

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

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

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. [330324]
2. Name of Operator [229137]		9. API Well No. 30-025-48861
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

(Continued on page 2)



Approval Date: 04/22/2021

KZ

05/13/2021

*(Instructions on page 2)

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating, LLC
LEASE NO.:	NMNM-120910
WELL NAME & NO.:	Piledriver Federal 703H
SURFACE HOLE FOOTAGE:	1840' FNL & 1383' FEL
BOTTOM HOLE FOOTAGE:	0050' FSL & 1650' FEL Sec. 10, T.26 S., R.32 E.
LOCATION:	Section 03, T.26 S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

COA

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

Medium Cave/Karst

Possibility of water flows in the Salado and Castile.

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

A. HYDROGEN SULFIDE

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

B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **1242** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Excess calculates to 24% - Additional cement may be required.**
 - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

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

GENERAL REQUIREMENTS

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

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

☒ Lea County

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

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
4. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
5. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
6. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).

- c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- d. The results of the test shall be reported to the appropriate BLM office.
- e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

JAM 01042021

1. Geologic Formations

TVD of target	12,332' EOL	Pilot hole depth	NA
MD at TD:	20,265'	Deepest expected fresh water:	250'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	962	Water	
Top of Salt	1292	Salt	
Base of Salt	4347	Salt	
Lamar	4582	Salt Water	
Bell Canyon	4627	Salt Water	
Cherry Canyon	5627	Oil/Gas	
Brushy Canyon	7157	Oil/Gas	
Bone Spring Lime	8734	Oil/Gas	
1st Bone Spring Sand	9682	Oil/Gas	
2nd Bone Spring Sand	10322	Oil/Gas	
2nd BSS Base	10856	Oil/Gas	
3rd Bone Spring Sand	11465	Oil/Gas	
Wolfcamp	11921	Oil/Gas	
Wolfcamp A Shale	12114	Target Oil/Gas	
Wolfcamp B	12366	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	1242	10.75"	45.5	N80	BTC	4.35	1.67	18.40	19.41
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.56	1.08	2.88	2.90
8.750"	8500	11415	7.625"	29.7	HCP110	TL-FJ	1.32	1.12	2.77	1.94
6.75"	0	11215	5.5"	23	P110	BTC	1.81	2.14	2.57	2.55
6.75"	11215	20,265	5.5"	23	P110	Talon HTQ	1.81	2.14	2.57	2.49
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

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

The 5.5" 23# Talon HTQ casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

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

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	592	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter. Stage 1	830	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	520	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	853	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

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

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

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

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

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
9-7/8"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4"	13-5/8"	10M	5M Annular	x	3500 psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

BOP/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
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6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
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	8020 psi at 12332' TVD
Abnormal Temperature	NO 180 Deg. F.

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

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

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

N H₂S is present

Y H₂S Plan attached

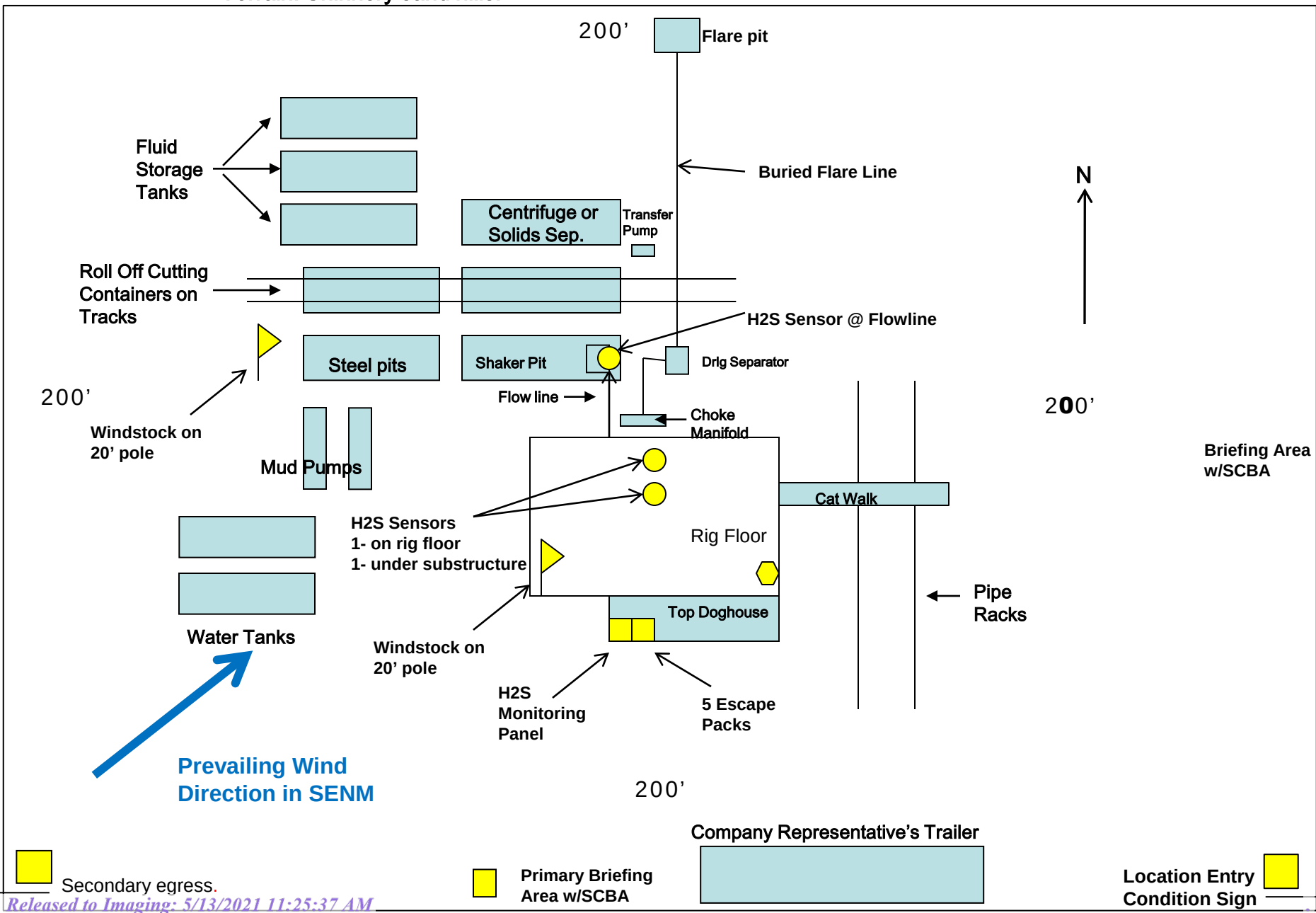
8. Other Facets of Operation

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

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

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

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



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

W A R N I N G

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

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

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

EMERGENCY RESPONSE NUMBERS

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

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)
PILEDRIIVER FED & FIGURE FOUR FED PROJECT
PILEDRIIVER FEDERAL #703H

OWB
PWP2

Anticollision Report

03 December, 2020

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

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

Survey Tool Program		Date	12/3/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,742.0	PWP2 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,742.0	20,281.4	PWP2 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
PILEDRIVER FED & FIGURE FOUR FED PROJECT						
FIGURE FOUR FED #701H - OWB - PWP1						Out of range
FIGURE FOUR FED #702H - OWB - PWP1	12,564.0	12,106.8	485.6	462.0	20.587	CC
FIGURE FOUR FED #702H - OWB - PWP1	12,600.0	12,086.1	486.4	462.0	19.941	ES
FIGURE FOUR FED #702H - OWB - PWP1	12,800.0	12,000.0	521.2	492.3	18.034	SF
FIGURE FOUR FED #703H - OWB - PWP1	12,220.5	12,569.4	120.5	66.0	2.210	CC, ES, SF
FIGURE FOUR FED #704H - OWB - PWP1	12,677.4	12,064.0	436.3	408.3	15.589	CC
FIGURE FOUR FED #704H - OWB - PWP1	12,700.0	12,050.0	436.7	407.9	15.192	ES
FIGURE FOUR FED #704H - OWB - PWP1	12,900.0	11,975.0	476.8	443.3	14.229	SF
PILEDRIVER FEDERAL #701H - OWB - PWP2	2,500.0	2,499.5	59.9	53.0	8.686	CC, ES, SF
PILEDRIVER FEDERAL #702H - OWB - PWP2	2,500.0	2,499.6	29.9	17.2	2.359	CC, ES, SF
PILEDRIVER FEDERAL #704H - OWB - PWP2	2,416.5	2,417.1	30.0	23.2	4.386	CC
PILEDRIVER FEDERAL #704H - OWB - PWP2	2,500.0	2,500.6	30.0	23.1	4.350	ES, SF
PINTAIL 3 FED #1H - OWB - AWP	9,596.5	12,183.0	686.1	620.2	10.405	CC, ES, SF
PINTAIL 3 FED SWD - OWB - OWB						Out of range

Offset Design												Offset Site Error:		3.0 usft
Survey Program: 0-Standard Keeper 104, 11704-MWD+IFR1+FDIR												Offset Well Error:		3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
11,700.0	11,674.5	12,630.7	12,146.9	10.0	16.0	-110.45	-595.7	298.0	738.9	701.6	37.30	19.809		
11,741.9	11,716.2	12,627.6	12,146.9	10.1	16.0	-110.13	-598.7	297.5	712.6	676.5	36.10	19.739		
11,750.0	11,724.3	12,626.9	12,146.9	10.1	16.0	-106.75	-599.4	297.4	707.6	671.9	35.78	19.780		
11,775.0	11,749.1	12,624.0	12,146.8	10.1	16.0	-101.32	-602.2	296.9	692.7	657.8	34.97	19.808		
11,800.0	11,773.7	12,619.8	12,146.8	10.1	16.0	-99.24	-606.4	296.2	678.3	644.2	34.13	19.873		
11,825.0	11,798.0	12,614.4	12,146.7	10.1	16.0	-98.42	-611.7	295.4	664.5	631.2	33.26	19.979		
11,850.0	11,822.0	12,607.7	12,146.6	10.1	16.0	-98.14	-618.4	294.3	651.2	618.9	32.36	20.127		
11,875.0	11,845.6	12,599.7	12,146.5	10.1	16.0	-98.06	-626.2	293.0	638.6	607.1	31.43	20.318		
11,900.0	11,868.7	12,590.6	12,146.4	10.1	16.0	-98.04	-635.2	291.6	626.6	596.1	30.49	20.550		
11,925.0	11,891.3	12,580.3	12,146.2	10.1	16.0	-98.00	-645.4	289.9	615.3	585.7	29.55	20.823		
11,950.0	11,913.3	12,568.8	12,146.1	10.1	16.0	-97.89	-656.7	288.1	604.6	576.0	28.61	21.136		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	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		PILED RIVER FED & FIGURE FOUR FED PROJECT - FIGURE FOUR FED #702H - OWB - PWP1										Offset Site Error:		3.0 usft			
Survey Program: 0-Standard Keeper 104, 11704-MWD+IFR1+FDIR														Offset Well Error:		3.0 usft	
Reference		Offset		Semi Major Axis			Distance							Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor					
11,975.0	11,934.7	12,556.2	12,145.9	10.1	16.0	-97.70	-669.2	286.1	594.7	567.0	27.68	21.483					
12,000.0	11,955.3	12,542.5	12,145.7	10.2	16.0	-97.42	-682.7	283.9	585.4	558.6	26.78	21.858					
12,025.0	11,975.2	12,527.8	12,145.5	10.2	15.9	-97.04	-697.2	281.6	576.8	550.9	25.92	22.252					
12,050.0	11,994.3	12,512.0	12,145.3	10.2	15.9	-96.58	-712.8	279.1	568.8	543.7	25.11	22.656					
12,075.0	12,012.5	12,495.3	12,145.0	10.2	15.9	-96.05	-729.3	276.4	561.4	537.1	24.35	23.053					
12,100.0	12,029.8	12,477.6	12,144.8	10.2	15.9	-95.46	-746.7	273.6	554.6	530.9	23.67	23.428					
12,125.0	12,046.1	12,459.1	12,144.5	10.3	15.9	-94.82	-765.0	270.7	548.3	525.2	23.07	23.770					
12,150.0	12,061.5	12,439.8	12,144.2	10.3	15.9	-94.16	-784.1	267.6	542.4	519.9	22.54	24.069					
12,175.0	12,075.7	12,419.0	12,143.9	10.4	15.9	-93.46	-804.6	264.3	536.9	514.8	22.09	24.312					
12,200.0	12,088.9	12,394.5	12,142.8	10.4	15.9	-92.52	-828.7	260.4	531.7	510.0	21.70	24.503					
12,225.0	12,100.9	12,370.9	12,140.5	10.4	15.9	-91.61	-852.0	256.6	526.7	505.3	21.37	24.644					
12,250.0	12,111.8	12,347.9	12,137.2	10.5	15.9	-90.72	-874.4	253.0	521.9	500.8	21.11	24.720					
12,275.0	12,121.5	12,325.6	12,132.9	10.5	15.8	-89.84	-896.0	249.6	517.3	496.4	20.93	24.721					
12,300.0	12,130.0	12,304.0	12,127.8	10.6	15.8	-88.97	-916.8	246.2	513.0	492.1	20.82	24.639					
12,325.0	12,137.2	12,282.8	12,121.8	10.7	15.8	-88.12	-936.8	243.0	508.9	488.1	20.79	24.476					
12,350.0	12,143.1	12,262.2	12,115.2	10.7	15.8	-87.28	-956.1	239.9	505.0	484.2	20.84	24.236					
12,375.0	12,147.8	12,242.0	12,107.9	10.8	15.8	-86.44	-974.7	237.0	501.4	480.5	20.95	23.929					
12,400.0	12,151.2	12,222.1	12,099.9	10.9	15.8	-85.61	-992.6	234.1	498.1	477.0	21.13	23.569					
12,425.0	12,153.3	12,202.7	12,091.4	10.9	15.7	-84.79	-1,009.9	231.3	495.0	473.6	21.36	23.170					
12,441.6	12,154.0	12,189.9	12,085.4	11.0	15.7	-84.25	-1,021.0	229.6	493.1	471.5	21.54	22.890					
12,500.0	12,155.3	12,147.8	12,063.5	11.2	15.7	-81.52	-1,056.6	223.9	487.8	465.5	22.35	21.822					
12,564.0	12,156.8	12,106.8	12,039.4	11.4	15.6	-78.52	-1,089.2	218.7	485.6	462.0	23.59	20.587 CC					
12,600.0	12,157.6	12,086.1	12,026.1	11.6	15.6	-76.88	-1,104.9	216.2	486.4	462.0	24.39	19.941 ES					
12,700.0	12,160.0	12,036.2	11,991.3	12.0	15.6	-72.67	-1,140.3	210.6	497.0	470.2	26.81	18.541					
12,800.0	12,162.3	12,000.0	11,963.9	12.5	15.5	-69.44	-1,163.6	207.0	521.2	492.3	28.90	18.034 SF					
12,900.0	12,164.6	11,962.9	11,934.0	13.0	15.5	-66.05	-1,185.3	203.6	558.5	527.7	30.82	18.122					
13,000.0	12,166.9	11,935.7	11,911.1	13.6	15.5	-63.56	-1,199.7	201.3	607.4	575.4	32.01	18.973					
13,100.0	12,169.2	11,913.2	11,891.4	14.2	15.5	-61.49	-1,210.6	199.6	666.0	633.3	32.74	20.344					
13,200.0	12,171.5	11,900.0	11,879.7	14.8	15.4	-60.31	-1,216.6	198.7	732.4	699.5	32.94	22.239					

