

Form 3160-3
(June 2015)UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL OR REENTER

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

1a. Type of work: ☐ DRILL ☐ REENTER		5. Lease Serial No.
1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other		6. If Indian, Allottee or Tribe Name
1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		7. If Unit or CA Agreement, Name and No.
2. Name of Operator [229137]		8. Lease Name and Well No. [330323]
3a. Address	3b. Phone No. (include area code)	9. API Well No. 30-025-48892
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory
14. Distance in miles and direction from nearest town or post office*		11. Sec., T. R. M. or Blk. and Survey or Area
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	12. County or Parish
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	13. State
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	17. Spacing Unit dedicated to this well
24. Attachments		20. BLM/BIA Bond No. in file NMB000215
23. Estimated duration		

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. | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above). |
| 2. A Drilling Plan. | 5. Operator certification. |
| 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). | 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

KZ
05/19/2021

SL

(Continued on page 2)

*(Instructions on page 2)

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3460 Fax: (505) 476-3462

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025-48892	Pool Code 98065	Pool Name WC-025 G-08 S263205N; Upper Wolfcamp
Property Code 330323	Property Name FIGURE FOUR FEDERAL COM	Well Number 701H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3264.4'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	3	26-S	32-E		1765	SOUTH	1225	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	34	25-S	32-E		50	NORTH	330	EAST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
480			

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

NAD 83 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=398632.9 N X=751306.5 E LAT.=32.094107° N LONG.=103.655301° W <table border="1"> <thead> <tr> <th colspan="2">POINT LEGEND</th> </tr> </thead> <tbody> <tr><td>1</td><td>Y=398686.8 N X=751638.5 E</td></tr> <tr><td>2</td><td>Y=398042.9 N X=751638.1 E</td></tr> <tr><td>3</td><td>Y=393397.2 N X=751651.4 E</td></tr> <tr><td>4</td><td>Y=390723.7 N X=751673.0 E</td></tr> <tr><td>5</td><td>Y=388048.2 N X=751701.8 E</td></tr> <tr><td>6</td><td>Y=388026.2 N X=749038.7 E</td></tr> <tr><td>7</td><td>Y=393372.1 N X=748989.6 E</td></tr> <tr><td>8</td><td>Y=398655.3 N X=748987.5 E</td></tr> </tbody> </table> NAD 83 NME <u>SURFACE LOCATION</u> Y=389803.0 N X=750457.8 E LAT.=32.069850° N LONG.=103.658220° W	POINT LEGEND		1	Y=398686.8 N X=751638.5 E	2	Y=398042.9 N X=751638.1 E	3	Y=393397.2 N X=751651.4 E	4	Y=390723.7 N X=751673.0 E	5	Y=388048.2 N X=751701.8 E	6	Y=388026.2 N X=749038.7 E	7	Y=393372.1 N X=748989.6 E	8	Y=398655.3 N X=748987.5 E		OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Stan Wagner</i> 9/23/2020 Signature Date Stan Wagner Printed Name E-mail Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. AUGUST 19, 2020 Date of Survey Signature & Seal of Professional Surveyor <i>Chad L. Harcrow</i> 8/31/20 Certificate No. CHAD HARCROW 17777 W.O. # 20-1221 DRAWN BY: AH
POINT LEGEND																				
1	Y=398686.8 N X=751638.5 E																			
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Intent ☒ As Drilled ☐API # **30-025-48892**
30-025-

Operator Name:	Property Name:	Well Number
COG Operating LLC	Figure Four Federal Com	701H

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 H	Section 3	Township 26S	Range 32E	Lot	Feet 2540	From N/S South	Feet 330	From E/W East	County Lea
Latitude 32.072724					Longitude -103.655345			NAD NAD 83	

Last Take Point (LTP)

UL A	Section 34	Township 25S	Range 32E	Lot	Feet 100	From N/S North	Feet 330	From E/W East	County Lea
Latitude 32.093969					Longitude -103.655302			NAD NAD 83	

Is this well the defining well for the Horizontal Spacing Unit? ☐ NOIs this well an infill well? ☐ YES

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

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

KZ 06/29/2018

District I
1625 N. French Dr., Hobbs, NM 88240
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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- 30-025-48892	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-	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 701H
SURFACE HOLE FOOTAGE:	1765' FSL & 1225' FEL
BOTTOM HOLE FOOTAGE:	0050' FNL & 0330' 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 **1164** feet (a minimum of 25 feet (Lea County) into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the **7-5/8** inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above. **Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst. Excess calculates to 24% - Additional cement may be required.**
 - ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the **5-1/2** inch production casing is:
 - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

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

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 701H

1. Geologic Formations

TVD of target	12,264' EOL	Pilot hole depth	NA
MD at TD:	20,337'	Deepest expected fresh water:	250'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	869	Water	
Top of Salt	1214	Salt	
Base of Salt	4354	Salt	
Lamar	4579	Salt Water	
Bell Canyon	4624	Salt Water	
Cherry Canyon	5629	Oil/Gas	
Brushy Canyon	7178	Oil/Gas	
Bone Spring Lime	8746	Oil/Gas	
1st Bone Spring Sand	9697	Oil/Gas	
2nd Bone Spring Sand	10328	Oil/Gas	
2nd BSS Base	10837	Oil/Gas	
3rd Bone Spring Sand	11471	Oil/Gas	
Wolfcamp	11928	Oil/Gas	
Wolfcamp A Shale	12113	Target Oil/Gas	
Wolfcamp B	12360	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	1164	10.75"	45.5	N80	BTC	4.64	1.67	19.64	20.71
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.56	1.08	2.88	2.90
8.750"	8500	11421	7.625"	29.7	HCP110	TL-FJ	1.32	1.12	2.77	1.94
6.75"	0	11221	5.5"	23	P110	BTC	1.82	2.15	2.58	2.57
6.75"	11221	20,337	5.5"	23	P110	Talon HTQ	1.82	2.15	2.58	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.	555	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter. Stage 1	830	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	521	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	860	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.
---	---

BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
9-7/8"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4"	13-5/8"	10M	5M Annular	x	3500 psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

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

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

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

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	7-5/8" Int shoe	Brine Diesel Emulsion	8.4 - 9	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	12 - 12.5	35-45	<20

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

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

6. Logging and Testing Procedures

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

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

7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	7975 psi at 12264' 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

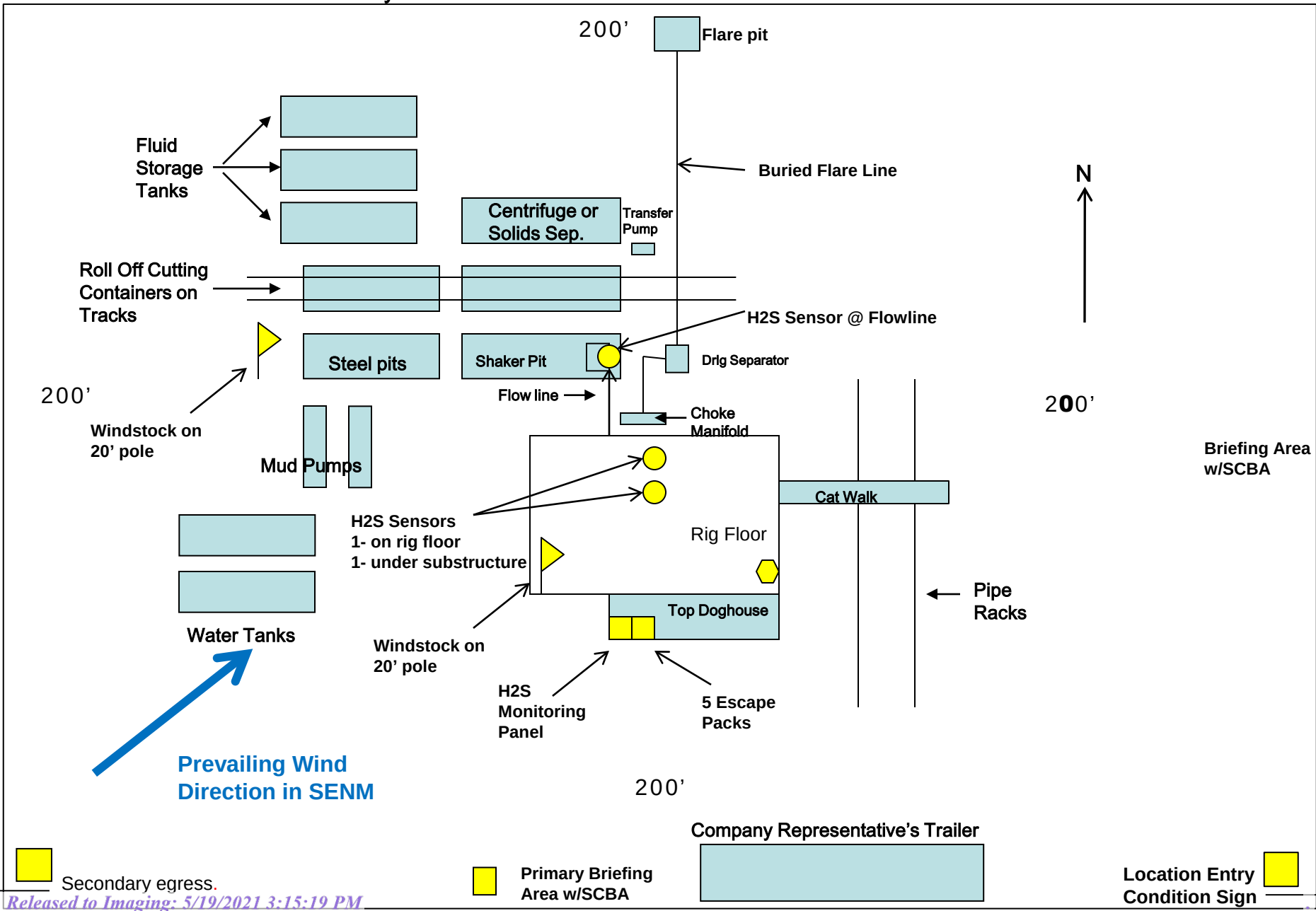
	<u>OFFICE</u>	<u>MOBILE</u>
COG OPERATING LLC OFFICE	575-748-6940	
SETH WILD	432-683-7443	432-528-3633
WALTER ROYE	575-748-6940	432-934-1886

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

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

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



DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)

PILEDRIIVER FED & FIGURE FOUR FED PROJECT

FIGURE FOUR FED #701H

OWB
PWP1

Anticollision Report

10 September, 2020

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference	PWP1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 1,000.0 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	9/10/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	20,337.2	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						
HARRIER FEDERAL PROJECT (LEA 2632)						
HARRIER 35 FEDERAL COM #1H - OWB - ACTUAL WE	18,300.0	15,870.8	440.3	324.3	3.797	SF
HARRIER 35 FEDERAL COM #1H - OWB - ACTUAL WE	18,499.2	15,876.3	392.7	294.3	3.994	CC, ES
PILEDRIVER FED & FIGURE FOUR FED PROJECT						
FIGURE FOUR FED #702H - OWB - PWP1	2,500.0	2,499.8	30.0	17.3	2.366	CC, ES, SF
FIGURE FOUR FED #703H - OWB - PWP1	2,500.0	2,500.4	60.0	41.5	3.250	CC, ES
FIGURE FOUR FED #703H - OWB - PWP1	2,600.0	2,600.4	61.4	42.2	3.206	SF
FIGURE FOUR FED #704H - OWB - PWP1	2,416.1	2,417.7	90.0	77.6	7.278	CC
FIGURE FOUR FED #704H - OWB - PWP1	2,500.0	2,501.6	90.0	77.3	7.099	ES, SF
PILEDRIVER FEDERAL #701H - OWB - PWP1	12,531.2	12,257.5	156.8	99.9	2.757	CC, ES, SF
PILEDRIVER FEDERAL #702H - OWB - PWP1	12,109.5	12,558.9	452.7	367.0	5.283	CC
PILEDRIVER FEDERAL #702H - OWB - PWP1	12,125.0	12,548.0	452.9	366.9	5.267	ES
PILEDRIVER FEDERAL #702H - OWB - PWP1	12,150.0	12,529.7	454.0	367.6	5.256	SF
PILEDRIVER FEDERAL #703H - OWB - PWP1						Out of range
PILEDRIVER FEDERAL #704H - OWB - PWP1						Out of range
PINTAIL 3 FED #1H - OWB - AWP						Out of range
PINTAIL 3 FED #2H - OWB - AWP	9,604.7	11,148.0	300.0	221.5	3.819	CC, ES, SF
PINTAIL 3 FED SWD - OWB - OWB	4,486.4	4,464.2	662.5	609.2	12.446	CC
PINTAIL 3 FED SWD - OWB - OWB	6,501.4	6,484.1	665.6	600.7	10.259	ES
PINTAIL 3 FED SWD - OWB - OWB	6,600.0	6,563.0	666.2	600.9	10.195	SF

Offset Design HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER 35 FEDERAL COM #1H - OWB - ACTUAL WE													Offset Site Error:	0.0 usft
Survey Program: 100-MWD													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		
17,600.0	12,227.8	15,859.3	11,934.5	65.8	106.3	4.39	6,996.8	884.3	981.0	834.5	146.54	6.694		
17,700.0	12,229.1	15,860.6	11,934.4	66.4	106.3	4.21	6,996.8	883.0	890.3	744.9	145.33	6.126		
17,800.0	12,230.4	15,861.9	11,934.4	67.1	106.4	4.02	6,996.8	881.7	801.8	658.1	143.66	5.581		
17,900.0	12,231.8	15,868.0	11,934.2	67.7	106.5	3.12	6,996.9	875.6	716.3	574.9	141.38	5.066		
18,000.0	12,233.1	15,868.0	11,934.2	68.4	106.5	3.12	6,996.9	875.6	635.0	497.1	137.98	4.602		
18,100.0	12,234.4	15,868.0	11,934.2	69.0	106.5	3.12	6,996.9	875.6	559.9	426.8	133.05	4.208		
18,200.0	12,235.7	15,868.1	11,934.2	69.7	106.5	3.11	6,996.9	875.5	493.6	367.7	125.88	3.921		

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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

HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER 35 FEDERAL COM #1H - OWB - ACTUAL WE										Offset Site Error:		0.0 usft	
Survey Program: 100-MWD										Offset Well Error:		3.0 usft	
Reference		Offset		Semi Major Axis			Distance						
Measured Depth	Vertical Depth	Measured Depth	Vertical Depth	Reference	Offset	Highside Toolface	Offset Wellbore Centre		Between Centres	Between Ellipses	Minimum Separation	Separation Factor	Warning
(usft)	(usft)	(usft)	(usft)	(usft)	(usft)	(°)	+N/-S (usft)	+E/-W (usft)	(usft)	(usft)	(usft)		
18,300.0	12,237.1	15,870.8	11,934.1	70.4	106.6	2.72	6,997.0	872.8	440.3	324.3	115.96	3.797	SF
18,400.0	12,238.4	15,873.5	11,934.0	71.1	106.6	2.32	6,997.1	870.1	405.0	300.4	104.57	3.873	
18,499.2	12,239.7	15,876.3	11,933.9	71.7	106.7	1.92	6,997.1	867.3	392.7	294.3	98.32	3.994	CC, ES
18,500.0	12,239.7	15,876.3	11,933.9	71.7	106.7	1.91	6,997.1	867.3	392.7	294.3	98.32	3.994	
18,600.0	12,241.0	15,879.1	11,933.8	72.4	106.7	1.50	6,997.2	864.5	405.4	301.1	104.28	3.887	
18,700.0	12,242.3	15,881.9	11,933.7	73.1	106.8	1.09	6,997.3	861.7	441.0	324.9	116.10	3.798	
18,800.0	12,243.7	15,884.8	11,933.6	73.8	106.9	0.67	6,997.3	858.8	494.5	367.9	126.63	3.905	
18,900.0	12,245.0	15,887.7	11,933.5	74.5	106.9	0.25	6,997.4	855.9	561.0	426.6	134.31	4.176	
19,000.0	12,246.3	15,890.7	11,933.4	75.2	107.0	-0.18	6,997.5	853.0	636.2	496.6	139.65	4.556	
19,100.0	12,247.6	15,893.7	11,933.3	75.9	107.1	-0.62	6,997.5	850.0	717.5	574.2	143.35	5.005	
19,200.0	12,249.0	15,896.7	11,933.3	76.6	107.1	-1.06	6,997.6	846.9	803.0	657.1	145.99	5.501	
19,300.0	12,250.3	15,899.8	11,933.2	77.3	107.2	-1.51	6,997.7	843.9	891.6	743.7	147.91	6.028	
19,400.0	12,251.6	15,900.0	11,933.2	78.0	107.2	-1.54	6,997.7	843.6	982.3	833.0	149.32	6.579	

