

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

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

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. XXXXXX [333084]
2. Name of Operator [229137]		9. API Well No. 30-025-50379
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [98248]
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

NGMP Rec 06/23/2022

SL

(Continued on page 2)



Approval Date: 06/22/2022

KZ
07/26/2022

*(Instructions on page 2)

Additional Operator Remarks

Location of Well

0. SHL: NENE / 685 FNL / 1215 FEL / TWSP: 24S / RANGE: 32E / SECTION: 30 / LAT: 32.193747 / LONG: -103.709164 (TVD: 0 feet, MD: 0 feet)

PPP: NENE / 100 FNL / 330 FEL / TWSP: 24S / RANGE: 32E / SECTION: 30 / LAT: 32.195366 / LONG: -103.706301 (TVD: 11892 feet, MD: 11934 feet)

BHL: SESE / 50 FSL / 330 FEL / TWSP: 24S / RANGE: 32E / SECTION: 31 / LAT: 32.166758 / LONG: -103.706251 (TVD: 12068 feet, MD: 22034 feet)

BLM Point of Contact

Name: Gavin Mickwee

Title: Land Law Examiner

Phone: (575) 234-5972

Email: gmickwee@blm.gov

CONFIDENTIAL

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG
LEASE NO.:	NMNM120908
LOCATION:	Section 30, T.24S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Windward Fed 701H
SURFACE HOLE FOOTAGE:	685'/N & 1215'/E
BOTTOM HOLE FOOTAGE:	50'/S & 330'/E

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

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **805** 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 tail cement slurry due to cave/karst.**
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. **Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).**
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. 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**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

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)

☒ Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
689-5981

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 Potash Areas: 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 for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. 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.
4. 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.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. 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.
7. 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.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

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.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
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. In potash areas, 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. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. 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).
- d. 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.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. 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.
- g. 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.
- h. 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.

ZS 051722

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) 746-1283 Fax: (575) 746-9720

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) 476-3480 Fax: (505) 476-3482

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

WC-025 G-08

S243217P;UPR WC

API Number 30-025- 50379	Pool Code 98252 98248	Pool Name Mesa Verde, Wolfcamp
Property Code 333084	Property Name WINDWARD FEDERAL	Well Number 701H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3550.5'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	30	24-S	32-E		685	NORTH	1215	EAST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
P	31	24-S	32-E		50	SOUTH	330	EAST	LEA
Dedicated Acres 640	Joint or Infill	Consolidation Code	Order No.						

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

FTP 100' FNL & 330' FEL Y=435374.1 N X=735298.4 E LAT.=32.195366° N LONG.=103.706301° W GRID AZ. TO FTP 56°02'16" POINT LEGEND <table border="1"> <tr><td>1</td><td>Y=435477.4 N X=735627.9 E</td></tr> <tr><td>2</td><td>Y=432838.9 N X=735641.2 E</td></tr> <tr><td>3</td><td>Y=430198.2 N X=735662.0 E</td></tr> <tr><td>4</td><td>Y=427560.0 N X=735684.2 E</td></tr> <tr><td>5</td><td>Y=424920.7 N X=735705.1 E</td></tr> <tr><td>6</td><td>Y=424886.2 N X=733060.2 E</td></tr> <tr><td>7</td><td>Y=430176.4 N X=733021.2 E</td></tr> <tr><td>8</td><td>Y=435450.5 N X=732978.6 E</td></tr> </table> LTP 100' FSL & 330' FEL Y=425016.8 N X=735374.4 E LAT.=32.166895° N LONG.=103.706251° W	1	Y=435477.4 N X=735627.9 E	2	Y=432838.9 N X=735641.2 E	3	Y=430198.2 N X=735662.0 E	4	Y=427560.0 N X=735684.2 E	5	Y=424920.7 N X=735705.1 E	6	Y=424886.2 N X=733060.2 E	7	Y=430176.4 N X=733021.2 E	8	Y=435450.5 N X=732978.6 E	LOT 1 46.01 Ac LOT 2 46.13 Ac LOT 3 46.22 Ac LOT 4 46.30 Ac SECTION 30 SECTION 31 LOT 1 46.43 Ac LOT 2 46.52 Ac LOT 3 46.55 Ac LOT 4 46.76 Ac	685' S.L. 1215' NAD 83 NME SURFACE LOCATION Y=434780.0 N X=734416.4 E LAT.=32.193747° N LONG.=103.709164° W GRID AZ. = 179°34'47" HORZ. DIST. = 10407.6' 330' 50' NAD 83 NME PROPOSED BOTTOM HOLE LOCATION Y=424966.8 N X=735374.7 E LAT.=32.166758° N LONG.=103.706251° W	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Stan Wagner</i> 1/7/2021 Signature Date Stan Wagner Printed Name E-mail Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. NOVEMBER 20, 2020 Date of Survey Signature & Seal of Professional Surveyor <i>Chad L. Hargrow</i> 12/4/20 Certificate No. CHAD HARGROW 17777 W.O. # 20-1596 DRAWN BY: WN
1	Y=435477.4 N X=735627.9 E																		
2	Y=432838.9 N X=735641.2 E																		
3	Y=430198.2 N X=735662.0 E																		
4	Y=427560.0 N X=735684.2 E																		
5	Y=424920.7 N X=735705.1 E																		
6	Y=424886.2 N X=733060.2 E																		
7	Y=430176.4 N X=733021.2 E																		
8	Y=435450.5 N X=732978.6 E																		

