

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. [330323]
2. Name of Operator [229137]		9. API Well No. 30-025-48895
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file NMB000215
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

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

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

GCP Rec 04/23/2021

SL

(Continued on page 2)



Approval Date: 04/22/2021

KZ
 05/19/2021

*(Instructions on page 2)

Intent ☒ As Drilled ☐API # 30-025-48895
30-025-

Operator Name:	Property Name:	Well Number
COG Operating LLC	Figure Four Federal Com	704H

Kick Off Point (KOP)

UL I	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 G	Section 3	Township 26S	Range 32E	Lot	Feet 2540	From N/S South	Feet 2310	From E/W East	County Lea
Latitude 32.072707					Longitude -103.661737				NAD 83

Last Take Point (LTP)

UL B	Section 34	Township 25S	Range 32E	Lot	Feet 100	From N/S North	Feet 2310	From E/W East	County Lea
Latitude 32.093939					Longitude -103.661695				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	Figure Four Federal Com	702H

KZ 06/29/2018

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

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

Submit Original
to Appropriate
District Office

GAS CAPTURE PLAN

Date: 9/14/20

☒ 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
Figure Four Federal Com 701H	30-025-	I-3-26S-32E	1765' FSL & 1225' FEL	±3000	None Planned	APD Submission Plan Subject to change
Figure Four Federal Com 702H	30-025-	I-3-26S-32E	1765' FSL & 1255' FEL	±3000	None Planned	APD Submission Plan Subject to change
Figure Four Federal Com 703H	30-025-	I-3-26S-32E	1765' FSL & 1285' FEL	±3000	None Planned	APD Submission Plan Subject to change
Figure Four Federal Com 704H	30-025-48895	I-3-26S-32E	1765' FSL & 1315' 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

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG Operating, LLC
LEASE NO.:	NMNM-120910
WELL NAME & NO.:	Figure Four Federal Com 704H
SURFACE HOLE FOOTAGE:	1765' FSL & 1315' FEL
BOTTOM HOLE FOOTAGE:	0050' FNL & 2310' FEL Sec. 34, T.25 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 Rustler.

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 **1189** 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 23% - 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.**

D. SPECIAL REQUIREMENT (S)**Communitization Agreement**

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

GENERAL REQUIREMENTS

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

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

☒ Lea County

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

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

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 12102020

COG Operating, LLC - Figure Four Federal 704H

1. Geologic Formations

TVD of target	12,231' EOL	Pilot hole depth	NA
MD at TD:	20,413'	Deepest expected fresh water:	250'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	971	Water	
Top of Salt	1306	Salt	
Base of Salt	4321	Salt	
Lamar	4551	Salt Water	
Bell Canyon	4601	Salt Water	
Cherry Canyon	5596	Oil/Gas	
Brushy Canyon	7121	Oil/Gas	
Bone Spring Lime	8696	Oil/Gas	
1st Bone Spring Sand	9648	Oil/Gas	
2nd Bone Spring Sand	10291	Oil/Gas	
2nd BSS Base	10836	Oil/Gas	
3rd Bone Spring Sand	11435	Oil/Gas	
Wolfcamp	11891	Oil/Gas	
Wolfcamp A Shale	12088	Target Oil/Gas	
Wolfcamp B	12341	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	1256	10.75"	45.5	N80	BTC	4.30	1.67	18.20	19.20
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.56	1.09	2.88	2.90
8.750"	8500	11385	7.625"	29.7	HCP110	TL-FJ	1.32	1.13	2.78	1.95
6.75"	0	11185	5.5"	23	P110	BTC	1.83	2.16	2.59	2.57
6.75"	11185	20,413	5.5"	23	P110	Talon HTQ	1.83	2.16	2.59	2.51
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.	599	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	820	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	519	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	870	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	7955 psi at 12231' 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 (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S 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	H ₂ S is present
Y	H ₂ S 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
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

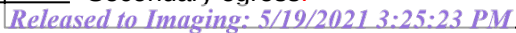
1-575-748-6940

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
FIGURE FOUR FED #704H

OWB
PWP1

Anticollision Report

10 September, 2020

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference	PWP1
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria
Interpolation Method:	Stations
Depth Range:	Unlimited
Results Limited by:	Maximum ellipse separation of 1,000.0 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	9/10/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,710.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,710.0	20,413.8	PWP1 (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						
PILEDRIER FED & FIGURE FOUR FED PROJECT						
FIGURE FOUR FED #701H - OWB - PWP1	2,500.0	2,498.4	90.0	77.3	7.102	CC, ES, SF
FIGURE FOUR FED #702H - OWB - PWP1	2,500.0	2,498.2	60.0	53.1	8.701	CC, ES, SF
FIGURE FOUR FED #703H - OWB - PWP1	2,500.0	2,498.8	30.0	17.3	2.367	CC, ES, SF
PILEDRIER FEDERAL #701H - OWB - PWP1						Out of range
PILEDRIER FEDERAL #702H - OWB - PWP1						Out of range
PILEDRIER FEDERAL #703H - OWB - PWP1	11,850.0	12,764.9	491.6	453.6	12.948	SF
PILEDRIER FEDERAL #703H - OWB - PWP1	12,050.0	12,670.3	436.6	408.0	15.294	ES
PILEDRIER FEDERAL #703H - OWB - PWP1	12,064.2	12,661.1	436.4	408.4	15.591	CC
PILEDRIER FEDERAL #704H - OWB - PWP1	12,593.9	12,232.0	107.2	74.9	3.321	CC
PILEDRIER FEDERAL #704H - OWB - PWP1	12,600.0	12,227.4	107.3	74.4	3.266	ES
PILEDRIER FEDERAL #704H - OWB - PWP1	12,700.0	12,158.1	128.2	87.9	3.177	SF
PINTAIL 3 FED #1H - OWB - AWP	9,582.8	11,047.1	374.9	321.4	7.013	CC, ES, SF

Offset Design	PILEDRIER FED & FIGURE FOUR FED PROJECT - FIGURE FOUR FED #701H - OWB - PWP1												Offset Site Error:	3.0 usft
Survey Program:	0-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Minimum Separation		Warning						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	3.0	3.0	89.55	0.7	90.0	90.0					
100.0	100.0	98.4	98.4	3.0	3.0	89.55	0.7	90.0	90.0	84.0	6.00	14.994		
200.0	200.0	198.4	198.4	3.0	3.0	89.55	0.7	90.0	90.0	84.0	6.04	14.903		
300.0	300.0	298.4	298.4	3.0	3.1	89.55	0.7	90.0	90.0	83.9	6.12	14.709		
400.0	400.0	398.4	398.4	3.0	3.2	89.55	0.7	90.0	90.0	83.8	6.24	14.427		
500.0	500.0	498.4	498.4	3.1	3.4	89.55	0.7	90.0	90.0	83.6	6.39	14.077		
600.0	600.0	598.4	598.4	3.1	3.6	89.55	0.7	90.0	90.0	83.4	6.58	13.677		
700.0	700.0	698.4	698.4	3.1	3.8	89.55	0.7	90.0	90.0	83.2	6.79	13.246		
800.0	800.0	798.4	798.4	3.2	4.0	89.55	0.7	90.0	90.0	83.0	7.03	12.798		
900.0	900.0	898.4	898.4	3.2	4.2	89.55	0.7	90.0	90.0	82.7	7.29	12.346		
1,000.0	1,000.0	998.4	998.4	3.2	4.5	89.55	0.7	90.0	90.0	82.4	7.56	11.899		
1,100.0	1,100.0	1,098.4	1,098.4	3.3	4.8	89.55	0.7	90.0	90.0	82.2	7.85	11.461		
1,200.0	1,200.0	1,198.4	1,198.4	3.4	5.1	89.55	0.7	90.0	90.0	81.8	8.15	11.039		
1,300.0	1,300.0	1,298.4	1,298.4	3.4	5.3	89.55	0.7	90.0	90.0	81.5	8.46	10.633		

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	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	
1,400.0	1,400.0	1,398.4	1,398.4	3.5	5.6	89.55	0.7	90.0	90.0	81.2	8.78	10.245	
1,500.0	1,500.0	1,498.4	1,498.4	3.5	5.9	89.55	0.7	90.0	90.0	80.9	9.11	9.876	
1,600.0	1,600.0	1,598.4	1,598.4	3.6	6.3	89.55	0.7	90.0	90.0	80.6	9.45	9.526	
1,700.0	1,700.0	1,698.4	1,698.4	3.7	6.6	89.55	0.7	90.0	90.0	80.2	9.79	9.194	
1,800.0	1,800.0	1,798.4	1,798.4	3.8	6.9	89.55	0.7	90.0	90.0	79.9	10.14	8.880	
1,900.0	1,900.0	1,898.4	1,898.4	3.9	7.2	89.55	0.7	90.0	90.0	79.5	10.49	8.583	
2,000.0	2,000.0	1,998.4	1,998.4	3.9	7.6	89.55	0.7	90.0	90.0	79.2	10.84	8.301	
2,100.0	2,100.0	2,098.4	2,098.4	4.0	7.9	89.55	0.7	90.0	90.0	78.8	11.20	8.035	
2,200.0	2,200.0	2,198.4	2,198.4	4.1	8.2	89.55	0.7	90.0	90.0	78.4	11.56	7.782	
2,300.0	2,300.0	2,298.4	2,298.4	4.2	8.5	89.55	0.7	90.0	90.0	78.1	11.93	7.543	
2,400.0	2,400.0	2,398.4	2,398.4	4.3	8.9	89.55	0.7	90.0	90.0	77.7	12.30	7.317	
2,500.0	2,500.0	2,498.4	2,498.4	4.4	9.2	89.55	0.7	90.0	90.0	77.3	12.67	7.102 CC, ES, SF	
2,600.0	2,600.0	2,596.0	2,596.0	4.5	9.6	149.43	1.7	91.2	92.8	79.7	13.03	7.119	
2,700.0	2,699.8	2,693.1	2,693.0	4.5	9.9	149.04	4.9	95.0	101.2	87.8	13.39	7.558	
2,750.0	2,749.7	2,741.3	2,741.1	4.6	10.0	148.78	7.2	97.8	107.5	93.9	13.56	7.925	
2,800.0	2,799.5	2,790.6	2,790.1	4.6	10.2	148.55	10.0	101.1	114.6	100.8	13.74	8.335	
2,900.0	2,899.1	2,889.6	2,888.7	4.7	10.5	148.14	15.5	107.7	128.8	114.7	14.12	9.121	
3,000.0	2,998.7	2,988.5	2,987.3	4.7	10.9	147.82	21.1	114.3	143.0	128.5	14.50	9.862	
3,100.0	3,098.4	3,087.5	3,085.9	4.8	11.2	147.56	26.6	120.9	157.2	142.3	14.88	10.563	
3,200.0	3,198.0	3,186.5	3,184.5	4.9	11.6	147.33	32.2	127.5	171.5	156.2	15.27	11.226	
3,300.0	3,297.6	3,285.5	3,283.1	5.0	11.9	147.15	37.7	134.1	185.7	170.0	15.67	11.854	
3,400.0	3,397.2	3,384.5	3,381.7	5.1	12.2	146.99	43.3	140.7	199.9	183.9	16.06	12.447	
3,500.0	3,496.8	3,483.4	3,480.3	5.1	12.6	146.85	48.8	147.3	214.2	197.7	16.46	13.010	
3,600.0	3,596.4	3,582.4	3,578.9	5.2	12.9	146.73	54.3	153.9	228.4	211.5	16.86	13.543	
3,700.0	3,696.1	3,681.4	3,677.5	5.3	13.3	146.62	59.9	160.5	242.6	225.4	17.27	14.048	
3,800.0	3,795.7	3,780.4	3,776.1	5.4	13.6	146.52	65.4	167.1	256.9	239.2	17.68	14.528	
3,900.0	3,895.3	3,879.4	3,874.7	5.5	14.0	146.44	71.0	173.8	271.1	253.0	18.09	14.983	
4,000.0	3,994.9	3,978.3	3,973.3	5.6	14.3	146.36	76.5	180.4	285.3	266.8	18.51	15.416	
4,100.0	4,094.5	4,077.3	4,072.0	5.7	14.7	146.29	82.1	187.0	299.6	280.6	18.93	15.828	
4,200.0	4,194.2	4,176.3	4,170.6	5.8	15.0	146.23	87.6	193.6	313.8	294.5	19.35	16.219	
4,300.0	4,293.8	4,275.3	4,269.2	5.9	15.3	146.17	93.2	200.2	328.1	308.3	19.77	16.592	
4,400.0	4,393.4	4,374.3	4,367.8	6.0	15.7	146.12	98.7	206.8	342.3	322.1	20.20	16.947	
4,500.0	4,493.0	4,473.2	4,466.4	6.1	16.0	146.07	104.2	213.4	356.5	335.9	20.63	17.286	
4,600.0	4,592.6	4,572.2	4,565.0	6.2	16.4	146.02	109.8	220.0	370.8	349.7	21.06	17.609	
4,700.0	4,692.3	4,671.2	4,663.6	6.3	16.7	145.98	115.3	226.6	385.0	363.5	21.49	17.917	
4,800.0	4,791.9	4,770.2	4,762.2	6.4	17.1	145.94	120.9	233.2	399.2	377.3	21.92	18.212	
4,900.0	4,891.5	4,869.2	4,860.8	6.5	17.4	145.91	126.4	239.8	413.5	391.1	22.36	18.494	
5,000.0	4,991.1	4,968.1	4,959.4	6.6	17.8	145.87	132.0	246.4	427.7	404.9	22.80	18.763	
5,100.0	5,090.7	5,067.1	5,058.0	6.7	18.1	145.84	137.5	253.1	442.0	418.7	23.24	19.021	
5,200.0	5,190.4	5,166.1	5,156.6	6.8	18.5	145.81	143.1	259.7	456.2	432.5	23.68	19.268	
5,300.0	5,290.0	5,265.1	5,255.2	6.9	18.9	145.79	148.6	266.3	470.4	446.3	24.12	19.504	
5,400.0	5,389.6	5,364.1	5,353.8	7.0	19.2	145.76	154.2	272.9	484.7	460.1	24.56	19.731	
5,500.0	5,489.2	5,463.0	5,452.4	7.1	19.6	145.73	159.7	279.5	498.9	473.9	25.01	19.949	
5,600.0	5,588.8	5,562.0	5,551.0	7.2	19.9	145.71	165.2	286.1	513.2	487.7	25.46	20.158	
5,700.0	5,688.5	5,661.0	5,649.6	7.3	20.3	145.69	170.8	292.7	527.4	501.5	25.91	20.358	
5,800.0	5,788.1	5,760.0	5,748.2	7.4	20.6	145.67	176.3	299.3	541.7	515.3	26.36	20.551	
5,900.0	5,887.7	5,859.0	5,846.8	7.5	21.0	145.65	181.9	305.9	555.9	529.1	26.81	20.737	
6,000.0	5,987.3	5,958.0	5,945.4	7.6	21.3	145.63	187.4	312.5	570.1	542.9	27.26	20.915	
6,100.0	6,086.9	6,056.9	6,044.0	7.8	21.7	145.61	193.0	319.1	584.4	556.7	27.71	21.087	
6,200.0	6,186.6	6,155.9	6,142.6	7.9	22.0	145.60	198.5	325.7	598.6	570.5	28.17	21.252	
6,300.0	6,286.2	6,254.9	6,241.2	8.0	22.4	145.58	204.1	332.4	612.9	584.2	28.62	21.411	

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
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Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	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								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning		
6,400.0	6,385.8	6,353.9	6,339.8	8.1	22.7	145.56	209.6	339.0	627.1	598.0	29.08	21.565			
6,500.0	6,485.4	6,452.9	6,438.4	8.2	23.1	145.55	215.2	345.6	641.3	611.8	29.54	21.712			
6,600.0	6,585.0	6,551.8	6,537.1	8.3	23.4	145.53	220.7	352.2	655.6	625.6	30.00	21.855			
6,700.0	6,684.7	6,650.8	6,635.7	8.4	23.8	145.52	226.2	358.8	669.8	639.4	30.46	21.993			
6,800.0	6,784.3	6,749.8	6,734.3	8.6	24.2	145.51	231.8	365.4	684.1	653.2	30.92	22.126			
6,900.0	6,883.9	6,848.8	6,832.9	8.7	24.5	145.50	237.3	372.0	698.3	666.9	31.38	22.255			
7,000.0	6,983.5	6,947.8	6,931.5	8.8	24.9	145.48	242.9	378.6	712.6	680.7	31.84	22.379			
7,100.0	7,083.1	7,046.7	7,030.1	8.9	25.2	145.47	248.4	385.2	726.8	694.5	32.30	22.499			
7,200.0	7,182.7	7,145.7	7,128.7	9.0	25.6	145.46	254.0	391.8	741.0	708.3	32.77	22.615			
7,300.0	7,282.4	7,244.7	7,227.3	9.1	25.9	145.45	259.5	398.4	755.3	722.0	33.23	22.727			
7,400.0	7,382.0	7,343.7	7,325.9	9.3	26.3	145.44	265.1	405.0	769.5	735.8	33.70	22.836			
7,500.0	7,481.6	7,442.7	7,424.5	9.4	26.6	145.43	270.6	411.7	783.8	749.6	34.16	22.941			
7,600.0	7,581.2	7,541.6	7,523.1	9.5	27.0	145.42	276.1	418.3	798.0	763.4	34.63	23.043			
7,700.0	7,680.8	7,640.6	7,621.7	9.6	27.4	145.41	281.7	424.9	812.2	777.1	35.10	23.142			
7,800.0	7,780.5	7,739.6	7,720.3	9.7	27.7	145.40	287.2	431.5	826.5	790.9	35.57	23.238			
7,900.0	7,880.1	7,838.6	7,818.9	9.9	28.1	145.39	292.8	438.1	840.7	804.7	36.04	23.330			
8,000.0	7,979.7	7,937.6	7,917.5	10.0	28.4	145.39	298.3	444.7	855.0	818.5	36.51	23.420			
8,100.0	8,079.3	8,036.5	8,016.1	10.1	28.8	145.38	303.9	451.3	869.2	832.2	36.98	23.508			
8,200.0	8,178.9	8,135.5	8,114.7	10.2	29.1	145.37	309.4	457.9	883.5	846.0	37.45	23.592			
8,300.0	8,278.6	8,234.5	8,213.3	10.3	29.5	145.36	315.0	464.5	897.7	859.8	37.92	23.675			
8,400.0	8,378.2	8,333.5	8,311.9	10.5	29.9	145.36	320.5	471.1	911.9	873.5	38.39	23.754			
8,500.0	8,477.8	8,432.5	8,410.5	10.6	30.2	145.35	326.1	477.7	926.2	887.3	38.86	23.832			
8,600.0	8,577.4	8,531.4	8,509.1	10.7	30.6	145.34	331.6	484.4	940.4	901.1	39.34	23.907			
8,700.0	8,677.0	8,630.4	8,607.7	10.8	30.9	145.33	337.1	491.0	954.7	914.9	39.81	23.980			
8,800.0	8,776.7	8,729.4	8,706.3	11.0	31.3	145.33	342.7	497.6	968.9	928.6	40.28	24.051			
8,900.0	8,876.3	8,828.4	8,804.9	11.1	31.6	145.32	348.2	504.2	983.1	942.4	40.76	24.121			
9,000.0	8,975.9	8,927.4	8,903.5	11.2	32.0	145.32	353.8	510.8	997.4	956.2	41.24	24.188			