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

Concho Resources LLC

Anticollision Report

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Reference Well:	FIGURE FOUR FED #701H	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	
12,900.0	12,165.7	12,977.1	12,151.8	44.6	16.2	-88.81	1,487.5	177.8	637.7	580.3	57.45	11.100	
12,961.5	12,166.5	13,027.3	12,152.5	44.7	16.2	-88.82	1,537.3	184.4	641.6	583.7	57.83	11.094	
13,000.0	12,167.0	13,058.7	12,153.0	44.8	16.2	-88.82	1,568.4	188.1	644.3	586.2	58.08	11.094	
13,100.0	12,168.3	13,140.1	12,154.1	45.0	16.3	-88.81	1,649.4	196.0	650.9	592.2	58.73	11.084	
13,200.0	12,169.6	13,221.3	12,155.3	45.2	16.3	-88.80	1,730.5	201.7	656.9	597.4	59.41	11.056	
13,300.0	12,171.0	13,300.0	12,156.4	45.4	16.4	-88.79	1,809.1	205.0	662.2	602.1	60.10	11.017	
13,400.0	12,172.3	13,383.6	12,157.5	45.7	16.5	-88.78	1,892.6	206.1	666.8	606.0	60.85	10.958	
13,500.0	12,173.6	13,479.4	12,158.9	45.9	16.5	-88.77	1,988.5	205.5	669.9	608.2	61.73	10.853	
13,541.5	12,174.2	13,521.0	12,159.5	46.1	16.6	-88.76	2,030.0	205.2	670.2	608.1	62.11	10.791	
13,600.0	12,174.9	13,579.4	12,160.3	46.2	16.8	-88.77	2,088.4	204.7	670.2	607.6	62.66	10.695	
13,700.0	12,176.2	13,679.4	12,161.7	46.5	17.4	-88.77	2,188.4	204.0	670.2	606.6	63.63	10.532	
13,800.0	12,177.6	13,779.4	12,163.1	46.8	18.1	-88.78	2,288.4	203.3	670.2	605.6	64.63	10.370	
13,900.0	12,178.9	13,879.4	12,164.5	47.1	18.8	-88.79	2,388.4	202.5	670.2	604.5	65.66	10.208	
14,000.0	12,180.2	13,979.4	12,165.9	47.4	19.5	-88.80	2,488.4	201.8	670.2	603.5	66.71	10.047	
14,100.0	12,181.5	14,079.4	12,167.3	47.7	20.2	-88.80	2,588.4	201.1	670.2	602.4	67.78	9.888	
14,200.0	12,182.8	14,179.4	12,168.7	48.1	21.0	-88.81	2,688.4	200.3	670.2	601.3	68.88	9.730	
14,300.0	12,184.2	14,279.4	12,170.1	48.4	21.8	-88.82	2,788.4	199.6	670.2	600.2	69.99	9.575	
14,400.0	12,185.5	14,379.4	12,171.6	48.8	22.5	-88.83	2,888.3	198.9	670.2	599.0	71.13	9.422	
14,500.0	12,186.8	14,479.4	12,173.0	49.2	23.3	-88.83	2,988.3	198.1	670.2	597.9	72.28	9.271	
14,600.0	12,188.1	14,579.4	12,174.4	49.6	24.1	-88.84	3,088.3	197.4	670.2	596.7	73.46	9.123	
14,700.0	12,189.5	14,679.4	12,175.8	50.0	24.9	-88.85	3,188.3	196.7	670.2	595.5	74.65	8.978	
14,800.0	12,190.8	14,779.4	12,177.2	50.4	25.6	-88.85	3,288.3	195.9	670.1	594.3	75.85	8.835	
14,900.0	12,192.1	14,879.4	12,178.6	50.9	26.4	-88.86	3,388.3	195.2	670.1	593.1	77.08	8.695	
15,000.0	12,193.4	14,979.4	12,180.0	51.3	27.2	-88.87	3,488.3	194.5	670.1	591.8	78.31	8.557	
15,097.1	12,194.7	15,077.6	12,181.4	51.7	28.0	-88.88	3,588.4	193.8	670.1	590.6	79.54	8.425	
15,100.0	12,194.7	15,081.4	12,181.4	51.7	28.0	-88.88	3,590.3	193.7	670.1	590.5	79.59	8.420	
15,110.2	12,194.9	15,092.6	12,181.6	51.8	28.1	-88.88	3,601.5	193.7	670.1	590.4	79.73	8.405	
15,200.0	12,196.1	15,182.5	12,182.8	52.2	28.9	-88.89	3,691.3	193.5	670.1	589.2	80.86	8.287	
15,300.0	12,197.4	15,282.5	12,184.2	52.7	29.7	-88.89	3,791.3	193.2	670.1	588.0	82.14	8.158	
15,400.0	12,198.7	15,382.5	12,185.7	53.2	30.5	-88.90	3,891.3	192.9	670.1	586.7	83.43	8.032	
15,500.0	12,200.0	15,482.5	12,187.1	53.7	31.3	-88.91	3,991.2	192.6	670.1	585.4	84.73	7.908	
15,600.0	12,201.4	15,582.5	12,188.5	54.2	32.1	-88.92	4,091.2	192.3	670.1	584.0	86.05	7.787	
15,700.0	12,202.7	15,682.5	12,189.9	54.7	32.9	-88.92	4,191.2	192.1	670.1	582.7	87.38	7.669	
15,800.0	12,204.0	15,782.5	12,191.3	55.2	33.7	-88.93	4,291.2	191.8	670.1	581.4	88.71	7.554	
15,900.0	12,205.3	15,882.5	12,192.7	55.7	34.6	-88.94	4,391.2	191.5	670.1	580.0	90.06	7.441	
16,000.0	12,206.6	15,982.5	12,194.1	56.2	35.4	-88.94	4,491.2	191.2	670.1	578.7	91.42	7.330	
16,100.0	12,208.0	16,082.5	12,195.5	56.8	36.2	-88.95	4,591.2	190.9	670.1	577.3	92.78	7.222	
16,200.0	12,209.3	16,182.5	12,196.9	57.3	37.0	-88.96	4,691.2	190.7	670.1	575.9	94.16	7.117	
16,300.0	12,210.6	16,282.5	12,198.3	57.9	37.9	-88.97	4,791.2	190.4	670.1	574.5	95.55	7.013	
16,400.0	12,211.9	16,382.5	12,199.7	58.5	38.7	-88.97	4,891.2	190.1	670.1	573.2	96.94	6.912	
16,500.0	12,213.3	16,482.5	12,201.1	59.0	39.5	-88.98	4,991.1	189.8	670.1	571.8	98.34	6.814	
16,600.0	12,214.6	16,582.5	12,202.5	59.6	40.3	-88.99	5,091.1	189.5	670.1	570.3	99.75	6.718	
16,700.0	12,215.9	16,682.5	12,203.9	60.2	41.2	-88.99	5,191.1	189.3	670.1	568.9	101.17	6.623	
16,800.0	12,217.2	16,782.5	12,205.3	60.8	42.0	-89.00	5,291.1	189.0	670.1	567.5	102.60	6.531	
16,900.0	12,218.5	16,882.5	12,206.7	61.4	42.8	-89.01	5,391.1	188.7	670.1	566.1	104.03	6.441	
17,000.0	12,219.9	16,982.5	12,208.2	62.0	43.7	-89.02	5,491.1	188.4	670.1	564.6	105.47	6.353	
17,100.0	12,221.2	17,082.5	12,209.6	62.6	44.5	-89.02	5,591.1	188.1	670.1	563.2	106.92	6.267	
17,200.0	12,222.5	17,182.5	12,211.0	63.2	45.3	-89.03	5,691.1	187.9	670.1	561.7	108.37	6.183	
17,300.0	12,223.8	17,282.5	12,212.4	63.8	46.2	-89.04	5,791.1	187.6	670.1	560.3	109.83	6.101	
17,400.0	12,225.2	17,382.5	12,213.8	64.5	47.0	-89.04	5,891.1	187.3	670.1	558.8	111.30	6.021	
17,500.0	12,226.5	17,482.5	12,215.2	65.1	47.9	-89.05	5,991.0	187.0	670.1	557.3	112.77	5.942	

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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		
17,600.0	12,227.8	17,582.5	12,216.6	65.7	48.7	-89.06	6,091.0	186.7	670.1	555.8	114.25	5.865		
17,700.0	12,229.1	17,682.5	12,218.0	66.4	49.5	-89.07	6,191.0	186.5	670.1	554.4	115.73	5.790		
17,800.0	12,230.4	17,782.5	12,219.4	67.0	50.4	-89.07	6,291.0	186.2	670.1	552.9	117.22	5.716		
17,900.0	12,231.8	17,882.5	12,220.8	67.7	51.2	-89.08	6,391.0	185.9	670.1	551.4	118.72	5.644		
18,000.0	12,233.1	17,982.5	12,222.2	68.3	52.1	-89.09	6,491.0	185.6	670.1	549.9	120.22	5.574		
18,100.0	12,234.4	18,082.5	12,223.6	69.0	52.9	-89.09	6,591.0	185.3	670.1	548.4	121.72	5.505		
18,200.0	12,235.7	18,182.5	12,225.0	69.6	53.8	-89.10	6,691.0	185.1	670.1	546.9	123.23	5.438		
18,300.0	12,237.1	18,282.5	12,226.4	70.3	54.6	-89.11	6,791.0	184.8	670.1	545.3	124.74	5.372		
18,400.0	12,238.4	18,382.5	12,227.8	71.0	55.4	-89.12	6,890.9	184.5	670.1	543.8	126.26	5.307		
18,500.0	12,239.7	18,482.5	12,229.2	71.7	56.3	-89.12	6,990.9	184.2	670.1	542.3	127.79	5.244		
18,600.0	12,241.0	18,582.5	12,230.7	72.4	57.1	-89.13	7,090.9	183.9	670.1	540.8	129.31	5.182		
18,700.0	12,242.3	18,682.5	12,232.1	73.0	58.0	-89.14	7,190.9	183.7	670.1	539.2	130.85	5.121		
18,800.0	12,243.7	18,782.5	12,233.5	73.7	58.8	-89.14	7,290.9	183.4	670.1	537.7	132.38	5.062		
18,900.0	12,245.0	18,882.5	12,234.9	74.4	59.7	-89.15	7,390.9	183.1	670.1	536.2	133.92	5.004		
19,000.0	12,246.3	18,982.5	12,236.3	75.1	60.5	-89.16	7,490.9	182.8	670.1	534.6	135.46	4.947		
19,100.0	12,247.6	19,082.5	12,237.7	75.8	61.4	-89.17	7,590.9	182.5	670.1	533.1	137.01	4.891		
19,200.0	12,249.0	19,182.5	12,239.1	76.5	62.2	-89.17	7,690.9	182.3	670.1	531.5	138.56	4.836		
19,300.0	12,250.3	19,282.5	12,240.5	77.2	63.1	-89.18	7,790.9	182.0	670.1	530.0	140.12	4.782		
19,400.0	12,251.6	19,382.5	12,241.9	77.9	63.9	-89.19	7,890.8	181.7	670.1	528.4	141.67	4.730		
19,500.0	12,252.9	19,482.5	12,243.3	78.6	64.8	-89.19	7,990.8	181.4	670.1	526.8	143.23	4.678		
19,600.0	12,254.3	19,582.5	12,244.7	79.4	65.6	-89.20	8,090.8	181.1	670.1	525.3	144.80	4.628		
19,700.0	12,255.6	19,682.5	12,246.1	80.1	66.5	-89.21	8,190.8	180.9	670.1	523.7	146.37	4.578		
19,800.0	12,256.9	19,782.5	12,247.5	80.8	67.3	-89.22	8,290.8	180.6	670.1	522.1	147.94	4.530		
19,900.0	12,258.2	19,882.5	12,248.9	81.5	68.2	-89.22	8,390.8	180.3	670.1	520.6	149.51	4.482		
20,000.0	12,259.5	19,982.5	12,250.3	82.2	69.0	-89.23	8,490.8	180.0	670.1	519.0	151.08	4.435		
20,100.0	12,260.9	20,082.5	12,251.8	83.0	69.9	-89.24	8,590.8	179.7	670.1	517.4	152.66	4.389		
20,200.0	12,262.2	20,182.5	12,253.2	83.7	70.7	-89.25	8,690.8	179.5	670.1	515.8	154.24	4.344		
20,300.0	12,263.5	20,282.5	12,254.6	84.4	71.5	-89.25	8,790.8	179.2	670.1	514.2	155.83	4.300		
20,331.1	12,263.9	20,313.5	12,255.0	84.7	71.8	-89.25	8,821.8	179.1	670.1	513.8	156.32	4.287		
20,337.2	12,264.0	20,313.5	12,255.0	84.7	71.8	-89.25	8,821.8	179.1	670.1	513.8	156.32	4.287		
20,338.0	12,264.0	20,313.5	12,255.0	84.7	71.8	-89.25	8,821.8	179.1	670.1	513.8	156.32	4.287		

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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				Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.4	0.4	3.0	3.0	-90.48	-0.5	-60.0	60.0				
100.0	100.0	100.4	100.4	3.0	3.0	-90.48	-0.5	-60.0	60.0	54.0	6.01	9.992	
200.0	200.0	200.4	200.4	3.0	3.0	-90.48	-0.5	-60.0	60.0	53.9	6.08	9.872	
300.0	300.0	300.4	300.4	3.1	3.1	-90.48	-0.5	-60.0	60.0	53.8	6.23	9.627	
400.0	400.0	400.4	400.4	3.2	3.2	-90.48	-0.5	-60.0	60.0	53.5	6.46	9.283	
500.0	500.0	500.4	500.4	3.4	3.4	-90.48	-0.5	-60.0	60.0	53.2	6.76	8.872	
600.0	600.0	600.4	600.4	3.6	3.6	-90.48	-0.5	-60.0	60.0	52.9	7.12	8.425	
700.0	700.0	700.4	700.4	3.8	3.8	-90.48	-0.5	-60.0	60.0	52.5	7.53	7.966	
800.0	800.0	800.4	800.4	4.0	4.0	-90.48	-0.5	-60.0	60.0	52.0	7.99	7.513	
900.0	900.0	900.4	900.4	4.2	4.2	-90.48	-0.5	-60.0	60.0	51.5	8.48	7.078	
1,000.0	1,000.0	1,000.4	1,000.4	4.5	4.5	-90.48	-0.5	-60.0	60.0	51.0	9.00	6.669	
1,100.0	1,100.0	1,100.4	1,100.4	4.8	4.8	-90.48	-0.5	-60.0	60.0	50.5	9.54	6.287	
1,200.0	1,200.0	1,200.4	1,200.4	5.1	5.1	-90.48	-0.5	-60.0	60.0	49.9	10.11	5.934	
1,300.0	1,300.0	1,300.4	1,300.4	5.3	5.3	-90.48	-0.5	-60.0	60.0	49.3	10.70	5.609	
1,400.0	1,400.0	1,400.4	1,400.4	5.6	5.6	-90.48	-0.5	-60.0	60.0	48.7	11.30	5.311	
1,500.0	1,500.0	1,500.4	1,500.4	6.0	6.0	-90.48	-0.5	-60.0	60.0	48.1	11.91	5.037	
1,600.0	1,600.0	1,600.4	1,600.4	6.3	6.3	-90.48	-0.5	-60.0	60.0	47.5	12.54	4.787	
1,700.0	1,700.0	1,700.4	1,700.4	6.6	6.6	-90.48	-0.5	-60.0	60.0	46.8	13.17	4.556	
1,800.0	1,800.0	1,800.4	1,800.4	6.9	6.9	-90.48	-0.5	-60.0	60.0	46.2	13.81	4.344	
1,900.0	1,900.0	1,900.4	1,900.4	7.2	7.2	-90.48	-0.5	-60.0	60.0	45.5	14.46	4.149	
2,000.0	2,000.0	2,000.4	2,000.4	7.6	7.6	-90.48	-0.5	-60.0	60.0	44.9	15.12	3.969	
2,100.0	2,100.0	2,100.4	2,100.4	7.9	7.9	-90.48	-0.5	-60.0	60.0	44.2	15.78	3.803	
2,200.0	2,200.0	2,200.4	2,200.4	8.2	8.2	-90.48	-0.5	-60.0	60.0	43.6	16.44	3.649	
2,300.0	2,300.0	2,300.4	2,300.4	8.6	8.6	-90.48	-0.5	-60.0	60.0	42.9	17.11	3.507	
2,400.0	2,400.0	2,400.4	2,400.4	8.9	8.9	-90.48	-0.5	-60.0	60.0	42.2	17.78	3.374	
2,500.0	2,500.0	2,500.4	2,500.4	9.2	9.2	-90.48	-0.5	-60.0	60.0	41.5	18.46	3.250 CC, ES	
2,600.0	2,600.0	2,600.4	2,600.4	9.6	9.6	-141.50	-0.5	-60.0	61.4	42.2	19.14	3.206 SF	
2,700.0	2,699.8	2,700.2	2,700.2	9.9	9.9	-144.30	-0.5	-60.0	65.5	45.7	19.81	3.308	
2,750.0	2,749.7	2,750.1	2,750.1	10.1	10.1	-146.17	-0.5	-60.0	68.8	48.6	20.15	3.412	
2,800.0	2,799.5	2,799.9	2,799.9	10.2	10.3	-148.08	-0.5	-60.0	72.4	51.9	20.49	3.535	
2,900.0	2,899.1	2,899.5	2,899.5	10.6	10.6	-151.39	-0.5	-60.0	80.0	58.8	21.17	3.778	
3,000.0	2,998.7	2,999.1	2,999.1	10.9	10.9	-154.11	-0.5	-60.0	87.7	65.9	21.85	4.015	
3,100.0	3,098.4	3,098.8	3,098.8	11.3	11.3	-156.39	-0.5	-60.0	95.6	73.1	22.53	4.245	
3,200.0	3,198.0	3,198.4	3,198.4	11.6	11.6	-158.32	-0.5	-60.0	103.7	80.5	23.22	4.467	
3,300.0	3,297.6	3,298.0	3,298.0	11.9	12.0	-159.97	-0.5	-60.0	111.8	87.9	23.90	4.679	
3,400.0	3,397.2	3,397.6	3,397.6	12.3	12.3	-161.39	-0.5	-60.0	120.1	95.5	24.59	4.883	
3,500.0	3,496.8	3,497.2	3,497.2	12.6	12.7	-162.63	-0.5	-60.0	128.4	103.1	25.28	5.077	
3,600.0	3,596.4	3,596.8	3,596.8	13.0	13.0	-163.72	-0.5	-60.0	136.7	110.7	25.98	5.263	
3,700.0	3,696.1	3,696.5	3,696.5	13.3	13.4	-164.69	-0.5	-60.0	145.1	118.4	26.67	5.441	
3,800.0	3,795.7	3,796.1	3,796.1	13.7	13.7	-165.55	-0.5	-60.0	153.5	126.2	27.36	5.610	
3,900.0	3,895.3	3,895.7	3,895.7	14.0	14.1	-166.31	-0.5	-60.0	162.0	133.9	28.06	5.772	
4,000.0	3,994.9	3,995.3	3,995.3	14.4	14.4	-167.01	-0.5	-60.0	170.5	141.7	28.76	5.927	
4,100.0	4,094.5	4,094.9	4,094.9	14.7	14.8	-167.64	-0.5	-60.0	179.0	149.5	29.46	6.075	
4,200.0	4,194.2	4,194.6	4,194.6	15.1	15.1	-168.21	-0.5	-60.0	187.5	157.3	30.16	6.217	
4,300.0	4,293.8	4,294.2	4,294.2	15.4	15.5	-168.73	-0.5	-60.0	196.0	165.2	30.86	6.353	
4,400.0	4,393.4	4,393.8	4,393.8	15.8	15.8	-169.20	-0.5	-60.0	204.6	173.0	31.56	6.483	
4,500.0	4,493.0	4,493.4	4,493.4	16.1	16.2	-169.64	-0.5	-60.0	213.2	180.9	32.26	6.607	
4,600.0	4,592.6	4,593.0	4,593.0	16.5	16.5	-170.05	-0.5	-60.0	221.7	188.8	32.97	6.726	
4,700.0	4,692.3	4,692.7	4,692.7	16.8	16.9	-170.42	-0.5	-60.0	230.3	196.7	33.67	6.841	
4,800.0	4,791.9	4,792.3	4,792.3	17.2	17.2	-170.77	-0.5	-60.0	238.9	204.6	34.37	6.951	
4,900.0	4,891.5	4,891.9	4,891.9	17.6	17.6	-171.09	-0.5	-60.0	247.5	212.5	35.08	7.056	