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
11,400.0	11,375.8	12,821.4	12,138.5	9.7	44.2	-165.75	-484.0	-215.2	783.2	732.7	50.44	15.527		
11,500.0	11,475.4	12,815.4	12,138.5	9.8	44.2	-162.02	-489.8	-214.1	683.7	632.9	50.78	13.464		
11,600.0	11,574.9	12,809.5	12,138.4	9.9	44.2	-157.93	-495.6	-212.9	584.3	533.1	51.12	11.429		
11,700.0	11,674.5	12,803.6	12,138.3	10.0	44.2	-153.48	-501.4	-211.8	485.0	433.6	51.48	9.423		
11,741.9	11,716.2	12,801.2	12,138.3	10.1	44.2	-151.51	-503.8	-211.3	443.6	391.9	51.63	8.591		
11,750.0	11,724.3	12,800.6	12,138.3	10.1	44.2	-152.11	-504.4	-211.2	435.5	383.9	51.69	8.426		
11,775.0	11,749.1	12,798.1	12,138.2	10.1	44.2	-155.00	-506.8	-210.7	411.0	359.2	51.78	7.937		
11,800.0	11,773.7	12,794.3	12,138.2	10.1	44.2	-157.35	-510.5	-209.9	386.6	334.7	51.86	7.454		
11,825.0	11,798.0	12,789.3	12,138.1	10.1	44.2	-158.84	-515.4	-208.9	362.5	310.6	51.95	6.978		
11,850.0	11,822.0	12,783.1	12,138.0	10.1	44.2	-159.62	-521.5	-207.7	338.9	286.9	52.04	6.512		
11,875.0	11,845.6	12,775.7	12,137.9	10.1	44.2	-159.87	-528.8	-206.1	315.8	263.6	52.14	6.057		
11,900.0	11,868.7	12,767.1	12,137.8	10.1	44.1	-159.67	-537.2	-204.3	293.2	241.0	52.24	5.613		
11,925.0	11,891.3	12,757.3	12,137.7	10.1	44.1	-159.10	-546.7	-202.3	271.4	219.0	52.35	5.183		
11,950.0	11,913.3	12,746.4	12,137.5	10.1	44.1	-158.16	-557.3	-199.9	250.3	197.8	52.48	4.769		
11,975.0	11,934.7	12,734.5	12,137.4	10.1	44.1	-156.88	-569.0	-197.3	230.2	177.5	52.64	4.372		
12,000.0	11,955.3	12,721.5	12,137.2	10.2	44.1	-155.23	-581.7	-194.4	211.1	158.3	52.84	3.995		
12,025.0	11,975.2	12,707.5	12,137.0	10.2	44.0	-153.19	-595.3	-191.2	193.3	140.2	53.09	3.642		
12,050.0	11,994.3	12,692.6	12,136.8	10.2	44.0	-150.73	-609.8	-187.7	177.0	123.6	53.39	3.314		
12,075.0	12,012.5	12,676.7	12,136.6	10.2	44.0	-147.82	-625.2	-184.0	162.2	108.5	53.75	3.018		
12,100.0	12,029.8	12,660.0	12,136.3	10.2	44.0	-144.44	-641.4	-179.9	149.4	95.3	54.13	2.760		
12,125.0	12,046.1	12,642.5	12,136.1	10.3	43.9	-140.55	-658.3	-175.5	138.7	84.2	54.50	2.545		
12,150.0	12,061.5	12,624.3	12,135.9	10.3	43.9	-136.19	-675.9	-170.9	130.4	75.6	54.78	2.380		
12,175.0	12,075.7	12,605.4	12,135.6	10.4	43.9	-131.41	-694.2	-165.9	124.6	69.7	54.88	2.270		
12,200.0	12,088.9	12,585.9	12,135.3	10.4	43.9	-126.31	-713.0	-160.7	121.3	66.6	54.76	2.215		
12,220.5	12,098.8	12,569.4	12,135.1	10.4	43.8	-122.00	-728.8	-156.2	120.5	66.0	54.54	2.210 CC, ES, SF		
12,225.0	12,100.9	12,565.8	12,135.1	10.4	43.8	-121.04	-732.3	-155.1	120.6	66.1	54.48	2.213		
12,250.0	12,111.8	12,545.2	12,134.8	10.5	43.8	-115.80	-752.1	-149.3	122.0	67.9	54.13	2.255		
12,275.0	12,121.5	12,524.2	12,134.5	10.5	43.8	-110.76	-772.2	-143.3	125.4	71.5	53.87	2.328		
12,300.0	12,130.0	12,502.8	12,134.2	10.6	43.8	-106.10	-792.6	-136.9	130.3	76.5	53.75	2.424		
12,325.0	12,137.2	12,481.1	12,133.9	10.7	43.7	-101.93	-813.3	-130.4	136.3	82.5	53.79	2.534		
12,350.0	12,143.1	12,459.1	12,133.6	10.7	43.7	-98.34	-834.2	-123.5	143.1	89.2	53.92	2.654		
12,375.0	12,147.8	12,437.0	12,133.3	10.8	43.7	-95.33	-855.1	-116.5	150.5	96.5	54.08	2.784		
12,400.0	12,151.2	12,414.0	12,133.0	10.9	43.7	-92.86	-876.9	-109.0	158.4	104.1	54.23	2.920		
12,425.0	12,153.3	12,391.2	12,132.2	10.9	43.6	-90.77	-898.4	-101.6	166.3	112.0	54.36	3.060		
12,441.6	12,154.0	12,375.6	12,131.0	11.0	43.6	-89.44	-913.1	-96.4	171.7	117.2	54.45	3.153		
12,500.0	12,155.3	12,321.7	12,122.9	11.2	43.6	-86.56	-963.5	-79.0	190.6	135.7	54.84	3.475		
12,600.0	12,157.6	12,236.0	12,097.9	11.6	43.4	-79.63	-1,040.8	-52.4	225.8	170.0	55.82	4.045		
12,700.0	12,160.0	12,161.7	12,064.7	12.0	43.3	-72.29	-1,103.6	-30.9	267.7	210.9	56.86	4.708		
12,800.0	12,162.3	12,100.0	12,029.5	12.5	43.1	-65.86	-1,151.6	-14.6	318.5	260.8	57.65	5.524		
12,900.0	12,164.6	12,050.0	11,996.5	13.0	43.0	-60.69	-1,187.1	-2.6	378.0	319.9	58.14	6.502		
13,000.0	12,166.9	12,006.4	11,964.6	13.6	42.9	-56.35	-1,215.2	6.8	445.2	386.7	58.44	7.617		
13,100.0	12,169.2	11,975.0	11,940.0	14.2	42.8	-53.35	-1,233.8	13.0	518.6	460.0	58.57	8.854		
13,200.0	12,171.5	11,943.3	11,913.9	14.8	42.7	-50.45	-1,250.9	18.7	596.8	538.2	58.67	10.173		
13,300.0	12,173.8	11,925.0	11,898.3	15.4	42.6	-48.84	-1,260.0	21.6	678.9	620.3	58.65	11.577		
13,400.0	12,176.1	11,900.0	11,876.5	16.1	42.6	-46.73	-1,271.6	25.4	763.9	705.3	58.68	13.019		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11710-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,700.0	11,674.5	12,689.5	12,124.7	10.0	15.5	53.33	53.33	-652.3	-850.0	781.1	743.6	37.46	20.852	
11,741.9	11,716.2	12,686.5	12,124.7	10.1	15.5	53.04	53.04	-655.3	-849.3	754.7	718.3	36.39	20.741	
11,750.0	11,724.3	12,685.8	12,124.7	10.1	15.5	57.77	57.77	-655.9	-849.1	749.7	713.2	36.56	20.507	
11,775.0	11,749.1	12,682.6	12,124.6	10.1	15.5	67.05	67.05	-659.0	-848.4	734.7	698.9	35.85	20.492	
11,800.0	11,773.7	12,677.9	12,124.5	10.1	15.5	72.52	72.52	-663.6	-847.3	720.1	685.0	35.12	20.506	
11,825.0	11,798.0	12,671.5	12,124.5	10.1	15.5	76.26	76.26	-669.8	-845.8	705.9	671.5	34.35	20.550	
11,850.0	11,822.0	12,663.6	12,124.3	10.1	15.5	78.99	78.99	-677.5	-843.9	692.2	658.6	33.56	20.626	
11,875.0	11,845.6	12,654.1	12,124.2	10.1	15.5	81.07	81.07	-686.7	-841.6	678.9	646.2	32.75	20.734	
11,900.0	11,868.7	12,643.2	12,124.1	10.1	15.5	82.65	82.65	-697.3	-838.9	666.2	634.3	31.92	20.872	
11,925.0	11,891.3	12,630.8	12,123.9	10.1	15.4	83.84	83.84	-709.3	-835.8	654.0	622.9	31.08	21.040	
11,950.0	11,913.3	12,616.9	12,123.7	10.1	15.4	84.72	84.72	-722.7	-832.3	642.3	612.0	30.25	21.233	
11,975.0	11,934.7	12,601.7	12,123.5	10.1	15.4	85.33	85.33	-737.3	-828.3	631.1	601.6	29.42	21.450	
12,000.0	11,955.3	12,585.2	12,123.3	10.2	15.4	85.72	85.72	-753.3	-824.0	620.3	591.7	28.61	21.679	
12,025.0	11,975.2	12,567.5	12,123.0	10.2	15.4	85.91	85.91	-770.3	-819.2	610.0	582.2	27.83	21.917	
12,050.0	11,994.3	12,548.6	12,122.8	10.2	15.4	85.96	85.96	-788.5	-813.9	600.2	573.1	27.09	22.158	
12,075.0	12,012.5	12,528.5	12,122.5	10.2	15.3	85.88	85.88	-807.8	-808.3	590.7	564.3	26.38	22.392	
12,100.0	12,029.8	12,507.4	12,122.2	10.2	15.3	85.70	85.70	-828.0	-802.2	581.5	555.8	25.72	22.611	
12,125.0	12,046.1	12,485.3	12,121.9	10.3	15.3	85.46	85.46	-849.1	-795.6	572.6	547.5	25.12	22.798	
12,150.0	12,061.5	12,462.3	12,121.6	10.3	15.3	85.17	85.17	-871.0	-788.6	563.9	539.3	24.57	22.946	
12,175.0	12,075.7	12,438.5	12,121.2	10.4	15.2	84.88	84.88	-893.6	-781.2	555.3	531.2	24.09	23.051	
12,200.0	12,088.9	12,414.1	12,120.8	10.4	15.2	84.59	84.59	-916.7	-773.4	546.9	523.2	23.67	23.105	
12,225.0	12,100.9	12,390.4	12,119.5	10.4	15.2	84.32	84.32	-939.1	-765.7	538.5	515.2	23.30	23.109	
12,250.0	12,111.8	12,367.5	12,117.1	10.5	15.2	84.05	84.05	-960.6	-758.3	530.2	507.2	22.99	23.064	
12,275.0	12,121.5	12,345.2	12,113.8	10.5	15.2	83.77	83.77	-981.4	-751.0	522.1	499.3	22.74	22.960	
12,300.0	12,130.0	12,323.5	12,109.5	10.6	15.1	83.49	83.49	-1,001.5	-744.0	514.1	491.5	22.56	22.791	
12,325.0	12,137.2	12,302.4	12,104.5	10.7	15.1	83.19	83.19	-1,020.8	-737.1	506.3	483.8	22.45	22.554	
12,350.0	12,143.1	12,281.7	12,098.6	10.7	15.1	82.88	82.88	-1,039.5	-730.4	498.6	476.2	22.41	22.249	
12,375.0	12,147.8	12,261.4	12,092.1	10.8	15.1	82.56	82.56	-1,057.6	-723.9	491.2	468.7	22.45	21.880	
12,400.0	12,151.2	12,241.5	12,084.9	10.9	15.1	82.22	82.22	-1,075.0	-717.6	484.0	461.4	22.56	21.457	
12,425.0	12,153.3	12,222.0	12,077.1	10.9	15.0	81.86	81.86	-1,091.8	-711.4	477.0	454.3	22.73	20.989	
12,441.6	12,154.0	12,209.2	12,071.5	11.0	15.0	81.61	81.61	-1,102.7	-707.4	472.5	449.6	22.87	20.659	
12,500.0	12,155.3	12,166.6	12,051.0	11.2	15.0	78.67	78.67	-1,137.5	-694.4	458.0	434.4	23.62	19.392	
12,600.0	12,157.6	12,104.2	12,015.1	11.6	14.9	73.46	73.46	-1,185.2	-676.0	440.8	415.0	25.79	17.088	
12,677.4	12,159.4	12,064.0	11,988.6	11.9	14.8	69.63	69.63	-1,213.3	-664.9	436.3	408.3	27.99	15.589 CC	
12,700.0	12,160.0	12,050.0	11,978.8	12.0	14.8	68.23	68.23	-1,222.5	-661.2	436.7	407.9	28.75	15.192 ES	
12,800.0	12,162.3	12,012.2	11,950.9	12.5	14.8	64.32	64.32	-1,246.1	-651.5	448.5	417.2	31.37	14.300	
12,900.0	12,164.6	11,975.0	11,921.5	13.0	14.8	60.38	60.38	-1,267.1	-642.6	476.8	443.3	33.51	14.229 SF	
13,000.0	12,166.9	11,950.0	11,900.9	13.6	14.7	57.72	57.72	-1,280.0	-637.0	519.8	485.3	34.52	15.060	
13,100.0	12,169.2	11,925.0	11,879.5	14.2	14.7	55.09	55.09	-1,291.8	-631.7	575.1	540.1	35.02	16.423	
13,200.0	12,171.5	11,908.1	11,864.6	14.8	14.7	53.34	53.34	-1,299.2	-628.3	639.8	604.9	34.89	18.336	
13,300.0	12,173.8	11,891.5	11,849.8	15.4	14.7	51.66	51.66	-1,305.9	-625.1	711.7	677.0	34.63	20.550	
13,400.0	12,176.1	11,875.0	11,834.9	16.1	14.7	50.02	50.02	-1,312.1	-622.1	789.0	754.7	34.33	22.982	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11794-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	3.0	3.0	89.43	0.6	59.9	59.9					
100.0	100.0	99.5	99.5	3.0	3.0	89.43	0.6	59.9	59.9	53.9	6.00	9.984		
200.0	200.0	199.5	199.5	3.0	3.0	89.43	0.6	59.9	59.9	53.9	6.00	9.979		
300.0	300.0	299.5	299.5	3.0	3.0	89.43	0.6	59.9	59.9	53.9	6.01	9.969		
400.0	400.0	399.5	399.5	3.0	3.0	89.43	0.6	59.9	59.9	53.9	6.02	9.954		
500.0	500.0	499.5	499.5	3.1	3.1	89.43	0.6	59.9	59.9	53.9	6.03	9.933		
600.0	600.0	599.5	599.5	3.1	3.1	89.43	0.6	59.9	59.9	53.9	6.05	9.907		
700.0	700.0	699.5	699.5	3.1	3.1	89.43	0.6	59.9	59.9	53.8	6.07	9.877		
800.0	800.0	799.5	799.5	3.2	3.2	89.43	0.6	59.9	59.9	53.8	6.09	9.841		
900.0	900.0	899.5	899.5	3.2	3.2	89.43	0.6	59.9	59.9	53.8	6.11	9.801		
1,000.0	1,000.0	999.5	999.5	3.2	3.2	89.43	0.6	59.9	59.9	53.8	6.14	9.756		
1,100.0	1,100.0	1,099.5	1,099.5	3.3	3.3	89.43	0.6	59.9	59.9	53.7	6.17	9.706		
1,200.0	1,200.0	1,199.5	1,199.5	3.4	3.4	89.43	0.6	59.9	59.9	53.7	6.21	9.653		
1,300.0	1,300.0	1,299.5	1,299.5	3.4	3.4	89.43	0.6	59.9	59.9	53.7	6.24	9.595		
1,400.0	1,400.0	1,399.5	1,399.5	3.5	3.5	89.43	0.6	59.9	59.9	53.6	6.28	9.534		
1,500.0	1,500.0	1,499.5	1,499.5	3.5	3.5	89.43	0.6	59.9	59.9	53.6	6.33	9.470		
1,600.0	1,600.0	1,599.5	1,599.5	3.6	3.6	89.43	0.6	59.9	59.9	53.5	6.37	9.402		
1,700.0	1,700.0	1,699.5	1,699.5	3.7	3.7	89.43	0.6	59.9	59.9	53.5	6.42	9.331		
1,800.0	1,800.0	1,799.5	1,799.5	3.8	3.8	89.43	0.6	59.9	59.9	53.4	6.47	9.258		
1,900.0	1,900.0	1,899.5	1,899.5	3.9	3.9	89.43	0.6	59.9	59.9	53.4	6.52	9.182		
2,000.0	2,000.0	1,999.5	1,999.5	3.9	3.9	89.43	0.6	59.9	59.9	53.3	6.58	9.103		
2,100.0	2,100.0	2,099.5	2,099.5	4.0	4.0	89.43	0.6	59.9	59.9	53.3	6.64	9.023		
2,200.0	2,200.0	2,199.5	2,199.5	4.1	4.1	89.43	0.6	59.9	59.9	53.2	6.70	8.941		
2,300.0	2,300.0	2,299.5	2,299.5	4.2	4.2	89.43	0.6	59.9	59.9	53.1	6.76	8.857		
2,400.0	2,400.0	2,399.5	2,399.5	4.3	4.3	89.43	0.6	59.9	59.9	53.1	6.83	8.772		
2,500.0	2,500.0	2,499.5	2,499.5	4.4	4.4	89.43	0.6	59.9	59.9	53.0	6.90	8.686 CC, ES, SF		
2,600.0	2,600.0	2,597.7	2,597.6	4.5	4.4	90.16	-0.2	61.4	61.4	54.4	6.96	8.816		
2,700.0	2,700.0	2,695.6	2,695.4	4.6	4.4	92.15	-2.5	65.8	66.0	59.0	7.04	9.379		
2,800.0	2,800.0	2,793.0	2,792.5	4.7	4.4	94.92	-6.3	73.2	73.8	66.7	7.11	10.372		
2,900.0	2,900.0	2,891.3	2,890.2	4.8	4.5	97.85	-11.5	83.1	84.4	77.2	7.21	11.718		
3,000.0	3,000.0	2,990.6	2,988.8	4.9	4.5	100.21	-16.8	93.5	95.6	88.3	7.30	13.085		
3,100.0	3,100.0	3,089.9	3,087.4	5.0	4.5	102.08	-22.2	103.8	106.9	99.5	7.41	14.427		
3,200.0	3,200.0	3,189.2	3,186.0	5.1	4.5	103.58	-27.6	114.2	118.2	110.7	7.51	15.739		
3,300.0	3,300.0	3,288.5	3,284.6	5.2	4.5	104.83	-33.0	124.5	129.7	122.0	7.62	17.018		
3,400.0	3,400.0	3,387.8	3,383.3	5.3	4.6	105.87	-38.3	134.9	141.1	133.4	7.73	18.263		
3,500.0	3,500.0	3,487.2	3,481.9	5.4	4.6	106.75	-43.7	145.2	152.7	144.8	7.84	19.470		
3,600.0	3,600.0	3,586.5	3,580.5	5.5	4.6	107.51	-49.1	155.6	164.2	156.3	7.96	20.640		
3,700.0	3,700.0	3,685.8	3,679.1	5.7	4.7	108.17	-54.5	165.9	175.8	167.7	8.07	21.772		
3,800.0	3,800.0	3,785.1	3,777.8	5.8	4.7	108.75	-59.8	176.2	187.4	179.2	8.20	22.865		
3,900.0	3,900.0	3,884.4	3,876.4	5.9	4.8	109.26	-65.2	186.6	199.0	190.7	8.32	23.919		
4,000.0	4,000.0	3,983.7	3,975.0	6.0	4.8	109.71	-70.6	196.9	210.6	202.2	8.45	24.935		
4,100.0	4,100.0	4,083.0	4,073.6	6.1	4.9	110.12	-75.9	207.3	222.3	213.7	8.58	25.913		
4,200.0	4,200.0	4,182.3	4,172.2	6.2	4.9	110.49	-81.3	217.6	233.9	225.2	8.71	26.853		
4,300.0	4,300.0	4,281.6	4,270.9	6.3	5.0	110.82	-86.7	228.0	245.6	236.7	8.85	27.757		
4,400.0	4,400.0	4,380.9	4,369.5	6.5	5.1	111.12	-92.1	238.3	257.2	248.3	8.99	28.625		
4,500.0	4,500.0	4,480.2	4,468.1	6.6	5.1	111.40	-97.4	248.7	268.9	259.8	9.13	29.458		
4,600.0	4,600.0	4,579.6	4,566.7	6.7	5.2	111.65	-102.8	259.0	280.6	271.3	9.27	30.258		
4,700.0	4,700.0	4,678.9	4,665.3	6.8	5.3	111.88	-108.2	269.4	292.3	282.9	9.42	31.024		
4,800.0	4,800.0	4,778.2	4,764.0	6.9	5.4	112.10	-113.6	279.7	304.0	294.4	9.57	31.759		
4,900.0	4,900.0	4,877.5	4,862.6	7.0	5.4	112.30	-118.9	290.1	315.7	305.9	9.72	32.463		
5,000.0	5,000.0	4,976.8	4,961.2	7.2	5.5	112.48	-124.3	300.4	327.4	317.5	9.88	33.138		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11794-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.0	5,100.0	5,076.1	5,059.8	7.3	5.6	112.65	-129.7	310.8	339.1	329.0	10.04	33.785		
5,200.0	5,200.0	5,175.4	5,158.5	7.4	5.7	112.81	-135.1	321.1	350.8	340.6	10.19	34.405		
5,300.0	5,300.0	5,274.7	5,257.1	7.5	5.8	112.96	-140.4	331.4	362.5	352.1	10.36	34.998		
5,400.0	5,400.0	5,374.0	5,355.7	7.6	5.9	113.10	-145.8	341.8	374.2	363.6	10.52	35.567		
5,500.0	5,500.0	5,473.3	5,454.3	7.8	6.0	113.23	-151.2	352.1	385.9	375.2	10.69	36.112		
5,600.0	5,600.0	5,572.6	5,552.9	7.8	6.0	-92.62	-156.5	362.5	397.7	386.8	10.84	36.694		
5,700.0	5,699.8	5,671.8	5,651.4	7.8	6.1	-92.99	-161.9	372.8	409.6	398.7	10.97	37.337		
5,763.6	5,763.2	5,734.7	5,713.9	7.7	6.2	-93.46	-165.3	379.4	417.4	406.3	11.05	37.760		
5,800.0	5,799.5	5,770.8	5,749.7	7.7	6.2	-93.86	-167.3	383.1	421.9	410.8	11.10	38.003		
5,900.0	5,899.1	5,869.7	5,847.9	7.7	6.3	-94.91	-172.6	393.4	434.3	423.0	11.24	38.652		
6,000.0	5,998.6	5,968.6	5,946.2	7.7	6.4	-95.91	-178.0	403.7	446.8	435.5	11.38	39.273		
6,100.0	6,098.2	6,067.5	6,044.4	7.6	6.5	-96.85	-183.3	414.0	459.5	448.0	11.53	39.868		
6,200.0	6,197.8	6,166.4	6,142.6	7.6	6.6	-97.74	-188.7	424.3	472.3	460.6	11.68	40.440		
6,300.0	6,297.4	6,265.4	6,240.9	7.6	6.7	-98.58	-194.0	434.7	485.2	473.4	11.84	40.988		
6,400.0	6,396.9	6,364.3	6,339.1	7.6	6.8	-99.38	-199.4	445.0	498.2	486.2	12.00	41.515		
6,500.0	6,496.5	6,463.2	6,437.3	7.5	6.9	-100.14	-204.7	455.3	511.3	499.1	12.17	42.021		
6,600.0	6,596.1	6,562.1	6,535.6	7.5	7.1	-100.86	-210.1	465.6	524.5	512.1	12.34	42.509		
6,700.0	6,695.7	6,661.0	6,633.8	7.5	7.2	-101.55	-215.4	475.9	537.7	525.2	12.51	42.978		
6,800.0	6,795.2	6,759.9	6,732.0	7.5	7.3	-102.20	-220.8	486.2	551.1	538.4	12.69	43.430		
6,900.0	6,894.8	6,858.9	6,830.3	7.5	7.4	-102.82	-226.1	496.5	564.4	551.6	12.87	43.866		
7,000.0	6,994.4	6,957.8	6,928.5	7.5	7.5	-103.42	-231.5	506.8	577.9	564.9	13.05	44.286		
7,100.0	7,094.0	7,056.7	7,026.7	7.5	7.6	-103.98	-236.9	517.1	591.4	578.2	13.23	44.691		
7,200.0	7,193.6	7,155.6	7,125.0	7.5	7.7	-104.53	-242.2	527.4	605.0	591.6	13.42	45.082		
7,300.0	7,293.1	7,254.5	7,223.2	7.4	7.8	-105.04	-247.6	537.7	618.6	605.0	13.61	45.459		
7,400.0	7,392.7	7,353.4	7,321.4	7.4	7.9	-105.54	-252.9	548.0	632.3	618.5	13.80	45.822		
7,500.0	7,492.3	7,452.4	7,419.7	7.5	8.1	-106.01	-258.3	558.3	646.0	632.0	13.99	46.173		
7,600.0	7,591.9	7,551.3	7,517.9	7.5	8.2	-106.47	-263.6	568.6	659.7	645.6	14.18	46.511		
7,700.0	7,691.4	7,650.2	7,616.1	7.5	8.3	-106.90	-269.0	578.9	673.5	659.1	14.38	46.838		
7,800.0	7,791.0	7,749.1	7,714.4	7.5	8.4	-107.32	-274.3	589.2	687.4	672.8	14.58	47.153		
7,900.0	7,890.6	7,848.0	7,812.6	7.5	8.5	-107.72	-279.7	599.5	701.2	686.4	14.78	47.456		
8,000.0	7,990.2	7,946.9	7,910.8	7.5	8.6	-108.11	-285.0	609.8	715.1	700.1	14.98	47.749		
8,100.0	8,089.7	8,045.9	8,009.1	7.5	8.8	-108.48	-290.4	620.2	729.0	713.9	15.18	48.032		
8,200.0	8,189.3	8,144.8	8,107.3	7.5	8.9	-108.84	-295.7	630.5	743.0	727.6	15.38	48.304		
8,300.0	8,288.9	8,243.7	8,205.5	7.6	9.0	-109.19	-301.1	640.8	757.0	741.4	15.59	48.566		
8,400.0	8,388.5	8,342.6	8,303.8	7.6	9.1	-109.52	-306.4	651.1	771.0	755.2	15.79	48.819		
8,500.0	8,488.1	8,441.5	8,402.0	7.6	9.2	-109.84	-311.8	661.4	785.0	769.0	16.00	49.063		
8,600.0	8,587.6	8,540.4	8,500.2	7.7	9.4	-110.15	-317.1	671.7	799.1	782.9	16.21	49.298		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.0	0.0	3.0	3.0	89.23	0.4	29.9	29.9				
100.0	100.0	99.6	99.6	3.0	3.0	89.23	0.4	29.9	29.9	23.9	6.00	4.982	
200.0	200.0	199.6	199.6	3.0	3.0	89.23	0.4	29.9	29.9	23.9	6.04	4.951	
300.0	300.0	299.6	299.6	3.0	3.1	89.23	0.4	29.9	29.9	23.8	6.12	4.886	
400.0	400.0	399.6	399.6	3.0	3.2	89.23	0.4	29.9	29.9	23.7	6.24	4.792	
500.0	500.0	499.6	499.6	3.1	3.4	89.23	0.4	29.9	29.9	23.5	6.40	4.675	
600.0	600.0	599.6	599.6	3.1	3.6	89.23	0.4	29.9	29.9	23.3	6.58	4.542	
700.0	700.0	699.6	699.6	3.1	3.8	89.23	0.4	29.9	29.9	23.1	6.80	4.399	
800.0	800.0	799.6	799.6	3.2	4.0	89.23	0.4	29.9	29.9	22.9	7.04	4.250	
900.0	900.0	899.6	899.6	3.2	4.2	89.23	0.4	29.9	29.9	22.6	7.29	4.100	
1,000.0	1,000.0	999.6	999.6	3.2	4.5	89.23	0.4	29.9	29.9	22.3	7.57	3.952	
1,100.0	1,100.0	1,099.6	1,099.6	3.3	4.8	89.23	0.4	29.9	29.9	22.0	7.86	3.806	
1,200.0	1,200.0	1,199.6	1,199.6	3.4	5.1	89.23	0.4	29.9	29.9	21.7	8.16	3.666	