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11704-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis 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	89.52	0.5	60.0	60.0					
100.0	100.0	98.2	98.2	3.0	3.0	89.52	0.5	60.0	60.0	54.0	6.00	10.000		
200.0	200.0	198.2	198.2	3.0	3.0	89.52	0.5	60.0	60.0	54.0	6.00	9.995		
300.0	300.0	298.2	298.2	3.0	3.0	89.52	0.5	60.0	60.0	54.0	6.01	9.986		
400.0	400.0	398.2	398.2	3.0	3.0	89.52	0.5	60.0	60.0	54.0	6.02	9.970		
500.0	500.0	498.2	498.2	3.1	3.1	89.52	0.5	60.0	60.0	54.0	6.03	9.950		
600.0	600.0	598.2	598.2	3.1	3.1	89.52	0.5	60.0	60.0	54.0	6.05	9.924		
700.0	700.0	698.2	698.2	3.1	3.1	89.52	0.5	60.0	60.0	53.9	6.06	9.893		
800.0	800.0	798.2	798.2	3.2	3.2	89.52	0.5	60.0	60.0	53.9	6.09	9.858		
900.0	900.0	898.2	898.2	3.2	3.2	89.52	0.5	60.0	60.0	53.9	6.11	9.817		
1,000.0	1,000.0	998.2	998.2	3.2	3.2	89.52	0.5	60.0	60.0	53.9	6.14	9.772		
1,100.0	1,100.0	1,098.2	1,098.2	3.3	3.3	89.52	0.5	60.0	60.0	53.8	6.17	9.723		
1,200.0	1,200.0	1,198.2	1,198.2	3.4	3.4	89.52	0.5	60.0	60.0	53.8	6.21	9.669		
1,300.0	1,300.0	1,298.2	1,298.2	3.4	3.4	89.52	0.5	60.0	60.0	53.8	6.24	9.612		
1,400.0	1,400.0	1,398.2	1,398.2	3.5	3.5	89.52	0.5	60.0	60.0	53.7	6.28	9.551		
1,500.0	1,500.0	1,498.2	1,498.2	3.5	3.5	89.52	0.5	60.0	60.0	53.7	6.33	9.486		
1,600.0	1,600.0	1,598.2	1,598.2	3.6	3.6	89.52	0.5	60.0	60.0	53.6	6.37	9.418		
1,700.0	1,700.0	1,698.2	1,698.2	3.7	3.7	89.52	0.5	60.0	60.0	53.6	6.42	9.347		
1,800.0	1,800.0	1,798.2	1,798.2	3.8	3.8	89.52	0.5	60.0	60.0	53.5	6.47	9.274		
1,900.0	1,900.0	1,898.2	1,898.2	3.9	3.9	89.52	0.5	60.0	60.0	53.5	6.52	9.197		
2,000.0	2,000.0	1,998.2	1,998.2	3.9	3.9	89.52	0.5	60.0	60.0	53.4	6.58	9.119		
2,100.0	2,100.0	2,098.2	2,098.2	4.0	4.0	89.52	0.5	60.0	60.0	53.4	6.64	9.039		
2,200.0	2,200.0	2,198.2	2,198.2	4.1	4.1	89.52	0.5	60.0	60.0	53.3	6.70	8.956		
2,300.0	2,300.0	2,298.2	2,298.2	4.2	4.2	89.52	0.5	60.0	60.0	53.2	6.76	8.873		
2,400.0	2,400.0	2,398.2	2,398.2	4.3	4.3	89.52	0.5	60.0	60.0	53.2	6.83	8.788		
2,500.0	2,500.0	2,498.2	2,498.2	4.4	4.4	89.52	0.5	60.0	60.0	53.1	6.90	8.701 CC, ES, SF		
2,600.0	2,600.0	2,597.9	2,597.9	4.5	4.5	148.78	2.2	60.2	61.7	54.7	6.97	8.856		
2,700.0	2,699.8	2,697.7	2,697.5	4.5	4.6	147.00	6.9	60.6	66.8	59.7	7.04	9.481		
2,750.0	2,749.7	2,747.5	2,747.3	4.6	4.6	146.59	9.5	60.9	70.4	63.4	7.08	9.950		
2,800.0	2,799.5	2,797.4	2,797.1	4.6	4.7	146.45	12.1	61.1	74.5	67.4	7.12	10.464		
2,900.0	2,899.1	2,897.0	2,896.6	4.7	4.8	146.20	17.3	61.6	82.6	75.4	7.20	11.472		
3,000.0	2,998.7	2,996.7	2,996.1	4.7	4.9	146.00	22.5	62.2	90.7	83.4	7.28	12.451		
3,100.0	3,098.4	3,096.4	3,095.7	4.8	5.0	145.83	27.7	62.7	98.8	91.4	7.37	13.401		
3,200.0	3,198.0	3,196.0	3,195.2	4.9	5.1	145.69	32.9	63.2	106.9	99.4	7.46	14.321		
3,300.0	3,297.6	3,295.7	3,294.8	5.0	5.2	145.57	38.1	63.7	115.0	107.4	7.56	15.210		
3,400.0	3,397.2	3,395.4	3,394.3	5.1	5.3	145.46	43.2	64.2	123.1	115.4	7.66	16.070		
3,500.0	3,496.8	3,495.1	3,493.8	5.1	5.4	145.37	48.4	64.7	131.2	123.4	7.76	16.900		
3,600.0	3,596.4	3,594.7	3,593.4	5.2	5.5	145.28	53.6	65.2	139.3	131.4	7.87	17.700		
3,700.0	3,696.1	3,694.4	3,692.9	5.3	5.6	145.21	58.8	65.7	147.4	139.4	7.98	18.471		
3,800.0	3,795.7	3,794.1	3,792.4	5.4	5.7	145.14	64.0	66.2	155.5	147.4	8.09	19.212		
3,900.0	3,895.3	3,893.7	3,892.0	5.5	5.8	145.08	69.2	66.7	163.6	155.3	8.21	19.926		
4,000.0	3,994.9	3,993.4	3,991.5	5.6	5.9	145.03	74.4	67.2	171.7	163.3	8.33	20.612		
4,100.0	4,094.5	4,093.1	4,091.0	5.7	6.1	144.98	79.6	67.7	179.7	171.3	8.45	21.271		
4,200.0	4,194.2	4,192.7	4,190.6	5.8	6.2	144.94	84.8	68.3	187.8	179.3	8.58	21.904		
4,300.0	4,293.8	4,292.4	4,290.1	5.9	6.3	144.89	90.0	68.8	195.9	187.2	8.70	22.511		
4,400.0	4,393.4	4,392.1	4,389.6	6.0	6.4	144.86	95.2	69.3	204.0	195.2	8.84	23.093		
4,500.0	4,493.0	4,491.8	4,489.2	6.1	6.5	144.82	100.4	69.8	212.1	203.2	8.97	23.652		
4,600.0	4,592.6	4,591.4	4,588.7	6.2	6.6	144.79	105.6	70.3	220.2	211.1	9.11	24.187		
4,700.0	4,692.3	4,691.1	4,688.2	6.3	6.7	144.76	110.8	70.8	228.3	219.1	9.24	24.700		
4,800.0	4,791.9	4,790.8	4,787.8	6.4	6.9	144.73	116.0	71.3	236.4	227.1	9.39	25.192		
4,900.0	4,891.5	4,890.4	4,887.3	6.5	7.0	144.71	121.1	71.8	244.5	235.0	9.53	25.663		

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11704-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
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	
5,000.0	4,991.1	4,990.1	4,986.8	6.6	7.1	144.68	126.3	72.3	252.6	243.0	9.67	26.114	
5,100.0	5,090.7	5,089.8	5,086.4	6.7	7.2	144.66	131.5	72.8	260.7	250.9	9.82	26.547	
5,200.0	5,190.4	5,189.5	5,185.9	6.8	7.3	144.64	136.7	73.3	268.8	258.9	9.97	26.960	
5,300.0	5,290.0	5,289.1	5,285.4	6.9	7.4	144.62	141.9	73.9	276.9	266.8	10.12	27.357	
5,400.0	5,389.6	5,388.8	5,385.0	7.0	7.6	144.60	147.1	74.4	285.0	274.8	10.28	27.736	
5,500.0	5,489.2	5,488.5	5,484.5	7.1	7.7	144.58	152.3	74.9	293.1	282.7	10.43	28.099	
5,600.0	5,588.8	5,588.1	5,584.1	7.2	7.8	144.56	157.5	75.4	301.2	290.7	10.59	28.447	
5,700.0	5,688.5	5,687.8	5,683.6	7.3	7.9	144.55	162.7	75.9	309.3	298.6	10.75	28.780	
5,800.0	5,788.1	5,787.5	5,783.1	7.4	8.0	144.53	167.9	76.4	317.4	306.5	10.91	29.099	
5,900.0	5,887.7	5,887.2	5,882.7	7.5	8.2	144.52	173.1	76.9	325.5	314.5	11.07	29.404	
6,000.0	5,987.3	5,986.8	5,982.2	7.6	8.3	144.50	178.3	77.4	333.6	322.4	11.24	29.697	
6,100.0	6,086.9	6,086.5	6,081.7	7.8	8.4	144.49	183.5	77.9	341.7	330.3	11.40	29.976	
6,200.0	6,186.6	6,186.2	6,181.3	7.9	8.5	144.48	188.7	78.4	349.8	338.3	11.57	30.244	
6,300.0	6,286.2	6,285.8	6,280.8	8.0	8.6	144.46	193.9	78.9	357.9	346.2	11.74	30.501	
6,400.0	6,385.8	6,385.5	6,380.3	8.1	8.8	144.45	199.1	79.5	366.0	354.1	11.91	30.747	
6,500.0	6,485.4	6,485.2	6,479.9	8.2	8.9	144.44	204.2	80.0	374.1	362.1	12.08	30.982	
6,600.0	6,585.0	6,584.9	6,579.4	8.3	9.0	144.43	209.4	80.5	382.2	370.0	12.25	31.207	
6,700.0	6,684.7	6,684.5	6,678.9	8.4	9.1	144.42	214.6	81.0	390.3	377.9	12.42	31.423	
6,800.0	6,784.3	6,784.2	6,778.5	8.6	9.2	144.41	219.8	81.5	398.4	385.8	12.60	31.630	
6,900.0	6,883.9	6,883.9	6,878.0	8.7	9.4	144.40	225.0	82.0	406.5	393.8	12.77	31.828	
7,000.0	6,983.5	6,983.5	6,977.5	8.8	9.5	144.39	230.2	82.5	414.6	401.7	12.95	32.017	
7,100.0	7,083.1	7,083.2	7,077.1	8.9	9.6	144.38	235.4	83.0	422.7	409.6	13.13	32.199	
7,200.0	7,182.7	7,182.9	7,176.6	9.0	9.7	144.38	240.6	83.5	430.8	417.5	13.31	32.373	
7,300.0	7,282.4	7,282.6	7,276.1	9.1	9.9	144.37	245.8	84.0	438.9	425.5	13.49	32.539	
7,400.0	7,382.0	7,382.2	7,375.7	9.3	10.0	144.36	251.0	84.5	447.0	433.4	13.67	32.699	
7,500.0	7,481.6	7,481.9	7,475.2	9.4	10.1	144.35	256.2	85.0	455.1	441.3	13.85	32.852	
7,600.0	7,581.2	7,581.6	7,574.7	9.5	10.2	144.35	261.4	85.6	463.2	449.2	14.04	32.998	
7,700.0	7,680.8	7,681.2	7,674.3	9.6	10.3	144.34	266.6	86.1	471.3	457.1	14.22	33.138	
7,800.0	7,780.5	7,780.9	7,773.8	9.7	10.5	144.33	271.8	86.6	479.4	465.0	14.41	33.272	
7,900.0	7,880.1	7,880.6	7,873.3	9.9	10.6	144.33	277.0	87.1	487.5	472.9	14.60	33.401	
8,000.0	7,979.7	7,980.3	7,972.9	10.0	10.7	144.32	282.1	87.6	495.6	480.9	14.78	33.524	
8,100.0	8,079.3	8,079.9	8,072.4	10.1	10.8	144.31	287.3	88.1	503.7	488.8	14.97	33.642	
8,200.0	8,178.9	8,179.6	8,172.0	10.2	11.0	144.31	292.5	88.6	511.8	496.7	15.16	33.754	
8,300.0	8,278.6	8,279.3	8,271.5	10.3	11.1	144.30	297.7	89.1	519.9	504.6	15.35	33.862	
8,400.0	8,378.2	8,378.9	8,371.0	10.5	11.2	144.30	302.9	89.6	528.0	512.5	15.55	33.966	
8,500.0	8,477.8	8,478.6	8,470.6	10.6	11.3	144.29	308.1	90.1	536.1	520.4	15.74	34.064	
8,600.0	8,577.4	8,578.3	8,570.1	10.7	11.5	144.29	313.3	90.6	544.2	528.3	15.93	34.159	
8,700.0	8,677.0	8,678.0	8,669.6	10.8	11.6	144.28	318.5	91.2	552.3	536.2	16.13	34.249	
8,800.0	8,776.7	8,777.6	8,769.2	11.0	11.7	144.28	323.7	91.7	560.4	544.1	16.32	34.336	
8,900.0	8,876.3	8,877.3	8,868.7	11.1	11.8	144.27	328.9	92.2	568.5	552.0	16.52	34.419	
9,000.0	8,975.9	8,977.0	8,968.2	11.2	12.0	144.27	334.1	92.7	576.6	559.9	16.72	34.498	
9,100.0	9,075.5	9,076.6	9,067.8	11.3	12.1	144.26	339.3	93.2	584.7	567.8	16.91	34.573	
9,200.0	9,175.1	9,176.3	9,167.3	11.4	12.2	144.26	344.5	93.7	592.8	575.7	17.11	34.645	
9,300.0	9,274.8	9,276.0	9,266.8	11.6	12.3	144.25	349.7	94.2	600.9	583.6	17.31	34.714	
9,400.0	9,374.4	9,375.7	9,366.4	11.7	12.5	144.25	354.9	94.7	609.0	591.5	17.51	34.780	
9,500.0	9,474.0	9,475.3	9,465.9	11.8	12.6	144.25	360.0	95.2	617.1	599.4	17.71	34.843	
9,600.0	9,573.6	9,575.0	9,565.4	11.9	12.7	144.24	365.2	95.7	625.2	607.3	17.91	34.903	
9,700.0	9,673.2	9,674.7	9,665.0	12.1	12.8	144.24	370.4	96.2	633.3	615.2	18.12	34.960	
9,800.0	9,772.9	9,774.3	9,764.5	12.2	13.0	144.23	375.6	96.8	641.4	623.1	18.32	35.014	
9,900.0	9,872.5	9,874.0	9,864.0	12.3	13.1	144.23	380.8	97.3	649.5	631.0	18.52	35.066	
10,000.0	9,972.1	9,973.7	9,963.6	12.4	13.2	144.23	386.0	97.8	657.7	638.9	18.73	35.115	

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11704-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
10,100.0	10,071.7	10,073.4	10,063.1	12.6	13.3	144.22	391.2	98.3	665.8	646.8	18.93	35.162		
10,200.0	10,171.3	10,173.0	10,162.6	12.7	13.5	144.22	396.4	98.8	673.9	654.7	19.14	35.207		
10,300.0	10,271.0	10,272.7	10,262.2	12.8	13.6	144.22	401.6	99.3	682.0	662.6	19.35	35.249		
10,400.0	10,370.6	10,372.4	10,361.7	12.9	13.7	144.21	406.8	99.8	690.1	670.5	19.55	35.289		
10,500.0	10,470.2	10,472.0	10,461.3	13.1	13.9	144.21	412.0	100.3	698.2	678.4	19.76	35.327		
10,600.0	10,569.8	10,571.7	10,560.8	13.2	14.0	144.21	417.2	100.8	706.3	686.3	19.97	35.363		
10,700.0	10,669.4	10,671.4	10,660.3	13.3	14.1	144.20	422.4	101.3	714.4	694.2	20.18	35.397		
10,800.0	10,769.0	10,771.1	10,759.9	13.4	14.2	144.20	427.6	101.8	722.5	702.1	20.39	35.429		
10,900.0	10,868.7	10,870.7	10,859.4	13.6	14.4	144.20	432.8	102.3	730.6	710.0	20.60	35.459		
11,000.0	10,968.3	10,970.4	10,958.9	13.7	14.5	144.20	437.9	102.9	738.7	717.8	20.81	35.488		
11,100.0	11,067.9	11,070.1	11,058.5	13.8	14.6	144.19	443.1	103.4	746.8	725.7	21.03	35.515		
11,200.0	11,167.5	11,169.7	11,158.0	13.9	14.7	144.19	448.3	103.9	754.9	733.6	21.24	35.540		
11,300.0	11,267.1	11,269.4	11,257.5	14.1	14.9	144.19	453.5	104.4	763.0	741.5	21.45	35.563		
11,400.0	11,366.8	11,369.1	11,357.1	14.2	15.0	144.19	458.7	104.9	771.1	749.4	21.67	35.585		
11,500.0	11,466.4	11,468.8	11,456.6	14.3	15.1	144.18	463.9	105.4	779.2	757.3	21.88	35.606		
11,600.0	11,566.0	11,568.4	11,556.1	14.5	15.3	144.18	469.1	105.9	787.3	765.2	22.10	35.625		
11,700.0	11,665.6	11,668.1	11,655.7	14.6	15.3	144.18	474.3	106.4	795.4	773.1	22.28	35.690		
11,710.0	11,675.6	11,678.1	11,665.6	14.6	15.4	144.18	474.8	106.5	796.2	773.8	22.33	35.662		
11,725.0	11,690.5	11,693.0	11,680.5	14.6	15.4	133.46	475.6	106.5	797.4	775.1	22.33	35.706		
11,750.0	11,715.3	11,713.7	11,701.2	14.6	15.4	123.65	476.8	106.7	799.8	777.4	22.36	35.768		
11,775.0	11,739.9	11,731.1	11,718.5	14.6	15.4	118.27	478.3	106.9	802.7	780.3	22.41	35.824		
11,800.0	11,764.2	11,750.0	11,737.3	14.6	15.4	114.84	480.7	107.2	806.0	783.6	22.45	35.905		
11,825.0	11,788.1	11,765.7	11,752.8	14.7	15.4	112.40	483.3	107.5	809.9	787.4	22.52	35.961		
11,850.0	11,811.7	11,783.0	11,769.7	14.7	15.4	110.52	486.7	108.0	814.3	791.7	22.59	36.043		
11,875.0	11,834.9	11,800.0	11,786.2	14.7	15.4	108.99	490.6	108.6	819.1	796.4	22.67	36.133		
11,900.0	11,857.5	11,817.3	11,802.9	14.7	15.4	107.68	495.2	109.3	824.4	801.7	22.75	36.239		
11,925.0	11,879.5	11,834.4	11,819.2	14.7	15.4	106.50	500.3	110.1	830.1	807.3	22.84	36.354		
11,950.0	11,900.9	11,850.0	11,833.9	14.7	15.4	105.40	505.5	110.9	836.3	813.4	22.94	36.458		
11,975.0	11,921.5	11,868.4	11,851.0	14.8	15.4	104.40	512.2	111.9	842.9	819.9	23.01	36.626		
12,000.0	11,941.5	11,885.3	11,866.5	14.8	15.4	103.42	518.9	112.9	849.9	826.8	23.11	36.785		
12,025.0	11,960.6	11,900.0	11,879.7	14.8	15.4	102.43	525.2	113.9	857.3	834.1	23.22	36.918		
12,050.0	11,978.8	11,918.9	11,896.5	14.8	15.5	101.52	533.9	115.2	865.1	841.8	23.29	37.152		
12,075.0	11,996.1	11,935.7	11,911.0	14.9	15.5	100.59	542.1	116.5	873.2	849.9	23.37	37.362		
12,100.0	12,012.5	11,950.0	11,923.2	14.9	15.5	99.61	549.5	117.7	881.7	858.2	23.49	37.542		
12,125.0	12,027.8	11,969.1	11,939.1	14.9	15.5	98.73	560.0	119.3	890.5	866.9	23.53	37.836		
12,150.0	12,042.1	11,985.7	11,952.6	14.9	15.5	97.79	569.6	120.8	899.5	875.9	23.61	38.101		
12,175.0	12,055.3	12,000.0	11,963.9	15.0	15.5	96.80	578.2	122.2	908.9	885.2	23.71	38.339		
12,200.0	12,067.4	12,018.8	11,978.4	15.0	15.5	95.91	590.1	124.0	918.5	894.7	23.74	38.683		
12,225.0	12,078.3	12,035.4	11,990.7	15.0	15.6	94.96	601.0	125.7	928.3	904.5	23.80	39.000		
12,250.0	12,088.1	12,050.0	12,001.3	15.1	15.6	93.95	610.9	127.3	938.4	914.5	23.88	39.298		
12,275.0	12,096.6	12,068.5	12,014.2	15.1	15.6	93.05	624.0	129.4	948.7	924.8	23.91	39.679		
12,300.0	12,103.8	12,085.1	12,025.4	15.1	15.6	92.10	636.1	131.3	959.1	935.1	23.96	40.038		
12,325.0	12,109.9	12,100.0	12,035.1	15.1	15.6	91.10	647.3	133.1	969.7	945.7	24.01	40.383		
12,350.0	12,114.6	12,118.3	12,046.5	15.2	15.6	90.20	661.5	135.3	980.4	956.4	24.04	40.787		
12,375.0	12,118.0	12,135.1	12,056.4	15.2	15.7	89.26	674.9	137.4	991.3	967.2	24.08	41.171		