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Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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	
5,000.0	4,991.1	4,991.5	4,991.5	17.9	17.9	-171.39	-0.5	-60.0	256.1	220.4	35.79	7.158	
5,100.0	5,090.7	5,091.1	5,091.1	18.3	18.3	-171.68	-0.5	-60.0	264.8	228.3	36.49	7.256	
5,200.0	5,190.4	5,190.8	5,190.8	18.6	18.6	-171.94	-0.5	-60.0	273.4	236.2	37.20	7.350	
5,300.0	5,290.0	5,290.4	5,290.4	19.0	19.0	-172.19	-0.5	-60.0	282.0	244.1	37.91	7.440	
5,400.0	5,389.6	5,390.0	5,390.0	19.3	19.3	-172.42	-0.5	-60.0	290.7	252.1	38.61	7.528	
5,500.0	5,489.2	5,489.6	5,489.6	19.7	19.7	-172.64	-0.5	-60.0	299.3	260.0	39.32	7.612	
5,600.0	5,588.8	5,593.1	5,593.1	20.0	20.0	-172.60	1.0	-60.3	307.4	267.3	40.05	7.675	
5,700.0	5,688.5	5,697.1	5,696.9	20.4	20.4	-171.92	6.2	-61.2	314.1	273.3	40.77	7.704	
5,800.0	5,788.1	5,796.9	5,796.5	20.8	20.8	-170.98	13.0	-62.4	320.2	278.7	41.48	7.719	
5,900.0	5,887.7	5,896.6	5,895.9	21.1	21.1	-170.08	19.9	-63.6	326.3	284.1	42.19	7.735	
6,000.0	5,987.3	5,996.3	5,995.4	21.5	21.5	-169.21	26.7	-64.8	332.6	289.7	42.89	7.753	
6,100.0	6,086.9	6,095.9	6,094.8	21.8	21.8	-168.37	33.6	-66.0	338.9	295.3	43.60	7.772	
6,200.0	6,186.6	6,195.6	6,194.2	22.2	22.2	-167.57	40.4	-67.2	345.2	300.9	44.31	7.791	
6,300.0	6,286.2	6,295.3	6,293.7	22.5	22.5	-166.79	47.3	-68.4	351.7	306.7	45.02	7.812	
6,400.0	6,385.8	6,395.0	6,393.1	22.9	22.9	-166.04	54.1	-69.6	358.2	312.4	45.73	7.833	
6,500.0	6,485.4	6,494.7	6,492.6	23.3	23.2	-165.32	61.0	-70.8	364.7	318.3	46.43	7.855	
6,600.0	6,585.0	6,594.3	6,592.0	23.6	23.6	-164.62	67.8	-72.0	371.3	324.2	47.14	7.877	
6,700.0	6,684.7	6,694.0	6,691.4	24.0	23.9	-163.95	74.7	-73.3	378.0	330.2	47.85	7.900	
6,800.0	6,784.3	6,793.7	6,790.9	24.3	24.3	-163.30	81.5	-74.5	384.7	336.2	48.56	7.922	
6,900.0	6,883.9	6,893.4	6,890.3	24.7	24.6	-162.67	88.4	-75.7	391.5	342.2	49.27	7.946	
7,000.0	6,983.5	6,993.1	6,989.8	25.1	25.0	-162.07	95.2	-76.9	398.3	348.3	49.98	7.969	
7,100.0	7,083.1	7,092.7	7,089.2	25.4	25.4	-161.48	102.0	-78.1	405.2	354.5	50.69	7.993	
7,200.0	7,182.7	7,192.4	7,188.6	25.8	25.7	-160.92	108.9	-79.3	412.1	360.7	51.40	8.016	
7,300.0	7,282.4	7,292.1	7,288.1	26.1	26.1	-160.37	115.7	-80.5	419.0	366.9	52.11	8.040	
7,400.0	7,382.0	7,391.8	7,387.5	26.5	26.4	-159.84	122.6	-81.7	426.0	373.1	52.82	8.064	
7,500.0	7,481.6	7,491.5	7,486.9	26.9	26.8	-159.33	129.4	-82.9	433.0	379.4	53.53	8.088	
7,600.0	7,581.2	7,591.1	7,586.4	27.2	27.1	-158.83	136.3	-84.1	440.0	385.8	54.25	8.111	
7,700.0	7,680.8	7,690.8	7,685.8	27.6	27.5	-158.35	143.1	-85.3	447.1	392.1	54.96	8.135	
7,800.0	7,780.5	7,790.5	7,785.3	27.9	27.8	-157.89	150.0	-86.5	454.2	398.5	55.67	8.158	
7,900.0	7,880.1	7,890.2	7,884.7	28.3	28.2	-157.44	156.8	-87.7	461.3	404.9	56.38	8.182	
8,000.0	7,979.7	7,989.9	7,984.1	28.7	28.6	-157.00	163.7	-88.9	468.5	411.4	57.09	8.205	
8,100.0	8,079.3	8,089.6	8,083.6	29.0	28.9	-156.58	170.5	-90.2	475.6	417.8	57.80	8.228	
8,200.0	8,178.9	8,189.2	8,183.0	29.4	29.3	-156.17	177.4	-91.4	482.8	424.3	58.52	8.251	
8,300.0	8,278.6	8,288.9	8,282.4	29.7	29.6	-155.77	184.2	-92.6	490.1	430.8	59.23	8.274	
8,400.0	8,378.2	8,388.6	8,381.9	30.1	30.0	-155.38	191.1	-93.8	497.3	437.4	59.94	8.297	
8,500.0	8,477.8	8,488.3	8,481.3	30.5	30.3	-155.00	197.9	-95.0	504.6	444.0	60.65	8.319	
8,600.0	8,577.4	8,588.0	8,580.8	30.8	30.7	-154.64	204.8	-96.2	511.9	450.5	61.37	8.342	
8,700.0	8,677.0	8,687.6	8,680.2	31.2	31.1	-154.28	211.6	-97.4	519.2	457.1	62.08	8.364	
8,800.0	8,776.7	8,787.3	8,779.6	31.5	31.4	-153.94	218.5	-98.6	526.6	463.8	62.79	8.386	
8,900.0	8,876.3	8,887.0	8,879.1	31.9	31.8	-153.60	225.3	-99.8	533.9	470.4	63.51	8.407	
9,000.0	8,975.9	8,986.7	8,978.5	32.3	32.1	-153.27	232.2	-101.0	541.3	477.1	64.22	8.429	
9,100.0	9,075.5	9,086.4	9,078.0	32.6	32.5	-152.95	239.0	-102.2	548.7	483.7	64.93	8.450	
9,200.0	9,175.1	9,186.0	9,177.4	33.0	32.8	-152.64	245.9	-103.4	556.1	490.4	65.65	8.471	
9,300.0	9,274.8	9,285.7	9,276.8	33.3	33.2	-152.34	252.7	-104.6	563.5	497.2	66.36	8.492	
9,400.0	9,374.4	9,385.4	9,376.3	33.7	33.6	-152.05	259.5	-105.9	570.9	503.9	67.07	8.512	
9,500.0	9,474.0	9,485.1	9,475.7	34.1	33.9	-151.76	266.4	-107.1	578.4	510.6	67.79	8.533	
9,600.0	9,573.6	9,584.8	9,575.1	34.4	34.3	-151.48	273.2	-108.3	585.9	517.4	68.50	8.553	
9,700.0	9,673.2	9,684.4	9,674.6	34.8	34.6	-151.21	280.1	-109.5	593.3	524.1	69.22	8.572	
9,800.0	9,772.9	9,784.1	9,774.0	35.1	35.0	-150.95	286.9	-110.7	600.8	530.9	69.93	8.592	
9,900.0	9,872.5	9,883.8	9,873.5	35.5	35.3	-150.69	293.8	-111.9	608.3	537.7	70.65	8.611	
10,000.0	9,972.1	9,983.5	9,972.9	35.9	35.7	-150.44	300.6	-113.1	615.9	544.5	71.36	8.630	

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

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Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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	10,083.2	10,072.3	36.2	36.1	-150.19	307.5	-114.3	623.4	551.3	72.07	8.649	
10,200.0	10,171.3	10,182.9	10,171.8	36.6	36.4	-149.95	314.3	-115.5	630.9	558.1	72.79	8.668	
10,300.0	10,271.0	10,282.5	10,271.2	37.0	36.8	-149.72	321.2	-116.7	638.5	565.0	73.50	8.686	
10,400.0	10,370.6	10,382.2	10,370.6	37.3	37.1	-149.49	328.0	-117.9	646.0	571.8	74.22	8.705	
10,500.0	10,470.2	10,481.9	10,470.1	37.7	37.5	-149.26	334.9	-119.1	653.6	578.7	74.93	8.723	
10,600.0	10,569.8	10,581.6	10,569.5	38.0	37.8	-149.04	341.7	-120.3	661.2	585.6	75.65	8.740	
10,700.0	10,669.4	10,681.3	10,669.0	38.4	38.2	-148.83	348.6	-121.6	668.8	592.4	76.36	8.758	
10,800.0	10,769.0	10,780.9	10,768.4	38.8	38.6	-148.62	355.4	-122.8	676.4	599.3	77.08	8.775	
10,900.0	10,868.7	10,880.6	10,867.8	39.1	38.9	-148.42	362.3	-124.0	684.0	606.2	77.80	8.792	
11,000.0	10,968.3	10,980.3	10,967.3	39.5	39.3	-148.22	369.1	-125.2	691.6	613.1	78.51	8.809	
11,100.0	11,067.9	11,080.0	11,066.7	39.8	39.6	-148.02	376.0	-126.4	699.2	620.0	79.23	8.826	
11,200.0	11,167.5	11,179.7	11,166.1	40.2	40.0	-147.83	382.8	-127.6	706.9	626.9	79.94	8.842	
11,300.0	11,267.1	11,279.3	11,265.6	40.6	40.3	-147.64	389.7	-128.8	714.5	633.9	80.66	8.859	
11,400.0	11,366.8	11,379.0	11,365.0	40.9	40.7	-147.46	396.5	-130.0	722.2	640.8	81.37	8.875	
11,500.0	11,466.4	11,478.7	11,464.5	41.3	41.1	-147.28	403.4	-131.2	729.8	647.7	82.09	8.891	
11,600.0	11,566.0	11,578.4	11,563.9	41.7	41.4	-147.11	410.2	-132.4	737.5	654.7	82.81	8.906	
11,700.0	11,665.6	11,678.1	11,663.3	42.0	41.8	-146.93	417.0	-133.6	745.2	661.6	83.52	8.922	
11,750.2	11,715.6	11,721.9	11,707.0	42.2	41.9	-146.83	420.4	-134.3	749.1	665.3	83.84	8.935	
11,775.0	11,740.3	11,740.3	11,725.3	42.3	42.0	-132.16	422.7	-134.9	751.5	667.5	83.98	8.949	
11,800.0	11,765.0	11,758.8	11,743.6	42.4	42.1	-124.86	425.6	-135.7	754.5	670.4	84.11	8.971	
11,825.0	11,789.4	11,775.0	11,759.4	42.5	42.1	-120.49	428.7	-136.6	758.2	673.9	84.22	9.002	
11,850.0	11,813.6	11,795.5	11,779.3	42.6	42.2	-117.48	433.4	-138.0	762.3	678.0	84.37	9.036	
11,875.0	11,837.4	11,813.7	11,796.8	42.7	42.3	-115.20	438.3	-139.4	767.1	682.6	84.49	9.080	
11,900.0	11,860.8	11,831.8	11,814.0	42.7	42.3	-113.34	443.7	-141.1	772.4	687.8	84.60	9.130	
11,925.0	11,883.8	11,850.0	11,831.0	42.8	42.4	-111.74	449.8	-143.0	778.2	693.5	84.72	9.186	
11,950.0	11,906.1	11,867.6	11,847.3	42.9	42.5	-110.29	456.2	-145.1	784.6	699.8	84.83	9.249	
11,975.0	11,927.9	11,885.4	11,863.4	43.0	42.5	-108.95	463.3	-147.4	791.4	706.5	84.93	9.318	
12,000.0	11,949.0	11,900.0	11,876.5	43.1	42.6	-107.66	469.5	-149.4	798.7	713.7	85.01	9.396	
12,025.0	11,969.3	11,920.5	11,894.4	43.2	42.6	-106.44	478.9	-152.4	806.5	721.3	85.14	9.473	
12,050.0	11,988.9	11,937.8	11,909.3	43.2	42.7	-105.23	487.4	-155.2	814.7	729.4	85.24	9.557	
12,075.0	12,007.6	11,955.1	11,923.7	43.3	42.7	-104.03	496.4	-158.2	823.2	737.9	85.34	9.647	
12,100.0	12,025.4	11,975.0	11,940.0	43.4	42.8	-102.87	507.3	-161.8	832.2	746.8	85.47	9.738	
12,125.0	12,042.3	11,989.3	11,951.3	43.4	42.8	-101.65	515.5	-164.5	841.5	756.0	85.54	9.838	
12,150.0	12,058.3	12,006.2	11,964.4	43.5	42.9	-100.46	525.7	-167.9	851.2	765.6	85.64	9.940	
12,175.0	12,073.2	12,025.0	11,978.5	43.5	42.9	-99.29	537.5	-171.9	861.2	775.4	85.76	10.042	
12,200.0	12,087.0	12,039.8	11,989.2	43.6	43.0	-98.06	547.1	-175.1	871.4	785.6	85.84	10.152	
12,225.0	12,099.7	12,056.4	12,000.9	43.6	43.0	-96.86	558.4	-178.9	882.0	796.0	85.94	10.262	
12,250.0	12,111.3	12,075.0	12,013.5	43.7	43.1	-95.69	571.3	-183.2	892.7	806.6	86.06	10.373	
12,275.0	12,121.7	12,089.6	12,023.0	43.7	43.1	-94.44	581.8	-186.8	903.7	817.5	86.15	10.490	
12,300.0	12,130.9	12,106.0	12,033.3	43.7	43.1	-93.23	594.0	-190.9	914.8	828.6	86.25	10.606	
12,325.0	12,138.8	12,125.0	12,044.6	43.7	43.2	-92.09	608.4	-195.8	926.1	839.8	86.38	10.722	
12,350.0	12,145.6	12,138.9	12,052.5	43.8	43.2	-90.83	619.3	-199.5	937.6	851.1	86.47	10.843	
12,375.0	12,151.0	12,155.3	12,061.4	43.8	43.3	-89.64	632.3	-203.9	949.1	862.6	86.57	10.964	
12,400.0	12,155.2	12,171.7	12,069.8	43.9	43.3	-88.47	645.7	-208.5	960.8	874.1	86.68	11.085	
12,425.0	12,158.1	12,188.2	12,077.7	43.9	43.3	-87.32	659.3	-213.1	972.5	885.7	86.78	11.207	
12,450.0	12,159.7	12,204.7	12,085.2	43.9	43.4	-86.19	673.2	-217.9	984.3	897.4	86.88	11.329	
12,461.5	12,160.0	12,212.3	12,088.4	43.9	43.4	-85.68	679.7	-220.1	989.7	902.8	86.93	11.385	

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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, 11710-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	1.6	1.6	3.0	3.0	-90.45	-0.7	-90.0	90.0				
100.0	100.0	101.6	101.6	3.0	3.0	-90.45	-0.7	-90.0	90.0	84.0	6.00	14.994	
200.0	200.0	201.6	201.6	3.0	3.0	-90.45	-0.7	-90.0	90.0	84.0	6.04	14.900	
300.0	300.0	301.6	301.6	3.1	3.0	-90.45	-0.7	-90.0	90.0	83.9	6.12	14.705	
400.0	400.0	401.6	401.6	3.2	3.0	-90.45	-0.7	-90.0	90.0	83.8	6.24	14.422	
500.0	500.0	501.6	501.6	3.4	3.1	-90.45	-0.7	-90.0	90.0	83.6	6.40	14.071	
600.0	600.0	601.6	601.6	3.6	3.1	-90.45	-0.7	-90.0	90.0	83.4	6.58	13.670	
700.0	700.0	701.6	701.6	3.8	3.1	-90.45	-0.7	-90.0	90.0	83.2	6.80	13.238	
800.0	800.0	801.6	801.6	4.0	3.2	-90.45	-0.7	-90.0	90.0	83.0	7.04	12.791	
900.0	900.0	901.6	901.6	4.2	3.2	-90.45	-0.7	-90.0	90.0	82.7	7.29	12.339	
1,000.0	1,000.0	1,001.6	1,001.6	4.5	3.2	-90.45	-0.7	-90.0	90.0	82.4	7.57	11.892	
1,100.0	1,100.0	1,101.6	1,101.6	4.8	3.3	-90.45	-0.7	-90.0	90.0	82.1	7.86	11.455	
1,200.0	1,200.0	1,201.6	1,201.6	5.1	3.4	-90.45	-0.7	-90.0	90.0	81.8	8.16	11.032	
1,300.0	1,300.0	1,301.6	1,301.6	5.3	3.4	-90.45	-0.7	-90.0	90.0	81.5	8.47	10.627	
1,400.0	1,400.0	1,401.6	1,401.6	5.6	3.5	-90.45	-0.7	-90.0	90.0	81.2	8.79	10.239	
1,500.0	1,500.0	1,501.6	1,501.6	6.0	3.5	-90.45	-0.7	-90.0	90.0	80.9	9.12	9.871	
1,600.0	1,600.0	1,601.6	1,601.6	6.3	3.6	-90.45	-0.7	-90.0	90.0	80.5	9.45	9.521	
1,700.0	1,700.0	1,701.6	1,701.6	6.6	3.7	-90.45	-0.7	-90.0	90.0	80.2	9.79	9.189	
1,800.0	1,800.0	1,801.6	1,801.6	6.9	3.8	-90.45	-0.7	-90.0	90.0	79.9	10.14	8.875	
1,900.0	1,900.0	1,901.6	1,901.6	7.2	3.9	-90.45	-0.7	-90.0	90.0	79.5	10.49	8.578	
2,000.0	2,000.0	2,001.6	2,001.6	7.6	3.9	-90.45	-0.7	-90.0	90.0	79.2	10.85	8.297	
2,100.0	2,100.0	2,101.6	2,101.6	7.9	4.0	-90.45	-0.7	-90.0	90.0	78.8	11.21	8.031	
2,200.0	2,200.0	2,201.6	2,201.6	8.2	4.1	-90.45	-0.7	-90.0	90.0	78.4	11.57	7.778	
2,300.0	2,300.0	2,301.6	2,301.6	8.6	4.2	-90.45	-0.7	-90.0	90.0	78.1	11.94	7.540	
2,400.0	2,400.0	2,401.6	2,401.6	8.9	4.3	-90.45	-0.7	-90.0	90.0	77.7	12.31	7.313	
2,416.1	2,416.1	2,417.7	2,417.7	8.9	4.3	-90.45	-0.7	-90.0	90.0	77.6	12.37	7.278 CC	
2,500.0	2,500.0	2,501.6	2,501.6	9.2	4.4	-90.45	-0.7	-90.0	90.0	77.3	12.68	7.099 ES, SF	
2,600.0	2,600.0	2,600.0	2,600.0	9.6	4.5	-140.55	0.2	-91.5	92.9	79.8	13.05	7.117	
2,700.0	2,699.8	2,695.7	2,695.5	9.9	4.5	-140.83	2.6	-95.8	101.3	87.9	13.40	7.559	
2,750.0	2,749.7	2,743.8	2,743.5	10.1	4.6	-141.01	4.5	-99.0	107.6	94.1	13.58	7.925	
2,800.0	2,799.5	2,793.0	2,792.6	10.2	4.6	-141.25	6.6	-102.7	114.7	101.0	13.77	8.335	
2,900.0	2,899.1	2,892.0	2,891.2	10.6	4.7	-141.66	10.9	-110.2	129.0	114.8	14.14	9.119	
3,000.0	2,998.7	2,991.0	2,989.8	10.9	4.7	-141.98	15.3	-117.6	143.2	128.7	14.52	9.861	
3,100.0	3,098.4	3,090.0	3,088.4	11.3	4.8	-142.24	19.6	-125.1	157.4	142.5	14.90	10.562	
3,200.0	3,198.0	3,189.0	3,187.0	11.6	4.9	-142.46	23.9	-132.6	171.6	156.3	15.29	11.225	
3,300.0	3,297.6	3,287.9	3,285.6	11.9	5.0	-142.65	28.2	-140.0	185.9	170.2	15.68	11.853	
3,400.0	3,397.2	3,386.9	3,384.2	12.3	5.0	-142.81	32.5	-147.5	200.1	184.0	16.08	12.447	
3,500.0	3,496.8	3,485.9	3,482.8	12.6	5.1	-142.95	36.8	-155.0	214.3	197.9	16.47	13.010	
3,600.0	3,596.4	3,584.9	3,581.4	13.0	5.2	-143.07	41.1	-162.5	228.6	211.7	16.88	13.544	
3,700.0	3,696.1	3,683.9	3,680.0	13.3	5.3	-143.18	45.4	-169.9	242.8	225.5	17.28	14.051	
3,800.0	3,795.7	3,782.9	3,778.6	13.7	5.4	-143.27	49.8	-177.4	257.0	239.3	17.69	14.532	
3,900.0	3,895.3	3,881.8	3,877.2	14.0	5.5	-143.36	54.1	-184.9	271.3	253.2	18.10	14.988	
4,000.0	3,994.9	3,980.8	3,975.8	14.4	5.6	-143.43	58.4	-192.3	285.5	267.0	18.51	15.423	
4,100.0	4,094.5	4,079.8	4,074.4	14.7	5.6	-143.50	62.7	-199.8	299.8	280.8	18.93	15.836	
4,200.0	4,194.2	4,178.8	4,173.0	15.1	5.7	-143.57	67.0	-207.3	314.0	294.6	19.35	16.229	
4,300.0	4,293.8	4,277.8	4,271.6	15.4	5.8	-143.62	71.3	-214.8	328.2	308.5	19.77	16.603	
4,400.0	4,393.4	4,376.7	4,370.2	15.8	5.9	-143.68	75.6	-222.2	342.5	322.3	20.19	16.960	
4,500.0	4,493.0	4,475.7	4,468.8	16.1	6.0	-143.73	80.0	-229.7	356.7	336.1	20.62	17.300	
4,600.0	4,592.6	4,574.7	4,567.4	16.5	6.1	-143.77	84.3	-237.2	370.9	349.9	21.05	17.625	
4,700.0	4,692.3	4,673.7	4,666.0	16.8	6.2	-143.81	88.6	-244.6	385.2	363.7	21.48	17.935	
4,800.0	4,791.9	4,772.7	4,764.6	17.2	6.3	-143.85	92.9	-252.1	399.4	377.5	21.91	18.232	