1,300.0	1,300.0	1,299.6	1,299.6	3.4	5.3	89.23	0.4	29.9	29.9	21.4	8.47	3.531	
1,400.0	1,400.0	1,399.6	1,399.6	3.5	5.6	89.23	0.4	29.9	29.9	21.1	8.79	3.402	
1,500.0	1,500.0	1,499.6	1,499.6	3.5	6.0	89.23	0.4	29.9	29.9	20.8	9.12	3.280	
1,600.0	1,600.0	1,599.6	1,599.6	3.6	6.3	89.23	0.4	29.9	29.9	20.5	9.45	3.164	
1,700.0	1,700.0	1,699.6	1,699.6	3.7	6.6	89.23	0.4	29.9	29.9	20.1	9.79	3.054	
1,800.0	1,800.0	1,799.6	1,799.6	3.8	6.9	89.23	0.4	29.9	29.9	19.8	10.14	2.949	
1,900.0	1,900.0	1,899.6	1,899.6	3.9	7.2	89.23	0.4	29.9	29.9	19.4	10.49	2.850	
2,000.0	2,000.0	1,999.6	1,999.6	3.9	7.6	89.23	0.4	29.9	29.9	19.1	10.85	2.757	
2,100.0	2,100.0	2,099.6	2,099.6	4.0	7.9	89.23	0.4	29.9	29.9	18.7	11.21	2.668	
2,200.0	2,200.0	2,199.6	2,199.6	4.1	8.2	89.23	0.4	29.9	29.9	18.3	11.57	2.585	
2,300.0	2,300.0	2,299.6	2,299.6	4.2	8.6	89.23	0.4	29.9	29.9	18.0	11.94	2.505	
2,400.0	2,400.0	2,399.6	2,399.6	4.3	8.9	89.23	0.4	29.9	29.9	17.6	12.30	2.430	
2,500.0	2,500.0	2,499.6	2,499.6	4.4	9.2	89.23	0.4	29.9	29.9	17.2	12.68	2.359 CC, ES, SF	
2,600.0	2,600.0	2,599.0	2,599.0	4.5	9.6	91.88	-1.0	30.9	30.9	17.9	13.03	2.370	
2,700.0	2,700.0	2,698.2	2,698.1	4.6	9.9	98.84	-5.3	33.8	34.2	20.8	13.40	2.552	
2,800.0	2,800.0	2,798.0	2,797.6	4.7	10.2	105.94	-10.7	37.5	39.0	25.2	13.81	2.825	
2,900.0	2,900.0	2,897.8	2,897.2	4.8	10.5	111.42	-16.2	41.2	44.3	30.1	14.25	3.110	
3,000.0	3,000.0	2,997.6	2,996.7	4.9	10.8	115.70	-21.6	44.9	49.9	35.2	14.69	3.397	
3,100.0	3,100.0	3,097.3	3,096.3	5.0	11.1	119.10	-27.1	48.6	55.7	40.6	15.14	3.682	
3,200.0	3,200.0	3,197.1	3,195.9	5.1	11.5	121.85	-32.5	52.3	61.7	46.1	15.58	3.961	
3,300.0	3,300.0	3,296.9	3,295.4	5.2	11.8	124.11	-38.0	56.1	67.8	51.8	16.03	4.232	
3,400.0	3,400.0	3,396.7	3,395.0	5.3	12.1	125.99	-43.4	59.8	74.0	57.5	16.47	4.494	
3,500.0	3,500.0	3,496.5	3,494.6	5.4	12.4	127.58	-48.9	63.5	80.3	63.4	16.92	4.746	
3,600.0	3,600.0	3,596.2	3,594.1	5.5	12.8	128.95	-54.3	67.2	86.6	69.2	17.36	4.988	
3,700.0	3,700.0	3,696.0	3,693.7	5.7	13.1	130.12	-59.8	70.9	92.9	75.1	17.80	5.220	
3,800.0	3,800.0	3,795.8	3,793.2	5.8	13.4	131.15	-65.2	74.6	99.3	81.1	18.25	5.443	
3,900.0	3,900.0	3,895.6	3,892.8	5.9	13.8	132.05	-70.7	78.4	105.7	87.0	18.69	5.656	
4,000.0	4,000.0	3,995.4	3,992.4	6.0	14.1	132.85	-76.1	82.1	112.2	93.0	19.14	5.861	
4,100.0	4,100.0	4,095.1	4,091.9	6.1	14.5	133.56	-81.6	85.8	118.6	99.0	19.58	6.057	
4,200.0	4,200.0	4,194.9	4,191.5	6.2	14.8	134.19	-87.0	89.5	125.1	105.1	20.03	6.245	
4,300.0	4,300.0	4,294.7	4,291.1	6.3	15.1	134.77	-92.5	93.2	131.6	111.1	20.48	6.425	
4,400.0	4,400.0	4,394.5	4,390.6	6.5	15.5	135.29	-97.9	96.9	138.1	117.2	20.93	6.598	
4,500.0	4,500.0	4,494.3	4,490.2	6.6	15.8	135.76	-103.4	100.7	144.6	123.2	21.38	6.764	
4,600.0	4,600.0	4,594.1	4,589.7	6.7	16.2	136.20	-108.8	104.4	151.1	129.3	21.83	6.923	
4,700.0	4,700.0	4,693.8	4,689.3	6.8	16.5	136.59	-114.3	108.1	157.6	135.4	22.28	7.075	
4,800.0	4,800.0	4,793.6	4,788.9	6.9	16.9	136.96	-119.7	111.8	164.2	141.4	22.73	7.222	
4,900.0	4,900.0	4,893.4	4,888.4	7.0	17.2	137.30	-125.2	115.5	170.7	147.5	23.18	7.363	
5,000.0	5,000.0	4,993.2	4,988.0	7.2	17.5	137.61	-130.6	119.2	177.2	153.6	23.64	7.499	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,100.0	5,093.0	5,087.6	7.3	17.9	137.90		-136.1	123.0	183.8	159.7	24.09	7.629	
5,200.0	5,200.0	5,192.7	5,187.1	7.4	18.2	138.17		-141.5	126.7	190.4	165.8	24.55	7.755	
5,300.0	5,300.0	5,292.5	5,286.7	7.5	18.6	138.42		-147.0	130.4	196.9	171.9	25.00	7.876	
5,400.0	5,400.0	5,392.3	5,386.2	7.6	18.9	138.66		-152.4	134.1	203.5	178.0	25.46	7.993	
5,500.0	5,500.0	5,492.1	5,485.8	7.8	19.3	138.88		-157.9	137.8	210.0	184.1	25.91	8.105	
5,600.0	5,600.0	5,591.9	5,585.4	7.8	19.6	-67.19		-163.3	141.5	215.9	189.6	26.31	8.208	
5,700.0	5,699.8	5,691.7	5,685.0	7.8	20.0	-68.15		-168.8	145.3	220.5	193.9	26.62	8.283	
5,763.6	5,763.2	5,755.1	5,748.2	7.7	20.2	-69.19		-172.3	147.6	222.8	196.0	26.80	8.312	
5,800.0	5,799.5	5,791.4	5,784.5	7.7	20.3	-69.89		-174.2	149.0	224.0	197.1	26.91	8.326	
5,900.0	5,899.1	5,891.1	5,883.9	7.7	20.7	-71.77		-179.7	152.7	227.5	200.3	27.19	8.367	
6,000.0	5,998.6	5,990.7	5,983.4	7.7	21.0	-73.60		-185.1	156.4	231.2	203.7	27.49	8.413	
6,100.0	6,098.2	6,090.4	6,082.8	7.6	21.4	-75.37		-190.6	160.1	235.2	207.4	27.79	8.463	
6,200.0	6,197.8	6,190.1	6,182.3	7.6	21.7	-77.08		-196.0	163.8	239.4	211.3	28.10	8.518	
6,300.0	6,297.4	6,289.7	6,281.7	7.6	22.1	-78.73		-201.5	167.5	243.8	215.3	28.43	8.576	
6,400.0	6,396.9	6,389.4	6,381.1	7.6	22.4	-80.32		-206.9	171.2	248.4	219.6	28.76	8.636	
6,500.0	6,496.5	6,489.0	6,480.6	7.5	22.8	-81.85		-212.4	175.0	253.1	224.0	29.10	8.700	
6,600.0	6,596.1	6,588.7	6,580.0	7.5	23.2	-83.33		-217.8	178.7	258.1	228.6	29.44	8.765	
6,700.0	6,695.7	6,688.4	6,679.5	7.5	23.5	-84.75		-223.2	182.4	263.2	233.4	29.80	8.832	
6,800.0	6,795.2	6,788.0	6,778.9	7.5	23.9	-86.11		-228.7	186.1	268.4	238.3	30.16	8.901	
6,900.0	6,894.8	6,887.7	6,878.3	7.5	24.2	-87.42		-234.1	189.8	273.8	243.3	30.52	8.971	
7,000.0	6,994.4	6,987.3	6,977.8	7.5	24.6	-88.68		-239.6	193.5	279.4	248.5	30.90	9.043	
7,100.0	7,094.0	7,087.0	7,077.2	7.5	24.9	-89.89		-245.0	197.2	285.1	253.8	31.28	9.114	
7,200.0	7,193.6	7,186.7	7,176.7	7.5	25.3	-91.05		-250.5	200.9	290.9	259.2	31.66	9.187	
7,300.0	7,293.1	7,286.3	7,276.1	7.4	25.6	-92.17		-255.9	204.7	296.8	264.7	32.05	9.260	
7,400.0	7,392.7	7,386.0	7,375.6	7.4	26.0	-93.24		-261.4	208.4	302.8	270.4	32.44	9.333	
7,500.0	7,492.3	7,485.6	7,475.0	7.5	26.3	-94.27		-266.8	212.1	308.9	276.1	32.84	9.407	
7,600.0	7,591.9	7,585.3	7,574.4	7.5	26.7	-95.26		-272.2	215.8	315.2	281.9	33.24	9.480	
7,700.0	7,691.4	7,685.0	7,673.9	7.5	27.0	-96.22		-277.7	219.5	321.5	287.8	33.65	9.553	
7,800.0	7,791.0	7,784.6	7,773.3	7.5	27.4	-97.13		-283.1	223.2	327.9	293.8	34.06	9.627	
7,900.0	7,890.6	7,884.3	7,872.8	7.5	27.8	-98.01		-288.6	226.9	334.3	299.9	34.47	9.699	
8,000.0	7,990.2	7,983.9	7,972.2	7.5	28.1	-98.86		-294.0	230.6	340.9	306.0	34.88	9.772	
8,100.0	8,089.7	8,083.6	8,071.7	7.5	28.5	-99.67		-299.5	234.4	347.5	312.2	35.30	9.844	
8,200.0	8,189.3	8,183.3	8,171.1	7.5	28.8	-100.46		-304.9	238.1	354.2	318.5	35.72	9.916	
8,300.0	8,288.9	8,282.9	8,270.5	7.6	29.2	-101.21		-310.4	241.8	361.0	324.8	36.14	9.987	
8,400.0	8,388.5	8,382.6	8,370.0	7.6	29.5	-101.94		-315.8	245.5	367.8	331.2	36.57	10.057	
8,500.0	8,488.1	8,482.2	8,469.4	7.6	29.9	-102.64		-321.2	249.2	374.6	337.7	36.99	10.127	
8,600.0	8,587.6	8,581.9	8,568.9	7.7	30.3	-103.31		-326.7	252.9	381.6	344.2	37.42	10.196	
8,700.0	8,687.2	8,681.6	8,668.3	7.7	30.6	-103.96		-332.1	256.6	388.6	350.7	37.85	10.265	
8,800.0	8,786.8	8,781.2	8,767.8	7.8	31.0	-104.59		-337.6	260.3	395.6	357.3	38.29	10.332	
8,900.0	8,886.4	8,880.9	8,867.2	7.8	31.3	-105.20		-343.0	264.0	402.6	363.9	38.72	10.399	
9,000.0	8,985.9	8,980.5	8,966.6	7.8	31.7	-105.78		-348.5	267.8	409.8	370.6	39.15	10.465	
9,100.0	9,085.5	9,080.2	9,066.1	7.9	32.0	-106.35		-353.9	271.5	416.9	377.3	39.59	10.530	
9,200.0	9,185.1	9,179.9	9,165.5	7.9	32.4	-106.89		-359.4	275.2	424.1	384.1	40.03	10.595	
9,300.0	9,284.7	9,279.5	9,265.0	8.0	32.8	-107.42		-364.8	278.9	431.3	390.9	40.47	10.658	
9,400.0	9,384.2	9,379.2	9,364.4	8.1	33.1	-107.93		-370.3	282.6	438.6	397.7	40.91	10.721	
9,500.0	9,483.8	9,478.8	9,463.9	8.1	33.5	-108.43		-375.7	286.3	445.9	404.6	41.35	10.783	
9,600.0	9,583.4	9,578.5	9,563.3	8.2	33.8	-108.90		-381.1	290.0	453.2	411.4	41.80	10.844	
9,700.0	9,683.0	9,678.2	9,662.7	8.3	34.2	-109.37		-386.6	293.7	460.6	418.4	42.24	10.904	
9,800.0	9,782.6	9,777.8	9,762.2	8.3	34.5	-109.82		-392.0	297.5	468.0	425.3	42.69	10.963	
9,900.0	9,882.1	9,877.5	9,861.6	8.4	34.9	-110.25		-397.5	301.2	475.4	432.3	43.13	11.022	
10,000.0	9,981.7	9,977.2	9,961.1	8.5	35.3	-110.67		-402.9	304.9	482.9	439.3	43.58	11.079	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	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
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,100.0	10,081.3	10,076.8	10,060.5	8.6	35.6	-111.08		-408.4	308.6	490.3	446.3	44.03	11.136	
10,200.0	10,180.9	10,176.5	10,160.0	8.6	36.0	-111.47		-413.8	312.3	497.8	453.3	44.48	11.192	
10,300.0	10,280.4	10,276.1	10,259.4	8.7	36.3	-111.86		-419.3	316.0	505.3	460.4	44.93	11.247	
10,400.0	10,380.0	10,375.8	10,358.8	8.8	36.7	-112.23		-424.7	319.7	512.9	467.5	45.39	11.301	
10,500.0	10,479.6	10,475.5	10,458.3	8.9	37.1	-112.59		-430.1	323.4	520.4	474.6	45.84	11.354	
10,600.0	10,579.2	10,575.1	10,557.7	9.0	37.4	-112.94		-435.6	327.2	528.0	481.7	46.29	11.406	
10,700.0	10,678.8	10,674.8	10,657.2	9.1	37.8	-113.29		-441.0	330.9	535.6	488.9	46.75	11.457	
10,800.0	10,778.3	10,774.4	10,756.6	9.2	38.1	-113.62		-446.5	334.6	543.2	496.0	47.21	11.508	
10,900.0	10,877.9	10,874.1	10,856.0	9.3	38.5	-113.94		-451.9	338.3	550.9	503.2	47.66	11.558	
11,000.0	10,977.5	10,973.8	10,955.5	9.4	38.8	-114.25		-457.4	342.0	558.5	510.4	48.12	11.607	
11,100.0	11,077.1	11,073.4	11,054.9	9.4	39.2	-114.56		-462.8	345.7	566.2	517.6	48.58	11.655	
11,200.0	11,176.6	11,173.1	11,154.4	9.5	39.6	-114.86		-468.3	349.4	573.9	524.8	49.04	11.702	
11,300.0	11,276.2	11,272.7	11,253.8	9.6	39.9	-115.15		-473.7	353.1	581.6	532.1	49.50	11.749	
11,400.0	11,375.8	11,372.4	11,353.3	9.7	40.3	-115.43		-479.1	356.9	589.3	539.3	49.96	11.795	
11,500.0	11,475.4	11,472.1	11,452.7	9.8	40.6	-115.70		-484.6	360.6	597.0	546.6	50.43	11.840	
11,600.0	11,574.9	11,571.7	11,552.1	9.9	41.0	-115.97		-490.0	364.3	604.8	553.9	50.89	11.884	
11,700.0	11,674.5	11,671.4	11,651.6	10.0	41.4	-116.23		-495.5	368.0	612.5	561.2	51.35	11.928	
11,741.9	11,716.2	11,713.1	11,693.3	10.1	41.5	-116.34		-497.8	369.5	615.8	564.2	51.55	11.946	
11,750.0	11,724.3	11,721.2	11,701.3	10.1	41.5	-112.23		-498.2	369.8	616.4	564.8	51.64	11.936	
11,775.0	11,749.1	11,746.1	11,726.2	10.1	41.6	-104.80		-499.7	370.8	618.3	566.6	51.73	11.953	
11,800.0	11,773.7	11,771.2	11,751.1	10.1	41.7	-100.97		-502.3	371.7	620.3	568.4	51.82	11.969	
11,825.0	11,798.0	11,796.3	11,775.9	10.1	41.8	-98.63		-506.2	372.7	622.2	570.3	51.91	11.985	
11,850.0	11,822.0	11,821.6	11,800.6	10.1	41.9	-97.06		-511.5	373.6	624.1	572.0	52.00	12.000	
11,875.0	11,845.6	11,847.0	11,825.1	10.1	42.0	-95.93		-518.0	374.6	625.9	573.8	52.10	12.014	
11,900.0	11,868.7	11,872.4	11,849.2	10.1	42.1	-95.08		-525.9	375.6	627.7	575.5	52.19	12.028	
11,925.0	11,891.3	11,898.0	11,873.1	10.1	42.2	-94.41		-535.1	376.5	629.5	577.2	52.28	12.040	
11,950.0	11,913.3	11,923.7	11,896.4	10.1	42.3	-93.87		-545.7	377.5	631.2	578.9	52.38	12.051	
11,975.0	11,934.7	11,949.4	11,919.3	10.1	42.4	-93.43		-557.5	378.4	632.9	580.5	52.48	12.061	
12,000.0	11,955.3	11,975.3	11,941.6	10.2	42.5	-93.06		-570.6	379.4	634.6	582.0	52.57	12.070	
12,025.0	11,975.2	12,001.3	11,963.3	10.2	42.6	-92.75		-584.9	380.3	636.1	583.5	52.67	12.077	
12,050.0	11,994.3	12,027.3	11,984.2	10.2	42.6	-92.49		-600.5	381.3	637.7	584.9	52.77	12.083	
12,075.0	12,012.5	12,053.5	12,004.2	10.2	42.7	-92.26		-617.2	382.2	639.1	586.2	52.88	12.086	
12,100.0	12,029.8	12,079.8	12,023.5	10.2	42.8	-92.06		-635.1	383.0	640.5	587.5	52.98	12.088	
12,125.0	12,046.1	12,106.1	12,041.7	10.3	42.9	-91.89		-654.1	383.9	641.8	588.7	53.09	12.088	
12,150.0	12,061.5	12,132.6	12,059.0	10.3	43.0	-91.74		-674.1	384.7	643.0	589.8	53.20	12.086	
12,175.0	12,075.7	12,159.1	12,075.1	10.4	43.1	-91.62		-695.1	385.5	644.1	590.8	53.32	12.081	
12,200.0	12,088.9	12,185.7	12,090.1	10.4	43.2	-91.50		-717.0	386.3	645.2	591.7	53.43	12.075	
12,225.0	12,100.9	12,212.4	12,103.9	10.4	43.2	-91.41		-739.9	387.0	646.1	592.6	53.55	12.065	
12,250.0	12,111.8	12,239.1	12,116.5	10.5	43.3	-91.33		-763.5	387.7	647.0	593.3	53.67	12.054	
12,275.0	12,121.5	12,265.9	12,127.7	10.5	43.4	-91.26		-787.8	388.4	647.7	593.9	53.80	12.040	
12,300.0	12,130.0	12,292.8	12,137.5	10.6	43.5	-91.20		-812.8	389.0	648.4	594.5	53.92	12.024	
12,325.0	12,137.2	12,319.7	12,146.0	10.7	43.5	-91.16		-838.3	389.5	648.9	594.9	54.05	12.006	
12,350.0	12,143.1	12,346.7	12,153.0	10.7	43.6	-91.13		-864.3	390.0	649.4	595.2	54.18	11.986	
12,375.0	12,147.8	12,373.7	12,158.5	10.8	43.7	-91.10		-890.7	390.5	649.7	595.4	54.31	11.963	
12,400.0	12,151.2	12,400.7	12,162.6	10.9	43.7	-91.09		-917.5	390.9	650.0	595.5	54.44	11.939	
12,425.0	12,153.3	12,427.7	12,165.1	10.9	43.8	-91.09		-944.4	391.3	650.1	595.5	54.57	11.912	
12,441.6	12,154.0	12,445.7	12,165.9	11.0	43.8	-91.09		-962.3	391.5	650.1	595.5	54.66	11.894	
12,500.0	12,155.3	12,504.2	12,167.3	11.2	43.9	-91.09		-1,020.9	392.1	650.1	595.2	54.97	11.827	
12,600.0	12,157.6	12,604.2	12,169.6	11.6	44.1	-91.09		-1,120.8	393.2	650.1	594.6	55.57	11.700	
12,700.0	12,160.0	12,704.2	12,171.9	12.0	44.3	-91.08		-1,220.8	394.2	650.1	593.9	56.23	11.562	
12,800.0	12,162.3	12,804.2	12,174.1	12.5	44.6	-91.08		-1,320.8	395.3	650.1	593.2	56.95	11.416	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
12,900.0	12,164.6	12,904.2	12,176.4	13.0	44.8	-91.08	-1,420.7	396.3	650.1	592.4	57.72	11.263	
13,000.0	12,166.9	13,004.2	12,178.7	13.6	45.1	-91.08	-1,520.7	397.4	650.1	591.6	58.55	11.104	
13,100.0	12,169.2	13,104.2	12,181.0	14.2	45.3	-91.08	-1,620.7	398.5	650.1	590.7	59.42	10.941	
13,200.0	12,171.5	13,204.2	12,183.3	14.8	45.6	-91.08	-1,720.6	399.5	650.1	589.8	60.33	10.776	
13,300.0	12,173.8	13,304.2	12,185.6	15.4	45.9	-91.08	-1,820.6	400.6	650.1	588.8	61.28	10.609	
13,400.0	12,176.1	13,404.2	12,187.9	16.1	46.3	-91.07	-1,920.6	401.6	650.1	587.9	62.26	10.442	
13,500.0	12,178.4	13,504.2	12,190.1	16.8	46.6	-91.07	-2,020.5	402.7	650.1	586.8	63.28	10.274	
13,600.0	12,180.7	13,604.2	12,192.4	17.5	46.9	-91.07	-2,120.5	403.8	650.1	585.8	64.32	10.107	
13,700.0	12,183.0	13,704.2	12,194.7	18.2	47.3	-91.07	-2,220.5	404.8	650.1	584.7	65.39	9.942	
13,800.0	12,185.3	13,804.2	12,197.0	18.9	47.7	-91.07	-2,320.5	405.9	650.1	583.6	66.49	9.778	
13,900.0	12,187.6	13,904.2	12,199.3	19.7	48.1	-91.07	-2,420.4	406.9	650.1	582.5	67.61	9.615	
14,000.0	12,189.9	14,004.2	12,201.6	20.4	48.5	-91.07	-2,520.4	408.0	650.1	581.4	68.75	9.455	
14,100.0	12,192.2	14,104.2	12,203.9	21.2	48.9	-91.06	-2,620.4	409.1	650.1	580.2	69.92	9.298	
14,200.0	12,194.5	14,204.2	12,206.2	21.9	49.3	-91.06	-2,720.3	410.1	650.1	579.0	71.10	9.143	
14,300.0	12,196.8	14,304.2	12,208.4	22.7	49.7	-91.06	-2,820.3	411.2	650.1	577.8	72.31	8.991	
14,400.0	12,199.1	14,404.2	12,210.7	23.5	50.2	-91.06	-2,920.3	412.3	650.1	576.6	73.53	8.842	
14,500.0	12,201.4	14,504.2	12,213.0	24.3	50.6	-91.06	-3,020.2	413.3	650.1	575.3	74.76	8.695	
14,600.0	12,203.7	14,604.2	12,215.3	25.1	51.1	-91.06	-3,120.2	414.4	650.1	574.1	76.02	8.552	
14,700.0	12,206.0	14,704.2	12,217.6	25.9	51.5	-91.05	-3,220.2	415.4	650.1	572.8	77.29	8.412	
14,800.0	12,208.3	14,804.2	12,219.9	26.6	52.0	-91.05	-3,320.1	416.5	650.1	571.5	78.57	8.274	
14,900.0	12,210.6	14,904.2	12,222.2	27.5	52.5	-91.05	-3,420.1	417.6	650.1	570.2	79.86	8.140	
14,990.1	12,212.7	14,994.3	12,224.2	28.2	53.0	-91.05	-3,510.1	418.5	650.1	569.0	81.04	8.022	
14,992.7	12,212.8	14,996.5	12,224.3	28.2	53.0	-91.05	-3,512.3	418.5	650.1	569.0	81.08	8.018	
14,997.0	12,212.9	15,000.3	12,224.4	28.2	53.0	-91.05	-3,516.1	418.6	650.1	569.0	81.13	8.013	
15,000.0	12,212.9	15,003.3	12,224.4	28.3	53.0	-91.05	-3,519.1	418.6	650.1	568.9	81.17	8.009	
15,100.0	12,215.2	15,103.3	12,226.7	29.1	53.5	-91.05	-3,619.1	419.8	650.1	567.6	82.49	7.881	
15,200.0	12,217.6	15,203.3	12,229.0	29.9	54.1	-91.04	-3,719.0	421.0	650.1	566.3	83.83	7.755	
15,300.0	12,219.9	15,303.3	12,231.3	30.7	54.6	-91.04	-3,819.0	422.3	650.1	564.9	85.17	7.633	
15,400.0	12,222.2	15,403.3	12,233.5	31.5	55.1	-91.04	-3,919.0	423.5	650.1	563.6	86.53	7.513	
15,500.0	12,224.5	15,503.3	12,235.8	32.3	55.7	-91.03	-4,018.9	424.7	650.1	562.2	87.90	7.396	
15,600.0	12,226.8	15,603.3	12,238.1	33.2	56.2	-91.03	-4,118.9	425.9	650.1	560.8	89.27	7.282	
15,700.0	12,229.1	15,703.3	12,240.4	34.0	56.8	-91.03	-4,218.9	427.1	650.1	559.4	90.66	7.170	
15,800.0	12,231.4	15,803.3	12,242.7	34.8	57.4	-91.03	-4,318.8	428.3	650.1	558.0	92.06	7.062	
15,900.0	12,233.7	15,903.3	12,245.0	35.6	57.9	-91.02	-4,418.8	429.5	650.1	556.6	93.46	6.955	
16,000.0	12,236.0	16,003.3	12,247.2	36.5	58.5	-91.02	-4,518.8	430.7	650.1	555.2	94.88	6.852	
16,100.0	12,238.4	16,103.3	12,249.5	37.3	59.1	-91.02	-4,618.7	431.9	650.1	553.8	96.30	6.750	
16,200.0	12,240.7	16,203.3	12,251.8	38.1	59.7	-91.02	-4,718.7	433.1	650.1	552.3	97.73	6.651	
16,300.0	12,243.0	16,303.3	12,254.1	39.0	60.3	-91.01	-4,818.7	434.4	650.1	550.9	99.17	6.555	
16,400.0	12,245.3	16,403.3	12,256.4	39.8	60.9	-91.01	-4,918.6	435.6	650.1	549.4	100.62	6.461	
16,500.0	12,247.6	16,503.3	12,258.6	40.6	61.6	-91.01	-5,018.6	436.8	650.1	548.0	102.07	6.369	
16,600.0	12,249.9	16,603.3	12,260.9	41.5	62.2	-91.01	-5,118.6	438.0	650.1	546.5	103.53	6.279	
16,700.0	12,252.2	16,703.3	12,263.2	42.3	62.8	-91.00	-5,218.5	439.2	650.1	545.1	105.00	6.191	
16,800.0	12,254.5	16,803.3	12,265.5	43.1	63.4	-91.00	-5,318.5	440.4	650.1	543.6	106.48	6.105	
16,900.0	12,256.8	16,903.3	12,267.8	44.0	64.1	-91.00	-5,418.5	441.6	650.1	542.1	107.96	6.021	
17,000.0	12,259.2	17,003.3	12,270.1	44.8	64.7	-91.00	-5,518.4	442.8	650.1	540.6	109.44	5.940	
17,100.0	12,261.5	17,103.3	12,272.3	45.7	65.4	-90.99	-5,618.4	444.0	650.1	539.1	110.94	5.860	
17,200.0	12,263.8	17,203.3	12,274.6	46.5	66.0	-90.99	-5,718.4	445.3	650.1	537.6	112.43	5.782	