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	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							
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
0.0	0.0	0.0	0.0	3.0	3.0	89.62	0.2	30.0	30.0				
100.0	100.0	98.8	98.8	3.0	3.0	89.62	0.2	30.0	30.0	24.0	6.00	4.998	
200.0	200.0	198.8	198.8	3.0	3.0	89.62	0.2	30.0	30.0	24.0	6.04	4.967	
300.0	300.0	298.8	298.8	3.0	3.1	89.62	0.2	30.0	30.0	23.9	6.12	4.903	
400.0	400.0	398.8	398.8	3.0	3.2	89.62	0.2	30.0	30.0	23.8	6.24	4.809	
500.0	500.0	498.8	498.8	3.1	3.4	89.62	0.2	30.0	30.0	23.6	6.39	4.692	
600.0	600.0	598.8	598.8	3.1	3.6	89.62	0.2	30.0	30.0	23.4	6.58	4.558	
700.0	700.0	698.8	698.8	3.1	3.8	89.62	0.2	30.0	30.0	23.2	6.80	4.415	
800.0	800.0	798.8	798.8	3.2	4.0	89.62	0.2	30.0	30.0	23.0	7.03	4.265	
900.0	900.0	898.8	898.8	3.2	4.2	89.62	0.2	30.0	30.0	22.7	7.29	4.115	
1,000.0	1,000.0	998.8	998.8	3.2	4.5	89.62	0.2	30.0	30.0	22.4	7.57	3.966	
1,100.0	1,100.0	1,098.8	1,098.8	3.3	4.8	89.62	0.2	30.0	30.0	22.1	7.85	3.820	
1,200.0	1,200.0	1,198.8	1,198.8	3.4	5.1	89.62	0.2	30.0	30.0	21.8	8.15	3.679	
1,300.0	1,300.0	1,298.8	1,298.8	3.4	5.3	89.62	0.2	30.0	30.0	21.5	8.47	3.544	
1,400.0	1,400.0	1,398.8	1,398.8	3.5	5.6	89.62	0.2	30.0	30.0	21.2	8.79	3.415	
1,500.0	1,500.0	1,498.8	1,498.8	3.5	6.0	89.62	0.2	30.0	30.0	20.9	9.11	3.292	
1,600.0	1,600.0	1,598.8	1,598.8	3.6	6.3	89.62	0.2	30.0	30.0	20.6	9.45	3.175	
1,700.0	1,700.0	1,698.8	1,698.8	3.7	6.6	89.62	0.2	30.0	30.0	20.2	9.79	3.064	
1,800.0	1,800.0	1,798.8	1,798.8	3.8	6.9	89.62	0.2	30.0	30.0	19.9	10.14	2.960	
1,900.0	1,900.0	1,898.8	1,898.8	3.9	7.2	89.62	0.2	30.0	30.0	19.5	10.49	2.860	
2,000.0	2,000.0	1,998.8	1,998.8	3.9	7.6	89.62	0.2	30.0	30.0	19.2	10.84	2.767	
2,100.0	2,100.0	2,098.8	2,098.8	4.0	7.9	89.62	0.2	30.0	30.0	18.8	11.20	2.678	
2,200.0	2,200.0	2,198.8	2,198.8	4.1	8.2	89.62	0.2	30.0	30.0	18.4	11.57	2.594	
2,300.0	2,300.0	2,298.8	2,298.8	4.2	8.6	89.62	0.2	30.0	30.0	18.1	11.93	2.514	
2,400.0	2,400.0	2,398.8	2,398.8	4.3	8.9	89.62	0.2	30.0	30.0	17.7	12.30	2.439	
2,500.0	2,500.0	2,498.8	2,498.8	4.4	9.2	89.62	0.2	30.0	30.0	17.3	12.67	2.367 CC, ES, SF	
2,600.0	2,600.0	2,598.8	2,598.8	4.5	9.6	151.21	0.2	30.0	31.5	18.5	13.05	2.415	
2,700.0	2,699.8	2,698.6	2,698.6	4.5	9.9	155.16	0.2	30.0	36.2	22.7	13.45	2.691	
2,750.0	2,749.7	2,748.5	2,748.5	4.6	10.1	157.51	0.2	30.0	39.8	26.1	13.66	2.913	
2,800.0	2,799.5	2,798.3	2,798.3	4.6	10.2	159.68	0.2	30.0	43.8	30.0	13.88	3.160	
2,900.0	2,899.1	2,897.9	2,897.9	4.7	10.6	163.01	0.2	30.0	52.1	37.8	14.32	3.640	
3,000.0	2,998.7	2,997.5	2,997.5	4.7	10.9	165.42	0.2	30.0	60.5	45.7	14.76	4.099	
3,100.0	3,098.4	3,097.2	3,097.2	4.8	11.3	167.25	0.2	30.0	69.0	53.8	15.21	4.536	
3,200.0	3,198.0	3,196.8	3,196.8	4.9	11.6	168.67	0.2	30.0	77.5	61.8	15.65	4.951	
3,300.0	3,297.6	3,296.4	3,296.4	5.0	12.0	169.81	0.2	30.0	86.1	70.0	16.10	5.345	
3,400.0	3,397.2	3,396.0	3,396.0	5.1	12.3	170.74	0.2	30.0	94.7	78.1	16.55	5.719	
3,500.0	3,496.8	3,495.6	3,495.6	5.1	12.7	171.52	0.2	30.0	103.3	86.3	17.00	6.075	
3,600.0	3,596.4	3,595.2	3,595.2	5.2	13.0	172.18	0.2	30.0	111.9	94.4	17.45	6.412	
3,700.0	3,696.1	3,694.9	3,694.9	5.3	13.4	172.74	0.2	30.0	120.5	102.6	17.90	6.733	
3,800.0	3,795.7	3,794.5	3,794.5	5.4	13.7	173.23	0.2	30.0	129.2	110.8	18.36	7.037	
3,900.0	3,895.3	3,894.1	3,894.1	5.5	14.1	173.66	0.2	30.0	137.8	119.0	18.81	7.328	
4,000.0	3,994.9	3,993.7	3,993.7	5.6	14.4	174.03	0.2	30.0	146.5	127.2	19.27	7.604	
4,100.0	4,094.5	4,093.3	4,093.3	5.7	14.7	174.37	0.2	30.0	155.2	135.5	19.73	7.867	
4,200.0	4,194.2	4,193.0	4,193.0	5.8	15.1	174.67	0.2	30.0	163.9	143.7	20.18	8.119	
4,300.0	4,293.8	4,292.6	4,292.6	5.9	15.4	174.94	0.2	30.0	172.5	151.9	20.64	8.358	
4,400.0	4,393.4	4,392.2	4,392.2	6.0	15.8	175.18	0.2	30.0	181.2	160.1	21.10	8.588	
4,500.0	4,493.0	4,491.8	4,491.8	6.1	16.1	175.40	0.2	30.0	189.9	168.3	21.56	8.807	
4,600.0	4,592.6	4,591.4	4,591.4	6.2	16.5	175.60	0.2	30.0	198.6	176.6	22.03	9.016	
4,700.0	4,692.3	4,691.1	4,691.1	6.3	16.9	175.79	0.2	30.0	207.3	184.8	22.49	9.217	
4,800.0	4,791.9	4,790.7	4,790.7	6.4	17.2	175.96	0.2	30.0	216.0	193.0	22.95	9.410	
4,900.0	4,891.5	4,890.3	4,890.3	6.5	17.6	176.11	0.2	30.0	224.7	201.3	23.42	9.594	

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	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							
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	4,991.1	4,989.9	4,989.9	6.6	17.9	176.26	0.2	30.0	233.4	209.5	23.88	9.771	
5,100.0	5,090.7	5,089.5	5,089.5	6.7	18.3	176.39	0.2	30.0	242.1	217.7	24.35	9.941	
5,200.0	5,190.4	5,189.2	5,189.2	6.8	18.6	176.52	0.2	30.0	250.8	226.0	24.82	10.105	
5,300.0	5,290.0	5,288.8	5,288.8	6.9	19.0	176.63	0.2	30.0	259.5	234.2	25.29	10.262	
5,400.0	5,389.6	5,388.4	5,388.4	7.0	19.3	176.74	0.2	30.0	268.2	242.4	25.75	10.413	
5,500.0	5,489.2	5,488.0	5,488.0	7.1	19.7	176.85	0.2	30.0	276.9	250.7	26.22	10.559	
5,600.0	5,588.8	5,593.2	5,593.2	7.2	20.0	176.70	1.7	29.7	284.7	258.0	26.70	10.665	
5,700.0	5,688.5	5,699.3	5,699.1	7.3	20.4	175.95	7.0	28.8	290.4	263.3	27.15	10.697	
5,800.0	5,788.1	5,799.1	5,798.7	7.4	20.8	174.98	13.9	27.6	295.0	267.5	27.58	10.697	
5,900.0	5,887.7	5,898.9	5,898.2	7.5	21.1	174.03	20.7	26.4	299.8	271.8	28.02	10.700	
6,000.0	5,987.3	5,998.6	5,997.7	7.6	21.5	173.11	27.6	25.2	304.6	276.1	28.45	10.705	
6,100.0	6,086.9	6,098.4	6,097.3	7.8	21.8	172.23	34.4	24.0	309.5	280.6	28.89	10.712	
6,200.0	6,186.6	6,198.2	6,196.8	7.9	22.2	171.37	41.3	22.8	314.4	285.1	29.33	10.721	
6,300.0	6,286.2	6,297.9	6,296.3	8.0	22.5	170.53	48.1	21.5	319.4	289.7	29.76	10.732	
6,400.0	6,385.8	6,397.7	6,395.8	8.1	22.9	169.73	55.0	20.3	324.5	294.3	30.20	10.745	
6,500.0	6,485.4	6,497.5	6,495.4	8.2	23.2	168.94	61.9	19.1	329.7	299.0	30.64	10.759	
6,600.0	6,585.0	6,597.2	6,594.9	8.3	23.6	168.19	68.7	17.9	334.9	303.8	31.08	10.775	
6,700.0	6,684.7	6,697.0	6,694.4	8.4	24.0	167.45	75.6	16.7	340.1	308.6	31.52	10.791	
6,800.0	6,784.3	6,796.8	6,793.9	8.6	24.3	166.74	82.4	15.5	345.5	313.5	31.96	10.809	
6,900.0	6,883.9	6,896.5	6,893.5	8.7	24.7	166.05	89.3	14.3	350.8	318.4	32.40	10.827	
7,000.0	6,983.5	6,996.3	6,993.0	8.8	25.0	165.38	96.1	13.1	356.3	323.4	32.84	10.846	
7,100.0	7,083.1	7,096.1	7,092.5	8.9	25.4	164.73	103.0	11.9	361.7	328.4	33.29	10.866	
7,200.0	7,182.7	7,195.8	7,192.0	9.0	25.7	164.10	109.8	10.7	367.2	333.5	33.73	10.887	
7,300.0	7,282.4	7,295.6	7,291.6	9.1	26.1	163.49	116.7	9.5	372.8	338.6	34.18	10.908	
7,400.0	7,382.0	7,395.4	7,391.1	9.3	26.4	162.90	123.5	8.3	378.4	343.8	34.62	10.930	
7,500.0	7,481.6	7,495.1	7,490.6	9.4	26.8	162.32	130.4	7.0	384.0	349.0	35.07	10.952	
7,600.0	7,581.2	7,594.9	7,590.1	9.5	27.1	161.76	137.2	5.8	389.7	354.2	35.51	10.974	
7,700.0	7,680.8	7,694.7	7,689.7	9.6	27.5	161.22	144.1	4.6	395.4	359.4	35.96	10.996	
7,800.0	7,780.5	7,794.4	7,789.2	9.7	27.9	160.69	151.0	3.4	401.1	364.7	36.41	11.019	
7,900.0	7,880.1	7,894.2	7,888.7	9.9	28.2	160.18	157.8	2.2	406.9	370.1	36.85	11.042	
8,000.0	7,979.7	7,994.0	7,988.2	10.0	28.6	159.68	164.7	1.0	412.7	375.4	37.30	11.065	
8,100.0	8,079.3	8,093.8	8,087.8	10.1	28.9	159.19	171.5	-0.2	418.6	380.8	37.75	11.087	
8,200.0	8,178.9	8,193.5	8,187.3	10.2	29.3	158.72	178.4	-1.4	424.4	386.2	38.20	11.110	
8,300.0	8,278.6	8,293.3	8,286.8	10.3	29.6	158.26	185.2	-2.6	430.3	391.7	38.65	11.133	
8,400.0	8,378.2	8,393.1	8,386.3	10.5	30.0	157.82	192.1	-3.8	436.3	397.2	39.10	11.156	
8,500.0	8,477.8	8,492.8	8,485.9	10.6	30.4	157.38	198.9	-5.0	442.2	402.6	39.56	11.179	
8,600.0	8,577.4	8,592.6	8,585.4	10.7	30.7	156.96	205.8	-6.2	448.2	408.2	40.01	11.202	
8,700.0	8,677.0	8,692.4	8,684.9	10.8	31.1	156.55	212.6	-7.5	454.2	413.7	40.46	11.225	
8,800.0	8,776.7	8,792.1	8,784.4	11.0	31.4	156.15	219.5	-8.7	460.2	419.3	40.91	11.248	
8,900.0	8,876.3	8,891.9	8,884.0	11.1	31.8	155.76	226.3	-9.9	466.2	424.9	41.37	11.270	
9,000.0	8,975.9	8,991.7	8,983.5	11.2	32.1	155.38	233.2	-11.1	472.3	430.5	41.82	11.292	
9,100.0	9,075.5	9,091.4	9,083.0	11.3	32.5	155.01	240.1	-12.3	478.4	436.1	42.28	11.315	
9,200.0	9,175.1	9,191.2	9,182.5	11.4	32.9	154.65	246.9	-13.5	484.5	441.7	42.74	11.337	
9,300.0	9,274.8	9,291.0	9,282.1	11.6	33.2	154.29	253.8	-14.7	490.6	447.4	43.19	11.358	
9,400.0	9,374.4	9,390.7	9,381.6	11.7	33.6	153.95	260.6	-15.9	496.7	453.1	43.65	11.380	
9,500.0	9,474.0	9,490.5	9,481.1	11.8	33.9	153.61	267.5	-17.1	502.9	458.8	44.11	11.401	
9,600.0	9,573.6	9,590.3	9,580.6	11.9	34.3	153.29	274.3	-18.3	509.1	464.5	44.57	11.423	
9,700.0	9,673.2	9,690.0	9,680.2	12.1	34.6	152.97	281.2	-19.5	515.3	470.2	45.03	11.444	
9,800.0	9,772.9	9,789.8	9,779.7	12.2	35.0	152.66	288.0	-20.8	521.5	476.0	45.49	11.464	
9,900.0	9,872.5	9,889.6	9,879.2	12.3	35.4	152.35	294.9	-22.0	527.7	481.7	45.95	11.485	
10,000.0	9,972.1	9,989.3	9,978.7	12.4	35.7	152.05	301.7	-23.2	533.9	487.5	46.41	11.505	

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	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	
10,100.0	10,071.7	10,089.1	10,078.3	12.6	36.1	151.76	308.6	-24.4	540.2	493.3	46.87	11.525	
10,200.0	10,171.3	10,188.9	10,177.8	12.7	36.4	151.48	315.4	-25.6	546.4	499.1	47.33	11.545	
10,300.0	10,271.0	10,288.6	10,277.3	12.8	36.8	151.20	322.3	-26.8	552.7	504.9	47.79	11.564	
10,400.0	10,370.6	10,388.4	10,376.8	12.9	37.1	150.93	329.2	-28.0	559.0	510.7	48.26	11.584	
10,500.0	10,470.2	10,488.2	10,476.3	13.1	37.5	150.67	336.0	-29.2	565.3	516.6	48.72	11.603	
10,600.0	10,569.8	10,587.9	10,575.9	13.2	37.9	150.41	342.9	-30.4	571.6	522.4	49.19	11.621	
10,700.0	10,669.4	10,687.7	10,675.4	13.3	38.2	150.15	349.7	-31.6	577.9	528.3	49.65	11.640	
10,800.0	10,769.0	10,787.5	10,774.9	13.4	38.6	149.90	356.6	-32.8	584.3	534.1	50.12	11.658	
10,900.0	10,868.7	10,887.2	10,874.4	13.6	38.9	149.66	363.4	-34.0	590.6	540.0	50.58	11.676	
11,000.0	10,968.3	10,987.0	10,974.0	13.7	39.3	149.42	370.3	-35.3	597.0	545.9	51.05	11.694	
11,100.0	11,067.9	11,086.8	11,073.5	13.8	39.7	149.19	377.1	-36.5	603.3	551.8	51.52	11.711	
11,200.0	11,167.5	11,186.5	11,173.0	13.9	40.0	148.96	384.0	-37.7	609.7	557.7	51.98	11.729	
11,300.0	11,267.1	11,286.3	11,272.5	14.1	40.4	148.74	390.8	-38.9	616.1	563.6	52.45	11.746	
11,400.0	11,366.8	11,386.1	11,372.1	14.2	40.7	148.52	397.7	-40.1	622.5	569.5	52.92	11.762	
11,500.0	11,466.4	11,485.9	11,471.6	14.3	41.1	148.31	404.5	-41.3	628.9	575.5	53.39	11.779	
11,600.0	11,566.0	11,585.6	11,571.1	14.5	41.5	148.10	411.4	-42.5	635.3	581.4	53.86	11.795	
11,700.0	11,665.6	11,685.4	11,670.6	14.6	41.8	147.89	418.2	-43.7	641.7	587.4	54.33	11.811	
11,710.0	11,675.6	11,695.4	11,680.6	14.6	41.8	147.87	418.9	-43.8	642.3	587.9	54.39	11.809	
11,725.0	11,690.5	11,715.0	11,700.2	14.6	41.9	137.15	420.4	-44.1	643.3	588.9	54.44	11.817	
11,750.0	11,715.3	11,756.4	11,741.2	14.6	42.1	127.26	425.9	-45.5	644.9	590.3	54.52	11.828	
11,775.0	11,739.9	11,797.7	11,781.4	14.6	42.2	121.74	434.7	-48.1	646.1	591.5	54.59	11.836	
11,800.0	11,764.2	11,838.6	11,820.4	14.6	42.4	118.14	446.6	-51.8	647.1	592.4	54.65	11.840	
11,825.0	11,788.1	11,879.1	11,857.7	14.7	42.5	115.50	461.4	-56.5	647.8	593.1	54.71	11.840	
11,850.0	11,811.7	11,919.0	11,893.1	14.7	42.6	113.39	478.9	-62.2	648.3	593.5	54.77	11.837	
11,875.0	11,834.9	11,958.2	11,926.3	14.7	42.8	111.61	498.7	-68.7	648.5	593.7	54.82	11.830	
11,900.0	11,857.5	11,996.5	11,957.0	14.7	42.9	110.02	520.5	-76.0	648.6	593.7	54.87	11.820	
11,925.0	11,879.5	12,034.0	11,985.1	14.7	43.0	108.58	544.0	-83.8	648.5	593.5	54.92	11.807	
11,950.0	11,900.9	12,070.5	12,010.5	14.7	43.1	107.22	568.8	-92.2	648.2	593.2	54.97	11.793	
11,975.0	11,921.5	12,106.0	12,033.3	14.8	43.1	105.93	594.7	-100.9	647.8	592.8	55.01	11.776	
12,000.0	11,941.5	12,140.6	12,053.4	14.8	43.2	104.69	621.3	-109.9	647.3	592.3	55.05	11.758	
12,025.0	11,960.6	12,174.2	12,071.0	14.8	43.3	103.50	648.4	-119.1	646.8	591.7	55.10	11.739	
12,050.0	11,978.8	12,206.8	12,086.1	14.8	43.4	102.34	675.7	-128.5	646.2	591.0	55.14	11.719	
12,075.0	11,996.1	12,238.5	12,098.8	14.9	43.4	101.21	703.1	-137.9	645.5	590.4	55.18	11.699	
12,100.0	12,012.5	12,269.2	12,109.3	14.9	43.5	100.11	730.5	-147.3	644.9	589.7	55.23	11.677	
12,125.0	12,027.8	12,299.1	12,117.7	14.9	43.5	99.04	757.6	-156.6	644.3	589.0	55.27	11.656	
12,150.0	12,042.1	12,328.2	12,124.2	14.9	43.6	98.00	784.3	-165.9	643.6	588.3	55.33	11.633	
12,175.0	12,055.3	12,356.4	12,128.8	15.0	43.6	96.98	810.7	-175.0	643.1	587.7	55.38	11.611	
12,200.0	12,067.4	12,383.9	12,131.7	15.0	43.6	95.98	836.5	-184.0	642.5	587.1	55.45	11.588	
12,225.0	12,078.3	12,410.7	12,133.0	15.0	43.7	95.00	861.8	-192.8	642.0	586.5	55.52	11.564	
12,250.0	12,088.1	12,430.6	12,133.2	15.1	43.7	94.29	880.6	-199.3	641.7	586.1	55.62	11.538	
12,265.8	12,093.6	12,442.7	12,133.4	15.1	43.7	93.89	892.1	-203.2	641.6	586.0	55.69	11.523	
12,275.0	12,096.6	12,449.9	12,133.5	15.1	43.7	93.67	898.9	-205.4	641.7	585.9	55.72	11.515	
12,300.0	12,103.8	12,469.5	12,133.8	15.1	43.7	93.10	917.5	-211.6	641.9	586.1	55.84	11.496	
12,325.0	12,109.9	12,489.4	12,134.0	15.1	43.7	92.59	936.4	-217.7	642.3	586.4	55.95	11.481	
12,350.0	12,114.6	12,509.5	12,134.3	15.2	43.8	92.17	955.5	-223.7	643.0	586.9	56.07	11.468	
12,375.0	12,118.0	12,529.7	12,134.6	15.2	43.8	91.82	974.9	-229.7	643.8	587.6	56.18	11.458	
12,400.0	12,120.2	12,550.0	12,134.9	15.2	43.8	91.55	994.4	-235.5	644.7	588.4	56.30	11.451	
12,422.2	12,121.0	12,568.1	12,135.1	15.2	43.8	91.39	1,011.7	-240.6	645.7	589.3	56.40	11.447	
12,500.0	12,122.1	12,631.5	12,136.0	15.3	43.9	91.36	1,072.8	-257.5	649.1	592.3	56.79	11.429	
12,600.0	12,123.5	12,713.0	12,137.1	15.4	44.1	91.33	1,151.8	-277.3	652.8	595.5	57.34	11.385	
12,700.0	12,124.8	12,800.0	12,138.2	15.5	44.2	91.29	1,236.8	-295.9	656.0	598.1	57.93	11.324	