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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, 11710-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	
4,900.0	4,891.5	4,871.6	4,863.2	17.6	6.4	-143.89	97.2	-259.6	413.7	391.3	22.34	18.515	
5,000.0	4,991.1	4,970.6	4,961.9	17.9	6.5	-143.92	101.5	-267.1	427.9	405.1	22.78	18.786	
5,100.0	5,090.7	5,069.6	5,060.5	18.3	6.6	-143.95	105.8	-274.5	442.1	418.9	23.21	19.046	
5,200.0	5,190.4	5,168.6	5,159.1	18.6	6.7	-143.98	110.1	-282.0	456.4	432.7	23.65	19.295	
5,300.0	5,290.0	5,267.6	5,257.7	19.0	6.8	-144.01	114.5	-289.5	470.6	446.5	24.09	19.533	
5,400.0	5,389.6	5,366.5	5,356.3	19.3	7.0	-144.04	118.8	-296.9	484.9	460.3	24.54	19.762	
5,500.0	5,489.2	5,465.5	5,454.9	19.7	7.1	-144.06	123.1	-304.4	499.1	474.1	24.98	19.981	
5,600.0	5,588.8	5,564.5	5,553.5	20.0	7.2	-144.08	127.4	-311.9	513.3	487.9	25.42	20.192	
5,700.0	5,688.5	5,663.5	5,652.1	20.4	7.3	-144.11	131.7	-319.3	527.6	501.7	25.87	20.394	
5,800.0	5,788.1	5,762.5	5,750.7	20.8	7.4	-144.13	136.0	-326.8	541.8	515.5	26.32	20.589	
5,900.0	5,887.7	5,861.4	5,849.3	21.1	7.5	-144.15	140.3	-334.3	556.1	529.3	26.76	20.776	
6,000.0	5,987.3	5,960.4	5,947.9	21.5	7.6	-144.16	144.7	-341.8	570.3	543.1	27.21	20.956	
6,100.0	6,086.9	6,059.4	6,046.5	21.8	7.7	-144.18	149.0	-349.2	584.6	556.9	27.66	21.130	
6,200.0	6,186.6	6,158.4	6,145.1	22.2	7.8	-144.20	153.3	-356.7	598.8	570.7	28.12	21.297	
6,300.0	6,286.2	6,257.4	6,243.7	22.5	7.9	-144.22	157.6	-364.2	613.0	584.5	28.57	21.458	
6,400.0	6,385.8	6,356.3	6,342.3	22.9	8.1	-144.23	161.9	-371.6	627.3	598.3	29.02	21.613	
6,500.0	6,485.4	6,455.3	6,440.9	23.3	8.2	-144.25	166.2	-379.1	641.5	612.0	29.48	21.763	
6,600.0	6,585.0	6,554.3	6,539.5	23.6	8.3	-144.26	170.5	-386.6	655.8	625.8	29.93	21.908	
6,700.0	6,684.7	6,653.3	6,638.1	24.0	8.4	-144.27	174.8	-394.1	670.0	639.6	30.39	22.047	
6,800.0	6,784.3	6,752.3	6,736.7	24.3	8.5	-144.29	179.2	-401.5	684.2	653.4	30.85	22.182	
6,900.0	6,883.9	6,851.3	6,835.3	24.7	8.6	-144.30	183.5	-409.0	698.5	667.2	31.31	22.312	
7,000.0	6,983.5	6,950.2	6,933.9	25.1	8.7	-144.31	187.8	-416.5	712.7	681.0	31.76	22.438	
7,100.0	7,083.1	7,049.2	7,032.5	25.4	8.9	-144.32	192.1	-423.9	727.0	694.7	32.22	22.560	
7,200.0	7,182.7	7,148.2	7,131.1	25.8	9.0	-144.33	196.4	-431.4	741.2	708.5	32.68	22.678	
7,300.0	7,282.4	7,247.2	7,229.7	26.1	9.1	-144.34	200.7	-438.9	755.5	722.3	33.15	22.792	
7,400.0	7,382.0	7,346.2	7,328.3	26.5	9.2	-144.35	205.0	-446.4	769.7	736.1	33.61	22.903	
7,500.0	7,481.6	7,445.1	7,427.0	26.9	9.3	-144.36	209.4	-453.8	783.9	749.9	34.07	23.010	
7,600.0	7,581.2	7,544.1	7,525.6	27.2	9.4	-144.37	213.7	-461.3	798.2	763.6	34.53	23.113	
7,700.0	7,680.8	7,643.1	7,624.2	27.6	9.6	-144.38	218.0	-468.8	812.4	777.4	35.00	23.214	
7,800.0	7,780.5	7,742.1	7,722.8	27.9	9.7	-144.39	222.3	-476.2	826.7	791.2	35.46	23.311	
7,900.0	7,880.1	7,841.1	7,821.4	28.3	9.8	-144.40	226.6	-483.7	840.9	805.0	35.93	23.406	
8,000.0	7,979.7	7,940.0	7,920.0	28.7	9.9	-144.41	230.9	-491.2	855.1	818.8	36.39	23.498	
8,100.0	8,079.3	8,039.0	8,018.6	29.0	10.0	-144.42	235.2	-498.7	869.4	832.5	36.86	23.587	
8,200.0	8,178.9	8,138.0	8,117.2	29.4	10.1	-144.42	239.5	-506.1	883.6	846.3	37.33	23.673	
8,300.0	8,278.6	8,237.0	8,215.8	29.7	10.3	-144.43	243.9	-513.6	897.9	860.1	37.79	23.757	
8,400.0	8,378.2	8,336.0	8,314.4	30.1	10.4	-144.44	248.2	-521.1	912.1	873.9	38.26	23.839	
8,500.0	8,477.8	8,434.9	8,413.0	30.5	10.5	-144.45	252.5	-528.5	926.4	887.6	38.73	23.918	
8,600.0	8,577.4	8,533.9	8,511.6	30.8	10.6	-144.45	256.8	-536.0	940.6	901.4	39.20	23.995	
8,700.0	8,677.0	8,632.9	8,610.2	31.2	10.7	-144.46	261.1	-543.5	954.8	915.2	39.67	24.070	
8,800.0	8,776.7	8,731.9	8,708.8	31.5	10.9	-144.47	265.4	-550.9	969.1	928.9	40.14	24.143	
8,900.0	8,876.3	8,830.9	8,807.4	31.9	11.0	-144.47	269.7	-558.4	983.3	942.7	40.61	24.214	
9,000.0	8,975.9	8,929.8	8,906.0	32.3	11.1	-144.48	274.1	-565.9	997.6	956.5	41.08	24.283	

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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, 11725-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		
8,900.0	8,876.3	8,949.9	8,912.7	31.9	10.0	-43.15	1,339.2	540.7	995.4	954.6	40.73	24.437		
9,000.0	8,975.9	9,049.4	9,011.6	32.3	10.1	-42.87	1,336.0	551.1	987.1	945.8	41.22	23.948		
9,100.0	9,075.5	9,149.0	9,110.6	32.6	10.3	-42.59	1,332.8	561.5	978.8	937.1	41.71	23.470		
9,200.0	9,175.1	9,248.5	9,209.5	33.0	10.4	-42.30	1,329.6	571.8	970.6	928.4	42.19	23.002		
9,300.0	9,274.8	9,348.1	9,308.5	33.3	10.5	-42.01	1,326.4	582.2	962.4	919.7	42.69	22.545		
9,400.0	9,374.4	9,447.6	9,407.4	33.7	10.6	-41.71	1,323.2	592.6	954.2	911.0	43.18	22.099		
9,500.0	9,474.0	9,547.1	9,506.4	34.1	10.8	-41.41	1,320.0	603.0	946.0	902.3	43.67	21.662		
9,600.0	9,573.6	9,646.7	9,605.3	34.4	10.9	-41.10	1,316.8	613.3	937.9	893.7	44.17	21.235		
9,700.0	9,673.2	9,746.2	9,704.3	34.8	11.0	-40.79	1,313.6	623.7	929.8	885.1	44.66	20.811		
9,800.0	9,772.9	9,845.8	9,803.2	35.1	11.2	-40.47	1,310.4	634.1	921.7	876.5	45.16	20.409		
9,900.0	9,872.5	9,945.3	9,902.2	35.5	11.3	-40.15	1,307.2	644.4	913.6	868.0	45.66	20.010		
10,000.0	9,972.1	10,044.8	10,001.1	35.9	11.4	-39.82	1,304.0	654.8	905.6	859.4	46.16	19.619		
10,100.0	10,071.7	10,144.4	10,100.1	36.2	11.5	-39.48	1,300.8	665.2	897.6	850.9	46.66	19.237		
10,200.0	10,171.3	10,243.9	10,199.0	36.6	11.7	-39.14	1,297.6	675.5	889.6	842.5	47.16	18.862		
10,300.0	10,271.0	10,343.5	10,297.9	37.0	11.8	-38.79	1,294.4	685.9	881.7	834.0	47.67	18.496		
10,400.0	10,370.6	10,443.0	10,396.9	37.3	11.9	-38.44	1,291.2	696.3	873.8	825.6	48.18	18.138		
10,500.0	10,470.2	10,542.5	10,495.8	37.7	12.1	-38.08	1,288.0	706.7	866.0	817.3	48.68	17.788		
10,600.0	10,569.8	10,642.1	10,594.8	38.0	12.2	-37.71	1,284.8	717.0	858.1	808.9	49.19	17.445		
10,700.0	10,669.4	10,741.6	10,693.7	38.4	12.3	-37.34	1,281.6	727.4	850.3	800.6	49.70	17.109		
10,800.0	10,769.0	10,841.2	10,792.7	38.8	12.5	-36.96	1,278.4	737.8	842.6	792.4	50.21	16.780		
10,900.0	10,868.7	10,940.7	10,891.6	39.1	12.6	-36.57	1,275.2	748.1	834.9	784.1	50.73	16.458		
11,000.0	10,968.3	11,040.2	10,990.6	39.5	12.7	-36.18	1,272.0	758.5	827.2	775.9	51.24	16.143		
11,100.0	11,067.9	11,139.8	11,089.5	39.8	12.9	-35.78	1,268.8	768.9	819.5	767.8	51.76	15.835		
11,200.0	11,167.5	11,239.3	11,188.5	40.2	13.0	-35.37	1,265.6	779.2	812.0	759.7	52.27	15.533		
11,300.0	11,267.1	11,338.9	11,287.4	40.6	13.1	-34.95	1,262.4	789.6	804.4	751.6	52.79	15.238		
11,400.0	11,366.8	11,438.4	11,386.4	40.9	13.3	-34.52	1,259.2	800.0	796.9	743.6	53.31	14.948		
11,500.0	11,466.4	12,762.1	12,182.9	41.3	15.1	44.83	515.9	889.4	760.0	707.3	52.64	14.436		
11,600.0	11,566.0	12,758.7	12,182.8	41.7	15.1	44.08	519.2	889.4	666.4	612.9	53.40	12.478		
11,700.0	11,665.6	12,755.4	12,182.8	42.0	15.1	43.32	522.5	889.4	574.9	520.6	54.31	10.585		
11,750.2	11,715.6	12,753.7	12,182.7	42.2	15.1	42.94	524.2	889.3	530.1	475.3	54.84	9.668		
11,775.0	11,740.3	12,752.3	12,182.7	42.3	15.1	62.37	525.6	889.3	508.3	453.2	55.11	9.224		
11,800.0	11,765.0	12,749.5	12,182.6	42.4	15.1	73.89	528.4	889.3	486.6	431.2	55.40	8.784		
11,825.0	11,789.4	12,745.5	12,182.5	42.5	15.1	81.86	532.4	889.3	465.3	409.6	55.69	8.354		
11,850.0	11,813.6	12,740.3	12,182.4	42.6	15.1	87.82	537.6	889.2	444.3	388.3	55.99	7.935		
11,875.0	11,837.4	12,733.8	12,182.3	42.7	15.0	92.43	544.2	889.1	423.8	367.5	56.28	7.529		
11,900.0	11,860.8	12,726.0	12,182.1	42.7	15.0	96.02	551.9	889.1	403.8	347.2	56.58	7.137		
11,925.0	11,883.8	12,717.1	12,181.9	42.8	15.0	98.81	560.8	889.0	384.5	327.6	56.87	6.760		
11,950.0	11,906.1	12,707.0	12,181.7	42.9	14.9	100.92	570.9	888.9	365.8	308.7	57.16	6.400		
11,975.0	11,927.9	12,695.7	12,181.4	43.0	14.9	102.45	582.2	888.7	347.9	290.5	57.43	6.058		
12,000.0	11,949.0	12,683.3	12,181.2	43.1	14.9	103.49	594.6	888.6	330.8	273.2	57.69	5.735		
12,025.0	11,969.3	12,669.8	12,180.9	43.2	14.8	104.09	608.1	888.5	314.6	256.7	57.93	5.431		
12,050.0	11,988.9	12,655.3	12,180.5	43.2	14.8	104.29	622.6	888.3	299.3	241.2	58.13	5.148		
12,075.0	12,007.6	12,639.7	12,180.2	43.3	14.7	104.15	638.2	888.1	284.9	226.6	58.31	4.886		
12,100.0	12,025.4	12,623.2	12,179.8	43.4	14.7	103.69	654.7	888.0	271.5	213.1	58.44	4.646		
12,125.0	12,042.3	12,605.8	12,179.4	43.4	14.6	102.96	672.1	887.8	259.0	200.5	58.53	4.426		
12,150.0	12,058.3	12,587.5	12,179.0	43.5	14.6	101.98	690.4	887.6	247.6	189.0	58.57	4.227		
12,175.0	12,073.2	12,568.3	12,178.6	43.5	14.5	100.81	709.6	887.4	237.0	178.4	58.57	4.046		
12,200.0	12,087.0	12,548.4	12,178.2	43.6	14.5	99.47	729.5	887.2	227.4	168.8	58.53	3.884		
12,225.0	12,099.7	12,527.8	12,177.7	43.6	14.4	98.02	750.1	886.9	218.5	160.1	58.45	3.739		
12,250.0	12,111.3	12,506.5	12,177.2	43.7	14.4	96.49	771.4	886.7	210.5	152.2	58.34	3.608		
12,275.0	12,121.7	12,483.1	12,176.6	43.7	14.3	94.73	794.8	886.5	203.1	144.9	58.22	3.489		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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, 11725-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,300.0	12,130.9	12,458.5	12,174.7	43.7	14.3	92.65		819.3	886.1	196.1	138.0	58.08	3.376	
12,325.0	12,138.8	12,434.5	12,171.8	43.7	14.2	90.44		843.1	885.5	189.4	131.5	57.93	3.270	
12,350.0	12,145.6	12,411.1	12,167.7	43.8	14.2	88.09		866.1	884.9	183.2	125.4	57.77	3.171	
12,375.0	12,151.0	12,388.3	12,162.7	43.8	14.1	85.61		888.3	884.2	177.4	119.8	57.62	3.080	
12,400.0	12,155.2	12,366.0	12,156.8	43.9	14.1	82.99		909.8	883.4	172.2	114.8	57.48	2.997	
12,425.0	12,158.1	12,344.1	12,150.0	43.9	14.1	80.24		930.6	882.5	167.6	110.3	57.35	2.922	
12,450.0	12,159.7	12,322.6	12,142.5	43.9	14.0	77.38		950.7	881.6	163.6	106.3	57.24	2.858	
12,461.5	12,160.0	12,312.9	12,138.7	43.9	14.0	76.04		959.7	881.1	162.0	104.8	57.19	2.832	
12,500.0	12,160.5	12,281.4	12,125.5	44.0	14.0	70.59		988.2	879.5	157.9	100.9	57.02	2.769	
12,531.2	12,160.9	12,257.5	12,114.1	44.0	13.9	65.94		1,009.2	878.1	156.8	99.9	56.87	2.757 CC, ES, SF	
12,600.0	12,161.8	12,209.6	12,088.4	44.1	13.9	55.75		1,049.4	875.1	163.0	106.7	56.35	2.893	
12,700.0	12,163.1	12,150.0	12,051.0	44.3	13.8	42.94		1,095.6	870.8	195.2	139.6	55.54	3.514	
12,800.0	12,164.4	12,104.2	12,018.5	44.4	13.8	34.20		1,127.7	867.2	249.5	194.1	55.35	4.507	
12,900.0	12,165.7	12,066.1	11,989.3	44.6	13.8	28.05		1,151.8	863.9	317.9	262.4	55.51	5.726	
12,961.5	12,166.5	12,050.0	11,976.4	44.7	13.8	25.77		1,161.4	862.5	364.5	308.8	55.66	6.548	
13,000.0	12,167.0	12,035.0	11,964.1	44.8	13.8	22.93		1,169.8	861.1	395.0	339.2	55.73	7.087	
13,100.0	12,168.3	12,009.1	11,942.2	45.0	13.7	17.32		1,183.5	858.7	478.0	422.1	55.90	8.551	
13,200.0	12,169.6	11,987.3	11,923.2	45.2	13.7	12.09		1,194.1	856.6	565.1	509.0	56.03	10.085	
13,300.0	12,171.0	11,975.0	11,912.3	45.4	13.7	7.30		1,199.6	855.5	654.8	598.7	56.12	11.668	
13,400.0	12,172.3	11,950.0	11,889.8	45.7	13.7	1.77		1,210.1	853.0	746.3	690.1	56.18	13.283	
13,500.0	12,173.6	11,938.6	11,879.3	45.9	13.7	-3.38		1,214.4	851.9	839.1	782.8	56.23	14.921	
13,541.5	12,174.2	11,933.4	11,874.5	46.1	13.7	-5.58		1,216.3	851.4	877.9	821.6	56.25	15.607	
13,600.0	12,174.9	11,925.0	11,866.7	46.2	13.7	-5.59		1,219.3	850.5	932.8	876.5	56.27	16.577	