17,300.0	12,266.1	17,303.3	12,276.9	47.4	66.7	-90.99	-5,818.3	446.5	650.1	536.1	113.94	5.705	
17,400.0	12,268.4	17,403.3	12,279.2	48.2	67.3	-90.99	-5,918.3	447.7	650.1	534.6	115.45	5.631	
17,500.0	12,270.7	17,503.3	12,281.5	49.1	68.0	-90.98	-6,018.3	448.9	650.0	533.1	116.96	5.558	
17,600.0	12,273.0	17,603.3	12,283.8	49.9	68.7	-90.98	-6,118.2	450.1	650.0	531.6	118.48	5.487	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
17,700.0	12,275.3	17,703.3	12,286.0	50.7	69.4	-90.98	-6,218.2	451.3	650.0	530.0	120.00	5.417		
17,800.0	12,277.6	17,803.3	12,288.3	51.6	70.0	-90.98	-6,318.2	452.5	650.0	528.5	121.53	5.349		
17,900.0	12,280.0	17,903.3	12,290.6	52.4	70.7	-90.97	-6,418.1	453.7	650.0	527.0	123.07	5.282		
18,000.0	12,282.3	18,003.3	12,292.9	53.3	71.4	-90.97	-6,518.1	454.9	650.0	525.4	124.60	5.217		
18,100.0	12,284.6	18,103.3	12,295.2	54.1	72.1	-90.97	-6,618.1	456.2	650.0	523.9	126.15	5.153		
18,200.0	12,286.9	18,203.3	12,297.4	55.0	72.8	-90.97	-6,718.0	457.4	650.0	522.3	127.69	5.091		
18,300.0	12,289.2	18,303.3	12,299.7	55.8	73.5	-90.96	-6,818.0	458.6	650.0	520.8	129.24	5.030		
18,400.0	12,291.5	18,403.3	12,302.0	56.7	74.2	-90.96	-6,918.0	459.8	650.0	519.2	130.80	4.970		
18,500.0	12,293.8	18,503.3	12,304.3	57.5	74.9	-90.96	-7,017.9	461.0	650.0	517.7	132.36	4.911		
18,600.0	12,296.1	18,603.3	12,306.6	58.4	75.6	-90.96	-7,117.9	462.2	650.0	516.1	133.92	4.854		
18,700.0	12,298.5	18,703.3	12,308.9	59.2	76.3	-90.95	-7,217.9	463.4	650.0	514.5	135.48	4.798		
18,800.0	12,300.8	18,803.3	12,311.1	60.1	77.1	-90.95	-7,317.8	464.6	650.0	513.0	137.05	4.743		
18,900.0	12,303.1	18,903.3	12,313.4	60.9	77.8	-90.95	-7,417.8	465.8	650.0	511.4	138.62	4.689		
19,000.0	12,305.4	19,003.3	12,315.7	61.8	78.5	-90.94	-7,517.8	467.1	650.0	509.8	140.20	4.636		
19,100.0	12,307.7	19,103.3	12,318.0	62.6	79.2	-90.94	-7,617.7	468.3	650.0	508.2	141.78	4.585		
19,200.0	12,310.0	19,203.3	12,320.3	63.5	80.0	-90.94	-7,717.7	469.5	650.0	506.7	143.36	4.534		
19,300.0	12,312.3	19,303.3	12,322.5	64.4	80.7	-90.94	-7,817.7	470.7	650.0	505.1	144.94	4.485		
19,400.0	12,314.6	19,403.3	12,324.8	65.2	81.4	-90.93	-7,917.6	471.9	650.0	503.5	146.53	4.436		
19,500.0	12,316.9	19,503.3	12,327.1	66.1	82.2	-90.93	-8,017.6	473.1	650.0	501.9	148.12	4.388		
19,600.0	12,319.3	19,603.3	12,329.4	66.9	82.9	-90.93	-8,117.6	474.3	650.0	500.3	149.71	4.342		
19,700.0	12,321.6	19,703.3	12,331.7	67.8	83.6	-90.93	-8,217.5	475.5	650.0	498.7	151.31	4.296		
19,800.0	12,323.9	19,803.3	12,334.0	68.6	84.4	-90.92	-8,317.5	476.7	650.0	497.1	152.91	4.251		
19,900.0	12,326.2	19,903.3	12,336.2	69.5	85.1	-90.92	-8,417.5	478.0	650.0	495.5	154.51	4.207		
20,000.0	12,328.5	20,003.3	12,338.5	70.3	85.9	-90.92	-8,517.4	479.2	650.0	493.9	156.11	4.164		
20,100.0	12,330.8	20,103.3	12,340.8	71.2	86.6	-90.92	-8,617.4	480.4	650.0	492.3	157.71	4.121		
20,200.0	12,333.1	20,203.3	12,343.1	72.0	87.4	-90.91	-8,717.4	481.6	650.0	490.7	159.32	4.080		
20,281.4	12,335.0	20,284.6	12,344.9	72.7	88.0	-90.91	-8,798.7	482.6	650.0	489.4	160.63	4.047		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11727-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.6	0.6	3.0	3.0	-90.19	-0.1	-30.0	30.0				
100.0	100.0	100.6	100.6	3.0	3.0	-90.19	-0.1	-30.0	30.0	24.0	6.00	5.000	
200.0	200.0	200.6	200.6	3.0	3.0	-90.19	-0.1	-30.0	30.0	24.0	6.00	4.998	
300.0	300.0	300.6	300.6	3.0	3.0	-90.19	-0.1	-30.0	30.0	24.0	6.01	4.993	
400.0	400.0	400.6	400.6	3.0	3.0	-90.19	-0.1	-30.0	30.0	24.0	6.02	4.985	
500.0	500.0	500.6	500.6	3.1	3.1	-90.19	-0.1	-30.0	30.0	24.0	6.03	4.975	
600.0	600.0	600.6	600.6	3.1	3.1	-90.19	-0.1	-30.0	30.0	24.0	6.05	4.962	
700.0	700.0	700.6	700.6	3.1	3.1	-90.19	-0.1	-30.0	30.0	23.9	6.07	4.946	
800.0	800.0	800.6	800.6	3.2	3.2	-90.19	-0.1	-30.0	30.0	23.9	6.09	4.928	
900.0	900.0	900.6	900.6	3.2	3.2	-90.19	-0.1	-30.0	30.0	23.9	6.11	4.908	
1,000.0	1,000.0	1,000.6	1,000.6	3.2	3.2	-90.19	-0.1	-30.0	30.0	23.9	6.14	4.886	
1,100.0	1,100.0	1,100.6	1,100.6	3.3	3.3	-90.19	-0.1	-30.0	30.0	23.8	6.17	4.861	
1,200.0	1,200.0	1,200.6	1,200.6	3.4	3.4	-90.19	-0.1	-30.0	30.0	23.8	6.21	4.834	
1,300.0	1,300.0	1,300.6	1,300.6	3.4	3.4	-90.19	-0.1	-30.0	30.0	23.8	6.24	4.805	
1,400.0	1,400.0	1,400.6	1,400.6	3.5	3.5	-90.19	-0.1	-30.0	30.0	23.7	6.28	4.775	
1,500.0	1,500.0	1,500.6	1,500.6	3.5	3.5	-90.19	-0.1	-30.0	30.0	23.7	6.33	4.742	
1,600.0	1,600.0	1,600.6	1,600.6	3.6	3.6	-90.19	-0.1	-30.0	30.0	23.6	6.37	4.709	
1,700.0	1,700.0	1,700.6	1,700.6	3.7	3.7	-90.19	-0.1	-30.0	30.0	23.6	6.42	4.673	
1,800.0	1,800.0	1,800.6	1,800.6	3.8	3.8	-90.19	-0.1	-30.0	30.0	23.5	6.47	4.636	
1,900.0	1,900.0	1,900.6	1,900.6	3.9	3.9	-90.19	-0.1	-30.0	30.0	23.5	6.52	4.598	
2,000.0	2,000.0	2,000.6	2,000.6	3.9	3.9	-90.19	-0.1	-30.0	30.0	23.4	6.58	4.559	
2,100.0	2,100.0	2,100.6	2,100.6	4.0	4.0	-90.19	-0.1	-30.0	30.0	23.4	6.64	4.519	
2,200.0	2,200.0	2,200.6	2,200.6	4.1	4.1	-90.19	-0.1	-30.0	30.0	23.3	6.70	4.478	
2,300.0	2,300.0	2,300.6	2,300.6	4.2	4.2	-90.19	-0.1	-30.0	30.0	23.2	6.76	4.436	
2,400.0	2,400.0	2,400.6	2,400.6	4.3	4.3	-90.19	-0.1	-30.0	30.0	23.2	6.83	4.393	
2,416.5	2,416.5	2,417.1	2,417.1	4.3	4.3	-90.19	-0.1	-30.0	30.0	23.2	6.84	4.386 CC	
2,500.0	2,500.0	2,500.6	2,500.6	4.4	4.4	-90.19	-0.1	-30.0	30.0	23.1	6.90	4.350 ES, SF	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.4	-91.81	-1.0	-31.5	31.5	24.6	6.97	4.524	
2,700.0	2,700.0	2,698.5	2,698.3	4.6	4.4	-95.77	-3.6	-35.9	36.2	29.1	7.05	5.128	
2,800.0	2,800.0	2,796.8	2,796.3	4.7	4.4	-100.47	-8.0	-43.2	44.1	37.0	7.16	6.165	
2,900.0	2,900.0	2,896.0	2,894.9	4.8	4.4	-104.44	-13.5	-52.4	54.5	47.2	7.28	7.477	
3,000.0	3,000.0	2,995.4	2,993.7	4.9	4.5	-107.16	-19.1	-61.8	65.0	57.6	7.40	8.780	
3,100.0	3,100.0	3,094.8	3,092.5	5.0	4.5	-109.12	-24.6	-71.1	75.7	68.1	7.52	10.061	
3,200.0	3,200.0	3,194.2	3,191.3	5.1	4.5	-110.59	-30.2	-80.4	86.4	78.7	7.63	11.315	
3,300.0	3,300.0	3,293.6	3,290.1	5.2	4.5	-111.74	-35.8	-89.7	97.1	89.4	7.75	12.540	
3,400.0	3,400.0	3,393.0	3,388.9	5.3	4.5	-112.66	-41.3	-99.0	107.9	100.1	7.86	13.733	
3,500.0	3,500.0	3,492.4	3,487.7	5.4	4.6	-113.41	-46.9	-108.3	118.7	110.8	7.97	14.892	
3,600.0	3,600.0	3,591.8	3,586.6	5.5	4.6	-114.03	-52.5	-117.6	129.6	121.5	8.09	16.016	
3,700.0	3,700.0	3,691.2	3,685.4	5.7	4.6	-114.56	-58.0	-127.0	140.4	132.2	8.21	17.105	
3,800.0	3,800.0	3,790.6	3,784.2	5.8	4.7	-115.01	-63.6	-136.3	151.3	142.9	8.33	18.159	
3,900.0	3,900.0	3,890.0	3,883.0	5.9	4.7	-115.41	-69.2	-145.6	162.1	153.7	8.46	19.176	
4,000.0	4,000.0	3,989.4	3,981.8	6.0	4.8	-115.75	-74.7	-154.9	173.0	164.4	8.58	20.158	
4,100.0	4,100.0	4,088.8	4,080.6	6.1	4.8	-116.05	-80.3	-164.2	183.9	175.2	8.71	21.104	
4,200.0	4,200.0	4,188.2	4,179.4	6.2	4.9	-116.32	-85.8	-173.5	194.8	185.9	8.85	22.015	
4,300.0	4,300.0	4,287.6	4,278.2	6.3	4.9	-116.56	-91.4	-182.9	205.6	196.7	8.98	22.891	
4,400.0	4,400.0	4,387.1	4,377.0	6.5	5.0	-116.78	-97.0	-192.2	216.5	207.4	9.12	23.734	
4,500.0	4,500.0	4,486.5	4,475.8	6.6	5.1	-116.97	-102.5	-201.5	227.4	218.2	9.27	24.545	
4,600.0	4,600.0	4,585.9	4,574.6	6.7	5.1	-117.15	-108.1	-210.8	238.3	228.9	9.41	25.323	
4,700.0	4,700.0	4,685.3	4,673.4	6.8	5.2	-117.31	-113.7	-220.1	249.2	239.7	9.56	26.070	
4,800.0	4,800.0	4,784.7	4,772.3	6.9	5.3	-117.46	-119.2	-229.4	260.1	250.4	9.71	26.787	
4,900.0	4,900.0	4,884.1	4,871.1	7.0	5.4	-117.60	-124.8	-238.7	271.0	261.1	9.86	27.475	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11727-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference				Offset				Semi Major Axis				Distance	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	5,000.0	4,983.5	4,969.9	7.2	5.4	-117.72	-130.4	-248.1	281.9	271.9	10.02	28.135	
5,100.0	5,100.0	5,082.9	5,068.7	7.3	5.5	-117.84	-135.9	-257.4	292.8	282.6	10.18	28.769	
5,200.0	5,200.0	5,182.3	5,167.5	7.4	5.6	-117.95	-141.5	-266.7	303.7	293.4	10.34	29.376	
5,300.0	5,300.0	5,281.7	5,266.3	7.5	5.7	-118.05	-147.1	-276.0	314.6	304.1	10.50	29.959	
5,400.0	5,400.0	5,381.1	5,365.1	7.6	5.8	-118.14	-152.6	-285.3	325.5	314.8	10.67	30.518	
5,500.0	5,500.0	5,480.5	5,463.9	7.8	5.9	-118.23	-158.2	-294.6	336.4	325.6	10.83	31.054	
5,600.0	5,600.0	5,580.0	5,562.9	7.8	6.0	35.78	-163.8	-304.0	345.9	334.9	10.96	31.559	
5,700.0	5,699.8	5,679.8	5,662.0	7.8	6.0	36.12	-169.3	-313.3	352.6	341.5	11.05	31.917	
5,763.6	5,763.2	5,743.2	5,725.1	7.7	6.1	36.51	-172.9	-319.2	355.4	344.3	11.10	32.016	
5,800.0	5,799.5	5,779.6	5,761.2	7.7	6.1	36.79	-174.9	-322.7	356.7	345.6	11.13	32.042	
5,900.0	5,899.1	5,879.4	5,860.5	7.7	6.2	37.56	-180.5	-332.0	360.3	349.0	11.22	32.102	
6,000.0	5,998.6	5,979.2	5,959.7	7.7	6.3	38.30	-186.1	-341.4	363.9	352.6	11.32	32.143	
6,100.0	6,098.2	6,079.0	6,058.9	7.6	6.4	39.04	-191.7	-350.7	367.6	356.2	11.43	32.166	
6,200.0	6,197.8	6,178.9	6,158.1	7.6	6.5	39.76	-197.3	-360.1	371.4	359.9	11.54	32.174	
6,300.0	6,297.4	6,278.7	6,257.4	7.6	6.6	40.46	-202.9	-369.4	375.2	363.6	11.67	32.166	
6,400.0	6,396.9	6,378.5	6,356.6	7.6	6.7	41.15	-208.5	-378.8	379.1	367.3	11.79	32.144	
6,500.0	6,496.5	6,478.3	6,455.8	7.5	6.8	41.83	-214.0	-388.1	383.0	371.1	11.93	32.110	
6,600.0	6,596.1	6,578.1	6,555.0	7.5	6.9	42.49	-219.6	-397.5	387.0	375.0	12.07	32.064	
6,700.0	6,695.7	6,678.0	6,654.3	7.5	7.0	43.14	-225.2	-406.8	391.1	378.8	12.22	32.009	
6,800.0	6,795.2	6,777.8	6,753.5	7.5	7.1	43.77	-230.8	-416.2	395.2	382.8	12.37	31.944	
6,900.0	6,894.8	6,877.6	6,852.7	7.5	7.3	44.39	-236.4	-425.6	399.3	386.8	12.53	31.871	
7,000.0	6,994.4	6,977.4	6,951.9	7.5	7.4	45.00	-242.0	-434.9	403.5	390.8	12.69	31.791	
7,100.0	7,094.0	7,077.3	7,051.2	7.5	7.5	45.60	-247.6	-444.3	407.7	394.8	12.86	31.705	
7,200.0	7,193.6	7,177.1	7,150.4	7.5	7.6	46.18	-253.2	-453.6	412.0	398.9	13.03	31.614	
7,300.0	7,293.1	7,276.9	7,249.6	7.4	7.7	46.76	-258.7	-463.0	416.3	403.1	13.21	31.519	
7,400.0	7,392.7	7,376.7	7,348.8	7.4	7.8	47.32	-264.3	-472.3	420.6	407.2	13.39	31.421	
7,500.0	7,492.3	7,476.5	7,448.1	7.5	7.9	47.86	-269.9	-481.7	425.0	411.4	13.57	31.319	
7,600.0	7,591.9	7,576.4	7,547.3	7.5	8.0	48.40	-275.5	-491.0	429.4	415.7	13.76	31.215	
7,700.0	7,691.4	7,676.2	7,646.5	7.5	8.1	48.93	-281.1	-500.4	433.9	420.0	13.95	31.110	
7,800.0	7,791.0	7,776.0	7,745.7	7.5	8.3	49.45	-286.7	-509.7	438.4	424.3	14.14	31.004	
7,900.0	7,890.6	7,875.8	7,845.0	7.5	8.4	49.95	-292.3	-519.1	442.9	428.6	14.34	30.896	
8,000.0	7,990.2	7,975.6	7,944.2	7.5	8.5	50.45	-297.9	-528.4	447.5	433.0	14.54	30.789	
8,100.0	8,089.7	8,075.5	8,043.4	7.5	8.6	50.93	-303.5	-537.8	452.1	437.4	14.74	30.681	
8,200.0	8,189.3	8,175.3	8,142.6	7.5	8.7	51.41	-309.0	-547.2	456.8	441.8	14.94	30.574	
8,300.0	8,288.9	8,275.1	8,241.8	7.6	8.8	51.87	-314.6	-556.5	461.4	446.3	15.14	30.468	
8,400.0	8,388.5	8,374.9	8,341.1	7.6	9.0	52.33	-320.2	-565.9	466.1	450.8	15.35	30.362	
8,500.0	8,488.1	8,474.8	8,440.3	7.6	9.1	52.78	-325.8	-575.2	470.8	455.3	15.56	30.257	
8,600.0	8,587.6	8,574.6	8,539.5	7.7	9.2	53.21	-331.4	-584.6	475.6	459.8	15.77	30.153	
8,700.0	8,687.2	8,674.4	8,638.7	7.7	9.3	53.64	-337.0	-593.9	480.4	464.4	15.99	30.051	
8,800.0	8,786.8	8,774.2	8,738.0	7.8	9.4	54.07	-342.6	-603.3	485.2	469.0	16.20	29.949	
8,900.0	8,886.4	8,874.0	8,837.2	7.8	9.6	54.48	-348.2	-612.6	490.0	473.6	16.42	29.850	
9,000.0	8,985.9	8,973.9	8,936.4	7.8	9.7	54.88	-353.7	-622.0	494.9	478.2	16.63	29.751	
9,100.0	9,085.5	9,073.7	9,035.6	7.9	9.8	55.28	-359.3	-631.3	499.8	482.9	16.85	29.655	
9,200.0	9,185.1	9,173.5	9,134.9	7.9	9.9	55.67	-364.9	-640.7	504.7	487.6	17.07	29.559	
9,300.0	9,284.7	9,273.3	9,234.1	8.0	10.1	56.05	-370.5	-650.1	509.6	492.3	17.29	29.466	
9,400.0	9,384.2	9,373.1	9,333.3	8.1	10.2	56.43	-376.1	-659.4	514.5	497.0	17.52	29.373	
9,500.0	9,483.8	9,473.0	9,432.5	8.1	10.3	56.79	-381.7	-668.8	519.5	501.8	17.74	29.283	
9,600.0	9,583.4	9,572.8	9,531.8	8.2	10.4	57.15	-387.3	-678.1	524.5	506.5	17.97	29.194	
9,700.0	9,683.0	9,672.6	9,631.0	8.3	10.6	57.51	-392.9	-687.5	529.5	511.3	18.19	29.106	
9,800.0	9,782.6	9,772.4	9,730.2	8.3	10.7	57.85	-398.4	-696.8	534.5	516.1	18.42	29.020	
9,900.0	9,882.1	9,872.3	9,829.4	8.4	10.8	58.19	-404.0	-706.2	539.6	520.9	18.65	28.936	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	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		PILED RIVER FED & FIGURE FOUR FED PROJECT - PILED RIVER FEDERAL #704H - OWB - PWP2										Offset Site Error:		3.0 usft	
Survey Program:		0-Standard Keeper 104, 11727-MWD+IFR1+FDIR										Offset Well Error:		3.0 usft	
Reference		Offset		Semi Major Axis		Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
10,000.0	9,981.7	9,972.1	9,928.7	8.5	11.0	58.53	-409.6	-715.5	544.7	525.8	18.88	28.853			
10,100.0	10,081.3	10,071.9	10,027.9	8.6	11.1	58.86	-415.2	-724.9	549.8	530.6	19.11	28.771			
10,200.0	10,180.9	10,171.7	10,127.1	8.6	11.2	59.18	-420.8	-734.2	554.9	535.5	19.34	28.691			
10,300.0	10,280.4	10,271.5	10,226.3	8.7	11.4	59.49	-426.4	-743.6	560.0	540.4	19.57	28.612			
10,400.0	10,380.0	10,371.4	10,325.6	8.8	11.5	59.81	-432.0	-752.9	565.1	545.3	19.80	28.535			
10,500.0	10,479.6	10,471.2	10,424.8	8.9	11.6	60.11	-437.6	-762.3	570.3	550.2	20.04	28.458			
10,600.0	10,579.2	10,571.0	10,524.0	9.0	11.8	60.41	-443.1	-771.7	575.5	555.2	20.27	28.383			
10,700.0	10,678.8	10,670.8	10,623.2	9.1	11.9	60.70	-448.7	-781.0	580.6	560.1	20.51	28.309			
10,800.0	10,778.3	10,770.6	10,722.5	9.2	12.0	60.99	-454.3	-790.4	585.8	565.1	20.75	28.237			
10,900.0	10,877.9	10,870.5	10,821.7	9.3	12.2	61.28	-459.9	-799.7	591.1	570.1	20.99	28.165			
11,000.0	10,977.5	10,970.3	10,920.9	9.4	12.3	61.55	-465.5	-809.1	596.3	575.1	21.22	28.094			
11,100.0	11,077.1	11,070.1	11,020.1	9.4	12.4	61.83	-471.1	-818.4	601.5	580.1	21.46	28.025			
11,200.0	11,176.6	11,169.9	11,119.4	9.5	12.6	62.10	-476.7	-827.8	606.8	585.1	21.71	27.956			
11,300.0	11,276.2	11,269.8	11,218.6	9.6	12.7	62.36	-482.3	-837.1	612.1	590.1	21.95	27.889			
11,400.0	11,375.8	11,369.6	11,317.8	9.7	12.8	62.62	-487.9	-846.5	617.3	595.2	22.19	27.822			
11,500.0	11,475.4	11,469.4	11,417.0	9.8	13.0	62.88	-493.4	-855.8	622.6	600.2	22.43	27.756			
11,600.0	11,574.9	11,569.2	11,516.3	9.9	13.1	63.13	-499.0	-865.2	628.0	605.3	22.68	27.691			
11,700.0	11,674.5	11,669.0	11,615.5	10.0	13.3	63.38	-504.6	-874.5	633.3	610.4	22.92	27.627			
11,741.9	11,716.2	11,710.9	11,657.1	10.1	13.3	63.48	-507.0	-878.5	635.5	612.5	23.02	27.608			
11,750.0	11,724.3	11,718.9	11,665.1	10.1	13.3	67.51	-507.4	-879.2	635.9	613.0	22.99	27.661			
11,775.0	11,749.1	11,743.8	11,689.9	10.1	13.4	74.86	-508.8	-881.6	637.3	614.3	23.01	27.691			
11,800.0	11,773.7	11,769.1	11,714.9	10.1	13.4	78.70	-510.7	-883.9	638.6	615.6	23.03	27.736			
11,825.0	11,798.0	11,794.6	11,740.1	10.1	13.4	81.05	-514.0	-886.3	640.0	616.9	23.03	27.782			
11,850.0	11,822.0	11,820.2	11,765.2	10.1	13.4	82.63	-518.7	-888.6	641.3	618.2	23.05	27.827			
11,875.0	11,845.6	11,845.9	11,790.1	10.1	13.4	83.78	-524.7	-890.9	642.6	619.5	23.06	27.871			
11,900.0	11,868.7	11,871.8	11,814.8	10.1	13.4	84.64	-532.1	-893.1	643.9	620.8	23.07	27.911			
11,925.0	11,891.3	11,897.9	11,839.2	10.1	13.4	85.32	-540.9	-895.3	645.2	622.1	23.08	27.948			
11,950.0	11,913.3	11,924.1	11,863.2	10.1	13.4	85.88	-551.1	-897.5	646.4	623.3	23.10	27.981			
11,975.0	11,934.7	11,950.4	11,886.8	10.1	13.4	86.33	-562.7	-899.6	647.6	624.5	23.12	28.008			
12,000.0	11,955.3	11,976.9	11,909.8	10.2	13.4	86.72	-575.6	-901.6	648.8	625.7	23.15	28.029			
12,025.0	11,975.2	12,003.5	11,932.1	10.2	13.4	87.05	-589.9	-903.5	650.0	626.8	23.18	28.042			
12,050.0	11,994.3	12,030.2	11,953.8	10.2	13.4	87.33	-605.4	-905.4	651.1	627.8	23.21	28.046			
12,075.0	12,012.5	12,057.1	11,974.7	10.2	13.4	87.57	-622.3	-907.2	652.1	628.9	23.26	28.041			
12,100.0	12,029.8	12,084.1	11,994.6	10.2	13.5	87.79	-640.3	-908.8	653.1	629.8	23.30	28.025			
12,125.0	12,046.1	12,111.2	12,013.6	10.3	13.5	87.98	-659.6	-910.4	654.1	630.7	23.36	27.997			
12,150.0	12,061.5	12,138.4	12,031.6	10.3	13.5	88.14	-680.0	-911.8	654.9	631.5	23.43	27.958			
12,175.0	12,075.7	12,165.7	12,048.4	10.4	13.5	88.28	-701.5	-913.1	655.8	632.3	23.50	27.906			
12,200.0	12,088.9	12,193.2	12,064.1	10.4	13.6	88.41	-724.0	-914.3	656.5	633.0	23.58	27.841			
12,225.0	12,100.9	12,220.7	12,078.5	10.4	13.6	88.52	-747.5	-915.4	657.2	633.6	23.67	27.765			
12,250.0	12,111.8	12,248.3	12,091.5	10.5	13.6	88.61	-771.8	-916.3	657.9	634.1	23.77	27.676			
12,275.0	12,121.5	12,276.0	12,103.2	10.5	13.7	88.70	-796.9	-917.1	658.4	634.5	23.88	27.574			
12,300.0	12,130.0	12,303.8	12,113.4	10.6	13.7	88.76	-822.7	-917.7	658.9	634.9	23.99	27.462			
12,325.0	12,137.2	12,331.6	12,122.1	10.7	13.8	88.82	-849.1	-918.2	659.3	635.2	24.12	27.339			
12,350.0	12,143.1	12,359.4	12,129.3	10.7	13.8	88.86	-876.0	-918.6	659.6	635.4	24.25	27.207			
12,375.0	12,147.8	12,387.3	12,134.9	10.8	13.9	88.89	-903.3	-918.8	659.9	635.5	24.38	27.066			
12,400.0	12,151.2	12,415.2	12,138.9	10.9	13.9	88.90	-930.9	-918.8	660.0	635.5	24.52	26.918			
12,425.0	12,153.3	12,443.1	12,141.3	10.9	14.0	88.91	-958.7	-918.6	660.1	635.5	24.67	26.764			
12,441.6	12,154.0	12,461.5	12,142.0	11.0	14.0	88.91	-977.0	-918.5	660.1	635.4	24.76	26.658			
12,500.0	12,155.3	12,519.9	12,143.4	11.2	14.2	88.91	-1,035.4	-917.9	660.1	635.0	25.13	26.264			
12,600.0	12,157.6	12,619.9	12,145.7	11.6	14.5	88.91	-1,135.4	-916.8	660.1	634.3	25.86	25.531			
12,700.0	12,160.0	12,719.9	12,148.0	12.0	14.8	88.91	-1,235.3	-915.7	660.1	633.5	26.67	24.752			