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	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	
12,800.0	12,126.2	12,875.7	12,139.3	15.7	44.3	91.26	1,311.2	-309.9	658.4	599.8	58.58	11.239	
12,900.0	12,127.6	12,956.9	12,140.4	15.9	44.5	91.22	1,391.4	-322.9	660.2	601.0	59.26	11.142	
13,000.0	12,129.0	13,038.2	12,141.5	16.2	44.6	91.19	1,471.9	-333.5	661.4	601.4	59.96	11.030	
13,100.0	12,130.4	13,119.4	12,142.6	16.6	44.8	91.16	1,552.7	-341.9	661.9	601.2	60.69	10.906	
13,200.0	12,131.8	13,200.0	12,143.7	17.0	45.0	91.13	1,633.1	-347.9	661.7	600.3	61.43	10.772	
13,300.0	12,133.2	13,281.9	12,144.8	17.4	45.1	91.10	1,714.9	-351.7	660.9	598.7	62.19	10.627	
13,338.6	12,133.7	13,313.3	12,145.2	17.6	45.2	91.09	1,746.3	-352.5	660.5	598.0	62.48	10.570	
13,400.0	12,134.5	13,365.5	12,145.9	17.9	45.3	91.09	1,798.5	-353.2	660.1	597.2	62.96	10.485	
13,500.0	12,135.9	13,465.5	12,147.2	18.5	45.6	91.09	1,898.5	-353.9	660.1	596.3	63.79	10.348	
13,600.0	12,137.3	13,565.5	12,148.6	19.0	45.8	91.08	1,998.5	-354.6	660.1	595.5	64.66	10.209	
13,700.0	12,138.7	13,665.5	12,149.9	19.7	46.1	91.08	2,098.4	-355.4	660.1	594.6	65.56	10.069	
13,800.0	12,140.0	13,765.5	12,151.3	20.3	46.4	91.08	2,198.4	-356.1	660.1	593.6	66.49	9.928	
13,900.0	12,141.4	13,865.5	12,152.6	20.9	46.7	91.08	2,298.4	-356.8	660.1	592.7	67.45	9.786	
14,000.0	12,142.8	13,965.5	12,153.9	21.6	47.0	91.07	2,398.4	-357.6	660.1	591.7	68.44	9.644	
14,100.0	12,144.2	14,065.5	12,155.3	22.3	47.3	91.07	2,498.4	-358.3	660.1	590.7	69.46	9.503	
14,200.0	12,145.5	14,165.5	12,156.6	23.0	47.7	91.07	2,598.4	-359.0	660.1	589.6	70.50	9.363	
14,300.0	12,146.9	14,265.5	12,158.0	23.7	48.0	91.06	2,698.4	-359.8	660.1	588.5	71.57	9.224	
14,400.0	12,148.3	14,365.5	12,159.3	24.4	48.4	91.06	2,798.4	-360.5	660.1	587.5	72.65	9.086	
14,500.0	12,149.7	14,465.5	12,160.6	25.1	48.8	91.06	2,898.4	-361.2	660.1	586.3	73.76	8.949	
14,600.0	12,151.0	14,565.5	12,162.0	25.8	49.2	91.05	2,998.3	-361.9	660.1	585.2	74.89	8.814	
14,700.0	12,152.4	14,665.5	12,163.3	26.6	49.6	91.05	3,098.3	-362.7	660.1	584.1	76.04	8.681	
14,800.0	12,153.8	14,765.5	12,164.7	27.3	50.0	91.05	3,198.3	-363.4	660.1	582.9	77.21	8.550	
14,900.0	12,155.2	14,865.5	12,166.0	28.1	50.4	91.05	3,298.3	-364.1	660.1	581.7	78.39	8.421	
15,000.0	12,156.5	14,965.5	12,167.3	28.8	50.9	91.04	3,398.3	-364.9	660.1	580.5	79.59	8.294	
15,100.0	12,157.9	15,065.5	12,168.7	29.6	51.3	91.04	3,498.3	-365.6	660.1	579.3	80.81	8.169	
15,172.3	12,158.9	15,137.9	12,169.7	30.1	51.7	91.04	3,570.6	-366.1	660.1	578.4	81.70	8.080	
15,185.2	12,159.1	15,149.0	12,169.8	30.2	51.7	91.03	3,581.8	-366.2	660.1	578.2	81.84	8.066	
15,191.8	12,159.2	15,154.4	12,169.9	30.3	51.7	91.03	3,587.1	-366.2	660.1	578.2	81.91	8.058	
15,200.0	12,159.3	15,162.6	12,170.0	30.4	51.8	91.03	3,595.3	-366.2	660.1	578.1	82.01	8.048	
15,300.0	12,160.7	15,262.6	12,171.3	31.1	52.2	91.03	3,695.3	-366.5	660.1	576.8	83.26	7.928	
15,400.0	12,162.0	15,362.6	12,172.7	31.9	52.7	91.03	3,795.3	-366.8	660.1	575.6	84.52	7.810	
15,500.0	12,163.4	15,462.6	12,174.0	32.7	53.2	91.02	3,895.3	-367.1	660.1	574.3	85.79	7.694	
15,600.0	12,164.8	15,562.6	12,175.3	33.5	53.7	91.02	3,995.3	-367.4	660.1	573.0	87.08	7.581	
15,700.0	12,166.2	15,662.6	12,176.7	34.3	54.2	91.02	4,095.3	-367.7	660.1	571.7	88.37	7.469	
15,800.0	12,167.5	15,762.6	12,178.0	35.1	54.7	91.02	4,195.2	-367.9	660.1	570.4	89.68	7.360	
15,900.0	12,168.9	15,862.6	12,179.4	35.9	55.2	91.01	4,295.2	-368.2	660.1	569.1	91.01	7.253	
16,000.0	12,170.3	15,962.6	12,180.7	36.7	55.8	91.01	4,395.2	-368.5	660.1	567.7	92.34	7.149	
16,100.0	12,171.7	16,062.6	12,182.1	37.5	56.3	91.01	4,495.2	-368.8	660.1	566.4	93.68	7.046	
16,200.0	12,173.0	16,162.6	12,183.4	38.3	56.9	91.00	4,595.2	-369.1	660.1	565.0	95.04	6.946	
16,300.0	12,174.4	16,262.6	12,184.7	39.1	57.4	91.00	4,695.2	-369.3	660.1	563.7	96.40	6.847	
16,400.0	12,175.8	16,362.6	12,186.1	39.9	58.0	91.00	4,795.2	-369.6	660.1	562.3	97.77	6.751	
16,500.0	12,177.2	16,462.6	12,187.4	40.7	58.6	90.99	4,895.2	-369.9	660.1	560.9	99.15	6.657	
16,600.0	12,178.5	16,562.6	12,188.8	41.5	59.1	90.99	4,995.2	-370.2	660.1	559.5	100.55	6.565	
16,700.0	12,179.9	16,662.6	12,190.1	42.3	59.7	90.99	5,095.2	-370.5	660.1	558.1	101.95	6.475	
16,800.0	12,181.3	16,762.6	12,191.4	43.1	60.3	90.99	5,195.1	-370.7	660.1	556.7	103.35	6.387	
16,900.0	12,182.7	16,862.6	12,192.8	43.9	60.9	90.98	5,295.1	-371.0	660.1	555.3	104.77	6.300	
17,000.0	12,184.0	16,962.6	12,194.1	44.8	61.5	90.98	5,395.1	-371.3	660.1	553.9	106.19	6.216	
17,100.0	12,185.4	17,062.6	12,195.5	45.6	62.1	90.98	5,495.1	-371.6	660.1	552.5	107.62	6.133	
17,200.0	12,186.8	17,162.6	12,196.8	46.4	62.7	90.97	5,595.1	-371.9	660.1	551.0	109.06	6.052	
17,300.0	12,188.2	17,262.6	12,198.2	47.2	63.4	90.97	5,695.1	-372.1	660.1	549.6	110.51	5.973	
17,400.0	12,189.5	17,362.6	12,199.5	48.1	64.0	90.97	5,795.1	-372.4	660.1	548.1	111.96	5.896	

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design		PILED RIVER FED & FIGURE FOUR FED PROJECT - FIGURE FOUR FED #703H - OWB - PWP1										Offset Site Error:		3.0 usft	
Survey Program:		0-MWD+IFR1+FDIR										Offset Well Error:		3.0 usft	
Reference		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			
17,500.0	12,190.9	17,462.6	12,200.8	48.9	64.6	90.96	5,895.1	-372.7	660.1	546.7	113.42	5.820			
17,600.0	12,192.3	17,562.6	12,202.2	49.7	65.3	90.96	5,995.1	-373.0	660.1	545.2	114.88	5.746			
17,700.0	12,193.7	17,662.6	12,203.5	50.5	65.9	90.96	6,095.1	-373.3	660.1	543.7	116.35	5.673			
17,800.0	12,195.0	17,762.6	12,204.9	51.4	66.5	90.96	6,195.1	-373.5	660.1	542.3	117.83	5.602			
17,900.0	12,196.4	17,862.6	12,206.2	52.2	67.2	90.95	6,295.0	-373.8	660.1	540.8	119.31	5.532			
18,000.0	12,197.8	17,962.6	12,207.5	53.0	67.8	90.95	6,395.0	-374.1	660.1	539.3	120.80	5.464			
18,100.0	12,199.2	18,062.6	12,208.9	53.9	68.5	90.95	6,495.0	-374.4	660.1	537.8	122.29	5.398			
18,200.0	12,200.5	18,162.6	12,210.2	54.7	69.2	90.94	6,595.0	-374.7	660.1	536.3	123.79	5.332			
18,300.0	12,201.9	18,262.6	12,211.6	55.5	69.8	90.94	6,695.0	-374.9	660.1	534.8	125.30	5.268			
18,400.0	12,203.3	18,362.6	12,212.9	56.4	70.5	90.94	6,795.0	-375.2	660.1	533.3	126.80	5.206			
18,500.0	12,204.7	18,462.6	12,214.2	57.2	71.2	90.94	6,895.0	-375.5	660.1	531.8	128.32	5.144			
18,600.0	12,206.0	18,562.6	12,215.6	58.0	71.9	90.93	6,995.0	-375.8	660.1	530.3	129.84	5.084			
18,700.0	12,207.4	18,662.6	12,216.9	58.9	72.6	90.93	7,095.0	-376.1	660.1	528.7	131.36	5.025			
18,800.0	12,208.8	18,762.6	12,218.3	59.7	73.3	90.93	7,195.0	-376.4	660.1	527.2	132.88	4.967			
18,900.0	12,210.2	18,862.6	12,219.6	60.5	73.9	90.92	7,295.0	-376.6	660.1	525.7	134.41	4.911			
19,000.0	12,211.6	18,962.6	12,221.0	61.4	74.6	90.92	7,394.9	-376.9	660.1	524.1	135.95	4.855			
19,100.0	12,212.9	19,062.6	12,222.3	62.2	75.3	90.92	7,494.9	-377.2	660.1	522.6	137.49	4.801			
19,200.0	12,214.3	19,162.6	12,223.6	63.1	76.0	90.91	7,594.9	-377.5	660.1	521.1	139.03	4.748			
19,300.0	12,215.7	19,262.6	12,225.0	63.9	76.7	90.91	7,694.9	-377.8	660.1	519.5	140.57	4.696			
19,400.0	12,217.1	19,362.6	12,226.3	64.7	77.5	90.91	7,794.9	-378.0	660.1	518.0	142.12	4.644			
19,500.0	12,218.4	19,462.6	12,227.7	65.6	78.2	90.91	7,894.9	-378.3	660.1	516.4	143.68	4.594			
19,600.0	12,219.8	19,562.6	12,229.0	66.4	78.9	90.90	7,994.9	-378.6	660.1	514.9	145.23	4.545			
19,700.0	12,221.2	19,662.6	12,230.3	67.3	79.6	90.90	8,094.9	-378.9	660.1	513.3	146.79	4.497			
19,800.0	12,222.6	19,762.6	12,231.7	68.1	80.3	90.90	8,194.9	-379.2	660.1	511.7	148.36	4.449			
19,900.0	12,223.9	19,862.6	12,233.0	68.9	81.0	90.89	8,294.9	-379.4	660.1	510.2	149.92	4.403			
20,000.0	12,225.3	19,962.6	12,234.4	69.8	81.8	90.89	8,394.8	-379.7	660.1	508.6	151.49	4.357			
20,100.0	12,226.7	20,062.6	12,235.7	70.6	82.5	90.89	8,494.8	-380.0	660.1	507.0	153.06	4.313			
20,200.0	12,228.1	20,162.6	12,237.0	71.5	83.2	90.88	8,594.8	-380.3	660.1	505.5	154.64	4.269			
20,300.0	12,229.4	20,262.6	12,238.4	72.3	84.0	90.88	8,694.8	-380.6	660.1	503.9	156.21	4.226			
20,400.0	12,230.8	20,362.6	12,239.7	73.2	84.6	90.88	8,794.8	-380.8	660.1	502.4	157.67	4.187			
20,413.9	12,231.0	20,376.5	12,239.9	73.3	84.7	90.88	8,808.7	-380.9	660.1	502.2	157.86	4.182			

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11687-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,600.0	10,569.8	10,655.3	10,645.0	13.2	9.2	78.76	1,290.5	-287.9	995.7	976.7	18.95	52.540	
10,700.0	10,669.4	10,754.8	10,744.3	13.3	9.3	79.12	1,285.6	-291.9	988.0	968.9	19.10	51.721	
10,800.0	10,769.0	10,854.3	10,843.6	13.4	9.3	79.49	1,280.6	-295.9	980.3	961.1	19.26	50.910	
10,900.0	10,868.7	10,953.8	10,942.9	13.6	9.4	79.87	1,275.7	-299.9	972.7	953.3	19.41	50.107	
11,000.0	10,968.3	11,053.3	11,042.2	13.7	9.5	80.26	1,270.7	-303.9	965.2	945.6	19.57	49.314	
11,100.0	11,067.9	11,152.8	11,141.5	13.8	9.6	80.65	1,265.8	-307.9	957.7	937.9	19.73	48.530	
11,200.0	11,167.5	11,252.3	11,240.8	13.9	9.7	81.04	1,260.9	-311.8	950.2	930.3	19.90	47.754	
11,300.0	11,267.1	11,296.0	11,259.5	14.1	12.5	152.13	401.6	-339.4	932.0	885.1	46.94	19.853	
11,400.0	11,366.8	11,293.9	11,259.5	14.2	12.5	151.81	403.7	-339.4	841.7	795.2	46.52	18.093	
11,500.0	11,466.4	11,291.8	11,259.4	14.3	12.5	151.49	405.9	-339.4	753.9	708.1	45.81	16.457	
11,600.0	11,566.0	11,289.6	11,259.4	14.5	12.5	151.16	408.0	-339.4	669.5	624.8	44.67	14.989	
11,700.0	11,665.6	11,287.5	11,259.3	14.6	12.5	150.84	410.2	-339.5	590.0	547.1	42.87	13.761	
11,710.0	11,675.6	11,287.3	11,259.3	14.6	12.5	150.81	410.4	-339.5	582.4	539.8	42.62	13.666	
11,725.0	11,690.5	11,286.7	11,259.3	14.6	12.5	142.05	410.9	-339.5	571.2	528.9	42.25	13.520	
11,750.0	11,715.3	11,284.8	11,259.3	14.6	12.5	135.05	412.8	-339.5	553.2	511.6	41.56	13.309	
11,775.0	11,739.9	11,281.7	11,259.2	14.6	12.5	132.02	416.0	-339.5	536.1	495.3	40.80	13.140	
11,800.0	11,764.2	11,277.3	11,259.1	14.6	12.5	130.51	420.3	-339.6	520.0	480.1	39.94	13.021	
11,825.0	11,788.1	11,277.1	11,259.0	14.7	12.4	129.62	425.9	-339.6	505.2	466.2	38.99	12.955	
11,850.0	11,811.7	11,276.4	11,258.8	14.7	12.4	128.94	432.7	-339.7	491.6	453.6	37.96	12.948 SF	
11,875.0	11,834.9	11,275.0	11,258.6	14.7	12.4	128.28	440.7	-339.8	479.4	442.5	36.86	13.005	
11,900.0	11,857.5	11,274.7	11,258.4	14.7	12.3	127.53	449.8	-339.9	468.6	432.9	35.69	13.131	
11,925.0	11,879.5	11,273.6	11,258.2	14.7	12.3	126.66	460.1	-340.0	459.4	424.9	34.47	13.327	
11,950.0	11,900.9	11,272.2	11,257.9	14.7	12.2	125.63	471.4	-340.1	451.7	418.5	33.23	13.595	
11,975.0	11,921.5	11,271.3	11,257.6	14.8	12.1	124.43	483.9	-340.2	445.6	413.6	31.98	13.933	
12,000.0	11,941.5	11,270.2	11,257.3	14.8	12.1	123.05	497.4	-340.4	441.1	410.3	30.77	14.336	
12,025.0	11,960.6	11,268.5	11,257.0	14.8	12.0	121.51	511.9	-340.5	438.1	408.5	29.61	14.793	
12,050.0	11,978.8	11,267.0	11,256.6	14.8	11.9	119.81	527.3	-340.7	436.6	408.0	28.55	15.294 ES	
12,064.2	11,988.7	11,266.1	11,256.4	14.8	11.9	118.78	536.5	-340.8	436.4	408.4	27.99	15.591 CC	
12,075.0	11,996.1	11,265.3	11,256.3	14.9	11.9	117.96	543.7	-340.9	436.5	408.9	27.59	15.822	
12,100.0	12,012.5	11,263.6	11,255.9	14.9	11.8	115.99	561.0	-341.1	437.7	411.0	26.75	16.363	
12,125.0	12,027.8	11,261.8	11,255.4	14.9	11.7	113.92	579.1	-341.2	440.1	414.1	26.04	16.899	
12,150.0	12,042.1	11,259.6	11,255.0	14.9	11.6	111.78	598.0	-341.4	443.6	418.1	25.47	17.417	
12,175.0	12,055.3	11,258.0	11,254.6	15.0	11.5	109.60	617.6	-341.7	447.9	422.9	25.02	17.902	
12,200.0	12,067.4	11,256.9	11,254.1	15.0	11.5	107.40	637.9	-341.9	453.1	428.5	24.69	18.354	
12,225.0	12,078.3	11,255.8	11,253.6	15.0	11.4	105.22	658.8	-342.1	459.0	434.6	24.45	18.775	
12,250.0	12,088.1	11,251.3	11,253.1	15.1	11.3	103.10	680.2	-342.3	465.4	441.2	24.28	19.167	
12,275.0	12,096.6	11,249.5	11,252.6	15.1	11.2	101.05	702.2	-342.6	472.3	448.1	24.18	19.535	
12,300.0	12,103.8	11,247.2	11,252.1	15.1	11.1	99.12	724.6	-342.8	479.5	455.4	24.12	19.879	
12,325.0	12,109.9	11,245.0	11,251.6	15.1	11.1	97.31	747.4	-343.0	487.0	462.9	24.09	20.213	
12,350.0	12,114.6	11,242.7	11,251.0	15.2	11.0	95.64	770.6	-343.3	494.6	470.5	24.08	20.543	
12,375.0	12,118.0	11,240.3	11,250.0	15.2	10.9	94.08	793.7	-343.5	502.3	478.2	24.08	20.861	
12,400.0	12,120.2	11,238.0	11,247.9	15.2	10.8	92.56	816.6	-343.7	510.1	486.0	24.10	21.169	
12,422.2	12,121.0	11,236.0	11,245.1	15.2	10.8	91.24	836.7	-343.8	517.1	492.9	24.12	21.433	
12,500.0	12,122.1	11,229.1	11,229.4	15.3	10.6	89.32	903.5	-343.9	540.9	516.6	24.37	22.196	
12,600.0	12,123.5	11,221.2	11,209.4	15.4	10.4	86.06	977.4	-343.6	571.1	545.9	25.14	22.719	
12,700.0	12,124.8	11,213.7	11,204.2	15.5	10.3	82.57	1,035.9	-342.8	602.6	576.3	26.31	22.902	
12,800.0	12,126.2	11,208.6	11,202.8	15.7	10.2	79.31	1,080.4	-341.9	637.6	609.9	27.65	23.060	
12,900.0	12,127.6	11,203.9	11,195.8	15.9	10.2	76.50	1,113.6	-340.9	677.0	648.1	28.89	23.436	
13,000.0	12,129.0	11,200.0	11,196.5	16.2	10.1	74.09	1,139.3	-340.0	721.3	691.4	29.92	24.110	
13,100.0	12,130.4	11,197.5	11,194.1	16.6	10.1	72.72	1,154.1	-339.3	770.7	740.2	30.47	25.292	
13,200.0	12,131.8	11,194.2	11,191.2	17.0	10.1	70.94	1,171.4	-338.4	824.6	793.5	31.07	26.539	