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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		
9,400.0	9,374.4	9,443.6	9,435.2	33.7	33.3	-70.30	1,316.8	110.7	998.5	931.6	66.87	14.933		
9,500.0	9,474.0	9,543.1	9,534.6	34.1	33.7	-70.64	1,313.5	114.4	991.2	923.6	67.58	14.667		
9,600.0	9,573.6	9,642.7	9,634.1	34.4	34.0	-70.98	1,310.3	118.1	983.9	915.7	68.29	14.408		
9,700.0	9,673.2	9,742.3	9,733.5	34.8	34.4	-71.33	1,307.0	121.8	976.7	907.7	69.01	14.154		
9,800.0	9,772.9	9,841.8	9,832.9	35.1	34.7	-71.68	1,303.8	125.6	969.6	899.8	69.72	13.906		
9,900.0	9,872.5	9,941.4	9,932.4	35.5	35.1	-72.04	1,300.5	129.3	962.4	892.0	70.43	13.664		
10,000.0	9,972.1	10,041.0	10,031.8	35.9	35.5	-72.40	1,297.3	133.0	955.3	884.2	71.15	13.427		
10,100.0	10,071.7	10,140.5	10,131.3	36.2	35.8	-72.77	1,294.0	136.7	948.2	876.4	71.86	13.195		
10,200.0	10,171.3	10,240.1	10,230.7	36.6	36.2	-73.14	1,290.7	140.4	941.2	868.6	72.58	12.969		
10,300.0	10,271.0	10,339.6	10,330.1	37.0	36.5	-73.52	1,287.5	144.1	934.2	860.9	73.29	12.747		
10,400.0	10,370.6	10,439.2	10,429.6	37.3	36.9	-73.91	1,284.2	147.8	927.3	853.3	74.01	12.530		
10,500.0	10,470.2	10,538.8	10,529.0	37.7	37.2	-74.30	1,281.0	151.5	920.4	845.7	74.72	12.318		
10,600.0	10,569.8	10,638.3	10,628.5	38.0	37.6	-74.69	1,277.7	155.2	913.5	838.1	75.43	12.110		
10,700.0	10,669.4	10,737.9	10,727.9	38.4	38.0	-75.10	1,274.5	158.9	906.7	830.6	76.15	11.907		
10,800.0	10,769.0	10,837.4	10,827.3	38.8	38.3	-75.51	1,271.2	162.6	899.9	823.1	76.86	11.708		
10,900.0	10,868.7	10,937.0	10,926.8	39.1	38.7	-75.92	1,268.0	166.3	893.2	815.6	77.58	11.514		
11,000.0	10,968.3	11,036.6	11,026.2	39.5	39.0	-76.34	1,264.7	170.0	886.5	808.2	78.29	11.323		
11,100.0	11,067.9	11,136.1	11,125.7	39.8	39.4	-76.77	1,261.5	173.7	879.9	800.9	79.01	11.137		
11,200.0	11,167.5	11,235.7	11,225.1	40.2	39.7	-77.20	1,258.2	177.4	873.3	793.6	79.72	10.955		
11,300.0	11,267.1	11,335.3	11,324.5	40.6	40.1	-77.64	1,254.9	181.1	866.8	786.4	80.44	10.776		
11,400.0	11,366.8	11,434.8	11,424.0	40.9	40.5	-78.09	1,251.7	184.8	860.3	779.2	81.15	10.602		
11,500.0	11,466.4	12,703.9	12,169.1	41.3	44.0	-143.56	508.9	219.5	780.4	718.6	61.78	12.632		
11,600.0	11,566.0	12,700.6	12,169.0	41.7	44.0	-143.12	512.2	219.5	698.0	633.3	64.72	10.786		
11,700.0	11,665.6	12,697.4	12,169.0	42.0	44.0	-142.67	515.4	219.5	620.9	552.5	68.37	9.082		
11,750.2	11,715.6	12,695.8	12,168.9	42.2	44.0	-142.45	517.1	219.5	584.8	514.3	70.50	8.296		
11,775.0	11,740.3	12,694.3	12,168.9	42.3	44.0	-130.62	518.5	219.4	567.9	496.2	71.62	7.928		
11,800.0	11,765.0	12,691.6	12,168.8	42.4	44.0	-125.81	521.2	219.4	551.7	478.9	72.81	7.577		
11,825.0	11,789.4	12,687.6	12,168.7	42.5	44.0	-123.56	525.2	219.4	536.4	462.4	74.03	7.246		
11,850.0	11,813.6	12,682.4	12,168.6	42.6	44.0	-122.33	530.5	219.3	522.3	447.0	75.28	6.939		
11,875.0	11,837.4	12,675.9	12,168.5	42.7	43.9	-121.50	536.9	219.2	509.3	432.8	76.54	6.655		
11,900.0	11,860.8	12,668.1	12,168.3	42.7	43.9	-120.80	544.7	219.2	497.6	419.8	77.79	6.397		
11,925.0	11,883.8	12,659.2	12,168.1	42.8	43.9	-120.07	553.6	219.1	487.2	408.2	79.02	6.166		
11,950.0	11,906.1	12,649.1	12,167.9	42.9	43.9	-119.24	563.7	219.0	478.2	398.0	80.20	5.962		
11,975.0	11,927.9	12,637.8	12,167.6	43.0	43.9	-118.29	574.9	218.8	470.5	389.2	81.32	5.786		
12,000.0	11,949.0	12,625.5	12,167.3	43.1	43.9	-117.18	587.3	218.7	464.3	381.9	82.36	5.637		
12,025.0	11,969.3	12,612.0	12,167.0	43.2	43.8	-115.91	600.8	218.6	459.4	376.1	83.31	5.515		
12,050.0	11,988.9	12,597.5	12,166.7	43.2	43.8	-114.49	615.3	218.4	455.9	371.8	84.14	5.419		
12,075.0	12,007.6	12,581.9	12,166.3	43.3	43.8	-112.92	630.8	218.2	453.7	368.9	84.87	5.346		
12,100.0	12,025.4	12,565.4	12,166.0	43.4	43.7	-111.23	647.3	218.1	452.7	367.3	85.48	5.296		
12,109.5	12,032.0	12,558.9	12,165.8	43.4	43.7	-110.56	653.9	218.0	452.7	367.0	85.69	5.283 CC		
12,125.0	12,042.3	12,548.0	12,165.6	43.4	43.7	-109.43	664.8	217.9	452.9	366.9	85.98	5.267 ES		
12,150.0	12,058.3	12,529.7	12,165.1	43.5	43.7	-107.55	683.1	217.7	454.0	367.6	86.38	5.256 SF		
12,175.0	12,073.2	12,510.6	12,164.7	43.5	43.7	-105.61	702.2	217.5	456.0	369.4	86.68	5.261		
12,200.0	12,087.0	12,490.7	12,164.2	43.6	43.6	-103.64	722.1	217.3	458.9	372.0	86.90	5.281		
12,225.0	12,099.7	12,470.1	12,163.8	43.6	43.6	-101.67	742.7	217.1	462.4	375.3	87.04	5.312		
12,250.0	12,111.3	12,448.8	12,163.3	43.7	43.6	-99.74	764.0	216.8	466.4	379.3	87.13	5.353		
12,275.0	12,121.7	12,426.8	12,162.7	43.7	43.5	-97.86	786.0	216.6	470.9	383.8	87.18	5.402		
12,300.0	12,130.9	12,404.7	12,161.2	43.7	43.5	-95.99	807.9	216.3	475.8	388.6	87.19	5.457		
12,325.0	12,138.8	12,383.1	12,158.8	43.7	43.4	-94.16	829.4	216.0	480.9	393.8	87.16	5.518		
12,350.0	12,145.6	12,361.9	12,155.5	43.8	43.4	-92.36	850.4	215.7	486.4	399.2	87.11	5.583		
12,375.0	12,151.0	12,341.0	12,151.4	43.8	43.4	-90.60	870.8	215.4	492.0	405.0	87.04	5.653		

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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		
12,400.0	12,155.2	12,320.5	12,146.4	43.9	43.3	-88.88	890.8	215.0	497.9	411.0	86.95	5.727		
12,425.0	12,158.1	12,300.0	12,140.6	43.9	43.3	-87.19	910.4	214.6	504.0	417.1	86.84	5.804		
12,450.0	12,159.7	12,280.2	12,134.3	43.9	43.2	-85.58	929.1	214.1	510.2	423.4	86.72	5.883		
12,461.5	12,160.0	12,271.1	12,131.1	43.9	43.2	-84.85	937.6	213.9	513.0	426.4	86.67	5.920		
12,500.0	12,160.5	12,241.5	12,119.5	44.0	43.1	-83.56	964.9	213.3	523.1	436.6	86.46	6.050		
12,600.0	12,161.8	12,175.0	12,087.7	44.1	43.0	-80.16	1,023.2	211.5	552.9	467.1	85.83	6.442		
12,700.0	12,163.1	12,114.8	12,052.1	44.3	42.8	-76.57	1,071.7	209.7	589.5	504.5	85.06	6.931		
12,800.0	12,164.4	12,067.0	12,019.7	44.4	42.7	-73.48	1,106.7	208.2	633.7	549.3	84.39	7.510		
12,900.0	12,165.7	12,025.0	11,988.5	44.6	42.5	-70.64	1,134.8	206.8	685.5	601.6	83.82	8.178		
12,961.5	12,166.5	12,006.9	11,974.3	44.7	42.5	-69.39	1,145.9	206.1	720.7	637.1	83.66	8.615		
13,000.0	12,167.0	12,000.0	11,968.7	44.8	42.5	-69.11	1,150.1	205.9	743.9	660.3	83.67	8.891		
13,100.0	12,168.3	11,967.7	11,942.1	45.0	42.3	-67.46	1,168.3	204.7	806.5	723.1	83.38	9.673		
13,200.0	12,169.6	11,950.0	11,927.0	45.2	42.3	-66.91	1,177.5	204.1	872.4	788.9	83.44	10.456		
13,300.0	12,171.0	11,925.0	11,905.1	45.4	42.2	-65.95	1,189.6	203.1	940.9	857.5	83.33	11.291		

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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, 8986-MWD													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
8,700.0	8,677.0	11,091.8	9,527.5	31.2	43.6	50.18	336.4	765.8	951.6	907.5	44.10	21.578		
8,800.0	8,776.7	11,099.0	9,527.5	31.5	43.7	48.85	343.6	765.7	857.5	811.9	45.60	18.806		
8,900.0	8,876.3	11,106.1	9,527.6	31.9	43.8	47.53	350.7	765.7	764.8	717.3	47.46	16.114		
9,000.0	8,975.9	11,112.9	9,527.6	32.3	43.9	46.24	357.5	765.6	674.1	624.2	49.85	13.522		
9,100.0	9,075.5	11,118.8	9,527.6	32.6	43.9	45.14	363.4	765.5	586.4	533.4	52.98	11.069		
9,200.0	9,175.1	11,124.5	9,527.7	33.0	44.0	44.06	369.1	765.5	503.2	446.1	57.12	8.809		
9,300.0	9,274.8	11,130.3	9,527.7	33.3	44.1	42.96	374.9	765.4	427.2	364.7	62.57	6.828		
9,400.0	9,374.4	11,136.1	9,527.7	33.7	44.1	41.86	380.7	765.4	363.0	293.8	69.22	5.244		
9,500.0	9,474.0	11,141.9	9,527.8	34.1	44.2	40.76	386.5	765.4	317.7	242.0	75.66	4.199		
9,600.0	9,573.6	11,147.7	9,527.8	34.4	44.3	39.64	392.3	765.3	300.0	221.5	78.56	3.819		
9,604.7	9,578.3	11,148.0	9,527.8	34.4	44.3	39.59	392.6	765.3	300.0	221.5	78.55	3.819 CC, ES, SF		
9,700.0	9,673.2	11,153.6	9,527.8	34.8	44.3	38.52	398.2	765.3	314.7	239.1	75.61	4.162		
9,800.0	9,772.9	11,159.5	9,527.9	35.1	44.4	37.39	404.1	765.3	357.8	288.6	69.11	5.176		
9,900.0	9,872.5	11,165.5	9,527.9	35.5	44.5	36.26	410.1	765.3	420.6	358.0	62.58	6.720		
10,000.0	9,972.1	11,171.5	9,527.9	35.9	44.6	35.13	416.1	765.3	495.6	438.2	57.48	8.623		
10,100.0	10,071.7	11,177.5	9,528.0	36.2	44.6	33.99	422.1	765.3	578.3	524.4	53.87	10.734		
10,200.0	10,171.3	11,183.5	9,528.0	36.6	44.7	32.85	428.1	765.3	665.6	614.2	51.40	12.949		
10,300.0	10,271.0	11,189.6	9,528.0	37.0	44.8	31.71	434.2	765.3	756.1	706.3	49.74	15.200		
10,400.0	10,370.6	11,195.7	9,528.1	37.3	44.8	30.58	440.3	765.3	848.6	800.0	48.63	17.449		
10,500.0	10,470.2	11,201.9	9,528.1	37.7	44.9	29.44	446.5	765.3	942.6	894.7	47.91	19.675		

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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: 218-INC-ONLY, 1175-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	
0.0	0.0	0.0	0.0	3.0	3.0	-13.98	733.5	-182.6	755.9				
100.0	100.0	98.6	98.6	3.0	3.1	-13.98	733.5	-182.6	755.9	749.8	6.10	123.850	
200.0	200.0	198.6	198.6	3.0	3.4	-13.98	733.5	-182.6	755.9	749.5	6.43	117.584	
300.0	300.0	298.6	298.6	3.1	4.9	-13.98	733.5	-182.6	755.9	747.8	8.06	93.761	
400.0	400.0	398.6	398.6	3.2	7.3	-13.98	733.5	-182.6	755.9	745.3	10.54	71.734	
500.0	500.0	498.8	498.8	3.4	9.9	-13.98	733.6	-182.6	756.0	742.7	13.24	57.077	
600.0	600.0	599.1	599.1	3.6	12.5	-13.98	733.5	-182.6	755.9	739.9	16.06	47.069	
700.0	700.0	698.9	698.6	3.8	16.0	-13.98	733.5	-182.6	755.9	736.1	19.78	38.220	
800.0	800.0	799.2	798.6	4.0	20.5	-13.98	733.5	-182.6	755.9	731.3	24.54	30.802	
900.0	900.0	929.2	928.6	4.2	26.5	-13.99	732.9	-182.6	755.9	725.2	30.70	24.626	
908.3	908.3	942.2	941.5	4.3	27.1	-14.00	732.4	-182.6	755.6	724.3	31.30	24.138	
1,000.0	1,000.0	999.5	998.6	4.5	29.6	-13.98	733.5	-182.6	755.9	721.8	34.07	22.187	
1,100.0	1,100.0	1,108.3	1,107.2	4.8	33.5	-13.98	733.6	-182.6	756.0	717.7	38.32	19.731	
1,200.0	1,200.0	1,206.4	1,205.3	5.1	34.8	-13.93	733.3	-181.9	755.6	715.7	39.88	18.947	
1,300.0	1,300.0	1,306.2	1,305.0	5.3	34.8	-13.86	732.6	-180.7	754.5	714.4	40.18	18.781	
1,400.0	1,400.0	1,406.2	1,405.1	5.6	34.9	-13.74	732.2	-179.1	753.8	713.3	40.50	18.611	
1,500.0	1,500.0	1,507.7	1,506.5	6.0	34.9	-13.63	731.6	-177.4	752.8	712.0	40.84	18.433	
1,600.0	1,600.0	1,607.8	1,606.6	6.3	34.9	-13.53	730.8	-175.8	751.7	710.5	41.19	18.251	
1,700.0	1,700.0	1,707.8	1,706.6	6.6	34.9	-13.39	730.2	-173.9	750.6	709.1	41.53	18.075	
1,800.0	1,800.0	1,806.9	1,805.7	6.9	35.0	-13.27	729.6	-172.0	749.6	707.8	41.88	17.898	
1,900.0	1,900.0	1,907.1	1,905.9	7.2	35.0	-13.22	728.8	-171.2	748.6	706.4	42.24	17.723	
2,000.0	2,000.0	2,006.7	2,005.5	7.6	35.0	-13.21	728.0	-170.9	747.9	705.3	42.60	17.555	
2,100.0	2,100.0	2,107.4	2,106.1	7.9	35.1	-13.22	726.9	-170.8	746.8	703.8	42.97	17.380	
2,200.0	2,200.0	2,207.8	2,206.6	8.2	35.1	-13.23	726.0	-170.7	745.8	702.5	43.34	17.209	
2,300.0	2,300.0	2,306.9	2,305.6	8.6	35.2	-13.26	724.8	-170.8	744.7	701.0	43.71	17.037	
2,400.0	2,400.0	2,405.5	2,404.2	8.9	35.2	-13.31	723.9	-171.3	743.9	699.8	44.09	16.872	
2,500.0	2,500.0	2,505.8	2,504.5	9.2	35.2	-13.39	722.9	-172.1	743.1	698.7	44.48	16.709	
2,600.0	2,600.0	2,605.5	2,604.2	9.6	35.3	-63.66	721.8	-173.4	741.6	696.7	44.86	16.530	
2,700.0	2,699.8	2,703.3	2,702.0	9.9	35.4	-64.22	720.7	-175.2	738.6	693.4	45.25	16.322	
2,750.0	2,749.7	2,751.2	2,749.9	10.1	35.4	-64.59	720.3	-176.0	736.7	691.3	45.45	16.210	
2,800.0	2,799.5	2,799.0	2,797.7	10.2	35.4	-64.93	720.1	-176.6	734.8	689.2	45.65	16.099	
2,900.0	2,899.1	2,896.6	2,895.3	10.6	35.5	-65.61	720.1	-177.6	731.5	685.4	46.05	15.885	
3,000.0	2,998.7	2,998.6	2,997.3	10.9	35.6	-66.30	720.1	-178.3	728.0	681.6	46.46	15.671	
3,100.0	3,098.4	3,096.4	3,095.1	11.3	35.6	-66.96	720.1	-178.8	724.7	677.8	46.87	15.462	
3,200.0	3,198.0	3,196.6	3,195.3	11.6	35.7	-67.57	720.4	-178.6	721.6	674.3	47.28	15.262	
3,300.0	3,297.6	3,299.0	3,297.6	11.9	35.8	-68.13	720.8	-177.4	718.3	670.6	47.70	15.057	
3,400.0	3,397.2	3,400.9	3,399.6	12.3	35.9	-68.57	721.3	-174.7	714.7	666.6	48.13	14.850	
3,500.0	3,496.8	3,501.2	3,499.8	12.6	36.0	-69.04	721.5	-172.2	710.9	662.4	48.56	14.640	
3,600.0	3,596.4	3,601.3	3,599.9	13.0	36.1	-69.56	721.4	-170.4	707.2	658.2	49.00	14.434	
3,700.0	3,696.1	3,703.3	3,701.9	13.3	36.1	-70.10	721.2	-168.6	703.4	653.9	49.44	14.228	
3,800.0	3,795.7	3,803.2	3,801.8	13.7	36.2	-70.65	720.7	-166.8	699.3	649.4	49.88	14.020	
3,900.0	3,895.3	3,907.9	3,906.4	14.0	36.3	-71.17	720.3	-164.1	695.2	644.9	50.32	13.815	
4,000.0	3,994.9	4,014.0	4,012.4	14.4	36.4	-71.61	719.1	-160.0	689.9	639.2	50.76	13.591	
4,100.0	4,094.5	4,082.0	4,080.4	14.7	36.5	-71.97	719.6	-158.8	687.1	635.9	51.20	13.420	
4,200.0	4,194.2	4,228.9	4,227.2	15.1	36.7	-72.74	717.4	-154.5	681.5	629.8	51.70	13.182	
4,300.0	4,293.8	4,343.1	4,341.1	15.4	36.8	-73.30	712.0	-149.2	672.8	620.7	52.12	12.908	
4,400.0	4,393.4	4,412.3	4,410.2	15.8	37.4	-73.65	709.0	-146.0	664.7	611.9	52.75	12.600	
4,486.4	4,479.5	4,464.2	4,462.1	16.1	38.0	-73.89	709.5	-144.5	662.5	609.2	53.23	12.446 CC	
4,500.0	4,493.0	4,472.4	4,470.2	16.1	38.1	-73.93	709.8	-144.4	662.5	609.2	53.29	12.432	
4,600.0	4,592.6	4,543.2	4,540.8	16.5	39.0	-74.23	714.9	-144.0	666.2	612.4	53.76	12.391	
4,700.0	4,692.3	4,654.7	4,652.1	16.8	41.2	-74.74	723.1	-144.0	670.5	615.9	54.64	12.271	