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11727-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference				Offset				Semi Major Axis				Distance	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,800.0	12,162.3	12,819.9	12,150.4	12.5	15.2	88.92	-1,335.3	-914.7	660.1	632.5	27.57	23.945	
12,900.0	12,164.6	12,919.9	12,152.7	13.0	15.7	88.92	-1,435.3	-913.6	660.1	631.6	28.54	23.127	
13,000.0	12,166.9	13,019.9	12,155.0	13.6	16.1	88.92	-1,535.2	-912.5	660.1	630.5	29.59	22.311	
13,100.0	12,169.2	13,119.9	12,157.3	14.2	16.6	88.92	-1,635.2	-911.4	660.1	629.4	30.69	21.508	
13,200.0	12,171.5	13,219.9	12,159.6	14.8	17.2	88.92	-1,735.2	-910.4	660.1	628.2	31.85	20.724	
13,300.0	12,173.8	13,319.9	12,162.0	15.4	17.7	88.92	-1,835.1	-909.3	660.1	627.0	33.06	19.966	
13,400.0	12,176.1	13,419.9	12,164.3	16.1	18.3	88.92	-1,935.1	-908.2	660.1	625.8	34.31	19.237	
13,500.0	12,178.4	13,519.9	12,166.6	16.8	18.9	88.93	-2,035.1	-907.2	660.1	624.5	35.61	18.538	
13,600.0	12,180.7	13,619.9	12,168.9	17.5	19.5	88.93	-2,135.0	-906.1	660.1	623.1	36.93	17.871	
13,700.0	12,183.0	13,719.9	12,171.3	18.2	20.2	88.93	-2,235.0	-905.0	660.1	621.8	38.29	17.237	
13,800.0	12,185.3	13,819.9	12,173.6	18.9	20.8	88.93	-2,335.0	-904.0	660.1	620.4	39.68	16.634	
13,900.0	12,187.6	13,919.9	12,175.9	19.7	21.5	88.93	-2,434.9	-902.9	660.0	619.0	41.10	16.061	
14,000.0	12,189.9	14,019.9	12,178.2	20.4	22.2	88.93	-2,534.9	-901.8	660.0	617.5	42.53	15.519	
14,100.0	12,192.2	14,119.9	12,180.5	21.2	22.9	88.93	-2,634.9	-900.8	660.0	616.0	43.99	15.004	
14,200.0	12,194.5	14,219.9	12,182.9	21.9	23.6	88.94	-2,734.8	-899.7	660.0	614.6	45.47	14.517	
14,300.0	12,196.8	14,319.9	12,185.2	22.7	24.3	88.94	-2,834.8	-898.6	660.0	613.1	46.96	14.055	
14,400.0	12,199.1	14,419.9	12,187.5	23.5	25.0	88.94	-2,934.8	-897.6	660.0	611.5	48.47	13.618	
14,500.0	12,201.4	14,519.9	12,189.8	24.3	25.8	88.94	-3,034.7	-896.5	660.0	610.0	49.99	13.203	
14,600.0	12,203.7	14,619.9	12,192.1	25.1	26.5	88.94	-3,134.7	-895.4	660.0	608.5	51.53	12.809	
14,700.0	12,206.0	14,719.9	12,194.5	25.9	27.3	88.94	-3,234.7	-894.4	660.0	606.9	53.07	12.436	
14,800.0	12,208.3	14,819.9	12,196.8	26.6	28.0	88.95	-3,334.6	-893.3	660.0	605.4	54.63	12.081	
14,900.0	12,210.6	14,919.9	12,199.1	27.5	28.8	88.95	-3,434.6	-892.2	660.0	603.8	56.20	11.744	
14,992.7	12,212.8	15,012.6	12,201.3	28.2	29.5	88.95	-3,527.3	-891.2	660.0	602.3	57.66	11.446	
14,992.9	12,212.8	15,012.7	12,201.3	28.2	29.5	88.95	-3,527.4	-891.2	660.0	602.3	57.66	11.446	
14,997.0	12,212.9	15,017.4	12,201.4	28.2	29.5	88.95	-3,532.2	-891.2	660.0	602.2	57.73	11.432	
15,000.0	12,212.9	15,020.8	12,201.4	28.3	29.6	88.95	-3,535.5	-891.1	660.0	602.2	57.78	11.422	
15,100.0	12,215.2	15,120.8	12,203.8	29.1	30.3	88.95	-3,635.5	-889.9	660.0	600.6	59.37	11.117	
15,200.0	12,217.6	15,220.8	12,206.1	29.9	31.1	88.95	-3,735.4	-888.7	660.0	599.0	60.96	10.827	
15,300.0	12,219.9	15,320.8	12,208.4	30.7	31.9	88.95	-3,835.4	-887.5	660.0	597.4	62.56	10.550	
15,400.0	12,222.2	15,420.8	12,210.7	31.5	32.7	88.95	-3,935.4	-886.3	660.0	595.8	64.17	10.286	
15,500.0	12,224.5	15,520.8	12,213.1	32.3	33.5	88.95	-4,035.3	-885.1	660.0	594.2	65.78	10.033	
15,600.0	12,226.8	15,620.8	12,215.4	33.2	34.3	88.96	-4,135.3	-883.9	660.0	592.6	67.40	9.792	
15,700.0	12,229.1	15,720.8	12,217.7	34.0	35.1	88.96	-4,235.3	-882.7	660.0	591.0	69.02	9.562	
15,800.0	12,231.4	15,820.8	12,220.0	34.8	35.9	88.96	-4,335.2	-881.5	660.0	589.4	70.65	9.342	
15,900.0	12,233.7	15,920.8	12,222.3	35.6	36.7	88.96	-4,435.2	-880.3	660.0	587.7	72.29	9.131	
16,000.0	12,236.0	16,020.8	12,224.7	36.5	37.5	88.96	-4,535.2	-879.0	660.0	586.1	73.92	8.928	
16,100.0	12,238.4	16,120.8	12,227.0	37.3	38.3	88.96	-4,635.1	-877.8	660.0	584.4	75.57	8.734	
16,200.0	12,240.7	16,220.8	12,229.3	38.1	39.1	88.96	-4,735.1	-876.6	660.0	582.8	77.21	8.548	
16,300.0	12,243.0	16,320.8	12,231.6	39.0	39.9	88.96	-4,835.1	-875.4	660.0	581.2	78.86	8.369	
16,400.0	12,245.3	16,420.8	12,234.0	39.8	40.7	88.96	-4,935.0	-874.2	660.0	579.5	80.51	8.198	
16,500.0	12,247.6	16,520.8	12,236.3	40.6	41.6	88.96	-5,035.0	-873.0	660.0	577.9	82.17	8.033	
16,600.0	12,249.9	16,620.8	12,238.6	41.5	42.4	88.96	-5,135.0	-871.8	660.0	576.2	83.83	7.874	
16,700.0	12,252.2	16,720.8	12,240.9	42.3	43.2	88.97	-5,234.9	-870.6	660.0	574.5	85.49	7.721	
16,800.0	12,254.5	16,820.8	12,243.2	43.1	44.0	88.97	-5,334.9	-869.4	660.0	572.9	87.15	7.573	
16,900.0	12,256.8	16,920.8	12,245.6	44.0	44.9	88.97	-5,434.9	-868.2	660.0	571.2	88.82	7.431	
17,000.0	12,259.2	17,020.8	12,247.9	44.8	45.7	88.97	-5,534.8	-866.9	660.0	569.5	90.49	7.294	
17,100.0	12,261.5	17,120.8	12,250.2	45.7	46.5	88.97	-5,634.8	-865.7	660.0	567.9	92.16	7.162	
17,200.0	12,263.8	17,220.8	12,252.5	46.5	47.3	88.97	-5,734.7	-864.5	660.0	566.2	93.83	7.034	
17,300.0	12,266.1	17,320.8	12,254.8	47.4	48.2	88.97	-5,834.7	-863.3	660.0	564.5	95.51	6.911	
17,400.0	12,268.4	17,420.8	12,257.2	48.2	49.0	88.97	-5,934.7	-862.1	660.0	562.9	97.18	6.792	
17,500.0	12,270.7	17,520.8	12,259.5	49.1	49.8	88.97	-6,034.6	-860.9	660.0	561.2	98.86	6.676	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP2	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11727-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance									Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
17,600.0	12,273.0	17,620.8	12,261.8	49.9	50.7	88.97	-6,134.6	-859.7	660.1	559.5	100.54	6.565		
17,700.0	12,275.3	17,720.8	12,264.1	50.7	51.5	88.97	-6,234.6	-858.5	660.1	557.8	102.22	6.457		
17,800.0	12,277.6	17,820.8	12,266.5	51.6	52.3	88.98	-6,334.5	-857.3	660.1	556.1	103.91	6.352		
17,900.0	12,280.0	17,920.8	12,268.8	52.4	53.2	88.98	-6,434.5	-856.1	660.1	554.5	105.59	6.251		
18,000.0	12,282.3	18,020.8	12,271.1	53.3	54.0	88.98	-6,534.5	-854.9	660.1	552.8	107.28	6.153		
18,100.0	12,284.6	18,120.8	12,273.4	54.1	54.9	88.98	-6,634.4	-853.6	660.1	551.1	108.97	6.058		
18,200.0	12,286.9	18,220.8	12,275.7	55.0	55.7	88.98	-6,734.4	-852.4	660.1	549.4	110.65	5.965		
18,300.0	12,289.2	18,320.8	12,278.1	55.8	56.5	88.98	-6,834.4	-851.2	660.1	547.7	112.34	5.875		
18,400.0	12,291.5	18,420.8	12,280.4	56.7	57.4	88.98	-6,934.3	-850.0	660.1	546.0	114.03	5.788		
18,500.0	12,293.8	18,520.8	12,282.7	57.5	58.2	88.98	-7,034.3	-848.8	660.1	544.3	115.73	5.704		
18,600.0	12,296.1	18,620.8	12,285.0	58.4	59.1	88.98	-7,134.3	-847.6	660.1	542.7	117.42	5.621		
18,700.0	12,298.5	18,720.8	12,287.3	59.2	59.9	88.98	-7,234.2	-846.4	660.1	541.0	119.11	5.542		
18,800.0	12,300.8	18,820.8	12,289.7	60.1	60.7	88.98	-7,334.2	-845.2	660.1	539.3	120.81	5.464		
18,900.0	12,303.1	18,920.8	12,292.0	60.9	61.6	88.99	-7,434.2	-844.0	660.1	537.6	122.51	5.388		
19,000.0	12,305.4	19,020.8	12,294.3	61.8	62.4	88.99	-7,534.1	-842.8	660.1	535.9	124.20	5.315		
19,100.0	12,307.7	19,120.8	12,296.6	62.6	63.3	88.99	-7,634.1	-841.6	660.1	534.2	125.90	5.243		
19,200.0	12,310.0	19,220.8	12,299.0	63.5	64.1	88.99	-7,734.1	-840.3	660.1	532.5	127.60	5.173		
19,300.0	12,312.3	19,320.8	12,301.3	64.4	65.0	88.99	-7,834.0	-839.1	660.1	530.8	129.30	5.105		
19,400.0	12,314.6	19,420.8	12,303.6	65.2	65.8	88.99	-7,934.0	-837.9	660.1	529.1	131.00	5.039		
19,500.0	12,316.9	19,520.8	12,305.9	66.1	66.7	88.99	-8,034.0	-836.7	660.1	527.4	132.70	4.974		
19,600.0	12,319.3	19,620.8	12,308.2	66.9	67.5	88.99	-8,133.9	-835.5	660.1	525.7	134.40	4.911		
19,700.0	12,321.6	19,720.8	12,310.6	67.8	68.4	88.99	-8,233.9	-834.3	660.1	524.0	136.10	4.850		
19,800.0	12,323.9	19,820.8	12,312.9	68.6	69.2	88.99	-8,333.9	-833.1	660.1	522.3	137.81	4.790		
19,900.0	12,326.2	19,920.8	12,315.2	69.5	70.0	88.99	-8,433.8	-831.9	660.1	520.6	139.51	4.732		
20,000.0	12,328.5	20,020.8	12,317.5	70.3	70.9	89.00	-8,533.8	-830.7	660.1	518.9	141.21	4.675		
20,100.0	12,330.8	20,120.8	12,319.8	71.2	71.7	89.00	-8,633.8	-829.5	660.1	517.2	142.92	4.619		
20,200.0	12,333.1	20,220.8	12,322.2	72.0	72.6	89.00	-8,733.7	-828.3	660.1	515.5	144.62	4.564		
20,207.9	12,333.3	20,228.7	12,322.4	72.1	72.7	89.00	-8,741.6	-828.2	660.1	515.4	144.76	4.560		
20,281.4	12,335.0	20,299.6	12,324.0	72.7	73.3	89.00	-8,812.5	-827.3	660.1	514.1	145.99	4.522		