Intent ☒ As Drilled ☐

API #

30-025

Operator Name:

COG Operating LLC

Property Name:

Winward Federal

Well Number

701H

Kick Off Point (KOP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	30	24S	32E						Lea
Latitude					Longitude				NAD
									83

First Take Point (FTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
A	30	24S	32E		100	North	330	East	Lea
Latitude					Longitude				NAD
32.195366					-103.706301				NAD 83

Last Take Point (LTP)

UL	Section	Township	Range	Lot	Feet	From N/S	Feet	From E/W	County
P	31	24S	32E		100	South	330	East	Lea
Latitude					Longitude				NAD
32.166895					-103.706251				NAD 83

Is this well the defining well for the Horizontal Spacing Unit?

☐ No

Is this well an infill well?

☐ Yes

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

API #

30-025-

Operator Name:

COG Operating LLC

Property Name:

Winward Federal

Well Number

702H

KZ 06/29/2018

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division

1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: COG Operating LLC

OGRID: 229137

Date: 06/22/2022

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Windward Federal 701H	30-025-	A-30-24S-32E	685 FNL & 1215 FEL	± 1801	± 5071	± 2019
Windward Federal 702H	30-025-	A-30-24S-32E	685 FNL & 1245 FEL	± 1801	± 5071	± 2019
Windward Federal 703H	30-025-	A-30-24S-32E	685 FNL & 1275 FEL	± 1801	± 5071	± 2019
Windward Federal 704H	30-025-	1-30-24S-32E	710 FNL & 760 FWL	± 1801	± 5071	± 2019
Windward Federal 705H	30-025-	1-30-24S-32E	710 FNL & 730 FWL	± 1801	± 5071	± 2019
Windward Federal 706H	30-025-	1-30-24S-32E	710 FNL & 700 FWL	± 1801	± 5071	± 2019

IV. Central Delivery Point Name: Windward Federal 30 C CTB NE/NW 30-24S-32E [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Windward Federal	Pending	± 6/1/2024	± 25 days from spud	TBD	TBD	TBD
701H, 702H, 703H, 704H, 705H, 706H						

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

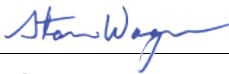
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

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

Signature: 
Printed Name: Stan Wagner
Title: Regulatory Advisor
E-mail Address: stan.s.wagner@conocophillips.com
Date: 06/23/2022
Phone: 432-253-9685
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

All ConocoPhillips production facility equipment will be sized per industry standards (API 12J) with adequate retention time to effectively separate all phases of production. Each project will take into consideration the number of wells and type curves for each formation pool to ensure adequate facility capacity. Design considerations will also include review of all piping, tanks, VRU's and associated equipment to ensure optimized gas capture minimized risk of release.