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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: 218-INC-ONLY, 1175-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	
4,800.0	4,791.9	4,766.3	4,763.5	17.2	43.5	-75.33	729.1	-144.0	673.2	618.0	55.22	12.192	
4,900.0	4,891.5	4,871.1	4,868.2	17.6	44.0	-75.92	733.3	-144.0	674.6	618.8	55.86	12.078	
5,000.0	4,991.1	4,975.6	4,972.7	17.9	44.5	-76.55	736.7	-144.0	675.4	619.0	56.47	11.960	
5,100.0	5,090.7	5,080.1	5,077.1	18.3	45.0	-77.21	739.2	-144.0	675.6	618.6	57.06	11.841	
5,200.0	5,190.4	5,184.5	5,181.5	18.6	45.5	-77.89	740.9	-144.0	675.2	617.6	57.61	11.721	
5,300.0	5,290.0	5,287.5	5,284.5	19.0	46.2	-78.60	741.9	-144.0	674.2	616.0	58.17	11.590	
5,400.0	5,389.6	5,387.4	5,384.4	19.3	47.0	-79.30	742.5	-144.0	673.1	614.3	58.82	11.444	
5,500.0	5,489.2	5,487.2	5,484.2	19.7	47.8	-80.00	743.2	-144.0	672.1	612.7	59.43	11.309	
5,600.0	5,588.8	5,587.1	5,584.1	20.0	48.7	-80.71	743.8	-144.0	671.2	611.2	60.01	11.185	
5,700.0	5,688.5	5,686.9	5,683.9	20.4	49.7	-81.42	744.3	-144.0	670.3	609.8	60.54	11.072	
5,800.0	5,788.1	5,786.9	5,783.9	20.8	50.6	-82.13	744.9	-144.0	669.5	608.4	61.06	10.964	
5,900.0	5,887.7	5,887.2	5,884.2	21.1	51.3	-82.86	745.3	-144.0	668.7	607.1	61.64	10.849	
6,000.0	5,987.3	5,987.5	5,984.5	21.5	52.1	-83.59	745.6	-144.0	667.9	605.7	62.19	10.740	
6,100.0	6,086.9	6,087.8	6,084.8	21.8	52.9	-84.32	745.8	-144.0	667.2	604.4	62.74	10.635	
6,200.0	6,186.6	6,188.1	6,185.0	22.2	53.7	-85.07	745.9	-144.0	666.4	603.2	63.26	10.534	
6,300.0	6,286.2	6,286.5	6,283.5	22.5	54.2	-85.80	746.0	-144.0	665.8	602.0	63.80	10.436	
6,400.0	6,385.8	6,384.6	6,381.6	22.9	54.7	-86.51	746.3	-144.0	665.5	601.2	64.34	10.344	
6,432.4	6,418.1	6,416.4	6,413.4	23.0	54.9	-86.74	746.5	-144.0	665.5	601.0	64.51	10.316	
6,500.0	6,485.4	6,482.7	6,479.7	23.3	55.2	-87.21	747.0	-144.0	665.6	600.7	64.87	10.260	
6,501.4	6,486.8	6,484.1	6,481.1	23.3	55.2	-87.22	747.0	-144.0	665.6	600.7	64.88	10.259 ES	
6,600.0	6,585.0	6,563.0	6,560.0	23.6	55.6	-87.78	747.8	-144.0	666.2	600.9	65.35	10.195 SF	
6,700.0	6,684.7	6,563.0	6,560.0	24.0	55.6	-87.78	747.8	-144.0	676.9	612.1	64.78	10.448	
6,800.0	6,784.3	6,563.0	6,560.0	24.3	55.6	-87.78	747.8	-144.0	701.8	638.7	63.10	11.121	
6,900.0	6,883.9	6,563.0	6,560.0	24.7	55.6	-87.78	747.8	-144.0	739.4	678.8	60.63	12.196	
7,000.0	6,983.5	6,563.0	6,560.0	25.1	55.6	-87.78	747.8	-144.0	788.1	730.3	57.74	13.648	
7,100.0	7,083.1	6,563.0	6,560.0	25.4	55.6	-87.78	747.8	-144.0	845.8	791.0	54.74	15.450	
7,200.0	7,182.7	6,563.0	6,560.0	25.8	55.6	-87.78	747.8	-144.0	910.9	859.0	51.84	17.570	
7,300.0	7,282.4	6,563.0	6,560.0	26.1	55.6	-87.78	747.8	-144.0	981.8	932.6	49.16	19.972	

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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' @ 3294.4usft (TBD)

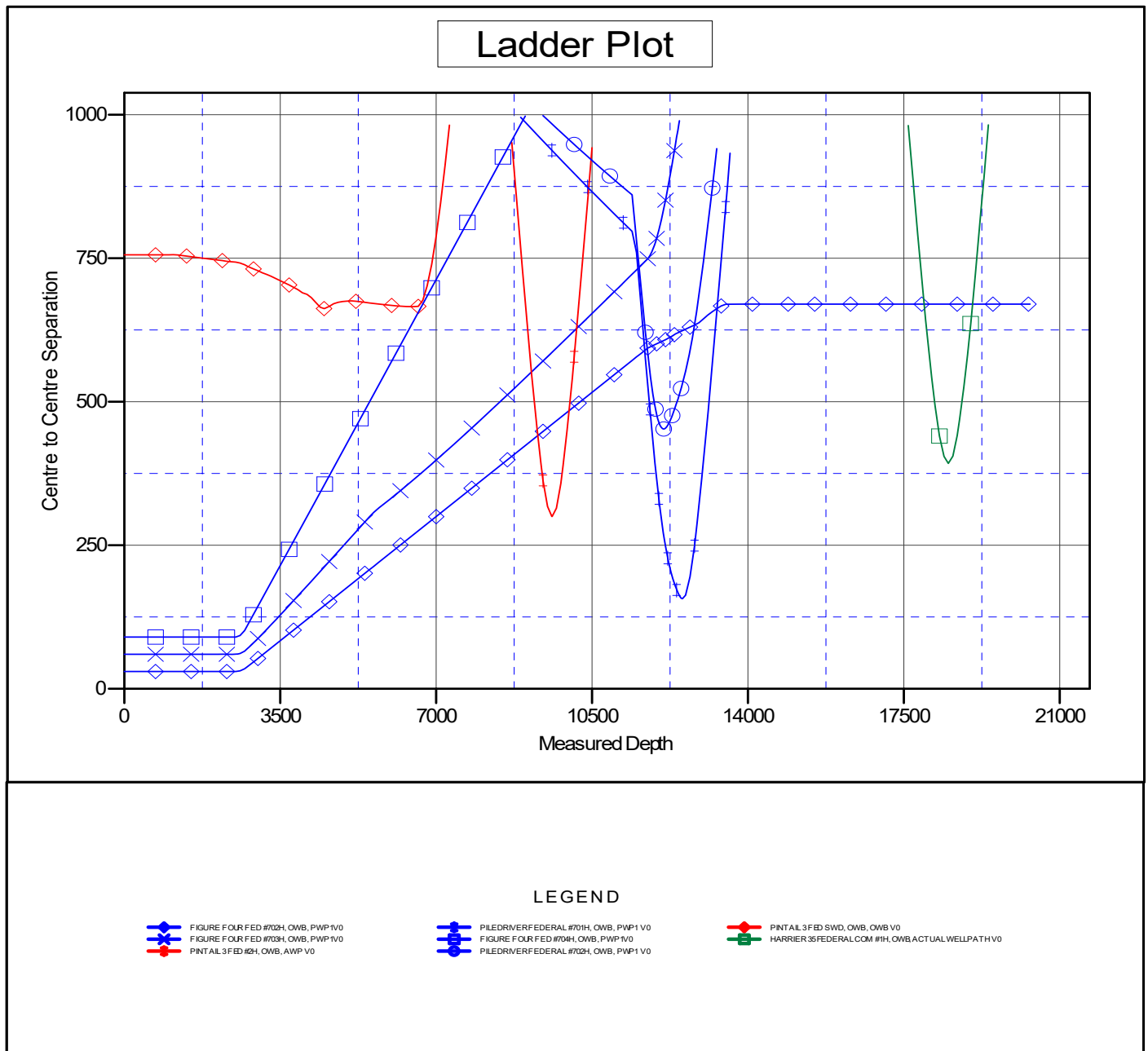
Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: FIGURE FOUR FED #701H

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

Grid Convergence at Surface is: 0.36°



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

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Reference Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Site Error:	3.0 usft	North Reference:	Grid
Reference Well:	FIGURE FOUR FED #701H	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' @ 3294.4usft (TBD)

Offset Depths are relative to Offset Datum

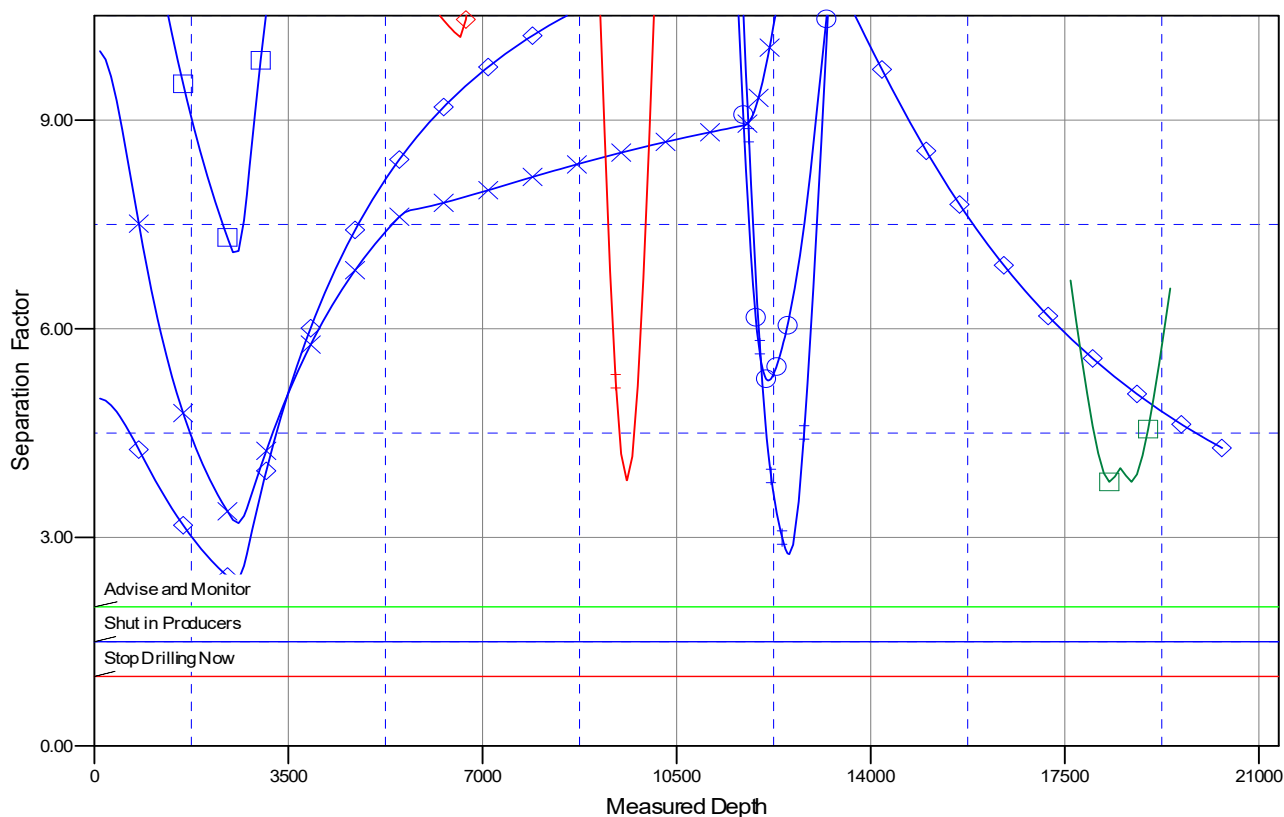
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: FIGURE FOUR FED #701H

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

Grid Convergence at Surface is: 0.36°

Separation Factor Plot



LEGEND

FIGURE FOUR FED #702H, OWB, PWP1 V0
 FIGURE FOUR FED #703H, OWB, PWP1 V0
 PINTAIL 3 FED #24, OWB, AWP V0

PILEDRIER FEDERAL #701H, OWB, PWP1 V0
 FIGURE FOUR FED #704H, OWB, PWP1 V0
 PILEDRIER FEDERAL #702H, OWB, PWP1 V0

PINTAIL 3 FED SWD, OWB, OWB V0
 HARRIER 35 FEDERAL COM #1H, OWB ACTUAL WELLPATH V0

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

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COMPASS 5000.15 Build 91E

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)

PILEDRIIVER FED & FIGURE FOUR FED PROJECT

FIGURE FOUR FED #701H

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 #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Well:	FIGURE FOUR FED #701H	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 #701H			
Well Position	+N/-S	0.0 usft	Northing:	389,745.50 usft
	+E/-W	0.0 usft	Easting:	709,271.20 usft
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft
			Latitude:	32° 4' 11.010 N
			Longitude:	103° 39' 27.895 W
			Ground Level:	3,264.4 usft

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

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	7/30/2020	6.68	59.78	47,485.90036787

Design	PWP1
---------------	------

Audit Notes:	
Version:	Phase: PLAN Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	5.49