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design PILEDRIIVER FED & FIGURE FOUR FED PROJECT - PILEDRIIVER FEDERAL #703H - OWB - PWP1													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11687-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		
13,300.0	12,133.2	11,925.0	11,902.6	17.4	10.1	70.19	1,180.3	-337.9	882.6	851.4	31.21	28.281		
13,338.6	12,133.7	11,912.9	11,891.9	17.6	10.1	69.58	1,186.0	-337.5	906.0	874.6	31.36	28.886		
13,400.0	12,134.5	11,900.0	11,880.4	17.9	10.1	68.73	1,191.7	-337.1	944.7	913.2	31.44	30.050		

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11723-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,100.0	10,071.7	10,133.6	10,096.5	12.6	11.3	45.42	1,287.3	-816.8	994.2	972.1	22.10	44.977	
10,200.0	10,171.3	10,233.3	10,195.7	12.7	11.4	45.20	1,283.9	-826.2	987.2	964.8	22.36	44.149	
10,300.0	10,271.0	10,333.0	10,294.9	12.8	11.5	44.99	1,280.5	-835.5	980.2	957.5	22.62	43.338	
10,400.0	10,370.6	10,432.6	10,394.1	12.9	11.7	44.76	1,277.1	-844.9	973.2	950.3	22.88	42.542	
10,500.0	10,470.2	10,532.3	10,493.3	13.1	11.8	44.54	1,273.7	-854.2	966.2	943.0	23.14	41.762	
10,600.0	10,569.8	10,632.0	10,592.5	13.2	11.9	44.31	1,270.4	-863.5	959.2	935.8	23.40	40.997	
10,700.0	10,669.4	10,731.7	10,691.6	13.3	12.1	44.08	1,267.0	-872.9	952.2	928.6	23.66	40.248	
10,800.0	10,769.0	10,831.4	10,790.8	13.4	12.2	43.84	1,263.6	-882.2	945.3	921.4	23.92	39.512	
10,900.0	10,868.7	10,931.1	10,890.0	13.6	12.3	43.60	1,260.2	-891.6	938.4	914.2	24.19	38.792	
11,000.0	10,968.3	11,030.7	10,989.2	13.7	12.4	43.36	1,256.8	-900.9	931.5	907.0	24.46	38.085	
11,100.0	11,067.9	11,130.4	11,088.4	13.8	12.6	43.11	1,253.4	-910.2	924.6	899.9	24.73	37.392	
11,200.0	11,167.5	11,230.1	11,187.6	13.9	12.7	42.86	1,250.0	-919.6	917.7	892.7	25.00	36.712	
11,300.0	11,267.1	11,329.8	11,286.8	14.1	12.8	42.61	1,246.7	-928.9	910.9	885.6	25.27	36.046	
11,400.0	11,366.8	11,416.9	11,416.6	14.2	15.3	-34.05	396.5	-999.3	835.2	786.8	48.40	17.256	
11,500.0	11,466.4	12,814.7	12,146.5	14.3	15.3	-33.62	398.7	-999.4	741.7	693.5	48.18	15.392	
11,600.0	11,566.0	12,812.6	12,146.5	14.5	15.3	-33.18	400.8	-999.4	650.1	602.4	47.71	13.625	
11,700.0	11,665.6	12,810.5	12,146.4	14.6	15.3	-32.75	402.9	-999.4	561.4	514.6	46.82	11.990	
11,710.0	11,675.6	12,810.3	12,146.4	14.6	15.2	-32.70	403.1	-999.4	552.7	505.9	46.88	11.790	
11,725.0	11,690.5	12,809.7	12,146.4	14.6	15.2	-46.13	403.7	-999.4	539.8	493.1	46.68	11.564	
11,750.0	11,715.3	12,807.8	12,146.4	14.6	15.2	-60.25	405.6	-999.4	518.4	472.1	46.32	11.191	
11,775.0	11,739.9	12,804.7	12,146.3	14.6	15.2	-69.51	408.7	-999.5	497.2	451.3	45.91	10.828	
11,800.0	11,764.2	12,800.3	12,146.2	14.6	15.2	-76.35	413.1	-999.5	476.2	430.8	45.46	10.476	
11,825.0	11,788.1	12,794.7	12,146.1	14.7	15.2	-81.70	418.6	-999.6	455.6	410.7	44.96	10.135	
11,850.0	11,811.7	12,788.0	12,145.9	14.7	15.2	-85.98	425.4	-999.7	435.5	391.1	44.40	9.808	
11,875.0	11,834.9	12,780.0	12,145.7	14.7	15.1	-89.43	433.4	-999.7	415.8	372.0	43.78	9.496	
11,900.0	11,857.5	12,770.9	12,145.5	14.7	15.1	-92.19	442.5	-999.8	396.6	353.5	43.11	9.200	
11,925.0	11,879.5	12,760.6	12,145.3	14.7	15.1	-94.37	452.8	-999.9	378.0	335.6	42.37	8.921	
11,950.0	11,900.9	12,749.2	12,145.0	14.7	15.0	-96.04	464.1	-1,000.1	360.0	318.4	41.56	8.661	
11,975.0	11,921.5	12,736.8	12,144.7	14.8	15.0	-97.27	476.6	-1,000.2	342.7	302.0	40.70	8.420	
12,000.0	11,941.5	12,723.3	12,144.4	14.8	14.9	-98.10	490.1	-1,000.3	326.1	286.3	39.77	8.199	
12,025.0	11,960.6	12,708.8	12,144.1	14.8	14.9	-98.58	504.6	-1,000.5	310.2	271.4	38.79	7.998	
12,050.0	11,978.8	12,693.3	12,143.7	14.8	14.8	-98.75	520.0	-1,000.7	295.1	257.4	37.76	7.817	
12,075.0	11,996.1	12,676.9	12,143.3	14.9	14.7	-98.64	536.4	-1,000.8	280.8	244.1	36.69	7.653	
12,100.0	12,012.5	12,659.6	12,142.9	14.9	14.7	-98.28	553.7	-1,001.0	267.2	231.6	35.60	7.506	
12,125.0	12,027.8	12,641.5	12,142.5	14.9	14.6	-97.71	571.8	-1,001.2	254.4	219.9	34.50	7.373	
12,150.0	12,042.1	12,622.7	12,142.1	14.9	14.6	-96.96	590.7	-1,001.4	242.3	208.9	33.42	7.251	
12,175.0	12,055.3	12,603.1	12,141.6	15.0	14.5	-96.07	610.3	-1,001.6	231.0	198.6	32.37	7.134	
12,200.0	12,067.4	12,582.8	12,141.2	15.0	14.4	-95.08	630.6	-1,001.8	220.2	188.8	31.39	7.015	
12,225.0	12,078.3	12,561.8	12,140.7	15.0	14.4	-94.03	651.5	-1,002.1	210.1	179.6	30.49	6.890	
12,250.0	12,088.1	12,540.4	12,140.2	15.1	14.3	-92.97	672.9	-1,002.3	200.5	170.8	29.69	6.753	
12,275.0	12,096.6	12,518.4	12,139.7	15.1	14.2	-91.94	694.9	-1,002.5	191.4	162.4	29.01	6.598	
12,300.0	12,103.8	12,496.0	12,139.1	15.1	14.2	-90.99	717.3	-1,002.8	182.7	154.2	28.44	6.423	
12,325.0	12,109.9	12,473.2	12,138.6	15.1	14.1	-90.19	740.1	-1,003.0	174.2	146.2	28.00	6.222	
12,350.0	12,114.6	12,450.0	12,138.1	15.2	14.1	-89.59	763.2	-1,003.3	166.0	138.4	27.67	6.000	
12,375.0	12,118.0	12,425.9	12,137.1	15.2	14.0	-89.05	787.4	-1,003.5	158.0	130.5	27.44	5.757	
12,400.0	12,120.2	12,401.8	12,134.9	15.2	13.9	-88.38	811.4	-1,003.6	150.0	122.7	27.24	5.505	
12,422.2	12,121.0	12,380.7	12,132.0	15.2	13.9	-87.68	832.3	-1,003.6	142.9	115.8	27.09	5.274	
12,500.0	12,122.1	12,309.3	12,115.4	15.3	13.8	-78.66	901.6	-1,002.9	120.3	93.2	27.14	4.433	
12,593.9	12,123.4	12,232.0	12,086.0	15.4	13.6	-60.26	973.0	-1,001.0	107.2	74.9	32.28	3.321 CC	
12,600.0	12,123.5	12,227.4	12,083.9	15.4	13.6	-58.92	977.1	-1,000.9	107.3	74.4	32.84	3.266 ES	
12,700.0	12,124.8	12,158.1	12,047.6	15.5	13.5	-38.68	1,036.0	-998.2	128.2	87.9	40.37	3.177 SF	

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design PILEDRIER FED & FIGURE FOUR FED PROJECT - PILEDRIER FEDERAL #704H - OWB - PWP1													Offset Site Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11723-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	12,126.2	12,100.0	12,010.9	15.7	13.5	-24.44	1,080.9	-995.3	179.3	137.5	41.86	4.284		
12,900.0	12,127.6	12,054.5	11,978.5	15.9	13.4	-15.71	1,112.7	-992.7	247.0	206.5	40.49	6.101		
13,000.0	12,129.0	12,016.3	11,949.1	16.2	13.4	-9.52	1,136.9	-990.2	323.8	284.9	38.89	8.325		
13,100.0	12,130.4	11,984.9	11,923.5	16.6	13.4	-4.65	1,155.0	-988.0	406.0	368.5	37.42	10.848		
13,200.0	12,131.8	11,958.7	11,901.3	17.0	13.4	-0.34	1,168.8	-986.1	491.8	455.6	36.18	13.594		
13,300.0	12,133.2	11,936.7	11,882.1	17.4	13.4	3.76	1,179.5	-984.4	580.2	545.0	35.14	16.509		
13,338.6	12,133.7	11,925.0	11,871.7	17.6	13.4	5.33	1,184.7	-983.5	614.8	579.9	34.97	17.583		
13,400.0	12,134.5	11,925.0	11,871.7	17.9	13.4	5.33	1,184.7	-983.5	670.5	636.4	34.01	19.715		
13,500.0	12,135.9	11,900.0	11,849.1	18.5	13.4	5.32	1,195.1	-981.5	762.1	728.4	33.66	22.643		
13,600.0	12,137.3	11,888.3	11,838.3	19.0	13.4	5.32	1,199.6	-980.5	855.0	822.0	33.02	25.893		
13,700.0	12,138.7	11,875.0	11,826.0	19.7	13.4	5.32	1,204.4	-979.4	948.8	916.2	32.59	29.112		

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design													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		
8,700.0	8,677.0	11,019.6	9,516.5	10.8	43.3	-37.05	256.5	-897.1	958.7	915.8	42.85	22.371		
8,800.0	8,776.7	11,022.8	9,516.4	11.0	43.4	-36.57	259.6	-897.3	867.6	823.7	43.86	19.783		
8,900.0	8,876.3	11,023.0	9,516.4	11.1	43.4	-36.53	259.9	-897.3	778.6	733.6	44.99	17.307		
9,000.0	8,975.9	11,028.4	9,516.3	11.2	43.4	-35.71	265.3	-897.6	692.7	646.3	46.37	14.938		
9,100.0	9,075.5	11,031.4	9,516.3	11.3	43.5	-35.26	268.2	-897.7	611.0	563.1	47.94	12.746		
9,200.0	9,175.1	11,034.4	9,516.2	11.4	43.5	-34.79	271.3	-897.9	535.6	485.9	49.69	10.779		
9,300.0	9,274.8	11,037.6	9,516.2	11.6	43.5	-34.31	274.4	-898.1	469.5	418.0	51.49	9.119		
9,400.0	9,374.4	11,040.8	9,516.1	11.7	43.6	-33.81	277.7	-898.2	417.0	364.1	52.96	7.875		
9,500.0	9,474.0	11,044.2	9,516.1	11.8	43.6	-33.30	281.1	-898.4	383.9	330.3	53.63	7.158		
9,582.8	9,556.5	11,047.1	9,516.1	11.9	43.6	-32.85	283.9	-898.5	374.9	321.4	53.45	7.013 CC, ES, SF		
9,600.0	9,573.6	11,047.7	9,516.0	11.9	43.6	-32.76	284.6	-898.6	375.3	321.9	53.35	7.034		
9,700.0	9,673.2	11,051.4	9,516.0	12.1	43.7	-32.20	288.2	-898.8	392.7	340.4	52.34	7.503		
9,800.0	9,772.9	11,055.2	9,516.0	12.2	43.7	-31.63	292.0	-898.9	433.2	382.3	50.83	8.522		
9,900.0	9,872.5	11,059.1	9,515.9	12.3	43.8	-31.03	295.9	-899.1	490.9	441.7	49.16	9.985		
10,000.0	9,972.1	11,063.2	9,515.9	12.4	43.8	-30.40	300.0	-899.3	560.7	512.9	47.70	11.753		
10,100.0	10,071.7	11,067.4	9,515.8	12.6	43.9	-29.76	304.2	-899.5	638.5	591.9	46.58	13.706		
10,200.0	10,171.3	11,071.9	9,515.8	12.7	43.9	-29.08	308.6	-899.8	721.7	675.9	45.80	15.758		
10,300.0	10,271.0	11,076.5	9,515.8	12.8	44.0	-28.38	313.3	-900.0	808.8	763.5	45.30	17.856		
10,400.0	10,370.6	11,081.3	9,515.7	12.9	44.0	-27.65	318.1	-900.2	898.5	853.5	45.01	19.965		
10,500.0	10,470.2	11,086.3	9,515.7	13.1	44.1	-26.89	323.1	-900.5	990.2	945.3	44.88	22.065		

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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to *KB=30' @ 3296.0usft (TBD)

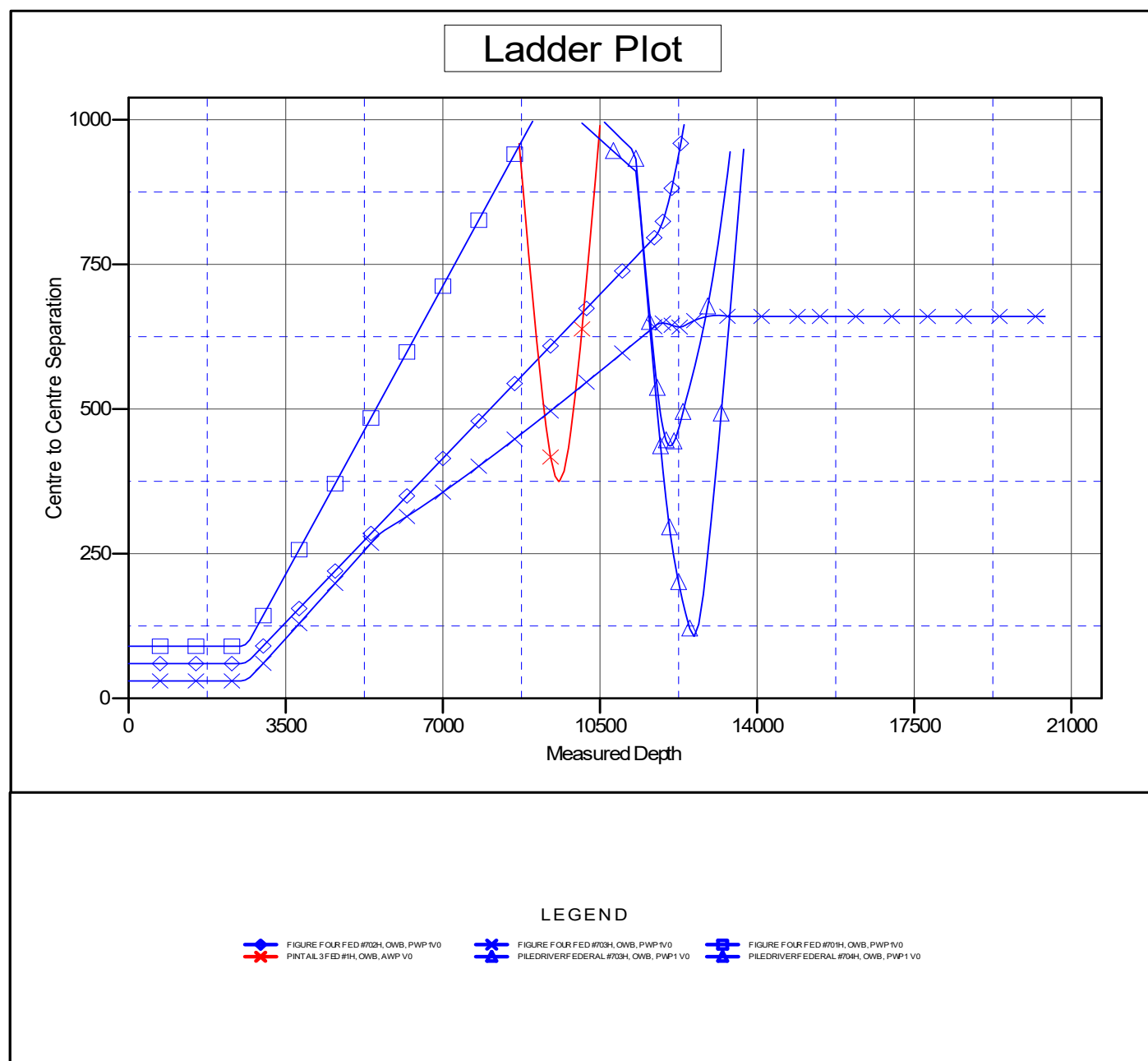
Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: FIGURE FOUR FED #704H

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

Grid Convergence at Surface is: 0.36°



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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Reference Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #704H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to *KB=30' @ 3296.0usft (TBD)

