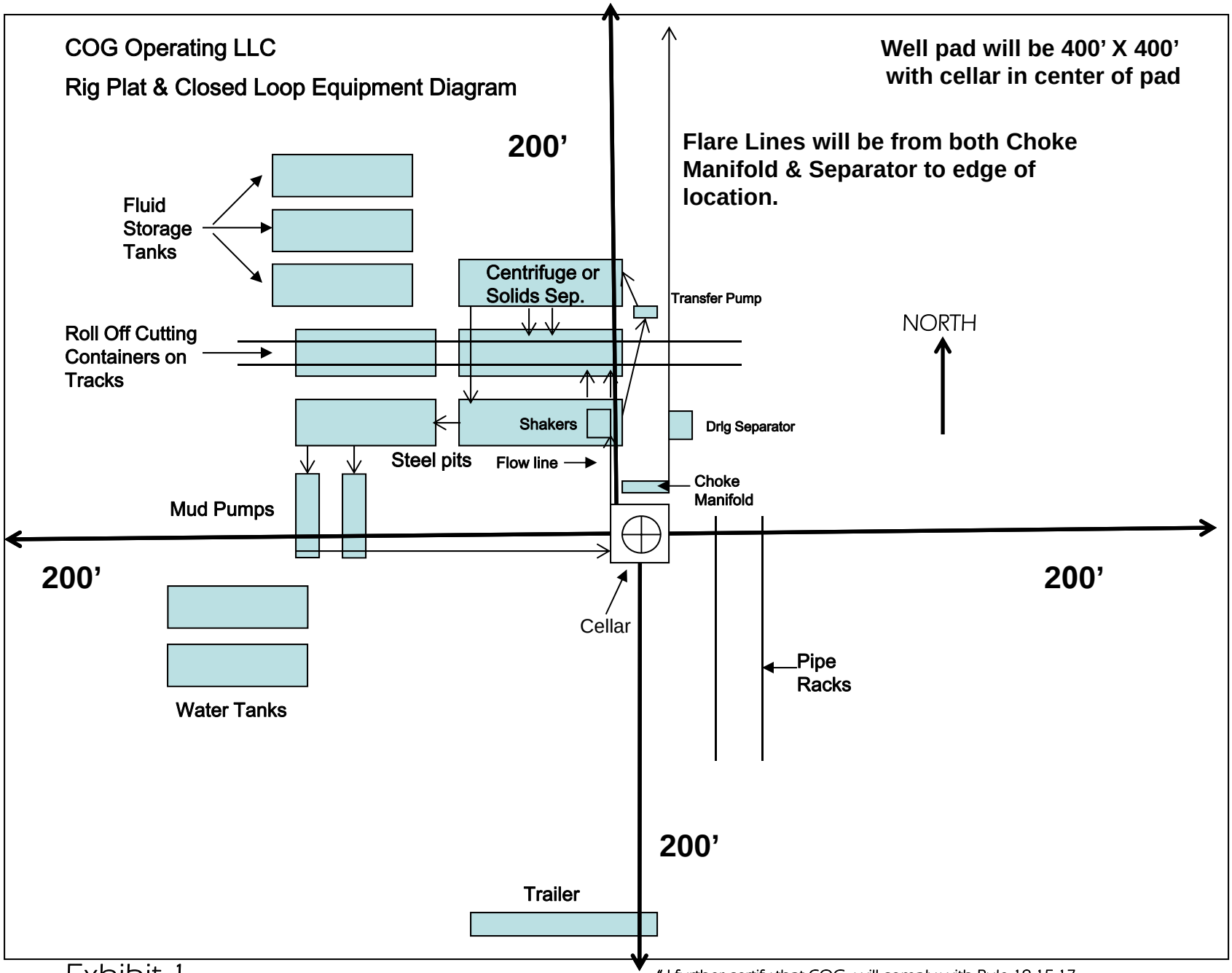


Exhibit 1

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

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

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number	Pool Code	Pool Name
30-025-48862	98065	WC-025 G-08 S263205N; Upper Wolfcamp

Property Code	Property Name	Well Number
330324	PILEDRIVER FEDERAL	704H

OGRID No.	Operator Name	Elevation
229137	COG OPERATING, LLC	3285.6'

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	1413	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
O	10	26-S	32-E		50	SOUTH	2310	EAST	LEA