Survey Tool Program		Date	9/9/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	20,337.2	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
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Site:	PILEDRIIVER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Well:	FIGURE FOUR FED #701H	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)
1,500.0	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	50.00	2,600.0	1.1	1.3	1.2	2.00	2.00	0.00
2,700.0	4.00	50.00	2,699.8	4.5	5.3	5.0	2.00	2.00	0.00
2,750.0	5.00	50.00	2,749.7	7.0	8.4	7.8	2.00	2.00	0.00
Start 9000.2 hold at 2750.0 MD									
2,800.0	5.00	50.00	2,799.5	9.8	11.7	10.9	0.00	0.00	0.00
2,900.0	5.00	50.00	2,899.1	15.4	18.4	17.1	0.00	0.00	0.00
3,000.0	5.00	50.00	2,998.7	21.0	25.0	23.3	0.00	0.00	0.00
3,100.0	5.00	50.00	3,098.4	26.6	31.7	29.5	0.00	0.00	0.00
3,200.0	5.00	50.00	3,198.0	32.2	38.4	35.7	0.00	0.00	0.00
3,300.0	5.00	50.00	3,297.6	37.8	45.1	42.0	0.00	0.00	0.00
3,400.0	5.00	50.00	3,397.2	43.4	51.7	48.2	0.00	0.00	0.00
3,500.0	5.00	50.00	3,496.8	49.0	58.4	54.4	0.00	0.00	0.00
3,600.0	5.00	50.00	3,596.4	54.6	65.1	60.6	0.00	0.00	0.00
3,700.0	5.00	50.00	3,696.1	60.2	71.8	66.8	0.00	0.00	0.00
3,800.0	5.00	50.00	3,795.7	65.8	78.5	73.0	0.00	0.00	0.00
3,900.0	5.00	50.00	3,895.3	71.4	85.1	79.3	0.00	0.00	0.00
4,000.0	5.00	50.00	3,994.9	77.0	91.8	85.5	0.00	0.00	0.00
4,100.0	5.00	50.00	4,094.5	82.6	98.5	91.7	0.00	0.00	0.00
4,200.0	5.00	50.00	4,194.2	88.2	105.2	97.9	0.00	0.00	0.00
4,300.0	5.00	50.00	4,293.8	93.8	111.8	104.1	0.00	0.00	0.00
4,400.0	5.00	50.00	4,393.4	99.4	118.5	110.3	0.00	0.00	0.00
4,500.0	5.00	50.00	4,493.0	105.0	125.2	116.5	0.00	0.00	0.00
4,600.0	5.00	50.00	4,592.6	110.6	131.9	122.8	0.00	0.00	0.00
4,700.0	5.00	50.00	4,692.3	116.3	138.5	129.0	0.00	0.00	0.00
4,800.0	5.00	50.00	4,791.9	121.9	145.2	135.2	0.00	0.00	0.00
4,900.0	5.00	50.00	4,891.5	127.5	151.9	141.4	0.00	0.00	0.00
5,000.0	5.00	50.00	4,991.1	133.1	158.6	147.6	0.00	0.00	0.00
5,100.0	5.00	50.00	5,090.7	138.7	165.2	153.8	0.00	0.00	0.00
5,200.0	5.00	50.00	5,190.4	144.3	171.9	160.1	0.00	0.00	0.00
5,300.0	5.00	50.00	5,290.0	149.9	178.6	166.3	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Well:	FIGURE FOUR FED #701H	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	50.00	5,389.6	155.5	185.3	172.5	0.00	0.00	0.00
5,500.0	5.00	50.00	5,489.2	161.1	192.0	178.7	0.00	0.00	0.00
5,600.0	5.00	50.00	5,588.8	166.7	198.6	184.9	0.00	0.00	0.00
5,700.0	5.00	50.00	5,688.5	172.3	205.3	191.1	0.00	0.00	0.00
5,800.0	5.00	50.00	5,788.1	177.9	212.0	197.4	0.00	0.00	0.00
5,900.0	5.00	50.00	5,887.7	183.5	218.7	203.6	0.00	0.00	0.00
6,000.0	5.00	50.00	5,987.3	189.1	225.3	209.8	0.00	0.00	0.00
6,100.0	5.00	50.00	6,086.9	194.7	232.0	216.0	0.00	0.00	0.00
6,200.0	5.00	50.00	6,186.6	200.3	238.7	222.2	0.00	0.00	0.00
6,300.0	5.00	50.00	6,286.2	205.9	245.4	228.4	0.00	0.00	0.00
6,400.0	5.00	50.00	6,385.8	211.5	252.0	234.6	0.00	0.00	0.00
6,500.0	5.00	50.00	6,485.4	217.1	258.7	240.9	0.00	0.00	0.00
6,600.0	5.00	50.00	6,585.0	222.7	265.4	247.1	0.00	0.00	0.00
6,700.0	5.00	50.00	6,684.7	228.3	272.1	253.3	0.00	0.00	0.00
6,800.0	5.00	50.00	6,784.3	233.9	278.7	259.5	0.00	0.00	0.00
6,900.0	5.00	50.00	6,883.9	239.5	285.4	265.7	0.00	0.00	0.00
7,000.0	5.00	50.00	6,983.5	245.1	292.1	271.9	0.00	0.00	0.00
7,100.0	5.00	50.00	7,083.1	250.7	298.8	278.2	0.00	0.00	0.00
7,200.0	5.00	50.00	7,182.7	256.3	305.5	284.4	0.00	0.00	0.00
7,300.0	5.00	50.00	7,282.4	261.9	312.1	290.6	0.00	0.00	0.00
7,400.0	5.00	50.00	7,382.0	267.5	318.8	296.8	0.00	0.00	0.00
7,500.0	5.00	50.00	7,481.6	273.1	325.5	303.0	0.00	0.00	0.00
7,600.0	5.00	50.00	7,581.2	278.7	332.2	309.2	0.00	0.00	0.00
7,700.0	5.00	50.00	7,680.8	284.3	338.8	315.4	0.00	0.00	0.00
7,800.0	5.00	50.00	7,780.5	289.9	345.5	321.7	0.00	0.00	0.00
7,900.0	5.00	50.00	7,880.1	295.5	352.2	327.9	0.00	0.00	0.00
8,000.0	5.00	50.00	7,979.7	301.1	358.9	334.1	0.00	0.00	0.00
8,100.0	5.00	50.00	8,079.3	306.7	365.5	340.3	0.00	0.00	0.00
8,200.0	5.00	50.00	8,178.9	312.3	372.2	346.5	0.00	0.00	0.00
8,300.0	5.00	50.00	8,278.6	317.9	378.9	352.7	0.00	0.00	0.00
8,400.0	5.00	50.00	8,378.2	323.5	385.6	359.0	0.00	0.00	0.00
8,500.0	5.00	50.00	8,477.8	329.1	392.3	365.2	0.00	0.00	0.00
8,600.0	5.00	50.00	8,577.4	334.7	398.9	371.4	0.00	0.00	0.00
8,700.0	5.00	50.00	8,677.0	340.3	405.6	377.6	0.00	0.00	0.00
8,800.0	5.00	50.00	8,776.7	345.9	412.3	383.8	0.00	0.00	0.00
8,900.0	5.00	50.00	8,876.3	351.5	419.0	390.0	0.00	0.00	0.00
9,000.0	5.00	50.00	8,975.9	357.1	425.6	396.3	0.00	0.00	0.00
9,100.0	5.00	50.00	9,075.5	362.8	432.3	402.5	0.00	0.00	0.00
9,200.0	5.00	50.00	9,175.1	368.4	439.0	408.7	0.00	0.00	0.00
9,300.0	5.00	50.00	9,274.8	374.0	445.7	414.9	0.00	0.00	0.00
9,400.0	5.00	50.00	9,374.4	379.6	452.3	421.1	0.00	0.00	0.00
9,500.0	5.00	50.00	9,474.0	385.2	459.0	427.3	0.00	0.00	0.00
9,600.0	5.00	50.00	9,573.6	390.8	465.7	433.5	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Well:	FIGURE FOUR FED #701H	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)	
9,700.0	5.00	50.00	9,673.2	396.4	472.4	439.8	0.00	0.00	0.00	
9,800.0	5.00	50.00	9,772.9	402.0	479.0	446.0	0.00	0.00	0.00	
9,900.0	5.00	50.00	9,872.5	407.6	485.7	452.2	0.00	0.00	0.00	
10,000.0	5.00	50.00	9,972.1	413.2	492.4	458.4	0.00	0.00	0.00	
10,100.0	5.00	50.00	10,071.7	418.8	499.1	464.6	0.00	0.00	0.00	
10,200.0	5.00	50.00	10,171.3	424.4	505.8	470.8	0.00	0.00	0.00	
10,300.0	5.00	50.00	10,271.0	430.0	512.4	477.1	0.00	0.00	0.00	
10,400.0	5.00	50.00	10,370.6	435.6	519.1	483.3	0.00	0.00	0.00	
10,500.0	5.00	50.00	10,470.2	441.2	525.8	489.5	0.00	0.00	0.00	
10,600.0	5.00	50.00	10,569.8	446.8	532.5	495.7	0.00	0.00	0.00	
10,700.0	5.00	50.00	10,669.4	452.4	539.1	501.9	0.00	0.00	0.00	
10,800.0	5.00	50.00	10,769.0	458.0	545.8	508.1	0.00	0.00	0.00	
10,900.0	5.00	50.00	10,868.7	463.6	552.5	514.3	0.00	0.00	0.00	
11,000.0	5.00	50.00	10,968.3	469.2	559.2	520.6	0.00	0.00	0.00	
11,100.0	5.00	50.00	11,067.9	474.8	565.8	526.8	0.00	0.00	0.00	
11,200.0	5.00	50.00	11,167.5	480.4	572.5	533.0	0.00	0.00	0.00	
11,300.0	5.00	50.00	11,267.1	486.0	579.2	539.2	0.00	0.00	0.00	
11,400.0	5.00	50.00	11,366.8	491.6	585.9	545.4	0.00	0.00	0.00	
11,500.0	5.00	50.00	11,466.4	497.2	592.5	551.6	0.00	0.00	0.00	
11,600.0	5.00	50.00	11,566.0	502.8	599.2	557.9	0.00	0.00	0.00	
11,700.0	5.00	50.00	11,665.6	508.4	605.9	564.1	0.00	0.00	0.00	
11,750.2	5.00	50.00	11,715.6	511.2	609.2	567.2	0.00	0.00	0.00	
Start DLS 12.00 TFO -38.97										
11,800.0	10.35	28.62	11,765.0	516.6	613.1	572.9	12.00	10.75	-42.90	
11,900.0	22.09	18.91	11,860.8	542.3	623.5	599.5	12.00	11.73	-9.71	
12,000.0	34.00	15.81	11,949.0	587.2	637.3	645.5	12.00	11.91	-3.11	
12,100.0	45.96	14.18	12,025.4	649.1	653.7	708.7	12.00	11.96	-1.62	
12,200.0	57.93	13.11	12,087.0	725.5	672.2	786.5	12.00	11.97	-1.07	
12,300.0	69.90	12.29	12,130.9	813.0	691.9	875.5	12.00	11.98	-0.82	
12,400.0	81.88	11.59	12,155.2	907.7	711.9	971.7	12.00	11.98	-0.70	
12,461.5	89.25	11.18	12,160.0	967.8	724.0	1,032.6	12.00	11.98	-0.66	
Start 500.0 hold at 12461.5 MD										
12,500.0	89.25	11.18	12,160.5	1,005.5	731.5	1,070.9	0.00	0.00	0.00	
12,600.0	89.25	11.18	12,161.8	1,103.6	750.9	1,170.4	0.00	0.00	0.00	
12,700.0	89.25	11.18	12,163.1	1,201.7	770.2	1,269.9	0.00	0.00	0.00	
12,800.0	89.25	11.18	12,164.4	1,299.8	789.6	1,369.4	0.00	0.00	0.00	
12,900.0	89.25	11.18	12,165.7	1,397.9	809.0	1,468.9	0.00	0.00	0.00	
12,961.5	89.25	11.18	12,166.5	1,458.2	820.9	1,530.1	0.00	0.00	0.00	
Start DLS 2.00 TFO -90.11										
13,000.0	89.25	10.41	12,167.0	1,496.1	828.2	1,568.5	2.00	0.00	-2.00	
13,100.0	89.25	8.41	12,168.3	1,594.7	844.5	1,668.2	2.00	0.00	-2.00	
13,200.0	89.24	6.41	12,169.6	1,693.9	857.4	1,768.1	2.00	0.00	-2.00	
13,300.0	89.24	4.41	12,171.0	1,793.4	866.8	1,868.1	2.00	0.00	-2.00	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Well:	FIGURE FOUR FED #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,400.0	89.24	2.41	12,172.3	1,893.2	872.8	1,968.1	2.00	0.00	-2.00
13,500.0	89.24	0.41	12,173.6	1,993.2	875.2	2,067.8	2.00	0.00	-2.00
13,541.5	89.24	359.58	12,174.2	2,034.7	875.2	2,109.1	2.00	0.00	-2.00
Start 1555.5 hold at 13541.5 MD									
13,600.0	89.24	359.58	12,174.9	2,093.2	874.8	2,167.3	0.00	0.00	0.00
13,700.0	89.24	359.58	12,176.2	2,193.1	874.0	2,266.7	0.00	0.00	0.00
13,800.0	89.24	359.58	12,177.6	2,293.1	873.3	2,366.2	0.00	0.00	0.00
13,900.0	89.24	359.58	12,178.9	2,393.1	872.6	2,465.7	0.00	0.00	0.00
14,000.0	89.24	359.58	12,180.2	2,493.1	871.8	2,565.1	0.00	0.00	0.00
14,100.0	89.24	359.58	12,181.5	2,593.1	871.1	2,664.6	0.00	0.00	0.00
14,200.0	89.24	359.58	12,182.8	2,693.1	870.4	2,764.0	0.00	0.00	0.00
14,300.0	89.24	359.58	12,184.2	2,793.1	869.6	2,863.5	0.00	0.00	0.00
14,400.0	89.24	359.58	12,185.5	2,893.1	868.9	2,962.9	0.00	0.00	0.00
14,500.0	89.24	359.58	12,186.8	2,993.0	868.2	3,062.4	0.00	0.00	0.00
14,600.0	89.24	359.58	12,188.1	3,093.0	867.4	3,161.9	0.00	0.00	0.00
14,700.0	89.24	359.58	12,189.5	3,193.0	866.7	3,261.3	0.00	0.00	0.00
14,800.0	89.24	359.58	12,190.8	3,293.0	865.9	3,360.8	0.00	0.00	0.00
14,900.0	89.24	359.58	12,192.1	3,393.0	865.2	3,460.2	0.00	0.00	0.00
15,000.0	89.24	359.58	12,193.4	3,493.0	864.5	3,559.7	0.00	0.00	0.00
15,097.1	89.24	359.58	12,194.7	3,590.0	863.8	3,656.2	0.00	0.00	0.00
Start DLS 2.00 TFO 90.18									
15,100.0	89.24	359.64	12,194.7	3,593.0	863.7	3,659.2	2.00	-0.01	2.00
15,110.2	89.24	359.84	12,194.9	3,603.2	863.7	3,669.3	2.00	-0.01	2.00
Start 5227.0 hold at 15110.2 MD									
15,200.0	89.24	359.84	12,196.1	3,693.0	863.4	3,758.7	0.00	0.00	0.00
15,300.0	89.24	359.84	12,197.4	3,793.0	863.2	3,858.2	0.00	0.00	0.00
15,400.0	89.24	359.84	12,198.7	3,893.0	862.9	3,957.7	0.00	0.00	0.00
15,500.0	89.24	359.84	12,200.0	3,992.9	862.6	4,057.2	0.00	0.00	0.00
15,600.0	89.24	359.84	12,201.4	4,092.9	862.3	4,156.7	0.00	0.00	0.00
15,700.0	89.24	359.84	12,202.7	4,192.9	862.0	4,256.2	0.00	0.00	0.00
15,800.0	89.24	359.84	12,204.0	4,292.9	861.8	4,355.7	0.00	0.00	0.00
15,900.0	89.24	359.84	12,205.3	4,392.9	861.5	4,455.2	0.00	0.00	0.00
16,000.0	89.24	359.84	12,206.6	4,492.9	861.2	4,554.7	0.00	0.00	0.00
16,100.0	89.24	359.84	12,208.0	4,592.9	860.9	4,654.2	0.00	0.00	0.00
16,200.0	89.24	359.84	12,209.3	4,692.9	860.6	4,753.7	0.00	0.00	0.00
16,300.0	89.24	359.84	12,210.6	4,792.9	860.4	4,853.2	0.00	0.00	0.00
16,400.0	89.24	359.84	12,211.9	4,892.9	860.1	4,952.7	0.00	0.00	0.00
16,500.0	89.24	359.84	12,213.3	4,992.9	859.8	5,052.2	0.00	0.00	0.00
16,600.0	89.24	359.84	12,214.6	5,092.8	859.5	5,151.7	0.00	0.00	0.00
16,700.0	89.24	359.84	12,215.9	5,192.8	859.2	5,251.2	0.00	0.00	0.00
16,800.0	89.24	359.84	12,217.2	5,292.8	859.0	5,350.7	0.00	0.00	0.00
16,900.0	89.24	359.84	12,218.5	5,392.8	858.7	5,450.2	0.00	0.00	0.00
17,000.0	89.24	359.84	12,219.9	5,492.8	858.4	5,549.8	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Well:	FIGURE FOUR FED #701H	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)	
17,100.0	89.24	359.84	12,221.2	5,592.8	858.1	5,649.3	0.00	0.00	0.00	
17,200.0	89.24	359.84	12,222.5	5,692.8	857.9	5,748.8	0.00	0.00	0.00	
17,300.0	89.24	359.84	12,223.8	5,792.8	857.6	5,848.3	0.00	0.00	0.00	
17,400.0	89.24	359.84	12,225.2	5,892.8	857.3	5,947.8	0.00	0.00	0.00	
17,500.0	89.24	359.84	12,226.5	5,992.8	857.0	6,047.3	0.00	0.00	0.00	
17,600.0	89.24	359.84	12,227.8	6,092.8	856.7	6,146.8	0.00	0.00	0.00	
17,700.0	89.24	359.84	12,229.1	6,192.7	856.5	6,246.3	0.00	0.00	0.00	
17,800.0	89.24	359.84	12,230.4	6,292.7	856.2	6,345.8	0.00	0.00	0.00	
17,900.0	89.24	359.84	12,231.8	6,392.7	855.9	6,445.3	0.00	0.00	0.00	
18,000.0	89.24	359.84	12,233.1	6,492.7	855.6	6,544.8	0.00	0.00	0.00	
18,100.0	89.24	359.84	12,234.4	6,592.7	855.3	6,644.3	0.00	0.00	0.00	
18,200.0	89.24	359.84	12,235.7	6,692.7	855.1	6,743.8	0.00	0.00	0.00	
18,300.0	89.24	359.84	12,237.1	6,792.7	854.8	6,843.3	0.00	0.00	0.00	
18,400.0	89.24	359.84	12,238.4	6,892.7	854.5	6,942.8	0.00	0.00	0.00	
18,500.0	89.24	359.84	12,239.7	6,992.7	854.2	7,042.3	0.00	0.00	0.00	
18,600.0	89.24	359.84	12,241.0	7,092.7	853.9	7,141.8	0.00	0.00	0.00	
18,700.0	89.24	359.84	12,242.3	7,192.7	853.7	7,241.3	0.00	0.00	0.00	
18,800.0	89.24	359.84	12,243.7	7,292.6	853.4	7,340.8	0.00	0.00	0.00	
18,900.0	89.24	359.84	12,245.0	7,392.6	853.1	7,440.3	0.00	0.00	0.00	
19,000.0	89.24	359.84	12,246.3	7,492.6	852.8	7,539.9	0.00	0.00	0.00	
19,100.0	89.24	359.84	12,247.6	7,592.6	852.6	7,639.4	0.00	0.00	0.00	
19,200.0	89.24	359.84	12,249.0	7,692.6	852.3	7,738.9	0.00	0.00	0.00	
19,300.0	89.24	359.84	12,250.3	7,792.6	852.0	7,838.4	0.00	0.00	0.00	
19,400.0	89.24	359.84	12,251.6	7,892.6	851.7	7,937.9	0.00	0.00	0.00	
19,500.0	89.24	359.84	12,252.9	7,992.6	851.4	8,037.4	0.00	0.00	0.00	
19,600.0	89.24	359.84	12,254.3	8,092.6	851.2	8,136.9	0.00	0.00	0.00	
19,700.0	89.24	359.84	12,255.6	8,192.6	850.9	8,236.4	0.00	0.00	0.00	
19,800.0	89.24	359.84	12,256.9	8,292.6	850.6	8,335.9	0.00	0.00	0.00	
19,900.0	89.24	359.84	12,258.2	8,392.5	850.3	8,435.4	0.00	0.00	0.00	
20,000.0	89.24	359.84	12,259.5	8,492.5	850.0	8,534.9	0.00	0.00	0.00	
20,100.0	89.24	359.84	12,260.9	8,592.5	849.8	8,634.4	0.00	0.00	0.00	
20,200.0	89.24	359.84	12,262.2	8,692.5	849.5	8,733.9	0.00	0.00	0.00	
20,300.0	89.24	359.84	12,263.5	8,792.5	849.2	8,833.4	0.00	0.00	0.00	
20,337.2	89.24	359.84	12,264.0	8,829.7	849.1	8,870.4	0.00	0.00	0.00	
TD at 20337.2										

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well FIGURE FOUR FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3294.4usft (TBD)
Site:	PILEDRIER FED & FIGURE FOUR FED PROJECT	MD Reference:	*KB=30' @ 3294.4usft (TBD)
Well:	FIGURE FOUR FED #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Design Targets

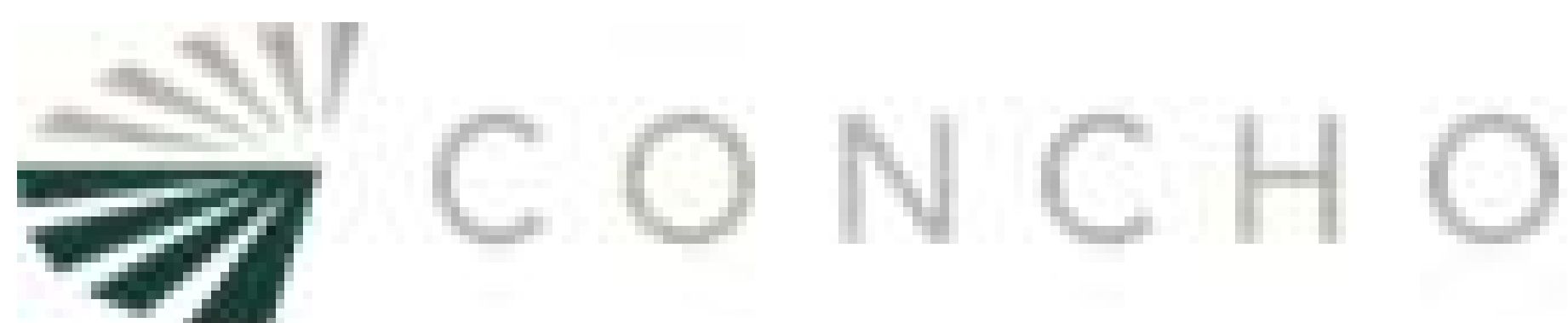
Target Name

- 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 140.9usft at 12574.4usft MD (12161.4 TVD, 1078.5 N, 745.9 E) - Circle (radius 50.0)	0.00	0.00	12,160.0	1,051.2	884.1	390,796.70	710,155.30	32° 4' 21.358 N	103° 39' 17.544 W
T1 (FIGURE FOUR FI - plan hits target center - Rectangle (sides W100.0 H2,540.0 D20.0)	-0.76	179.58	12,194.7	3,590.0	863.8	393,335.53	710,134.95	32° 4' 46.483 N	103° 39' 17.595 W
LTP (FIGURE FOUR I - plan misses target center by 0.7usft at 20287.2usft MD (12263.3 TVD, 8779.7 N, 849.2 E) - Point	0.00	0.00	12,264.0	8,779.7	849.1	398,525.20	710,120.30	32° 5' 37.840 N	103° 39' 17.385 W
PBHL (FIGURE FOUF - plan hits target center - Rectangle (sides W100.0 H5,237.0 D20.0)	-0.76	179.84	12,264.0	8,829.7	849.1	398,575.20	710,120.30	32° 5' 38.335 N	103° 39' 17.382 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	7	8	Start 9000.2 hold at 2750.0 MD
11,750	11,716	511	609	Start DLS 12.00 TFO -38.97
12,461	12,160	968	724	Start 500.0 hold at 12461.5 MD
12,961	12,166	1458	821	Start DLS 2.00 TFO -90.11
13,542	12,174	2035	875	Start 1555.5 hold at 13541.5 MD
15,097	12,195	3590	864	Start DLS 2.00 TFO 90.18
15,110	12,195	3603	864	Start 5227.0 hold at 15110.2 MD
20,337	12,264	8830	849	TD at 20337.2