Offset Depths are relative to Offset Datum

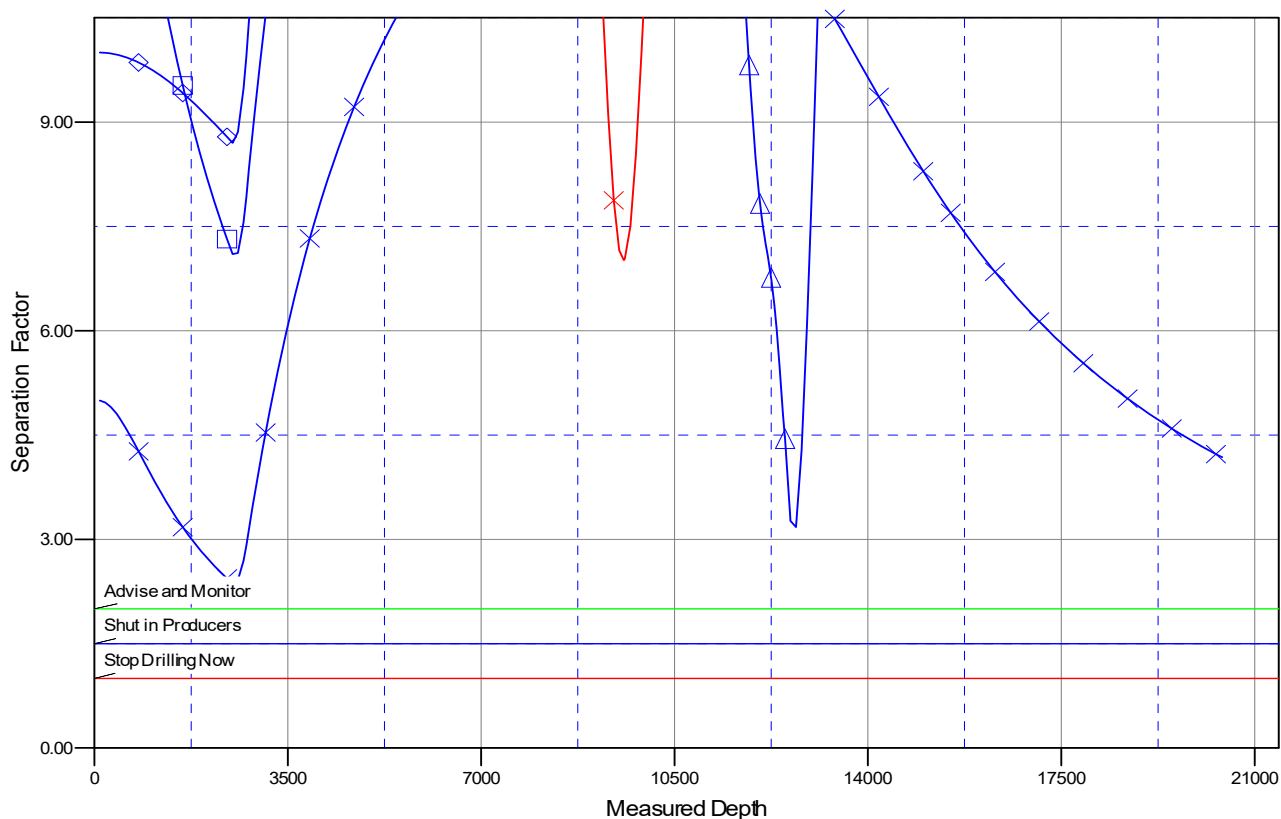
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: FIGURE FOUR FED #704H

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

Grid Convergence at Surface is: 0.36°

Separation Factor Plot



LEGEND

FIGURE FOUR FED #702H, OWB, PWP 1 V0	FIGURE FOUR FED #703H, OWB, PWP 1 V0	FIGURE FOUR FED #701H, OWB, PWP 1 V0
PILEDRIIVER FEDERAL #703H, OWB, AWP 1 V0	PILEDRIIVER FEDERAL #703H, OWB, PWP 1 V0	PILEDRIIVER FEDERAL #704H, OWB, PWP 1 V0

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)

PILEDRIIVER FED & FIGURE FOUR FED PROJECT

FIGURE FOUR FED #704H

OWB

Plan: PWP1

Standard Survey Report

10 September, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Well:	FIGURE FOUR FED #704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Project	BULLDOG PROSPECT (NM-E)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Well	FIGURE FOUR FED #704H			
Well Position	+N/-S	0.0 usft	Northing:	389,744.80 usfi
	+E/-W	0.0 usft	Easting:	709,181.20 usfi
Position Uncertainty		3.0 usft	Wellhead Elevation:	usfi
			Latitude:	32° 4' 11.009 N
			Longitude:	103° 39' 28.941 W
			Ground Level:	3,266.0 usfi

Wellbore	OWB
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	7/30/2020	6.68	59.78	47,485.85847421

Design	PWP1
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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	353.26

Survey Tool Program		Date	9/10/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,710.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,710.0	20,413.8	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
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 FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Well:	FIGURE FOUR FED #704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00	
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00	
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00	
Start Build 2.00										
2,600.0	2.00	300.00	2,600.0	0.9	-1.5	1.0	2.00	2.00	0.00	
2,700.0	4.00	300.00	2,699.8	3.5	-6.0	4.2	2.00	2.00	0.00	
2,750.0	5.00	300.00	2,749.7	5.5	-9.4	6.5	2.00	2.00	0.00	
Start 8960.0 hold at 2750.0 MD										
2,800.0	5.00	300.00	2,799.5	7.6	-13.2	9.1	0.00	0.00	0.00	
2,900.0	5.00	300.00	2,899.1	12.0	-20.8	14.3	0.00	0.00	0.00	
3,000.0	5.00	300.00	2,998.7	16.3	-28.3	19.6	0.00	0.00	0.00	
3,100.0	5.00	300.00	3,098.4	20.7	-35.9	24.8	0.00	0.00	0.00	
3,200.0	5.00	300.00	3,198.0	25.1	-43.4	30.0	0.00	0.00	0.00	
3,300.0	5.00	300.00	3,297.6	29.4	-51.0	35.2	0.00	0.00	0.00	
3,400.0	5.00	300.00	3,397.2	33.8	-58.5	40.4	0.00	0.00	0.00	
3,500.0	5.00	300.00	3,496.8	38.1	-66.1	45.6	0.00	0.00	0.00	
3,600.0	5.00	300.00	3,596.4	42.5	-73.6	50.8	0.00	0.00	0.00	
3,700.0	5.00	300.00	3,696.1	46.8	-81.1	56.1	0.00	0.00	0.00	
3,800.0	5.00	300.00	3,795.7	51.2	-88.7	61.3	0.00	0.00	0.00	
3,900.0	5.00	300.00	3,895.3	55.6	-96.2	66.5	0.00	0.00	0.00	
4,000.0	5.00	300.00	3,994.9	59.9	-103.8	71.7	0.00	0.00	0.00	
4,100.0	5.00	300.00	4,094.5	64.3	-111.3	76.9	0.00	0.00	0.00	
4,200.0	5.00	300.00	4,194.2	68.6	-118.9	82.1	0.00	0.00	0.00	
4,300.0	5.00	300.00	4,293.8	73.0	-126.4	87.3	0.00	0.00	0.00	
4,400.0	5.00	300.00	4,393.4	77.4	-134.0	92.5	0.00	0.00	0.00	
4,500.0	5.00	300.00	4,493.0	81.7	-141.5	97.8	0.00	0.00	0.00	
4,600.0	5.00	300.00	4,592.6	86.1	-149.1	103.0	0.00	0.00	0.00	
4,700.0	5.00	300.00	4,692.3	90.4	-156.6	108.2	0.00	0.00	0.00	
4,800.0	5.00	300.00	4,791.9	94.8	-164.2	113.4	0.00	0.00	0.00	
4,900.0	5.00	300.00	4,891.5	99.1	-171.7	118.6	0.00	0.00	0.00	
5,000.0	5.00	300.00	4,991.1	103.5	-179.3	123.8	0.00	0.00	0.00	
5,100.0	5.00	300.00	5,090.7	107.9	-186.8	129.0	0.00	0.00	0.00	
5,200.0	5.00	300.00	5,190.4	112.2	-194.4	134.3	0.00	0.00	0.00	
5,300.0	5.00	300.00	5,290.0	116.6	-201.9	139.5	0.00	0.00	0.00	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Well:	FIGURE FOUR FED #704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,400.0	5.00	300.00	5,389.6	120.9	-209.5	144.7	0.00	0.00	0.00
5,500.0	5.00	300.00	5,489.2	125.3	-217.0	149.9	0.00	0.00	0.00
5,600.0	5.00	300.00	5,588.8	129.6	-224.6	155.1	0.00	0.00	0.00
5,700.0	5.00	300.00	5,688.5	134.0	-232.1	160.3	0.00	0.00	0.00
5,800.0	5.00	300.00	5,788.1	138.4	-239.7	165.5	0.00	0.00	0.00
5,900.0	5.00	300.00	5,887.7	142.7	-247.2	170.7	0.00	0.00	0.00
6,000.0	5.00	300.00	5,987.3	147.1	-254.7	176.0	0.00	0.00	0.00
6,100.0	5.00	300.00	6,086.9	151.4	-262.3	181.2	0.00	0.00	0.00
6,200.0	5.00	300.00	6,186.6	155.8	-269.8	186.4	0.00	0.00	0.00
6,300.0	5.00	300.00	6,286.2	160.2	-277.4	191.6	0.00	0.00	0.00
6,400.0	5.00	300.00	6,385.8	164.5	-284.9	196.8	0.00	0.00	0.00
6,500.0	5.00	300.00	6,485.4	168.9	-292.5	202.0	0.00	0.00	0.00
6,600.0	5.00	300.00	6,585.0	173.2	-300.0	207.2	0.00	0.00	0.00
6,700.0	5.00	300.00	6,684.7	177.6	-307.6	212.5	0.00	0.00	0.00
6,800.0	5.00	300.00	6,784.3	181.9	-315.1	217.7	0.00	0.00	0.00
6,900.0	5.00	300.00	6,883.9	186.3	-322.7	222.9	0.00	0.00	0.00
7,000.0	5.00	300.00	6,983.5	190.7	-330.2	228.1	0.00	0.00	0.00
7,100.0	5.00	300.00	7,083.1	195.0	-337.8	233.3	0.00	0.00	0.00
7,200.0	5.00	300.00	7,182.7	199.4	-345.3	238.5	0.00	0.00	0.00
7,300.0	5.00	300.00	7,282.4	203.7	-352.9	243.7	0.00	0.00	0.00
7,400.0	5.00	300.00	7,382.0	208.1	-360.4	249.0	0.00	0.00	0.00
7,500.0	5.00	300.00	7,481.6	212.4	-368.0	254.2	0.00	0.00	0.00
7,600.0	5.00	300.00	7,581.2	216.8	-375.5	259.4	0.00	0.00	0.00
7,700.0	5.00	300.00	7,680.8	221.2	-383.1	264.6	0.00	0.00	0.00
7,800.0	5.00	300.00	7,780.5	225.5	-390.6	269.8	0.00	0.00	0.00
7,900.0	5.00	300.00	7,880.1	229.9	-398.2	275.0	0.00	0.00	0.00
8,000.0	5.00	300.00	7,979.7	234.2	-405.7	280.2	0.00	0.00	0.00
8,100.0	5.00	300.00	8,079.3	238.6	-413.3	285.4	0.00	0.00	0.00
8,200.0	5.00	300.00	8,178.9	243.0	-420.8	290.7	0.00	0.00	0.00
8,300.0	5.00	300.00	8,278.6	247.3	-428.3	295.9	0.00	0.00	0.00
8,400.0	5.00	300.00	8,378.2	251.7	-435.9	301.1	0.00	0.00	0.00
8,500.0	5.00	300.00	8,477.8	256.0	-443.4	306.3	0.00	0.00	0.00
8,600.0	5.00	300.00	8,577.4	260.4	-451.0	311.5	0.00	0.00	0.00
8,700.0	5.00	300.00	8,677.0	264.7	-458.5	316.7	0.00	0.00	0.00
8,800.0	5.00	300.00	8,776.7	269.1	-466.1	321.9	0.00	0.00	0.00
8,900.0	5.00	300.00	8,876.3	273.5	-473.6	327.2	0.00	0.00	0.00
9,000.0	5.00	300.00	8,975.9	277.8	-481.2	332.4	0.00	0.00	0.00
9,100.0	5.00	300.00	9,075.5	282.2	-488.7	337.6	0.00	0.00	0.00
9,200.0	5.00	300.00	9,175.1	286.5	-496.3	342.8	0.00	0.00	0.00
9,300.0	5.00	300.00	9,274.8	290.9	-503.8	348.0	0.00	0.00	0.00
9,400.0	5.00	300.00	9,374.4	295.2	-511.4	353.2	0.00	0.00	0.00
9,500.0	5.00	300.00	9,474.0	299.6	-518.9	358.4	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Well:	FIGURE FOUR FED #704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,600.0	5.00	300.00	9,573.6	304.0	-526.5	363.7	0.00	0.00	0.00
9,700.0	5.00	300.00	9,673.2	308.3	-534.0	368.9	0.00	0.00	0.00
9,800.0	5.00	300.00	9,772.9	312.7	-541.6	374.1	0.00	0.00	0.00
9,900.0	5.00	300.00	9,872.5	317.0	-549.1	379.3	0.00	0.00	0.00
10,000.0	5.00	300.00	9,972.1	321.4	-556.7	384.5	0.00	0.00	0.00
10,100.0	5.00	300.00	10,071.7	325.7	-564.2	389.7	0.00	0.00	0.00
10,200.0	5.00	300.00	10,171.3	330.1	-571.8	394.9	0.00	0.00	0.00
10,300.0	5.00	300.00	10,271.0	334.5	-579.3	400.1	0.00	0.00	0.00
10,400.0	5.00	300.00	10,370.6	338.8	-586.9	405.4	0.00	0.00	0.00
10,500.0	5.00	300.00	10,470.2	343.2	-594.4	410.6	0.00	0.00	0.00
10,600.0	5.00	300.00	10,569.8	347.5	-602.0	415.8	0.00	0.00	0.00
10,700.0	5.00	300.00	10,669.4	351.9	-609.5	421.0	0.00	0.00	0.00
10,800.0	5.00	300.00	10,769.0	356.3	-617.0	426.2	0.00	0.00	0.00
10,900.0	5.00	300.00	10,868.7	360.6	-624.6	431.4	0.00	0.00	0.00
11,000.0	5.00	300.00	10,968.3	365.0	-632.1	436.6	0.00	0.00	0.00
11,100.0	5.00	300.00	11,067.9	369.3	-639.7	441.9	0.00	0.00	0.00
11,200.0	5.00	300.00	11,167.5	373.7	-647.2	447.1	0.00	0.00	0.00
11,300.0	5.00	300.00	11,267.1	378.0	-654.8	452.3	0.00	0.00	0.00
11,400.0	5.00	300.00	11,366.8	382.4	-662.3	457.5	0.00	0.00	0.00
11,500.0	5.00	300.00	11,466.4	386.8	-669.9	462.7	0.00	0.00	0.00
11,600.0	5.00	300.00	11,566.0	391.1	-677.4	467.9	0.00	0.00	0.00
11,700.0	5.00	300.00	11,665.6	395.5	-685.0	473.1	0.00	0.00	0.00
11,710.0	5.00	300.00	11,675.6	395.9	-685.7	473.7	0.00	0.00	0.00
Start DLS 12.00 TFO 41.40									
11,800.0	14.92	328.78	11,764.2	407.8	-695.2	486.6	12.00	11.02	31.98
11,900.0	26.74	334.72	11,857.5	439.3	-711.5	519.7	12.00	11.83	5.94
12,000.0	38.67	337.16	11,941.5	488.6	-733.3	571.3	12.00	11.93	2.44
12,100.0	50.63	338.58	12,012.5	553.6	-759.7	638.9	12.00	11.96	1.42
12,200.0	62.60	339.58	12,067.4	631.5	-789.4	719.8	12.00	11.97	1.00
12,300.0	74.58	340.38	12,103.8	718.8	-821.2	810.2	12.00	11.98	0.80
12,400.0	86.56	341.10	12,120.2	811.8	-853.6	906.3	12.00	11.98	0.71
12,422.2	89.21	341.25	12,121.0	832.7	-860.8	928.0	12.00	11.98	0.69
Start DLS 2.00 TFO 90.13									
12,500.0	89.21	342.81	12,122.1	906.8	-884.8	1,004.3	2.00	0.00	2.00
12,600.0	89.21	344.81	12,123.5	1,002.8	-912.7	1,103.0	2.00	0.00	2.00
12,700.0	89.21	346.81	12,124.8	1,099.7	-937.2	1,202.1	2.00	0.00	2.00
12,800.0	89.20	348.81	12,126.2	1,197.4	-958.3	1,301.6	2.00	0.00	2.00
12,900.0	89.20	350.81	12,127.6	1,295.8	-976.0	1,401.4	2.00	0.00	2.00
13,000.0	89.20	352.81	12,129.0	1,394.8	-990.2	1,501.4	2.00	0.00	2.00
13,100.0	89.21	354.81	12,130.4	1,494.2	-1,001.0	1,601.4	2.00	0.00	2.00
13,200.0	89.21	356.81	12,131.8	1,593.9	-1,008.3	1,701.3	2.00	0.00	2.00
13,300.0	89.21	358.81	12,133.2	1,693.8	-1,012.2	1,800.9	2.00	0.00	2.00
13,338.6	89.21	359.58	12,133.7	1,732.5	-1,012.7	1,839.4	2.00	0.00	2.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Well:	FIGURE FOUR FED #704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
Start 1833.7 hold at 13338.6 MD										
13,400.0	89.21	359.58	12,134.5	1,793.8	-1,013.2	1,900.3	0.00	0.00	0.00	
13,500.0	89.21	359.58	12,135.9	1,893.8	-1,013.9	1,999.7	0.00	0.00	0.00	
13,600.0	89.21	359.58	12,137.3	1,993.8	-1,014.6	2,099.1	0.00	0.00	0.00	
13,700.0	89.21	359.58	12,138.7	2,093.8	-1,015.3	2,198.5	0.00	0.00	0.00	
13,800.0	89.21	359.58	12,140.0	2,193.8	-1,016.1	2,297.9	0.00	0.00	0.00	
13,900.0	89.21	359.58	12,141.4	2,293.8	-1,016.8	2,397.3	0.00	0.00	0.00	
14,000.0	89.21	359.58	12,142.8	2,393.8	-1,017.5	2,496.6	0.00	0.00	0.00	
14,100.0	89.21	359.58	12,144.2	2,493.7	-1,018.3	2,596.0	0.00	0.00	0.00	
14,200.0	89.21	359.58	12,145.5	2,593.7	-1,019.0	2,695.4	0.00	0.00	0.00	
14,300.0	89.21	359.58	12,146.9	2,693.7	-1,019.7	2,794.8	0.00	0.00	0.00	
14,400.0	89.21	359.58	12,148.3	2,793.7	-1,020.5	2,894.2	0.00	0.00	0.00	
14,500.0	89.21	359.58	12,149.7	2,893.7	-1,021.2	2,993.6	0.00	0.00	0.00	
14,600.0	89.21	359.58	12,151.0	2,993.7	-1,021.9	3,092.9	0.00	0.00	0.00	
14,700.0	89.21	359.58	12,152.4	3,093.7	-1,022.7	3,192.3	0.00	0.00	0.00	
14,800.0	89.21	359.58	12,153.8	3,193.7	-1,023.4	3,291.7	0.00	0.00	0.00	
14,900.0	89.21	359.58	12,155.2	3,293.6	-1,024.1	3,391.1	0.00	0.00	0.00	
15,000.0	89.21	359.58	12,156.5	3,393.6	-1,024.9	3,490.5	0.00	0.00	0.00	
15,100.0	89.21	359.58	12,157.9	3,493.6	-1,025.6	3,589.8	0.00	0.00	0.00	
15,172.3	89.21	359.58	12,158.9	3,566.0	-1,026.1	3,661.7	0.00	0.00	0.00	
Start DLS 2.00 TFO 90.19										
15,185.2	89.21	359.84	12,159.1	3,578.8	-1,026.2	3,674.5	2.00	-0.01	2.00	
Start 5228.7 hold at 15185.2 MD										
15,200.0	89.21	359.84	12,159.3	3,593.6	-1,026.2	3,689.2	0.00	0.00	0.00	
15,300.0	89.21	359.84	12,160.7	3,693.6	-1,026.5	3,788.6	0.00	0.00	0.00	
15,400.0	89.21	359.84	12,162.0	3,793.6	-1,026.8	3,887.9	0.00	0.00	0.00	
15,500.0	89.21	359.84	12,163.4	3,893.6	-1,027.1	3,987.2	0.00	0.00	0.00	
15,600.0	89.21	359.84	12,164.8	3,993.6	-1,027.3	4,086.5	0.00	0.00	0.00	
15,700.0	89.21	359.84	12,166.2	4,093.6	-1,027.6	4,185.9	0.00	0.00	0.00	
15,800.0	89.21	359.84	12,167.5	4,193.5	-1,027.9	4,285.2	0.00	0.00	0.00	
15,900.0	89.21	359.84	12,168.9	4,293.5	-1,028.2	4,384.5	0.00	0.00	0.00	
16,000.0	89.21	359.84	12,170.3	4,393.5	-1,028.5	4,483.9	0.00	0.00	0.00	
16,100.0	89.21	359.84	12,171.7	4,493.5	-1,028.8	4,583.2	0.00	0.00	0.00	
16,200.0	89.21	359.84	12,173.0	4,593.5	-1,029.0	4,682.5	0.00	0.00	0.00	
16,300.0	89.21	359.84	12,174.4	4,693.5	-1,029.3	4,781.9	0.00	0.00	0.00	
16,400.0	89.21	359.84	12,175.8	4,793.5	-1,029.6	4,881.2	0.00	0.00	0.00	
16,500.0	89.21	359.84	12,177.2	4,893.5	-1,029.9	4,980.5	0.00	0.00	0.00	
16,600.0	89.21	359.84	12,178.5	4,993.5	-1,030.2	5,079.9	0.00	0.00	0.00	
16,700.0	89.21	359.84	12,179.9	5,093.5	-1,030.4	5,179.2	0.00	0.00	0.00	
16,800.0	89.21	359.84	12,181.3	5,193.4	-1,030.7	5,278.5	0.00	0.00	0.00	
16,900.0	89.21	359.84	12,182.7	5,293.4	-1,031.0	5,377.9	0.00	0.00	0.00	
17,000.0	89.21	359.84	12,184.0	5,393.4	-1,031.3	5,477.2	0.00	0.00	0.00	
17,100.0	89.21	359.84	12,185.4	5,493.4	-1,031.6	5,576.5	0.00	0.00	0.00	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Well:	FIGURE FOUR FED #704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,200.0	89.21	359.84	12,186.8	5,593.4	-1,031.9	5,675.9	0.00	0.00	0.00
17,300.0	89.21	359.84	12,188.2	5,693.4	-1,032.1	5,775.2	0.00	0.00	0.00
17,400.0	89.21	359.84	12,189.5	5,793.4	-1,032.4	5,874.5	0.00	0.00	0.00
17,500.0	89.21	359.84	12,190.9	5,893.4	-1,032.7	5,973.9	0.00	0.00	0.00
17,600.0	89.21	359.84	12,192.3	5,993.4	-1,033.0	6,073.2	0.00	0.00	0.00
17,700.0	89.21	359.84	12,193.7	6,093.4	-1,033.3	6,172.5	0.00	0.00	0.00
17,800.0	89.21	359.84	12,195.0	6,193.4	-1,033.5	6,271.9	0.00	0.00	0.00
17,900.0	89.21	359.84	12,196.4	6,293.3	-1,033.8	6,371.2	0.00	0.00	0.00
18,000.0	89.21	359.84	12,197.8	6,393.3	-1,034.1	6,470.5	0.00	0.00	0.00
18,100.0	89.21	359.84	12,199.2	6,493.3	-1,034.4	6,569.8	0.00	0.00	0.00
18,200.0	89.21	359.84	12,200.5	6,593.3	-1,034.7	6,669.2	0.00	0.00	0.00
18,300.0	89.21	359.84	12,201.9	6,693.3	-1,034.9	6,768.5	0.00	0.00	0.00
18,400.0	89.21	359.84	12,203.3	6,793.3	-1,035.2	6,867.8	0.00	0.00	0.00
18,500.0	89.21	359.84	12,204.7	6,893.3	-1,035.5	6,967.2	0.00	0.00	0.00
18,600.0	89.21	359.84	12,206.0	6,993.3	-1,035.8	7,066.5	0.00	0.00	0.00
18,700.0	89.21	359.84	12,207.4	7,093.3	-1,036.1	7,165.8	0.00	0.00	0.00
18,800.0	89.21	359.84	12,208.8	7,193.3	-1,036.4	7,265.2	0.00	0.00	0.00
18,900.0	89.21	359.84	12,210.2	7,293.2	-1,036.6	7,364.5	0.00	0.00	0.00
19,000.0	89.21	359.84	12,211.6	7,393.2	-1,036.9	7,463.8	0.00	0.00	0.00
19,100.0	89.21	359.84	12,212.9	7,493.2	-1,037.2	7,563.2	0.00	0.00	0.00
19,200.0	89.21	359.84	12,214.3	7,593.2	-1,037.5	7,662.5	0.00	0.00	0.00
19,300.0	89.21	359.84	12,215.7	7,693.2	-1,037.8	7,761.8	0.00	0.00	0.00
19,400.0	89.21	359.84	12,217.1	7,793.2	-1,038.0	7,861.2	0.00	0.00	0.00
19,500.0	89.21	359.84	12,218.4	7,893.2	-1,038.3	7,960.5	0.00	0.00	0.00
19,600.0	89.21	359.84	12,219.8	7,993.2	-1,038.6	8,059.8	0.00	0.00	0.00
19,700.0	89.21	359.84	12,221.2	8,093.2	-1,038.9	8,159.2	0.00	0.00	0.00
19,800.0	89.21	359.84	12,222.6	8,193.2	-1,039.2	8,258.5	0.00	0.00	0.00
19,900.0	89.21	359.84	12,223.9	8,293.1	-1,039.5	8,357.8	0.00	0.00	0.00
20,000.0	89.21	359.84	12,225.3	8,393.1	-1,039.7	8,457.2	0.00	0.00	0.00
20,100.0	89.21	359.84	12,226.7	8,493.1	-1,040.0	8,556.5	0.00	0.00	0.00
20,200.0	89.21	359.84	12,228.1	8,593.1	-1,040.3	8,655.8	0.00	0.00	0.00
20,300.0	89.21	359.84	12,229.4	8,693.1	-1,040.6	8,755.2	0.00	0.00	0.00
20,400.0	89.21	359.84	12,230.8	8,793.1	-1,040.9	8,854.5	0.00	0.00	0.00
20,413.9	89.21	359.84	12,231.0	8,807.0	-1,040.9	8,868.3	0.00	0.00	0.00
TD at 20413.9									