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

- During drilling, flare stacks will be located a minimum of 100 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety, and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.

C. Completion Operations

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
- Individual well test separators will be set to properly separate gas and liquids. A temporary test separator will be utilized initially to process volumes. In addition, separators will be tied into flowback tanks which will be tied into the gas processing equipment for sales down a pipeline.

D. Venting and flaring during production operations

- During each phase of well life (drilling, completion and production) of a ConocoPhillips well, COP personnel will follow all necessary procedures to ensure both the operation and the equipment are within the NMAC 19.15.27.8 Subsection D guidelines.
- During well operations that require unloading of the well to atmospheric pressure, all reasonable actions will be taken to minimize vented gas
- Through the life of the well all flaring shall be measured, and venting events quantified using the data available and industry best practice.

E. Performance standards for separation, storage tank and flare equipment

- All storage tanks and separation equipment are designed minimize risk of liquid or vapor release and optimize gas capture. This includes automation for automatic gauging and pressure monitoring.

- All flare stacks are equipped with auto ignition devices and/or continuous pilots and are designed to operate at maximum combustion efficiency pursuant NMAC 19.15.27.8 Subsection E. Flares will follow COP spacing guidelines to ensure they are a safe distance from combustibles and operations equipment.
- COP personnel will conduct routine AVO inspections on a regular basis per NMAC 19.15.27.8 Subsection E guidelines.

F. Measurement of vented and flared natural gas.

- Measurement equipment will be installed to quantify gas flared during drilling, completion and production of the well.
- All measurement devices installed will meet accuracy ratings per AGA and API standards.
- Measurement devices will be installed without manifolds that allow diversion of gas around the metering element, except for the sole purpose of inspection of servicing the measurement device.

VIII. Best Management Practices

- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize blowdowns to atmosphere
- When feasible, Operator will use electric or air actuated equipment to reduce bleed emissions

COG Operating, LLC - Winward Federal Com #701H

1. Geologic Formations

TVD of target	12,068' EOL	Pilot hole depth	NA
MD at TD:	22,035'	Deepest expected fresh water:	380'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	763	Water	
Top of Salt	1060	Salt	
Base of Salt	4385	Salt	
Lamar	4628	Salt Water	
Bell Canyon	4659	Salt Water	
Cherry Canyon	5569	Oil/Gas	
Brushy Canyon	6876	Oil/Gas	
Bone Spring Lime	8520	Oil/Gas	
1st Bone Spring Sand	9628	Oil/Gas	
2nd Bone Spring Sand	10231	Oil/Gas	
3rd Bone Spring Sand	11503	Oil/Gas	
Wolfcamp	11944	Target Oil/Gas	
Wolfcamp B	12430	Not Penetrated	

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	1010	10.75"	45.5	N80	BTC	5.47	1.58	22.63	23.87
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.50	1.16	2.88	2.90
8.750"	8500	11473	7.625"	29.7	HCP 110	TL-FJ	1.26	1.20	2.76	1.93
6.75"	0	11273	5.5"	23	P110	BTC	1.93	2.30	2.63	2.61
6.75"	11273	22,035	5.5"	23	P110	Talon HTQ	1.93	2.30	2.63	2.55
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. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

COG Operating, LLC - Winward Federal Com #701H

	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.	N
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?	

COG Operating, LLC - Winward Federal Com #701H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft ³ / sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	410	13.5	1.75	9	12	Lead: Class C + 4% Gel
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter.	1400	11	2.8	19	48	Lead: NeoCem
	300	16.4	1.1	5	8	Tail: Class H
5.5 Prod	750	12.7	2	10.6	16	Lead: 35:65:6 H Blend
	1200	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

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%

COG Operating, LLC - Winward Federal Com #701H

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 and BOPE will be installed per Onshore Order #2 requirements prior to drilling below the surface casing and will be rated to the above pressure rating or greater, see attached diagrams. Required safety valves, with appropriate wrenches and subs for the drill string being utilized, will be in the open position and accessible on the rig floor.