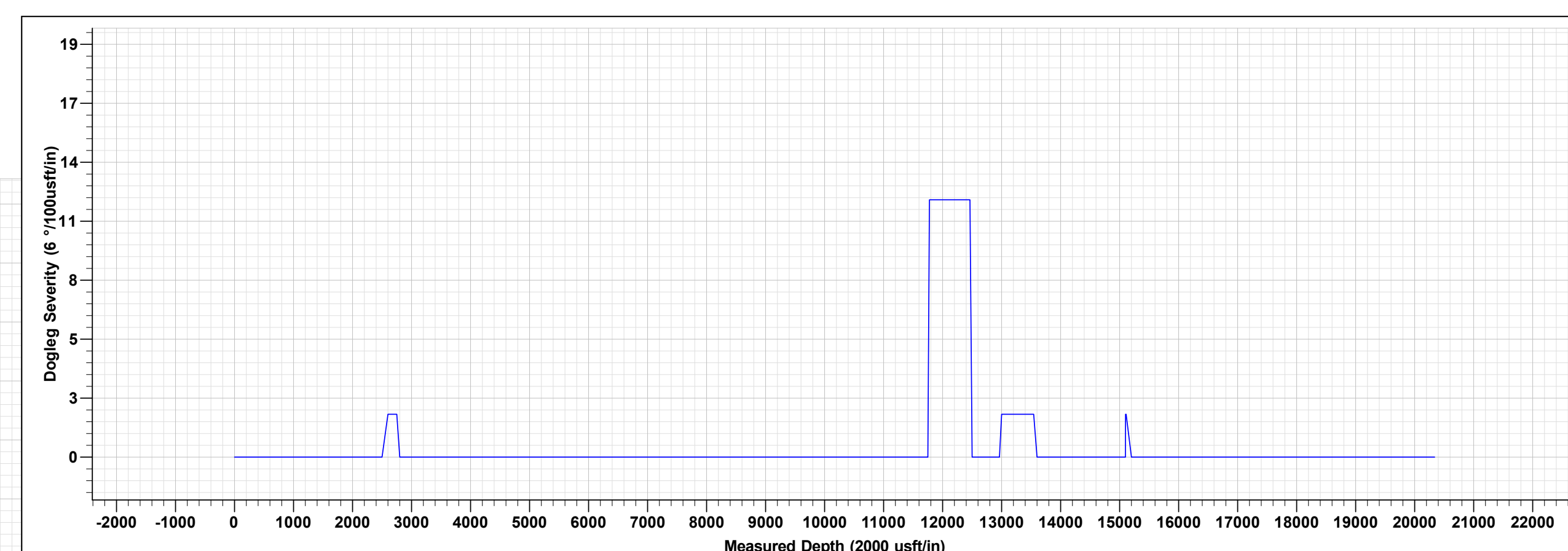
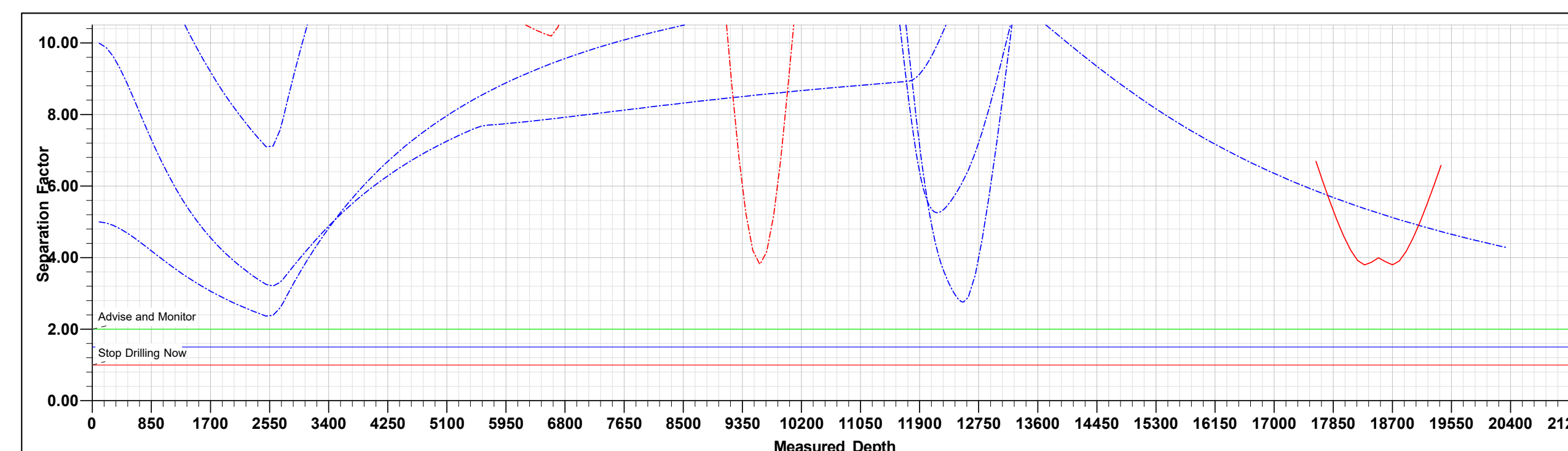
Checked By: _____ Approved By: _____ Date: _____



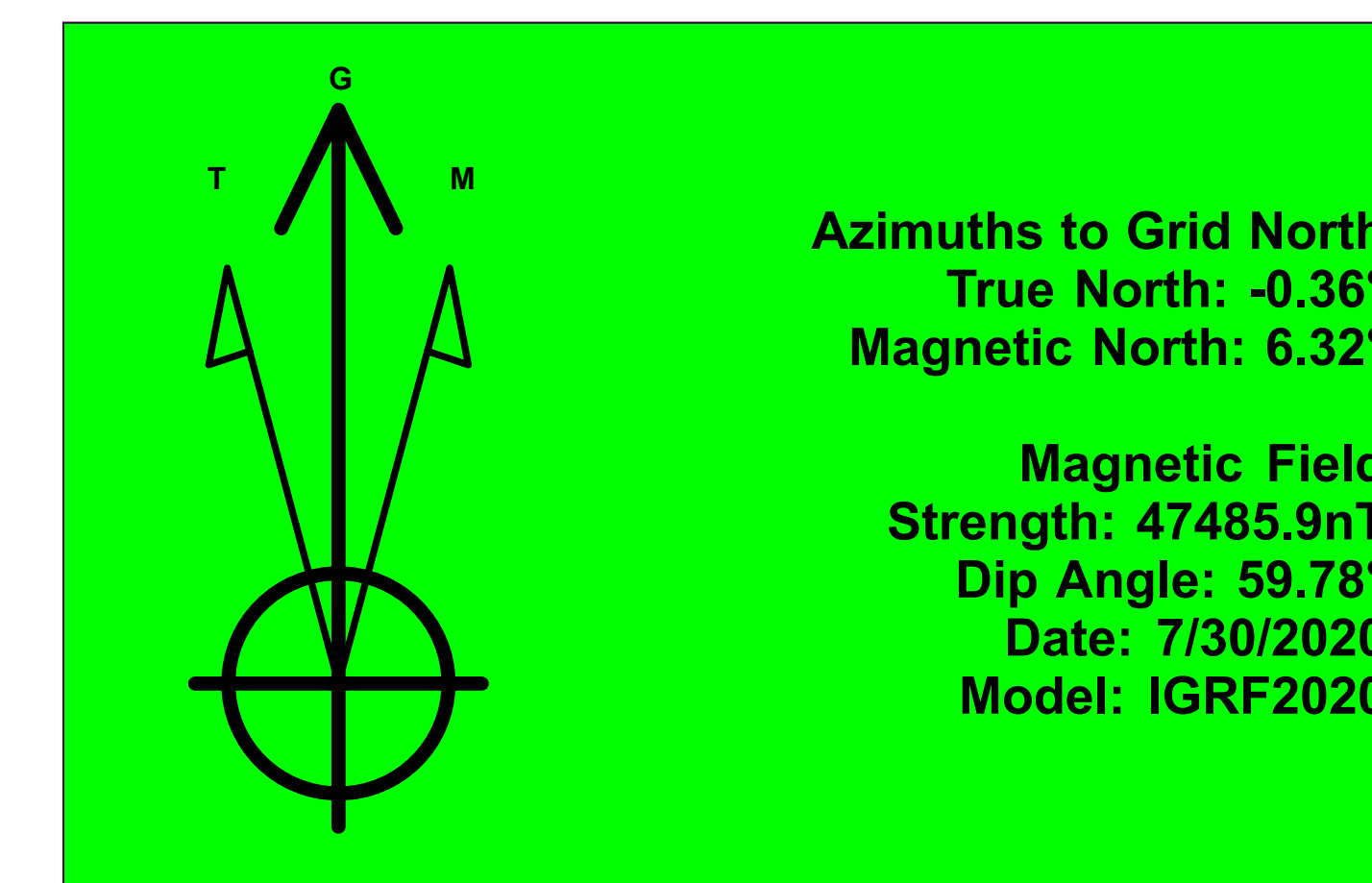
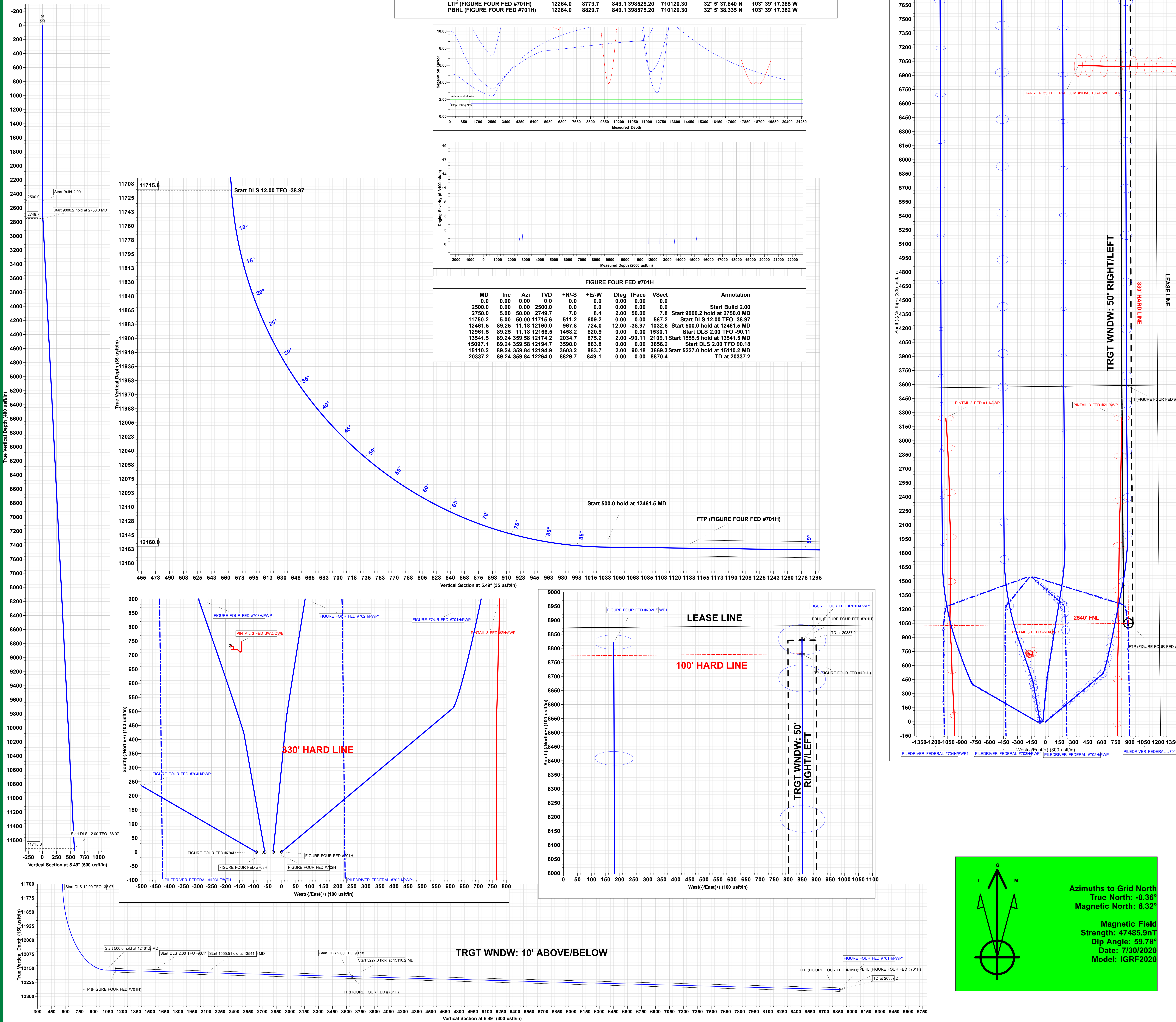
Project: BULLDOG PROSPECT (NM-E)
 Site: PILEDRIVER FED & FIGURE FOUR FED PROJECT
 Well: FIGURE FOUR FED #701H
 Wellbore: OWB
 Design: PWP1
 GL: 3264.4
 *KB=30' @ 3294.4usft (TBD)

WELL DETAILS: FIGURE FOUR FED #701H					
+N/-S 0.0	+E/-W 0.0	Northing 389745.50	Easting 709271.20	Latitude 32° 4' 11.010 N	Longitude 103° 39' 27.895 W

DESIGN TARGET DETAILS						
Name	TVD	+N/-S	+E/-W Northing	Easting	Latitude	Longitude
FTP (FIGURE FOUR FED #701H)	12160.0	1051.2	884.1 930796.70	710155.30	32° 4' 21.358 N	103° 39' 17.544 W
T1 (FIGURE FOUR FED #701H)	12194.7	3590.0	863.8 933335.53	710134.95	32° 4' 46.483 N	103° 39' 17.995 W
LTP (FIGURE FOUR FED #701H)	12264.0	8779.7	849.1 938525.20	710120.30	32° 5' 37.840 N	103° 39' 17.385 W
PBHL (FIGURE FOUR FED #701H)	12264.0	8829.7	849.1 938575.20	710120.30	32° 5' 38.335 N	103° 39' 17.382 W



MD	Inc	Azi	TVD	+N/-S	+E/-W	Dlog	TFace	VSeet	Annotation
0.0	0.00	0.00	0.0	0.0	0.00	0.00	0.00	0.00	
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.00	Start Build 2.00
2750.0	5.00	50.00	2749.7	7.0	8.4	2.00	50.00	7.8	Start 9000.2 hold at 2750.0 MD
11750.2	5.00	50.00	11715.6	511.2	609.2	0.00	0.00	567.2	Start DLS 12.00 TFO -38.97
12461.5	89.25	11.18	12160.0	967.8	724.0	12.00	-38.97	1032.6	Start 500.0 hold at 12461.5 MD
12961.5	89.25	11.18	12166.5	1458.2	829.0	0.00	0.00	1530.1	Start DLS 2.00 TFO -90.11
13541.5	89.24	359.58	12174.2	2034.7	875.2	2.00	-90.11	2109.1	Start 1555.5 hold at 13541.5 MD
15097.1	89.24	359.58	12196.4	350.0	863.8	0.00	0.00	3650.2	Start DLS 2.0 TFO MD
15110.2	89.24	359.84	12194.9	3603.2	863.7	2.00	90.18	3669.3	Start 5227.0 hold at 15110.2 MD
20337.2	89.24	359.84	12196.4	8829.7	849.1	0.00	0.00	8870.4	TD at 20337.2



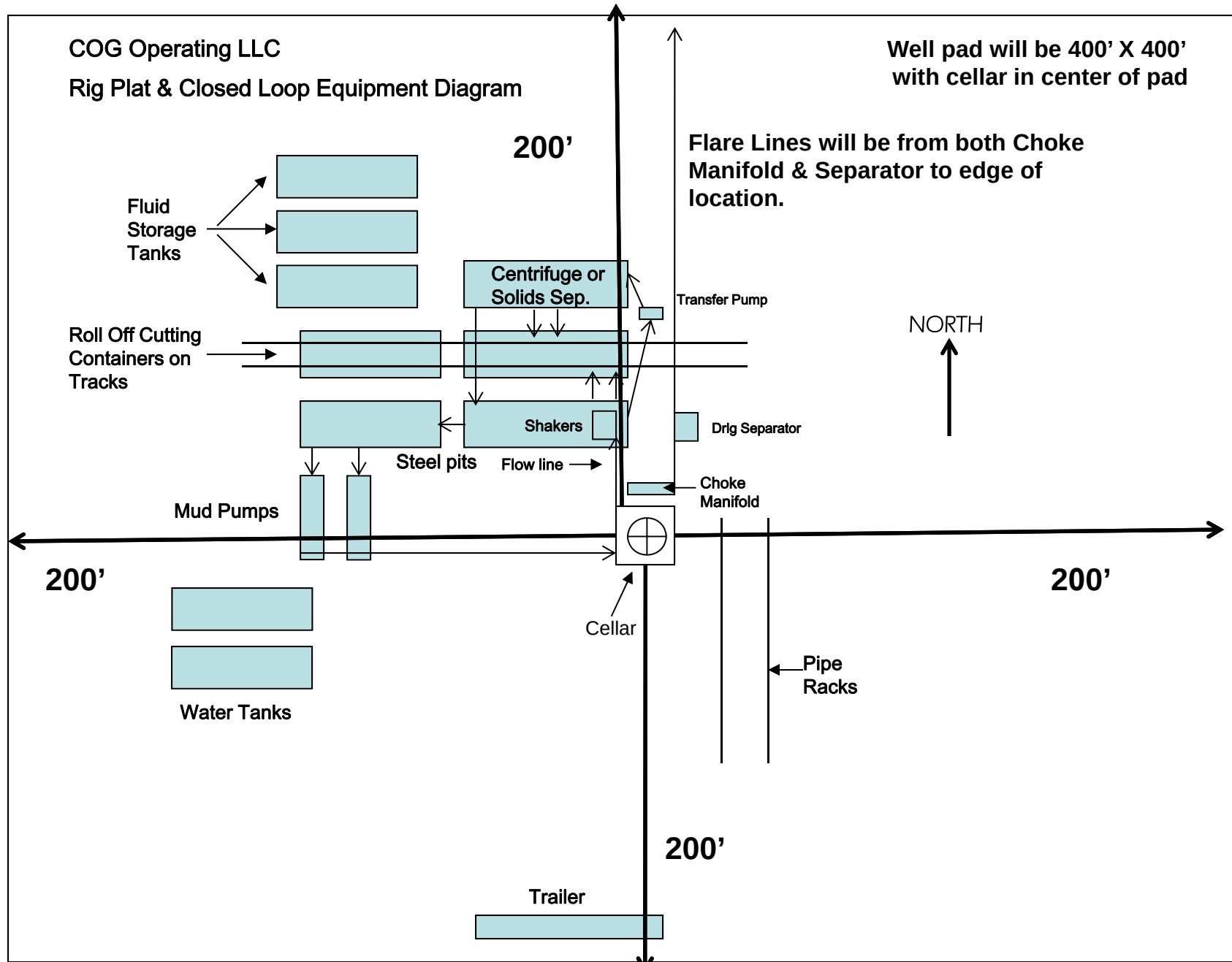


Exhibit 1

"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 25320

CONDITIONS OF APPROVAL

Operator:			OGRID:	Action Number:	Action Type:
COG OPERATING LLC 600 W Illinois Ave Midland, TX79701			229137	25320	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				