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3296.0usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3296.0usft (TBD)
Well:	FIGURE FOUR FED #704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Design Targets

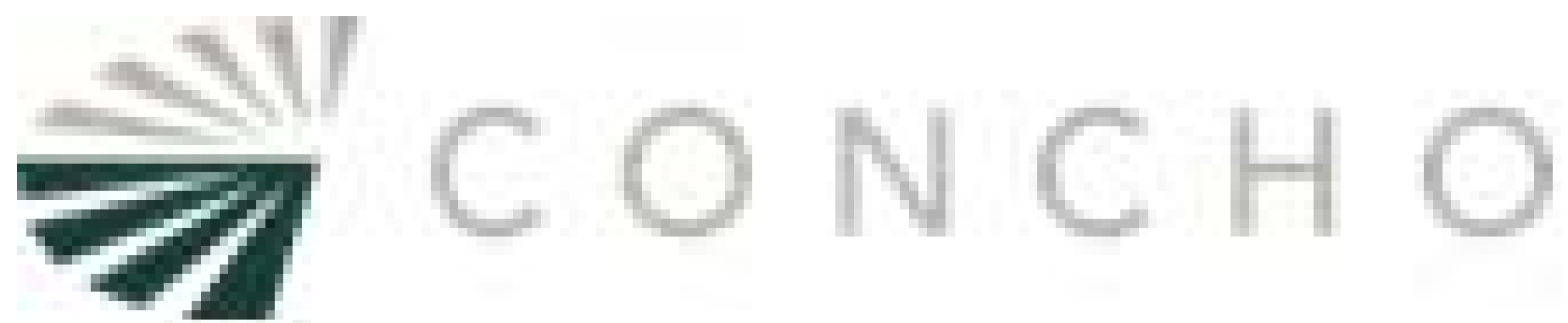
Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (FIGURE FOUR - plan misses target center by 82.4usft at 12652.3usft MD (12124.2 TVD, 1053.4 N, -925.9 E) - Circle (radius 50.0)	0.00	0.00	12,121.0	1,033.2	-1,005.8	390,778.00	708,175.40	32° 4' 21.295 N	103° 39' 40.554 W
T1 (FIGURE FOUR FI - plan hits target center - Rectangle (sides W100.0 H2,538.0 D20.0)	-0.79	179.58	12,158.9	3,566.0	-1,026.1	393,310.76	708,155.08	32° 4' 46.360 N	103° 39' 40.607 W
LTP (FIGURE FOUR I - plan misses target center by 0.7usft at 20364.0usft MD (12230.3 TVD, 8757.1 N, -1040.8 E) - Point	0.00	0.00	12,231.0	8,757.1	-1,040.7	398,501.90	708,140.50	32° 5' 37.732 N	103° 39' 40.401 W
PBHL (FIGURE FOUF - plan hits target center - Rectangle (sides W100.0 H5,243.0 D20.0)	-0.79	179.84	12,231.0	8,807.0	-1,040.9	398,551.80	708,140.30	32° 5' 38.226 N	103° 39' 40.399 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
+N/-S (usft)	+E/-W (usft)			
2500	2500	0	0	Start Build 2.00
2750	2750	5	-9	Start 8960.0 hold at 2750.0 MD
11,710	11,676	396	-686	Start DLS 12.00 TFO 41.40
12,422	12,121	833	-861	Start DLS 2.00 TFO 90.13
13,339	12,134	1732	-1013	Start 1833.7 hold at 13338.6 MD
15,172	12,159	3566	-1026	Start DLS 2.00 TFO 90.19
15,185	12,159	3579	-1026	Start 5228.7 hold at 15185.2 MD
20,414	12,231	8807	-1041	TD at 20413.9

Checked By: _____ Approved By: _____ Date: _____



Project: BULLDOG PROSPECT (NM-E)
Site: PILEDRIVER FED & FIGURE FOUR FED PROJECT
Well: FIGURE FOUR FED #704H
Wellbore: OWB
Design: PWP1
GL: 3266.0
*KB=30' @ 3296.0usft (TBD)

WELL DETAILS: FIGURE FOUR FED #704H					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	389744.80	709181.20	32° 4' 11.009 N	103° 39' 28.941 W

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude
FTP (FIGURE FOUR FED #704H)	12121.0	1033.2	-1005.8	390778.00	708175.40	32° 4' 21.295 N
T1 (FIGURE FOUR FED #704H)	12158.9	3566.0	-1026.1	393310.76	708155.09	32° 4' 46.360 N
LTP (FIGURE FOUR FED #704H)	12231.0	8757.1	-1040.7	398501.90	708140.50	32° 5' 37.732 N
PBHL (FIGURE FOUR FED #704H)	12231.0	8807.0	-1040.9	398551.80	708140.30	32° 5' 38.226 N