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 valves (inside BOP and full-opening valve) with appropriate wrenches 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.

COG Operating, LLC - Winward Federal Com #701H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.4 - 8.6	28-29	N/C
Surf csg	Int shoe	Diesel Brine Emul	8.6 - 9.4	30-40	N/C
Int shoe	Lateral TD	OBM	10.5 - 12	30-40	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.
N	Are 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	

COG Operating, LLC - Winward Federal Com #701H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7535 psi at 12068' TVD
Abnormal Temperature	NO 175 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
x	5M Annular Variance

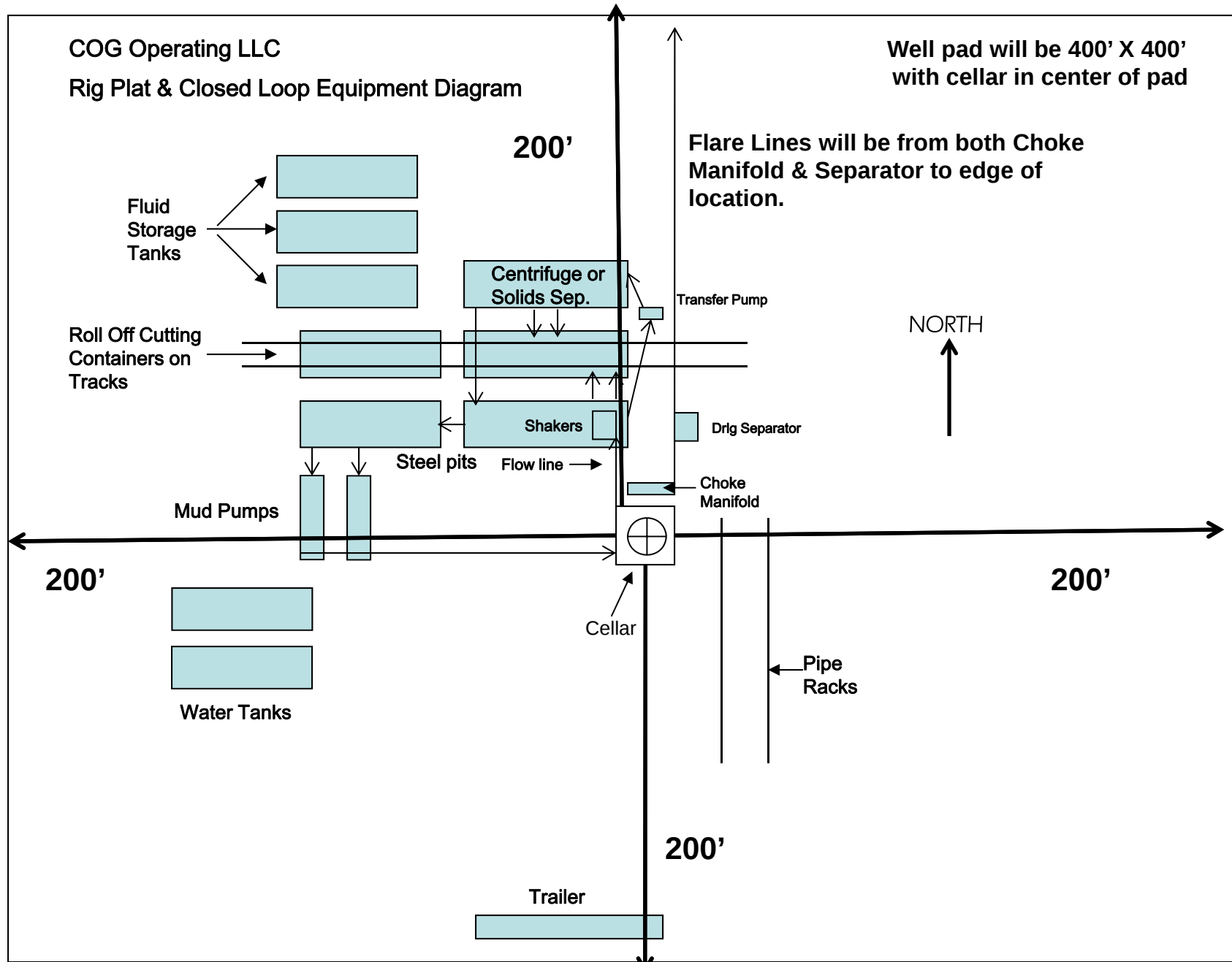


Exhibit 1

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

DELAWARE BASIN EAST
BULLDOG PROSPECT (NM-E)
WINDWARD FEDERAL PROJECT (BULLDOG 2432)
WINDWARD FED #701H

OWB
PWP1

Anticollision Report

11 December, 2020

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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
Depth Range:	Unlimited
Results Limited by:	Maximum ellipse separation of 2,000.0 usft
Warning Levels Evaluated at:	2.00 Sigma
Error Model:	ISCWSA
Scan Method:	Closest Approach 3D
Error Surface:	Pedal Curve
Casing Method:	Not applied

Survey Tool Program		Date	12/11/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,520.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,520.0	22,034.6	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						
AZORES FEDERAL PROJECT (BULLDOG 2432)						
*AZORES FED COM #706H - OWB - PWP0	12,900.0	15,894.2	670.8	619.6	13.100	SF