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

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	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		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,200.0	9,185.1	12,225.1	9,520.6	7.9	58.7	67.82	-280.8	-844.6	791.7	727.4	64.34	12.304		
9,300.0	9,284.7	12,211.6	9,520.7	8.0	58.6	66.70	-294.3	-844.8	747.0	681.7	65.32	11.437		
9,400.0	9,384.2	12,200.4	9,520.7	8.1	58.4	65.77	-305.5	-844.9	713.5	647.6	65.91	10.826		
9,500.0	9,483.8	12,190.9	9,520.7	8.1	58.3	64.98	-315.0	-845.0	692.8	626.7	66.09	10.484		
9,596.5	9,579.9	12,183.0	9,520.6	8.2	58.2	64.32	-322.9	-845.0	686.1	620.2	65.94	10.405	CC, ES, SF	
9,600.0	9,583.4	12,182.7	9,520.6	8.2	58.2	64.30	-323.1	-845.0	686.1	620.2	65.93	10.407		
9,700.0	9,683.0	12,175.7	9,520.4	8.3	58.1	63.71	-330.2	-845.1	693.9	628.3	65.53	10.588		
9,800.0	9,782.6	12,169.5	9,520.3	8.3	58.0	63.20	-336.4	-845.1	715.5	650.7	64.88	11.028		
9,900.0	9,882.1	12,163.9	9,520.2	8.4	57.9	62.73	-341.9	-845.1	750.0	686.0	63.96	11.725		
10,000.0	9,981.7	12,158.5	9,520.1	8.5	57.8	62.28	-347.4	-845.2	795.6	732.7	62.83	12.663		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIIVER FEDERAL #703H	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' @ 3315.0usft (TBD)

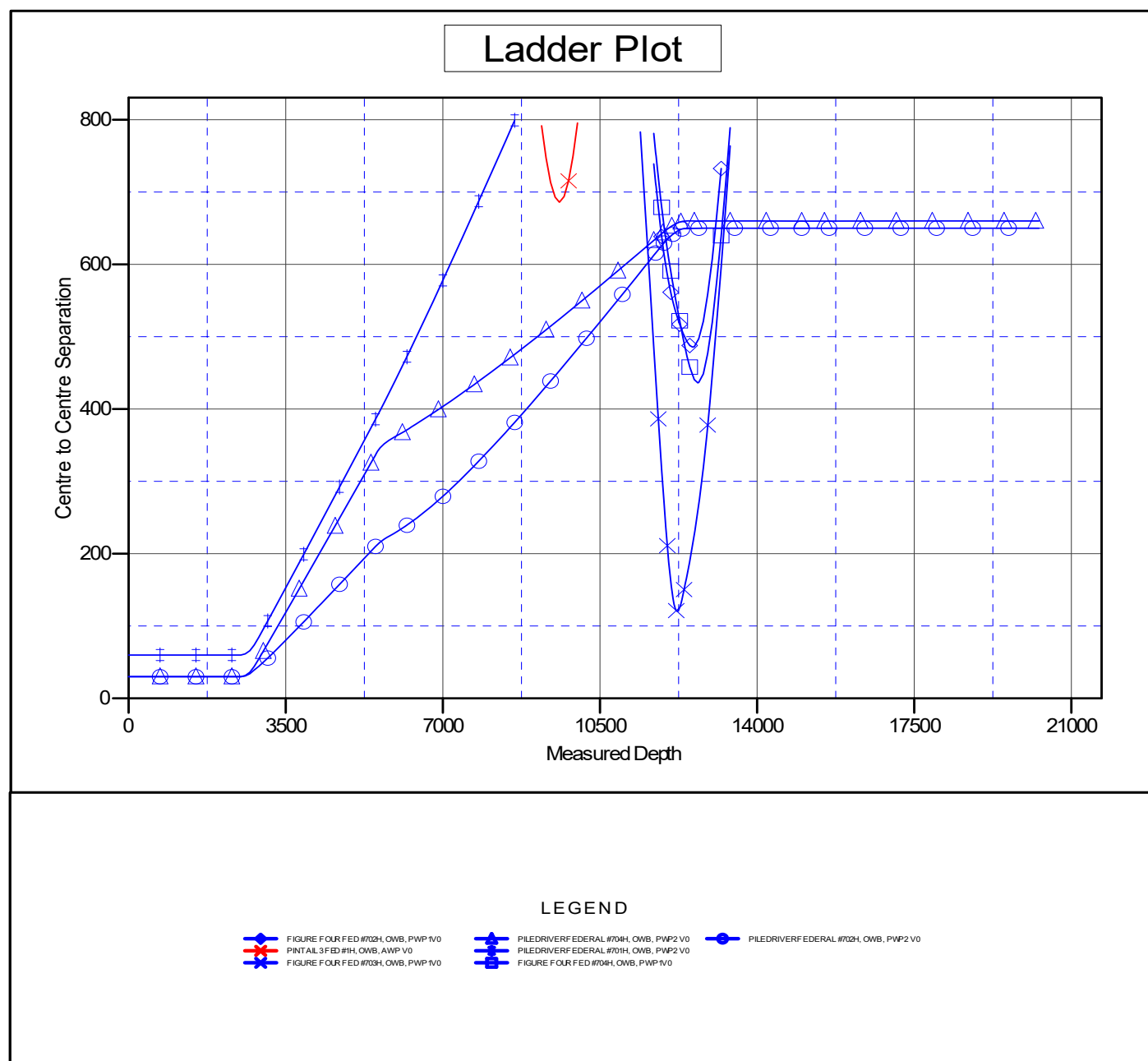
Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PILEDRIIVER FEDERAL #703H

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

Grid Convergence at Surface is: 0.36°



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

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	PILEDRIVER FEDERAL #703H	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' @ 3315.0usft (TBD)

Offset Depths are relative to Offset Datum

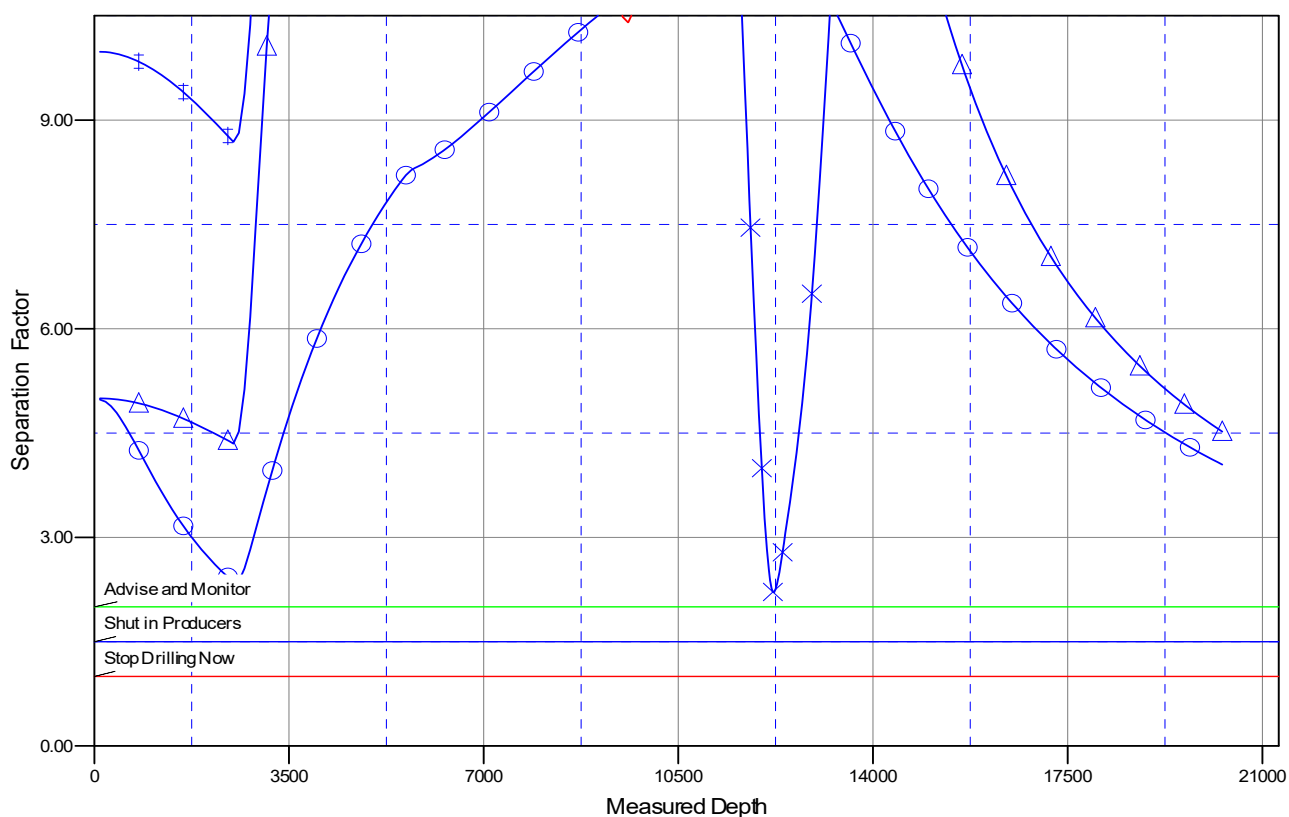
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: PILEDRIVER FEDERAL #703H

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

Grid Convergence at Surface is: 0.36°

Separation Factor Plot



LEGEND

- FIGURE FOUR FED #703H, OWB, PWP1 V0
- FIGURE FOUR FED #703H, OWB, PWP2 V0
- FIGURE FOUR FED #703H, OWB, PWP1 V0
- PILEDRIVER FEDERAL #704H, OWB, PWP2 V0
- PILEDRIVER FEDERAL #701H, OWB, PWP2 V0
- PILEDRIVER FEDERAL #703H, OWB, PWP2 V0

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

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COMPASS 5000.15 Build 91E

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)

PILEDRIIVER FED & FIGURE FOUR FED PROJECT

PILEDRIIVER FEDERAL #703H

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 #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Well:	PILEDRIVER FEDERAL #703H	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 #703H			
Well Position	+N/-S	0.0 usft	Northing:	391,486.60 usfi
	+E/-W	0.0 usft	Easting:	709,096.40 usfi
Position Uncertainty		3.0 usft	Wellhead Elevation:	usfi
			Latitude:	32° 4' 28.251 N
			Longitude:	103° 39' 29.799 W
			Ground Level:	3,285.0 usfi

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	12/3/2020	6.64	59.77	47,452.62404562