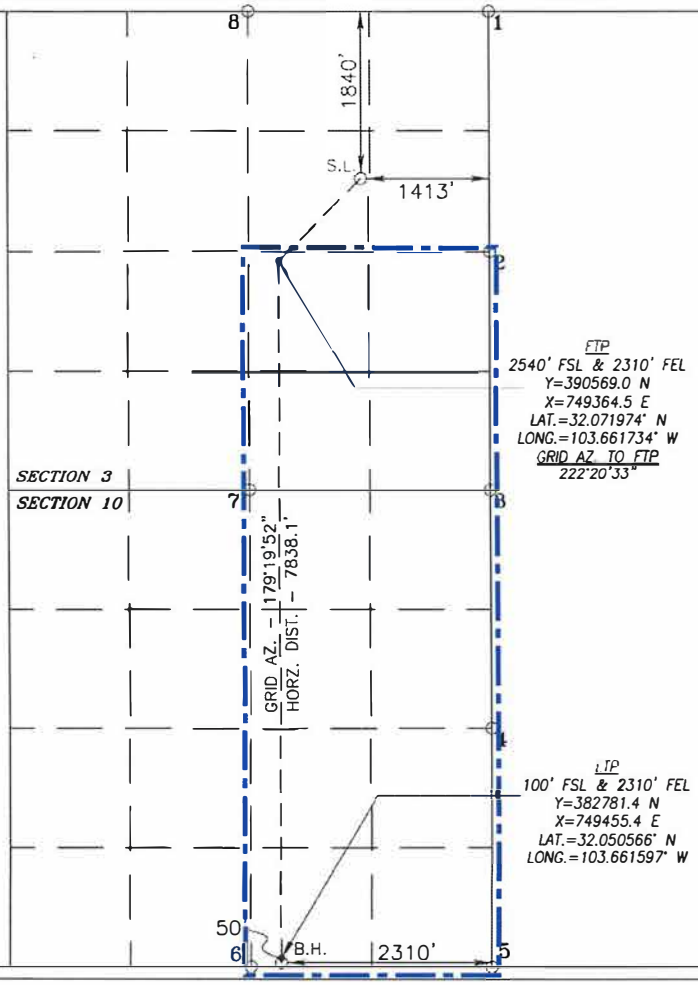
Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
480			

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

NAD 83 NME
SURFACE LOCATION
Y=391544.0 N
X=750253.0 E
LAT.=32.074639° N
LONG.=103.658846° 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=751766.6 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

NAD 83 NME
PROPOSED BOTTOM
HOLE LOCATION
Y=382731.4 N
X=749456.0 E
LAT.=32.050429° N
LONG.=103.661596° W



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.

Signature 12/14/2020 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

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

11/24/20

Certificate No. CHAD HARCROW 17777
W.O. # 20-1502 DRAWN BY: DS

Intent [X] As Drilled [ ]

API # 30-025-48862
30-025

Operator Name:	Property Name:	Well Number
COG Operating LLC	Piledriver Federal	704H

Kick Off Point (KOP)

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

Latitude	Longitude	NAD
		83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
J	3	26S	32E		2540	South	2310	East	Lea

Latitude	Longitude	NAD
32.071974	-103.661734	NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
O	10	26S	32E		100	South	2310	East	Lea

Latitude	Longitude	NAD
32.050566	-103.661597	NAD 83

Is this well the defining well for the Horizontal Spacing Unit? [No]

Is this well an infill well? [Yes]

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:	Property Name:	Well Number
COG Operating LLC	Piledriver Federal	702H

KZ 06/29/2018

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original to Appropriate District Office

GAS CAPTURE PLAN

Date: 12/14/20

☒ Original Operator & OGRID No.: COG Operating LLC, (217955)

☐ Amended - Reason for Amendment:

This Gas Capture Plan outlines actions to be taken by the Operator to reduce well/production facility flaring/venting for new completion (new drill, recomplete to new zone, re-frac) activity.

Note: Form C-129 must be submitted and approved prior to exceeding 60 days allowed by Rule (Subsection A of 19.15.18.12 NMAC).

Well(s)/Production Facility – Name of facility

The well(s) that will be located at the production facility are shown in the table below.

Well Name	API	Well Location (ULSTR)	Footages	Expected MCF/D	Flared or Vented	Comments
Piledriver Federal 701H	30-025-	G-3-26S-32E	1840' FNL & 1323' FEL	±3000	None Planned	APD Submission Plan Subject to change
Piledriver Federal 702H	30-025-	G-3-26S-32E	1840' FNL & 1353' FEL	±3000	None Planned	APD Submission Plan Subject to change
Piledriver Federal 703H	30-025-	G-3-26S-32E	1840' FNL & 1383' FEL	±3000	None Planned	APD Submission Plan Subject to change
Piledriver Federal 704H	30-025-48862	G-3-26S-32E	1840' FNL & 1413' FEL	±3000	None Planned	APD Submission Plan Subject to change

Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to **ETC Field Services LLC** and will be connected to **Jal** low pressure gathering system located in **Lea** County, New Mexico. **COG Operating LLC** provides (periodically) to **ETC Field Services LLC** a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, **COG Operating LLC** and **ETC Field Services LLC** have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at **ETC Field Services LLC** Processing Plant located in Sec. **3-T26S-R32E**, **Lea** County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

Flowback Strategy

After the fracture treatment/completion operations, well(s) will be produced to temporary production tanks and gas will be flared or vented. During flowback, the fluids and sand content will be monitored. When the produced fluids contain minimal sand, the wells will be turned to production facilities. Gas sales should start as soon as the wells start flowing through the production facilities, unless there are operational issues on Gas Transporter system at that time. Based on current information, it is Operator's belief the system can take this gas upon completion of the well(s).

Safety requirements during cleanout operations from the use of underbalanced air cleanout systems may necessitate that sand and non-pipeline quality gas be vented and/or flared rather than sold on a temporary basis.

Alternatives to Reduce Flaring

Below are alternatives considered from a conceptual standpoint to reduce the amount of gas flared.

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease

- Gas flared would be minimal, but might be uneconomical to operate when gas volume declines

- NGL Removal – On lease
    - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

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1625 N. French Dr., Hobbs, NM 88240
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District II
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District III
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Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 25304

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
COG OPERATING LLC	600 W Illinois Ave	Midland, TX79701	229137	25304	FORM 3160-3

OCD Reviewer	Condition
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104
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