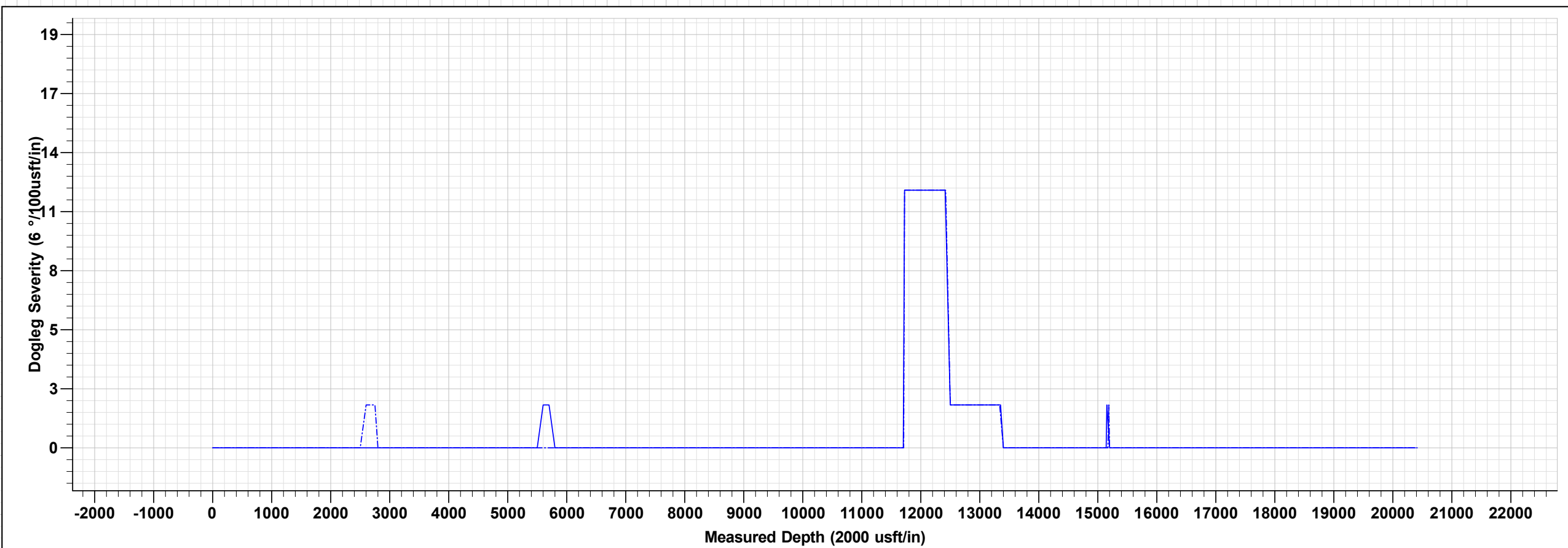
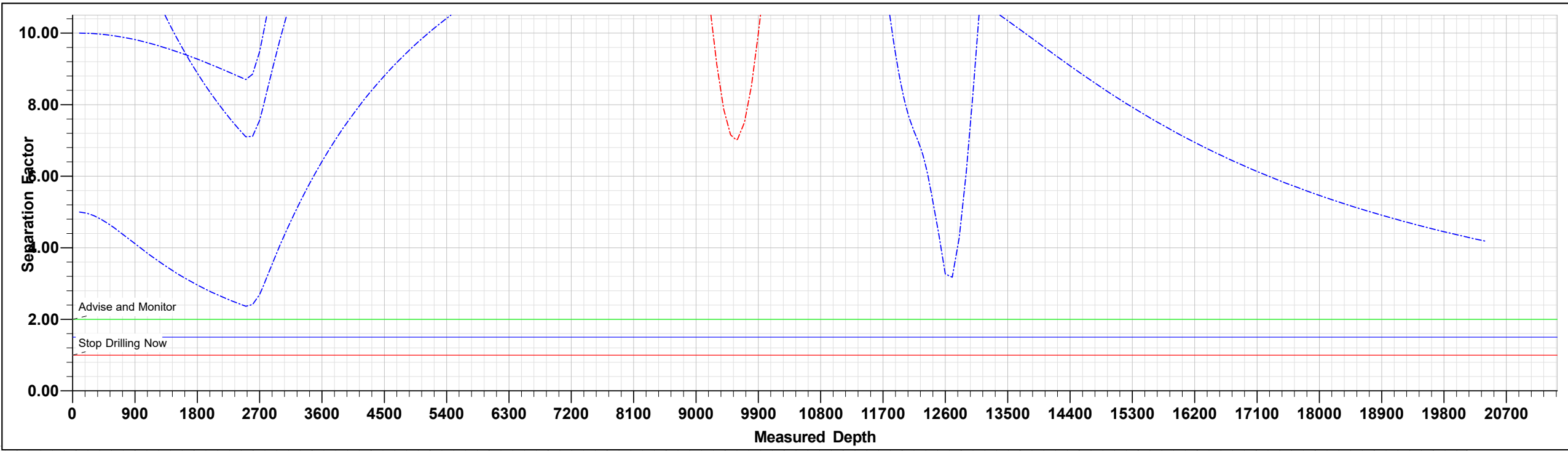
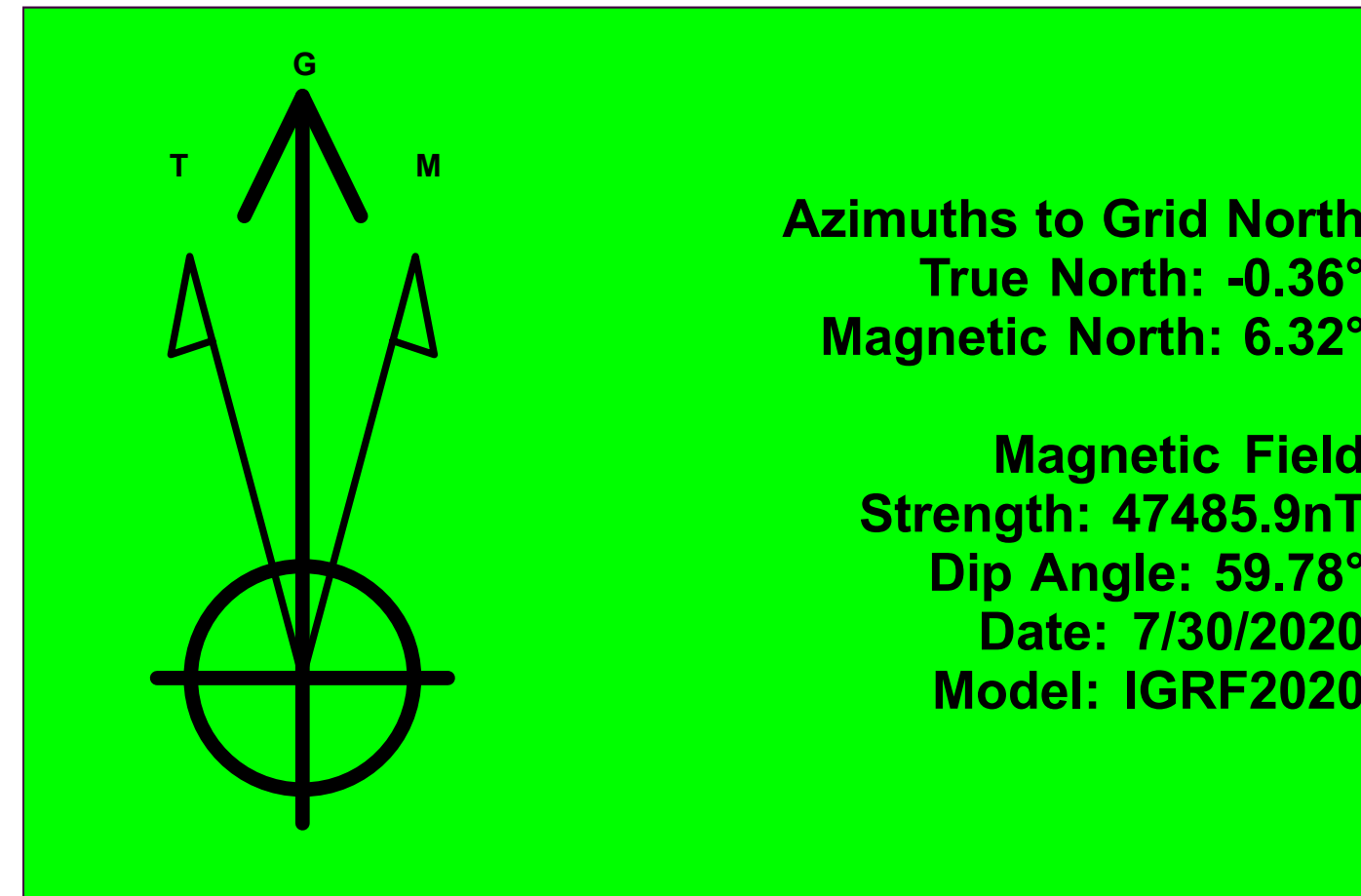
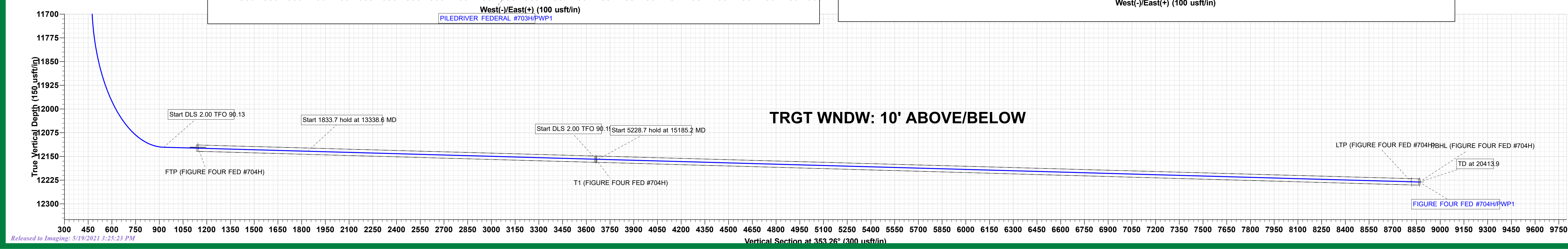
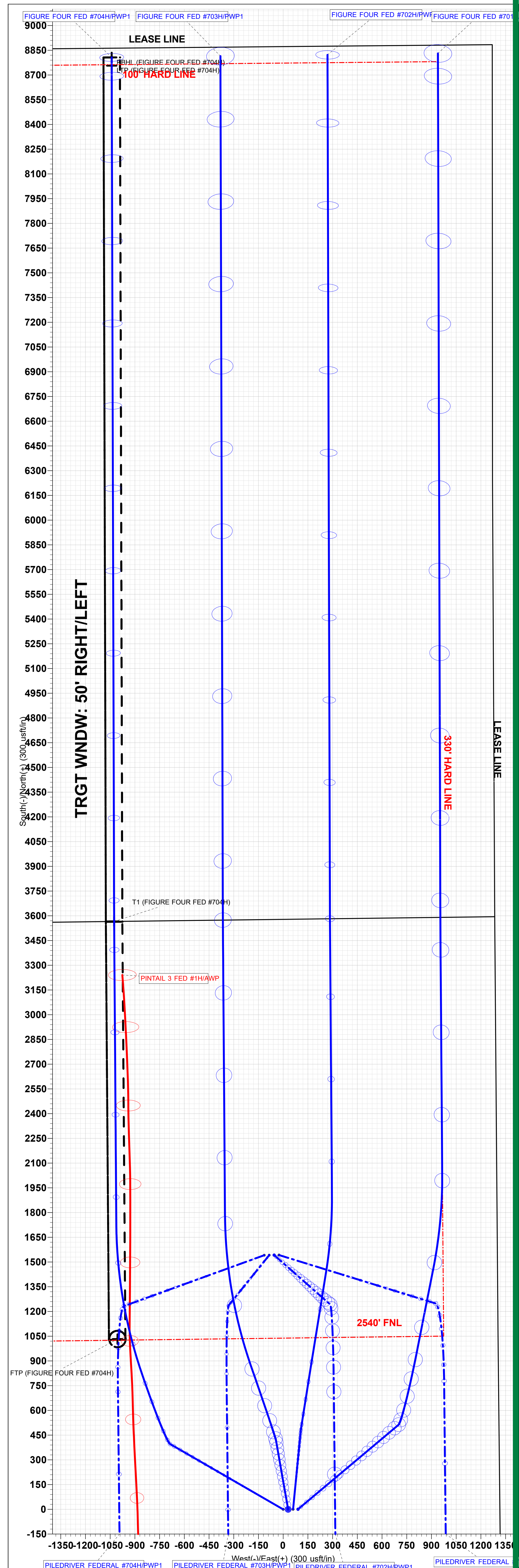
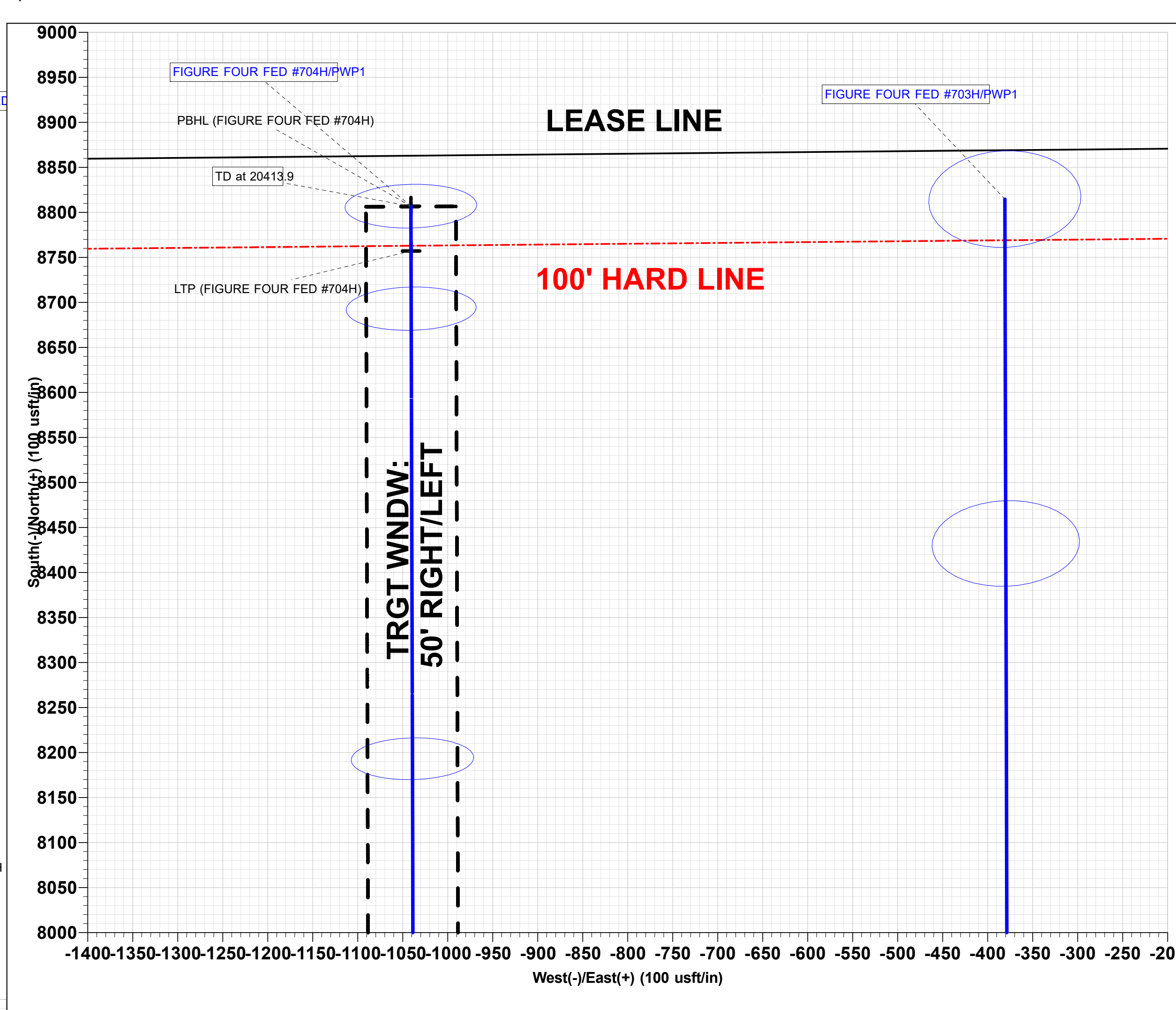
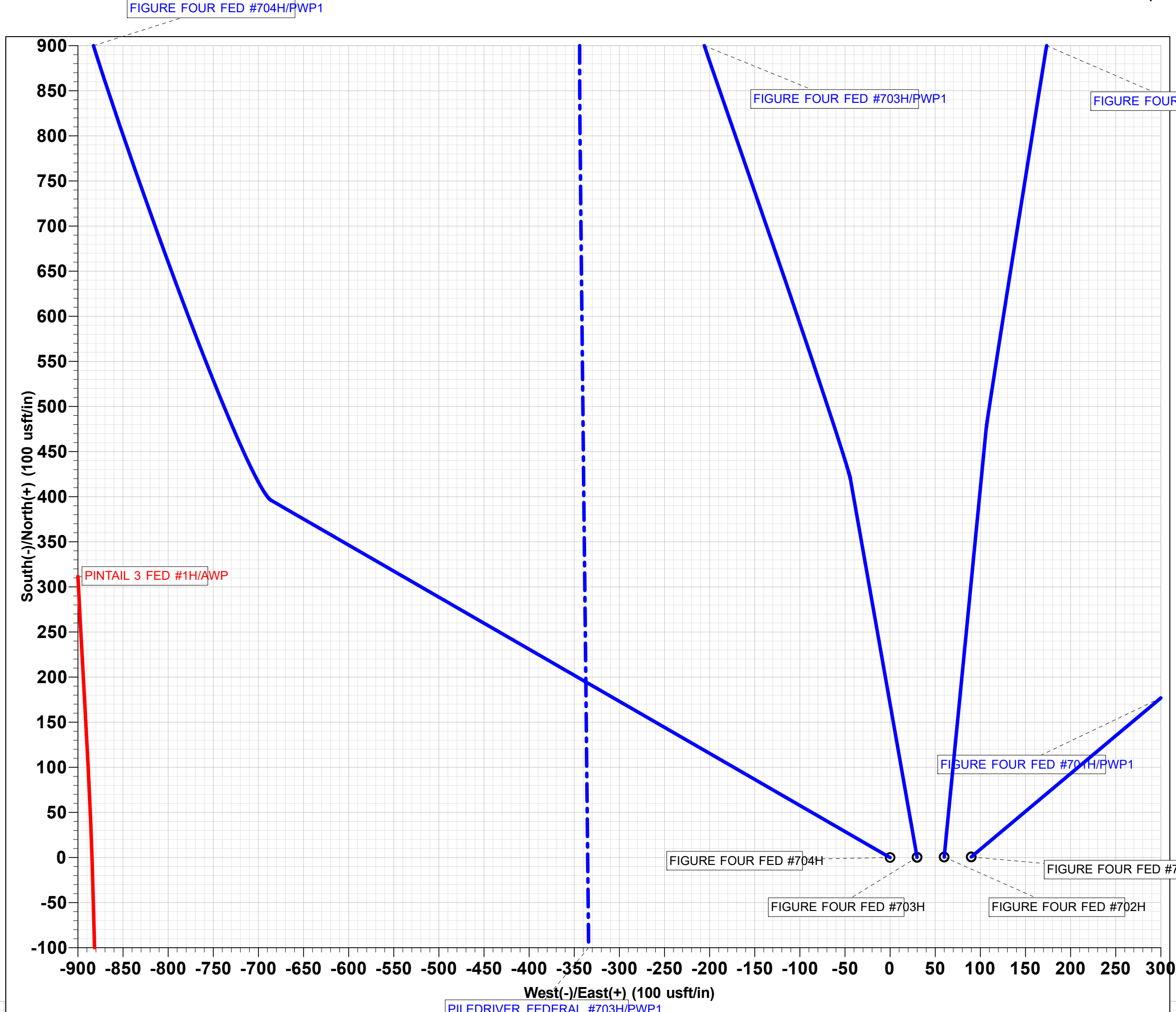
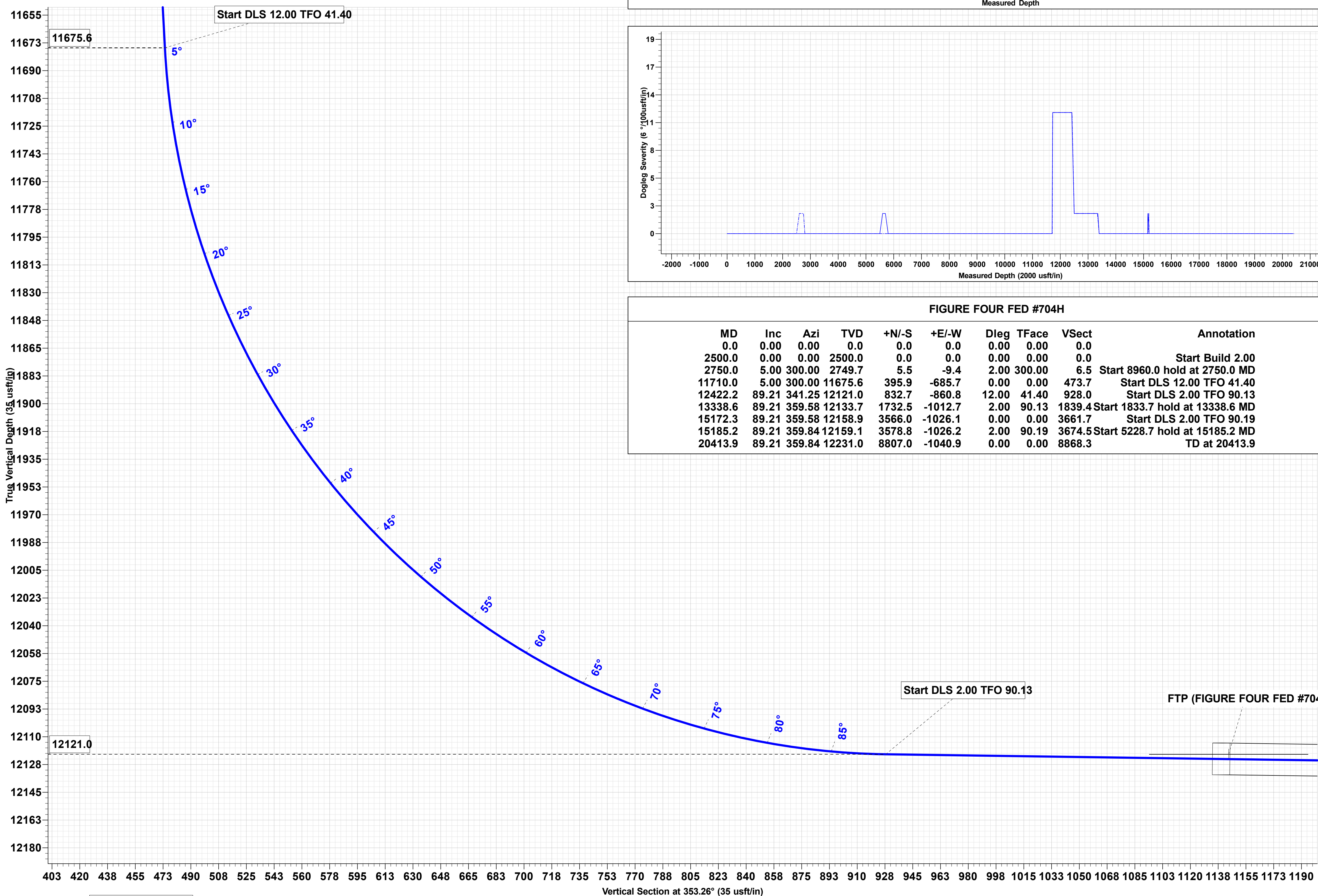
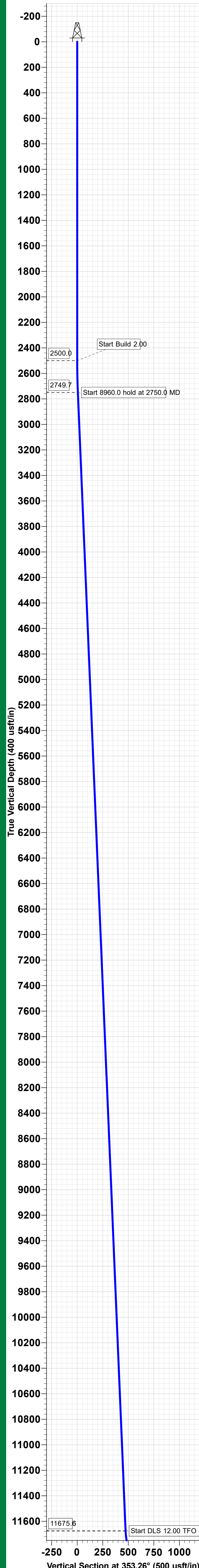


FIGURE FOUR FED #704H									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2750.0	5.00	300.00	2749.7	5.5	-9.4	2.00	300.00	6.5	Start 8960.0 hold at 2750.0 MD
11710.0	5.00	300.00	11675.6	395.9	-685.7	0.00	0.00	473.7	Start DLS 12.00 TFO 41.40
12422.2	89.21	341.25	12121.0	832.7	-860.8	12.00	41.40	928.0	Start DLS 2.00 TFO 90.13
13338.6	89.21	359.58	12133.7	1732.5	-1012.7	2.00	90.13	1839.4	Start 1833.7 hold at 13338.6 MD
15172.3	89.21	359.58	12158.9	3566.0	-1026.1	0.00	0.00	3661.7	Start DLS 2.00 TFO 90.19
15185.2	89.21	359.84	12159.1	3579.8	-1026.2	2.00	90.19	3674.5	Start 5228.7 hold at 15185.2 MD
20413.9	89.21	359.84	12231.0	8807.0	-1040.9	0.00	0.00	8868.3	TD at 20413.9



Azimuths to Grid North
True North: -0.36°
Magnetic North: 6.32°
Magnetic Field
Strength: 47485.9nT
Dip Angle: 59.78°
Date: 7/30/2020
Model: IGRF2020

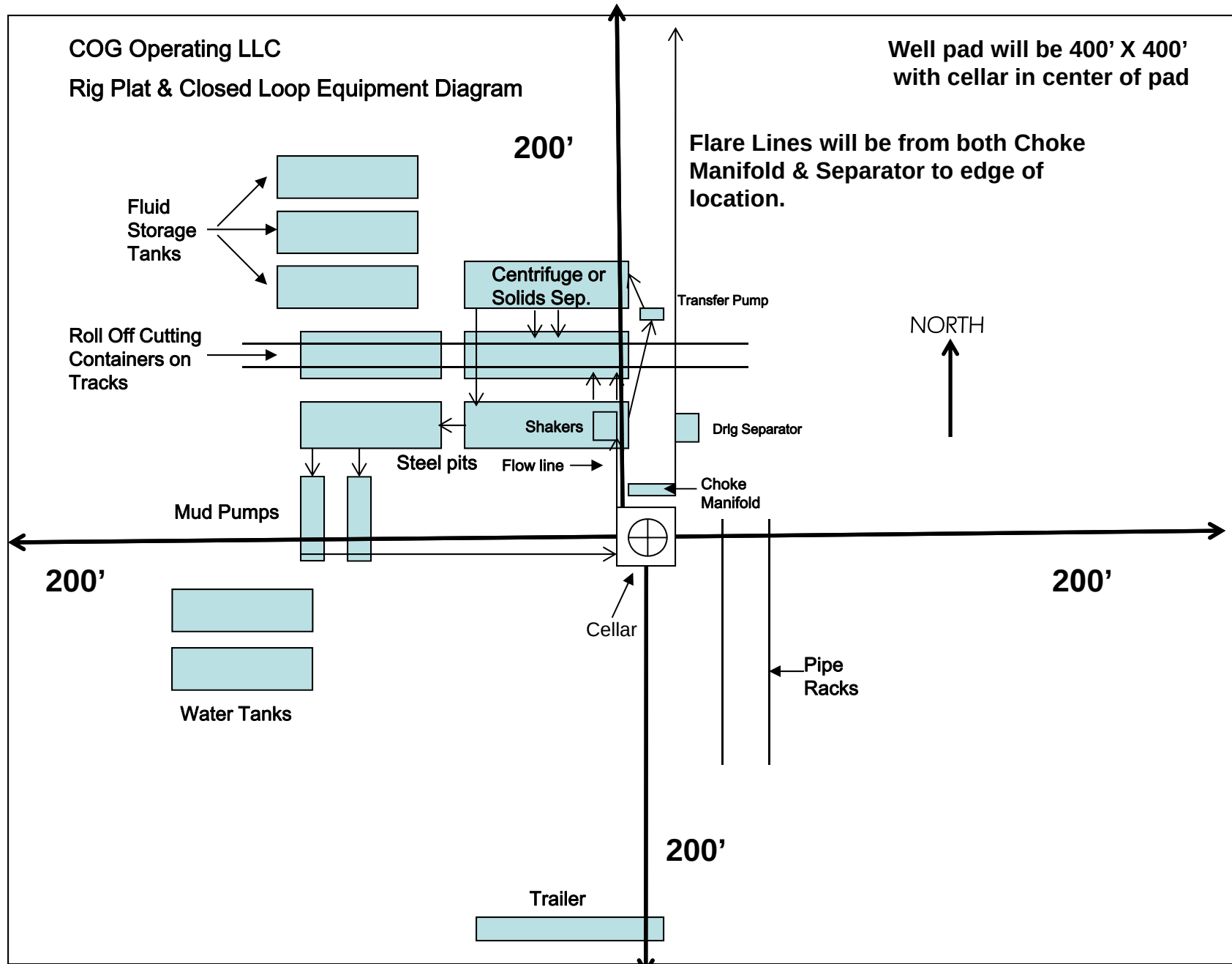


Exhibit 1

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 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 25325

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
COG OPERATING LLC 600 W Illinois Ave Midland, TX79701			229137	25325	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				