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		181.09

Survey Tool Program	Date	12/3/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,742.0	PWP2 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,742.0	20,281.4	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 #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Well:	PILEDRIVER FEDERAL #703H	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
2,600.0	0.00	0.00	2,600.0	0.0	0.0	0.0	0.00	0.00	0.00
2,700.0	0.00	0.00	2,700.0	0.0	0.0	0.0	0.00	0.00	0.00
2,800.0	0.00	0.00	2,800.0	0.0	0.0	0.0	0.00	0.00	0.00
2,900.0	0.00	0.00	2,900.0	0.0	0.0	0.0	0.00	0.00	0.00
3,000.0	0.00	0.00	3,000.0	0.0	0.0	0.0	0.00	0.00	0.00
3,100.0	0.00	0.00	3,100.0	0.0	0.0	0.0	0.00	0.00	0.00
3,200.0	0.00	0.00	3,200.0	0.0	0.0	0.0	0.00	0.00	0.00
3,300.0	0.00	0.00	3,300.0	0.0	0.0	0.0	0.00	0.00	0.00
3,400.0	0.00	0.00	3,400.0	0.0	0.0	0.0	0.00	0.00	0.00
3,500.0	0.00	0.00	3,500.0	0.0	0.0	0.0	0.00	0.00	0.00
3,600.0	0.00	0.00	3,600.0	0.0	0.0	0.0	0.00	0.00	0.00
3,700.0	0.00	0.00	3,700.0	0.0	0.0	0.0	0.00	0.00	0.00
3,800.0	0.00	0.00	3,800.0	0.0	0.0	0.0	0.00	0.00	0.00
3,900.0	0.00	0.00	3,900.0	0.0	0.0	0.0	0.00	0.00	0.00
4,000.0	0.00	0.00	4,000.0	0.0	0.0	0.0	0.00	0.00	0.00
4,100.0	0.00	0.00	4,100.0	0.0	0.0	0.0	0.00	0.00	0.00
4,200.0	0.00	0.00	4,200.0	0.0	0.0	0.0	0.00	0.00	0.00
4,300.0	0.00	0.00	4,300.0	0.0	0.0	0.0	0.00	0.00	0.00
4,400.0	0.00	0.00	4,400.0	0.0	0.0	0.0	0.00	0.00	0.00
4,500.0	0.00	0.00	4,500.0	0.0	0.0	0.0	0.00	0.00	0.00
4,600.0	0.00	0.00	4,600.0	0.0	0.0	0.0	0.00	0.00	0.00
4,700.0	0.00	0.00	4,700.0	0.0	0.0	0.0	0.00	0.00	0.00
4,800.0	0.00	0.00	4,800.0	0.0	0.0	0.0	0.00	0.00	0.00
4,900.0	0.00	0.00	4,900.0	0.0	0.0	0.0	0.00	0.00	0.00
5,000.0	0.00	0.00	5,000.0	0.0	0.0	0.0	0.00	0.00	0.00
5,100.0	0.00	0.00	5,100.0	0.0	0.0	0.0	0.00	0.00	0.00
5,200.0	0.00	0.00	5,200.0	0.0	0.0	0.0	0.00	0.00	0.00
5,300.0	0.00	0.00	5,300.0	0.0	0.0	0.0	0.00	0.00	0.00
5,400.0	0.00	0.00	5,400.0	0.0	0.0	0.0	0.00	0.00	0.00
5,500.0	0.00	0.00	5,500.0	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 #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Well:	PILEDRIVER FEDERAL #703H	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)
Start Build 2.00									
5,600.0	2.00	205.97	5,600.0	-1.6	-0.8	1.6	2.00	2.00	0.00
5,700.0	4.00	205.97	5,699.8	-6.3	-3.1	6.3	2.00	2.00	0.00
5,763.6	5.27	205.97	5,763.2	-10.9	-5.3	11.0	2.00	2.00	0.00
Start 5978.3 hold at 5763.6 MD									
5,800.0	5.27	205.97	5,799.5	-13.9	-6.8	14.0	0.00	0.00	0.00
5,900.0	5.27	205.97	5,899.1	-22.2	-10.8	22.4	0.00	0.00	0.00
6,000.0	5.27	205.97	5,998.6	-30.4	-14.8	30.7	0.00	0.00	0.00
6,100.0	5.27	205.97	6,098.2	-38.7	-18.8	39.0	0.00	0.00	0.00
6,200.0	5.27	205.97	6,197.8	-46.9	-22.9	47.4	0.00	0.00	0.00
6,300.0	5.27	205.97	6,297.4	-55.2	-26.9	55.7	0.00	0.00	0.00
6,400.0	5.27	205.97	6,396.9	-63.5	-30.9	64.0	0.00	0.00	0.00
6,500.0	5.27	205.97	6,496.5	-71.7	-34.9	72.4	0.00	0.00	0.00
6,600.0	5.27	205.97	6,596.1	-80.0	-39.0	80.7	0.00	0.00	0.00
6,700.0	5.27	205.97	6,695.7	-88.2	-43.0	89.0	0.00	0.00	0.00
6,800.0	5.27	205.97	6,795.2	-96.5	-47.0	97.4	0.00	0.00	0.00
6,900.0	5.27	205.97	6,894.8	-104.8	-51.0	105.7	0.00	0.00	0.00
7,000.0	5.27	205.97	6,994.4	-113.0	-55.0	114.0	0.00	0.00	0.00
7,100.0	5.27	205.97	7,094.0	-121.3	-59.1	122.4	0.00	0.00	0.00
7,200.0	5.27	205.97	7,193.6	-129.5	-63.1	130.7	0.00	0.00	0.00
7,300.0	5.27	205.97	7,293.1	-137.8	-67.1	139.0	0.00	0.00	0.00
7,400.0	5.27	205.97	7,392.7	-146.1	-71.1	147.4	0.00	0.00	0.00
7,500.0	5.27	205.97	7,492.3	-154.3	-75.2	155.7	0.00	0.00	0.00
7,600.0	5.27	205.97	7,591.9	-162.6	-79.2	164.0	0.00	0.00	0.00
7,700.0	5.27	205.97	7,691.4	-170.8	-83.2	172.4	0.00	0.00	0.00
7,800.0	5.27	205.97	7,791.0	-179.1	-87.2	180.7	0.00	0.00	0.00
7,900.0	5.27	205.97	7,890.6	-187.4	-91.2	189.1	0.00	0.00	0.00
8,000.0	5.27	205.97	7,990.2	-195.6	-95.3	197.4	0.00	0.00	0.00
8,100.0	5.27	205.97	8,089.7	-203.9	-99.3	205.7	0.00	0.00	0.00
8,200.0	5.27	205.97	8,189.3	-212.1	-103.3	214.1	0.00	0.00	0.00
8,300.0	5.27	205.97	8,288.9	-220.4	-107.3	222.4	0.00	0.00	0.00
8,400.0	5.27	205.97	8,388.5	-228.7	-111.4	230.7	0.00	0.00	0.00
8,500.0	5.27	205.97	8,488.1	-236.9	-115.4	239.1	0.00	0.00	0.00
8,600.0	5.27	205.97	8,587.6	-245.2	-119.4	247.4	0.00	0.00	0.00
8,700.0	5.27	205.97	8,687.2	-253.4	-123.4	255.7	0.00	0.00	0.00
8,800.0	5.27	205.97	8,786.8	-261.7	-127.4	264.1	0.00	0.00	0.00
8,900.0	5.27	205.97	8,886.4	-269.9	-131.5	272.4	0.00	0.00	0.00
9,000.0	5.27	205.97	8,985.9	-278.2	-135.5	280.7	0.00	0.00	0.00
9,100.0	5.27	205.97	9,085.5	-286.5	-139.5	289.1	0.00	0.00	0.00
9,200.0	5.27	205.97	9,185.1	-294.7	-143.5	297.4	0.00	0.00	0.00
9,300.0	5.27	205.97	9,284.7	-303.0	-147.6	305.7	0.00	0.00	0.00
9,400.0	5.27	205.97	9,384.2	-311.2	-151.6	314.1	0.00	0.00	0.00
9,500.0	5.27	205.97	9,483.8	-319.5	-155.6	322.4	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Well:	PILEDRIVER FEDERAL #703H	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	5.27	205.97	9,583.4	-327.8	-159.6	330.7	0.00	0.00	0.00
9,700.0	5.27	205.97	9,683.0	-336.0	-163.6	339.1	0.00	0.00	0.00
9,800.0	5.27	205.97	9,782.6	-344.3	-167.7	347.4	0.00	0.00	0.00
9,900.0	5.27	205.97	9,882.1	-352.5	-171.7	355.7	0.00	0.00	0.00
10,000.0	5.27	205.97	9,981.7	-360.8	-175.7	364.1	0.00	0.00	0.00
10,100.0	5.27	205.97	10,081.3	-369.1	-179.7	372.4	0.00	0.00	0.00
10,200.0	5.27	205.97	10,180.9	-377.3	-183.8	380.7	0.00	0.00	0.00
10,300.0	5.27	205.97	10,280.4	-385.6	-187.8	389.1	0.00	0.00	0.00
10,400.0	5.27	205.97	10,380.0	-393.8	-191.8	397.4	0.00	0.00	0.00
10,500.0	5.27	205.97	10,479.6	-402.1	-195.8	405.7	0.00	0.00	0.00
10,600.0	5.27	205.97	10,579.2	-410.4	-199.8	414.1	0.00	0.00	0.00
10,700.0	5.27	205.97	10,678.8	-418.6	-203.9	422.4	0.00	0.00	0.00
10,800.0	5.27	205.97	10,778.3	-426.9	-207.9	430.8	0.00	0.00	0.00
10,900.0	5.27	205.97	10,877.9	-435.1	-211.9	439.1	0.00	0.00	0.00
11,000.0	5.27	205.97	10,977.5	-443.4	-215.9	447.4	0.00	0.00	0.00
11,100.0	5.27	205.97	11,077.1	-451.7	-220.0	455.8	0.00	0.00	0.00
11,200.0	5.27	205.97	11,176.6	-459.9	-224.0	464.1	0.00	0.00	0.00
11,300.0	5.27	205.97	11,276.2	-468.2	-228.0	472.4	0.00	0.00	0.00
11,400.0	5.27	205.97	11,375.8	-476.4	-232.0	480.8	0.00	0.00	0.00
11,500.0	5.27	205.97	11,475.4	-484.7	-236.1	489.1	0.00	0.00	0.00
11,600.0	5.27	205.97	11,574.9	-493.0	-240.1	497.4	0.00	0.00	0.00
11,700.0	5.27	205.97	11,674.5	-501.2	-244.1	505.8	0.00	0.00	0.00
11,741.9	5.27	205.97	11,716.2	-504.7	-245.8	509.3	0.00	0.00	0.00
Start DLS 12.00 TFO -26.73									
11,800.0	11.92	190.64	11,773.7	-513.0	-248.1	517.6	12.00	11.44	-26.39
11,900.0	23.79	184.72	11,868.7	-543.3	-251.6	548.0	12.00	11.88	-5.92
12,000.0	35.75	182.63	11,955.3	-592.8	-254.6	597.5	12.00	11.96	-2.09
12,100.0	47.73	181.49	12,029.8	-659.2	-257.0	664.0	12.00	11.98	-1.14
12,200.0	59.71	180.72	12,088.9	-739.7	-258.5	744.4	12.00	11.98	-0.77
12,300.0	71.70	180.12	12,130.0	-830.6	-259.1	835.4	12.00	11.99	-0.60
12,400.0	83.69	179.60	12,151.2	-928.2	-258.9	932.9	12.00	11.99	-0.52
12,441.6	88.68	179.39	12,154.0	-969.7	-258.5	974.4	12.00	11.99	-0.50
Start 2551.1 hold at 12441.6 MD									
12,500.0	88.68	179.39	12,155.3	-1,028.0	-257.9	1,032.8	0.00	0.00	0.00
12,600.0	88.68	179.39	12,157.6	-1,128.0	-256.8	1,132.7	0.00	0.00	0.00
12,700.0	88.68	179.39	12,160.0	-1,228.0	-255.8	1,232.6	0.00	0.00	0.00
12,800.0	88.68	179.39	12,162.3	-1,327.9	-254.7	1,332.5	0.00	0.00	0.00
12,900.0	88.68	179.39	12,164.6	-1,427.9	-253.6	1,432.5	0.00	0.00	0.00
13,000.0	88.68	179.39	12,166.9	-1,527.9	-252.6	1,532.4	0.00	0.00	0.00
13,100.0	88.68	179.39	12,169.2	-1,627.9	-251.5	1,632.3	0.00	0.00	0.00
13,200.0	88.68	179.39	12,171.5	-1,727.8	-250.4	1,732.3	0.00	0.00	0.00
13,300.0	88.68	179.39	12,173.8	-1,827.8	-249.4	1,832.2	0.00	0.00	0.00
13,400.0	88.68	179.39	12,176.1	-1,927.8	-248.3	1,932.1	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Well:	PILEDRIVER FEDERAL #703H	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	88.68	179.39	12,178.4	-2,027.7	-247.3	2,032.1	0.00	0.00	0.00
13,600.0	88.68	179.39	12,180.7	-2,127.7	-246.2	2,132.0	0.00	0.00	0.00
13,700.0	88.68	179.39	12,183.0	-2,227.7	-245.1	2,231.9	0.00	0.00	0.00
13,800.0	88.68	179.39	12,185.3	-2,327.6	-244.1	2,331.8	0.00	0.00	0.00
13,900.0	88.68	179.39	12,187.6	-2,427.6	-243.0	2,431.8	0.00	0.00	0.00
14,000.0	88.68	179.39	12,189.9	-2,527.6	-241.9	2,531.7	0.00	0.00	0.00
14,100.0	88.68	179.39	12,192.2	-2,627.5	-240.9	2,631.6	0.00	0.00	0.00
14,200.0	88.68	179.39	12,194.5	-2,727.5	-239.8	2,731.6	0.00	0.00	0.00
14,300.0	88.68	179.39	12,196.8	-2,827.5	-238.8	2,831.5	0.00	0.00	0.00
14,400.0	88.68	179.39	12,199.1	-2,927.4	-237.7	2,931.4	0.00	0.00	0.00
14,500.0	88.68	179.39	12,201.4	-3,027.4	-236.6	3,031.3	0.00	0.00	0.00
14,600.0	88.68	179.39	12,203.7	-3,127.4	-235.6	3,131.3	0.00	0.00	0.00
14,700.0	88.68	179.39	12,206.0	-3,227.3	-234.5	3,231.2	0.00	0.00	0.00
14,800.0	88.68	179.39	12,208.3	-3,327.3	-233.4	3,331.1	0.00	0.00	0.00
14,900.0	88.68	179.39	12,210.6	-3,427.3	-232.4	3,431.1	0.00	0.00	0.00
14,992.7	88.68	179.39	12,212.8	-3,520.0	-231.4	3,523.7	0.00	0.00	0.00
Start DLS 2.00 TFO -92.91									
14,997.0	88.68	179.31	12,212.9	-3,524.3	-231.4	3,528.0	2.00	-0.10	-2.00
Start 5284.3 hold at 14997.0 MD									
15,000.0	88.68	179.31	12,212.9	-3,527.2	-231.3	3,531.0	0.00	0.00	0.00
15,100.0	88.68	179.31	12,215.2	-3,627.2	-230.1	3,630.9	0.00	0.00	0.00
15,200.0	88.68	179.31	12,217.6	-3,727.2	-228.9	3,730.8	0.00	0.00	0.00
15,300.0	88.68	179.31	12,219.9	-3,827.1	-227.7	3,830.8	0.00	0.00	0.00
15,400.0	88.68	179.31	12,222.2	-3,927.1	-226.5	3,930.7	0.00	0.00	0.00
15,500.0	88.68	179.31	12,224.5	-4,027.1	-225.3	4,030.6	0.00	0.00	0.00
15,600.0	88.68	179.31	12,226.8	-4,127.0	-224.0	4,130.5	0.00	0.00	0.00
15,700.0	88.68	179.31	12,229.1	-4,227.0	-222.8	4,230.5	0.00	0.00	0.00
15,800.0	88.68	179.31	12,231.4	-4,327.0	-221.6	4,330.4	0.00	0.00	0.00
15,900.0	88.68	179.31	12,233.7	-4,426.9	-220.4	4,430.3	0.00	0.00	0.00
16,000.0	88.68	179.31	12,236.0	-4,526.9	-219.2	4,530.2	0.00	0.00	0.00
16,100.0	88.68	179.31	12,238.4	-4,626.9	-218.0	4,630.2	0.00	0.00	0.00
16,200.0	88.68	179.31	12,240.7	-4,726.8	-216.8	4,730.1	0.00	0.00	0.00
16,300.0	88.68	179.31	12,243.0	-4,826.8	-215.6	4,830.0	0.00	0.00	0.00
16,400.0	88.68	179.31	12,245.3	-4,926.8	-214.3	4,929.9	0.00	0.00	0.00
16,500.0	88.68	179.31	12,247.6	-5,026.7	-213.1	5,029.9	0.00	0.00	0.00
16,600.0	88.68	179.31	12,249.9	-5,126.7	-211.9	5,129.8	0.00	0.00	0.00
16,700.0	88.68	179.31	12,252.2	-5,226.7	-210.7	5,229.7	0.00	0.00	0.00
16,800.0	88.68	179.31	12,254.5	-5,326.6	-209.5	5,329.6	0.00	0.00	0.00
16,900.0	88.68	179.31	12,256.8	-5,426.6	-208.3	5,429.6	0.00	0.00	0.00
17,000.0	88.68	179.31	12,259.2	-5,526.6	-207.1	5,529.5	0.00	0.00	0.00
17,100.0	88.68	179.31	12,261.5	-5,626.5	-205.9	5,629.4	0.00	0.00	0.00
17,200.0	88.68	179.31	12,263.8	-5,726.5	-204.6	5,729.3	0.00	0.00	0.00
17,300.0	88.68	179.31	12,266.1	-5,826.5	-203.4	5,829.3	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Well:	PILEDRIVER FEDERAL #703H	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	88.68	179.31	12,268.4	-5,926.4	-202.2	5,929.2	0.00	0.00	0.00
17,500.0	88.68	179.31	12,270.7	-6,026.4	-201.0	6,029.1	0.00	0.00	0.00
17,600.0	88.68	179.31	12,273.0	-6,126.4	-199.8	6,129.0	0.00	0.00	0.00
17,700.0	88.68	179.31	12,275.3	-6,226.3	-198.6	6,229.0	0.00	0.00	0.00
17,800.0	88.68	179.31	12,277.6	-6,326.3	-197.4	6,328.9	0.00	0.00	0.00
17,900.0	88.68	179.31	12,280.0	-6,426.3	-196.2	6,428.8	0.00	0.00	0.00
18,000.0	88.68	179.31	12,282.3	-6,526.2	-195.0	6,528.7	0.00	0.00	0.00
18,100.0	88.68	179.31	12,284.6	-6,626.2	-193.7	6,628.7	0.00	0.00	0.00
18,200.0	88.68	179.31	12,286.9	-6,726.2	-192.5	6,728.6	0.00	0.00	0.00
18,300.0	88.68	179.31	12,289.2	-6,826.1	-191.3	6,828.5	0.00	0.00	0.00
18,400.0	88.68	179.31	12,291.5	-6,926.1	-190.1	6,928.4	0.00	0.00	0.00
18,500.0	88.68	179.31	12,293.8	-7,026.0	-188.9	7,028.4	0.00	0.00	0.00
18,600.0	88.68	179.31	12,296.1	-7,126.0	-187.7	7,128.3	0.00	0.00	0.00
18,700.0	88.68	179.31	12,298.5	-7,226.0	-186.5	7,228.2	0.00	0.00	0.00
18,800.0	88.68	179.31	12,300.8	-7,325.9	-185.3	7,328.1	0.00	0.00	0.00
18,900.0	88.68	179.31	12,303.1	-7,425.9	-184.0	7,428.1	0.00	0.00	0.00
19,000.0	88.68	179.31	12,305.4	-7,525.9	-182.8	7,528.0	0.00	0.00	0.00
19,100.0	88.68	179.31	12,307.7	-7,625.8	-181.6	7,627.9	0.00	0.00	0.00
19,200.0	88.68	179.31	12,310.0	-7,725.8	-180.4	7,727.8	0.00	0.00	0.00
19,300.0	88.68	179.31	12,312.3	-7,825.8	-179.2	7,827.8	0.00	0.00	0.00
19,400.0	88.68	179.31	12,314.6	-7,925.7	-178.0	7,927.7	0.00	0.00	0.00
19,500.0	88.68	179.31	12,316.9	-8,025.7	-176.8	8,027.6	0.00	0.00	0.00
19,600.0	88.68	179.31	12,319.3	-8,125.7	-175.6	8,127.5	0.00	0.00	0.00
19,700.0	88.68	179.31	12,321.6	-8,225.6	-174.3	8,227.5	0.00	0.00	0.00
19,800.0	88.68	179.31	12,323.9	-8,325.6	-173.1	8,327.4	0.00	0.00	0.00
19,900.0	88.68	179.31	12,326.2	-8,425.6	-171.9	8,427.3	0.00	0.00	0.00
20,000.0	88.68	179.31	12,328.5	-8,525.5	-170.7	8,527.2	0.00	0.00	0.00
20,100.0	88.68	179.31	12,330.8	-8,625.5	-169.5	8,627.2	0.00	0.00	0.00
20,200.0	88.68	179.31	12,333.1	-8,725.5	-168.3	8,727.1	0.00	0.00	0.00
20,281.4	88.68	179.31	12,335.0	-8,806.8	-167.3	8,808.4	0.00	0.00	0.00
TD at 20281.4									

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well PILEDRIVER FEDERAL #703H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3315.0usft (TBD)
Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3315.0usft (TBD)
Well:	PILEDRIVER FEDERAL #703H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP2	Database:	edm

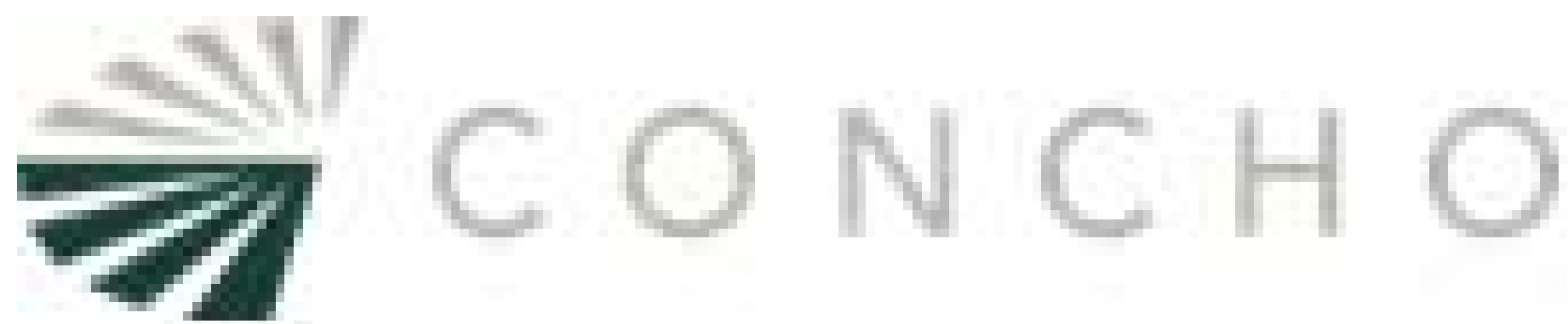
Design Targets

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	12,154.0	-969.7	-258.5	390,516.90	708,837.90	32° 4' 18.670 N	103° 39' 32.874 W
T1 (PILEDRIVER FE - plan hits target center - Rectangle (sides W100.0 H3,060.0 D20.0)	-1.32	359.39	12,212.8	-3,520.0	-231.4	387,966.62	708,865.00	32° 3' 53.431 N	103° 39' 32.744 W
PBHL (PILEDRIVER F - plan hits target center - Rectangle (sides W100.0 H5,295.0 D20.0)	-1.32	359.31	12,335.0	-8,806.8	-167.3	382,679.80	708,929.10	32° 3' 1.109 N	103° 39' 32.383 W
LTP (PILEDRIVER FE - plan misses target center by 31.4usft at 20200.0usft MD (12333.1 TVD, -8725.5 N, -168.3 E) - Point	0.00	0.00	12,335.0	-8,756.8	-167.9	382,729.80	708,928.50	32° 3' 1.604 N	103° 39' 32.387 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
+N/-S (usft)	+E/-W (usft)			
5500	5500	0	0	Start Build 2.00
5764	5763	-11	-5	Start 5978.3 hold at 5763.6 MD
11,742	11,716	-505	-246	Start DLS 12.00 TFO -26.73
12,442	12,154	-970	-258	Start 2551.1 hold at 12441.6 MD
14,993	12,213	-3520	-231	Start DLS 2.00 TFO -92.91
14,997	12,213	-3524	-231	Start 5284.3 hold at 14997.0 MD
20,281	12,335	-8807	-167	TD at 20281.4

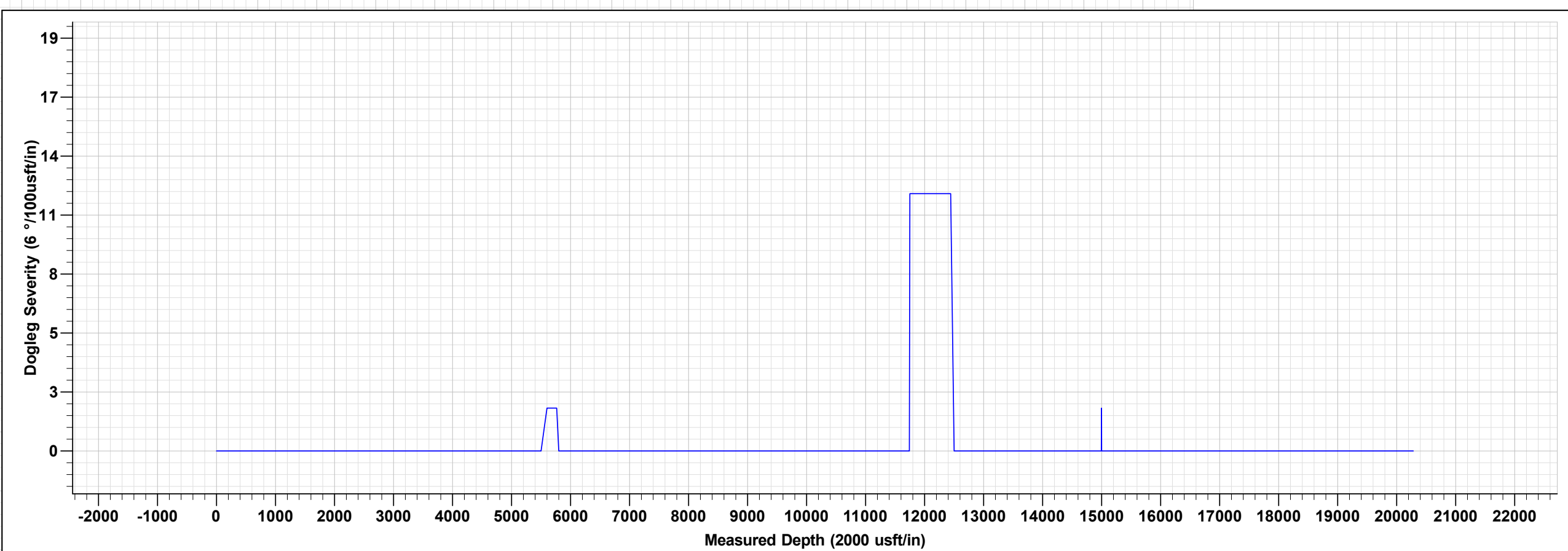
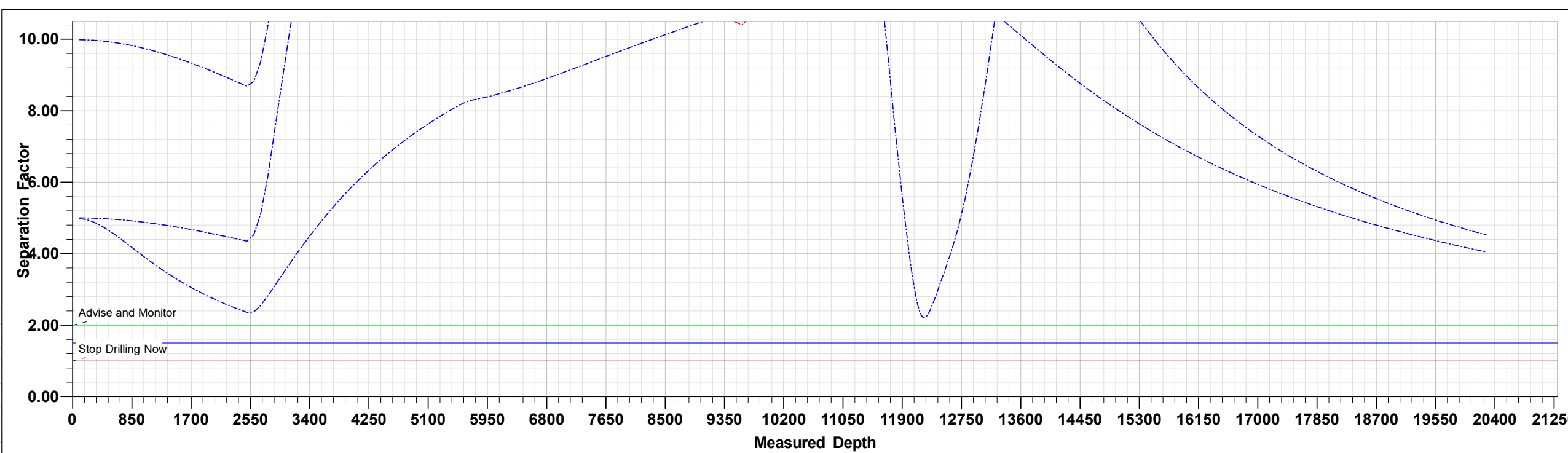
Checked By: _____ Approved By: _____ Date: _____



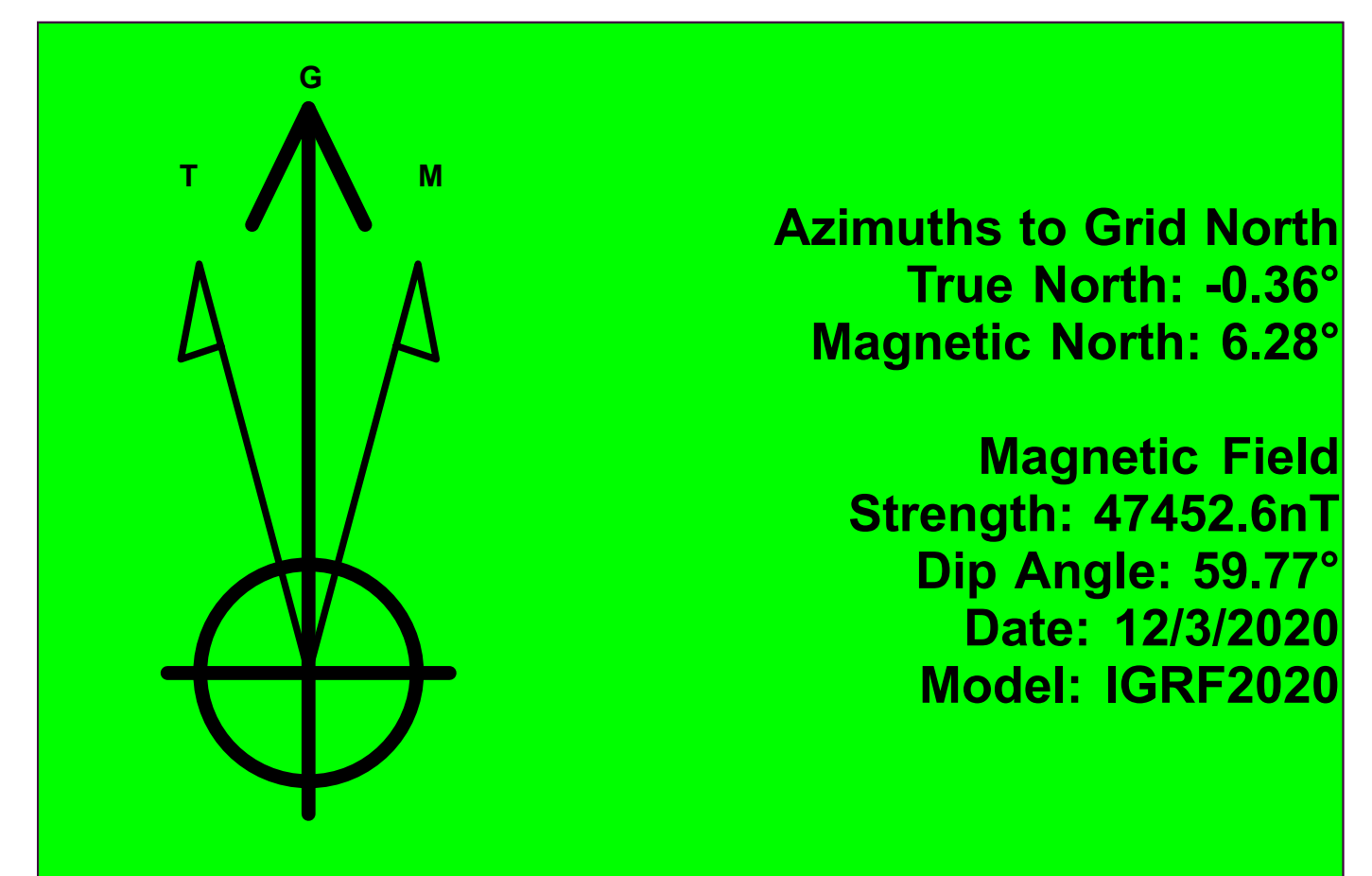
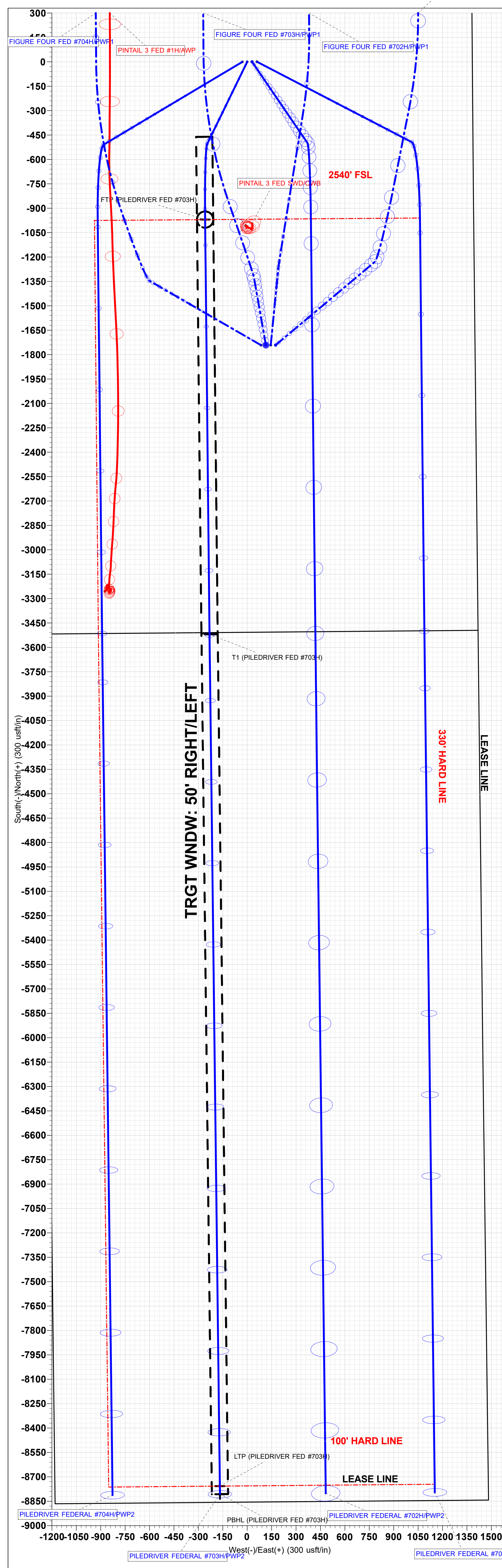
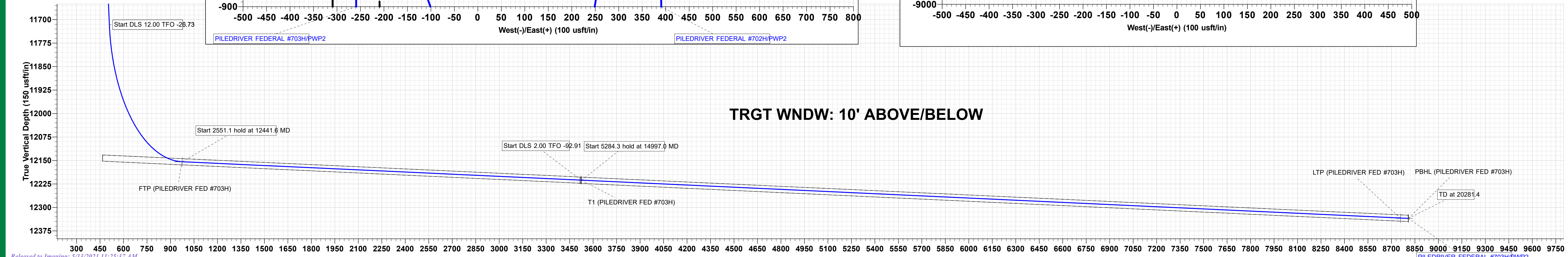
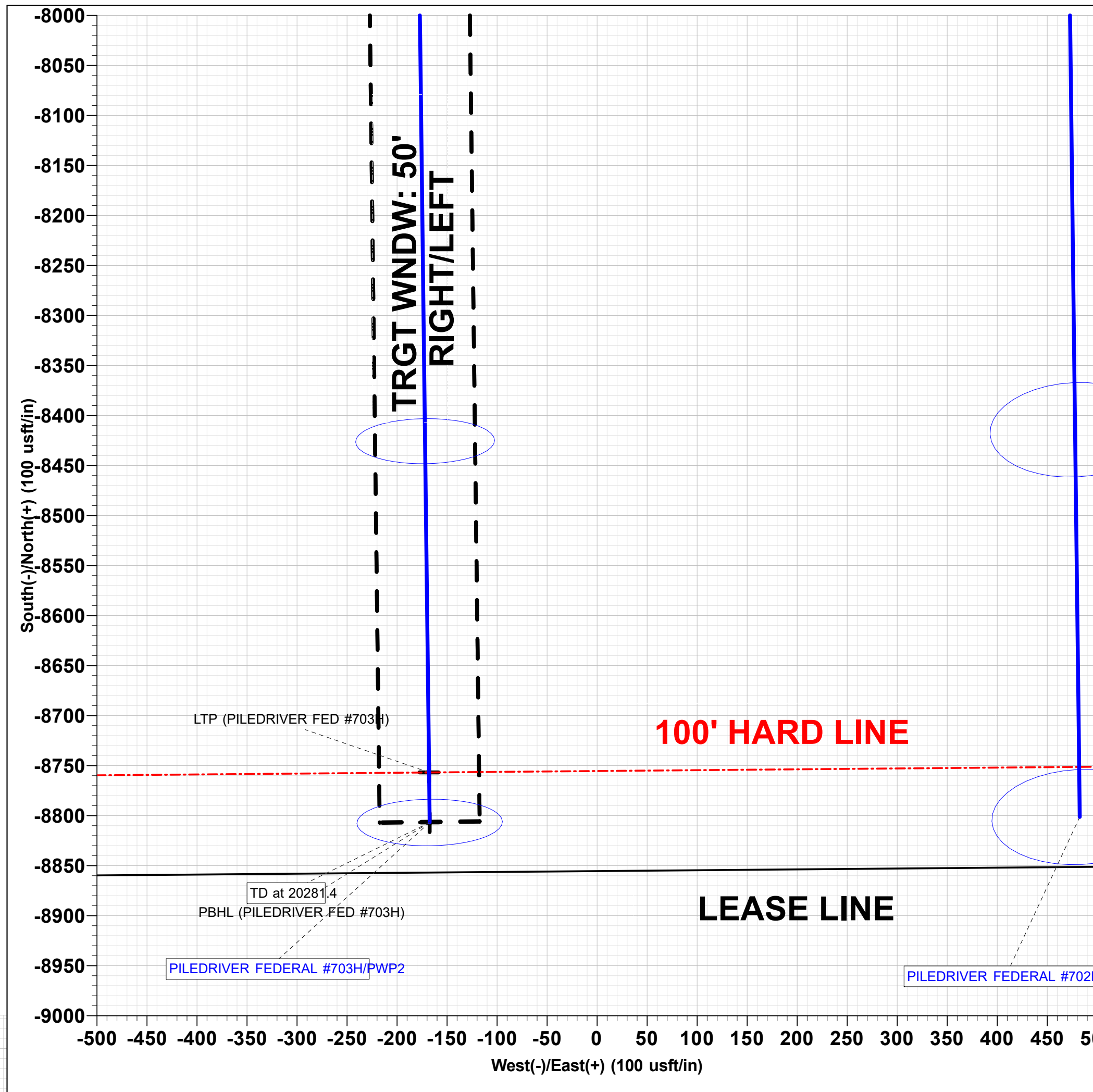
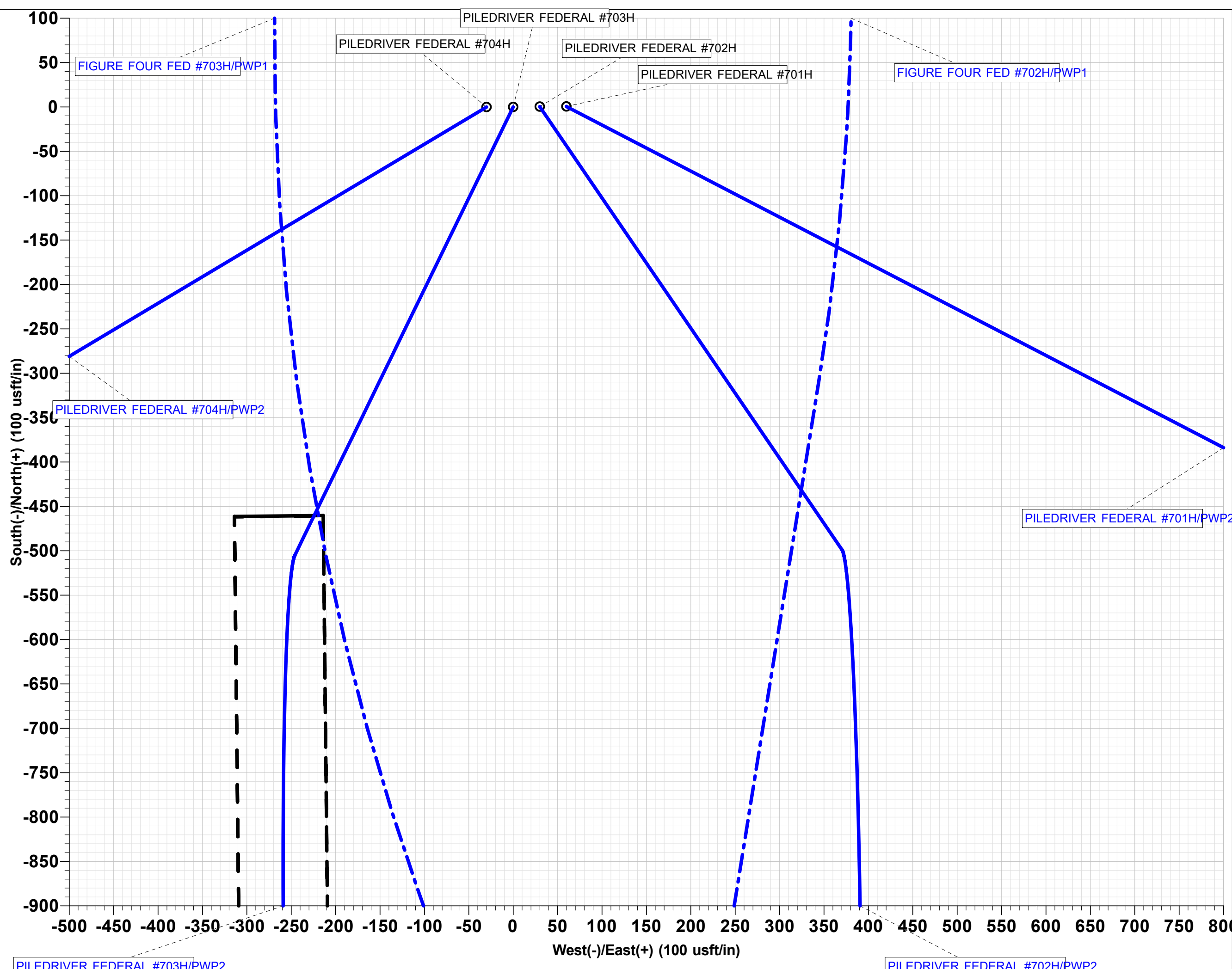
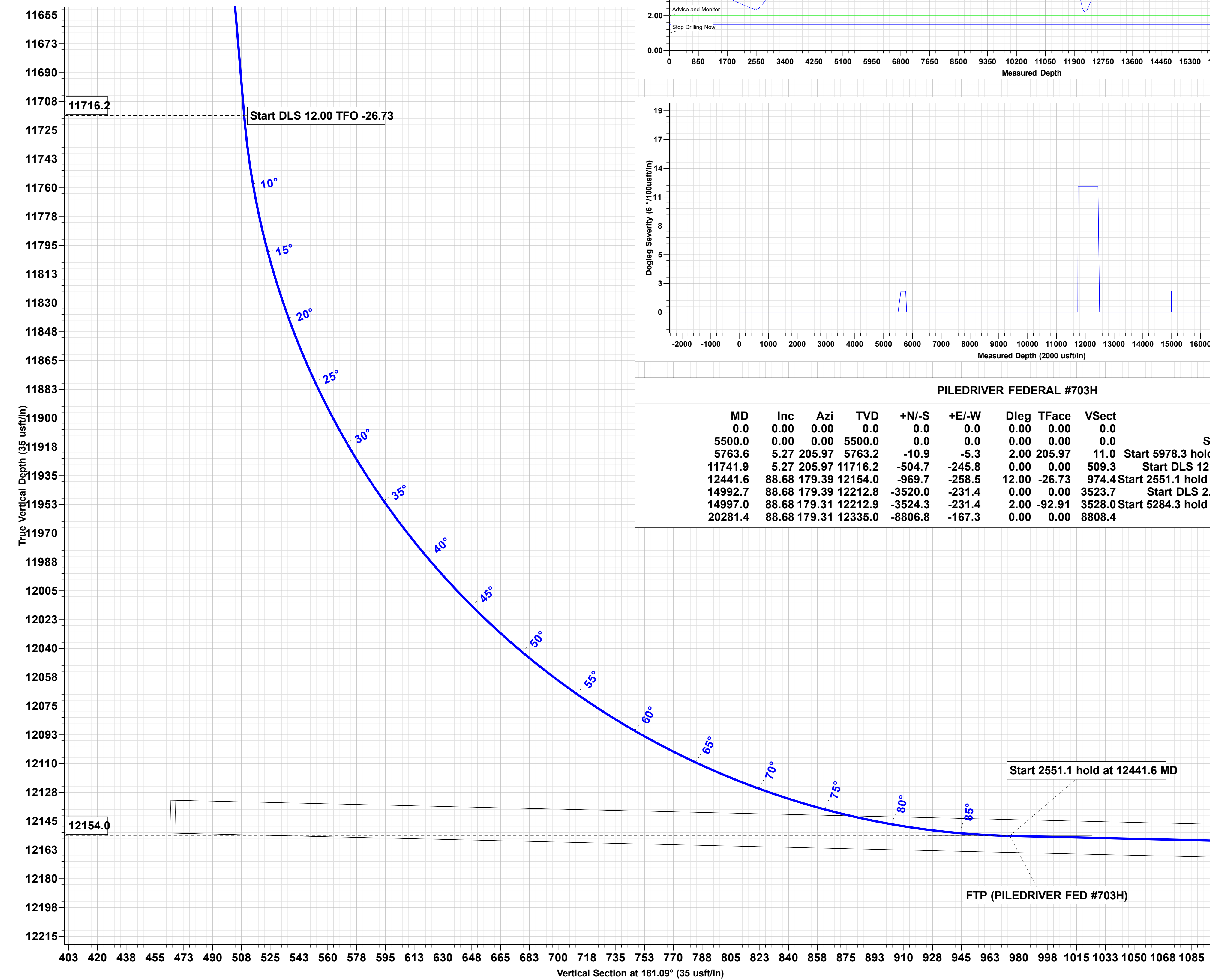
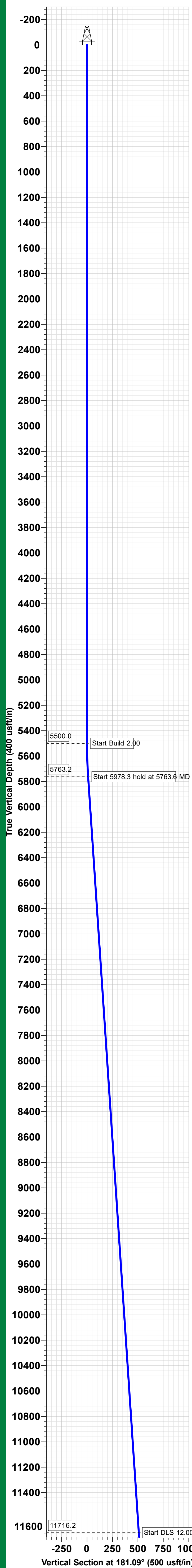
Project: BULLDOG PROSPECT (NM-E)
Site: PILEDRIVER FED & FIGURE FOUR FED PROJECT
Well: PILEDRIVER FEDERAL #703H
Wellbore: OWB
Design: PWP2
GL: 3285.0
*KB=30' @ 3315.0usft (TBD)

WELL DETAILS: PILEDRIVER FEDERAL #703H					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	391486.60	709096.40	32° 4' 28.251 N	103° 39' 29.799 W

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
FTP (PILEDRIVER FED #703H)	12154.0	-969.7	-258.5	390516.90	708837.90	32° 4' 18.670 N
T1 (PILEDRIVER FED #703H)	12212.8	-3520.0	-231.4	387966.62	708865.00	32° 3' 53.431 N
LTP (PILEDRIVER FED #703H)	12335.0	-8756.8	-167.9	382729.80	708928.50	32° 3' 1.604 N
PBHL (PILEDRIVER FED #703H)	12335.0	-8806.8	-167.3	382679.80	708929.10	32° 3' 1.109 N



PILEDRIVER FEDERAL #703H									
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	
5500.0	0.00	0.00	5500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
5763.6	5.27	205.97	5763.2	-10.9	-5.3	2.00	205.97	11.0	Start 5978.3 hold at 5763.6 MD
11741.9	5.27	205.97	11716.2	-504.7	-245.8	0.00	0.00	509.3	Start DLS 12.00 TFO -26.73
12441.6	88.68	179.39	12154.0	-969.7	-258.5	12.00	-26.73	974.4	Start 2551.1 hold at 12441.6 MD
14992.7	88.68	179.39	12212.8	-3520.0	-231.4	0.00	0.00	3523.7	Start DLS 2.00 TFO -92.91
14997.0	88.68	179.31	12212.9	-3524.3	-231.4	2.00	-92.91	3528.0	Start 5284.3 hold at 14997.0 MD
20281.4	88.68	179.31	12335.0	-8806.8	-167.3	0.00	0.00	8808.4	TD at 20281.4



DISTRICT I
1825 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) 334-8176 Fax: (505) 334-8170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 478-3460 Fax: (505) 478-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-48861	Pool Code 98065	Pool Name WC-025 G-08 S263205N; Upper Wolfcamp
Property Code 330324	Property Name PILEDRIER FEDERAL	Well Number 703H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3285.0'

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	1383	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	1650	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 <u>SURFACE LOCATION</u> Y=391544.1 N X=750283.0 E LAT.=32.074639° N LONG.=103.658750° W <table border="1"> <thead> <tr> <th colspan="2">POINT LEGEND</th> </tr> </thead> <tbody> <tr><td>1</td><td>Y=393397.2 N X=751651.4 E</td></tr> <tr><td>2</td><td>Y=390723.7 N X=751673.0 E</td></tr> <tr><td>3</td><td>Y=388048.2 N X=751701.8 E</td></tr> <tr><td>4</td><td>Y=385374.8 N X=751732.1 E</td></tr> <tr><td>5</td><td>Y=382701.2 N X=751766.6 E</td></tr> <tr><td>6</td><td>Y=382678.4 N X=749103.0 E</td></tr> <tr><td>7</td><td>Y=388026.2 N X=749038.7 E</td></tr> <tr><td>8</td><td>Y=393372.1 N X=748989.6 E</td></tr> </tbody> </table> NAD 83 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=382737.1 N X=750116.0 E LAT.=32.050433° N LONG.=103.659466° 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		OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Stan Wagner</i> 12/14/2020 Signature Date Stan Wagner Printed Name _____ E-mail Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. NOVEMBER 17, 2020 Date of Survey Signature & Seal of Professional Surveyor <i>Chad Harcrow</i> 11/24/20 Certificate No. CHAD HARCROW 17777 W.O. # 20-1502 DRAWN BY: DS
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																			

Intent ☒ As Drilled ☐API # **30-025-48861**
30-025

Operator Name:	Property Name:	Well Number
COG Operating LLC	Piledriver Federal	703H

Kick Off Point (KOP)

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

First Take Point (FTP)

UL J	Section 3	Township 26S	Range 32E	Lot	Feet 2540	From N/S South	Feet 1650	From E/W East	County Lea
Latitude 32.071978					Longitude -103.659604			NAD NAD 83	

Last Take Point (LTP)

UL O	Section 10	Township 26S	Range 32E	Lot	Feet 100	From N/S South	Feet 1650	From E/W East	County Lea
Latitude 32.050570					Longitude -103.659467			NAD NAD 83	

Is this well the defining well for the Horizontal Spacing Unit? ☐ NoIs 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
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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, recomple 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	30-025-48861	G-3-26S-32E	1840' FNL & 1383' FEL	±3000	None Planned	APD Submission Plan Subject to change
Piledriver Federal 704H	30-025-	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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District IV
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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 25302

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
COG OPERATING LLC 600 W Illinois Ave Midland, TX79701			229137	25302	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				