*AZORES FED COM #706H - OWB - PWP0	12,989.0	15,805.3	668.1	617.2	13.125	CC, ES
WINDWARD FEDERAL PROJECT (BULLDOG 2432)						
KING TUT FEDERAL #4H - OWB - ACTUAL WELLPATH	8,472.5	8,618.4	529.2	495.7	15.784	CC, ES, SF
WINDWARD FED #702H - OWB - PWP1	2,416.5	2,417.0	30.0	23.2	4.385	CC
WINDWARD FED #702H - OWB - PWP1	2,500.0	2,500.5	30.0	23.1	4.349	ES, SF
WINDWARD FED #703H - OWB - PWP1	2,500.0	2,500.3	60.0	47.3	4.730	CC, ES
WINDWARD FED #703H - OWB - PWP1	2,600.0	2,600.3	61.6	48.5	4.715	SF
WINDWARD FEDERAL #11H - OWB - ACTUAL WELLP	9,129.1	9,225.8	47.7	27.5	2.360	CC, ES, SF
WINDWARD FEDERAL #12H - OWB - ACTUAL WELLP	8,900.0	8,965.2	398.1	376.7	18.666	SF
WINDWARD FEDERAL #12H - OWB - ACTUAL WELLP	9,087.6	9,112.8	376.8	357.3	19.356	CC, ES
WINDWARD FEDERAL #4H - OWB - ACTUAL WELLP	10,550.3	10,643.1	203.4	157.4	4.428	CC, ES, SF

AZORES FEDERAL PROJECT (BULLDOG 2432) - *AZORES FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11683-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,600.0	10,583.4	16,797.9	12,140.0	13.0	42.4	27.60	230.0	1,545.1	1,925.6	1,862.6	62.96	30.583	
10,700.0	10,683.2	16,800.6	12,140.0	13.2	42.4	27.44	232.7	1,545.1	1,840.4	1,777.4	62.98	29.221	
10,800.0	10,783.0	16,803.3	12,140.0	13.3	42.5	27.29	235.4	1,545.1	1,756.7	1,693.8	62.95	27.904	
10,900.0	10,882.8	16,806.0	12,140.0	13.4	42.5	27.13	238.2	1,545.0	1,674.9	1,612.0	62.88	26.637	
11,000.0	10,982.6	16,808.8	12,140.0	13.5	42.5	26.97	240.9	1,545.0	1,595.1	1,532.3	62.74	25.425	
11,100.0	11,082.4	16,811.5	12,140.0	13.7	42.5	26.81	243.6	1,545.0	1,517.7	1,455.2	62.53	24.272	
11,200.0	11,182.2	16,814.2	12,140.0	13.8	42.6	26.65	246.4	1,545.0	1,443.1	1,380.8	62.24	23.187	
11,300.0	11,282.0	16,817.0	12,140.0	13.9	42.6	26.49	249.1	1,544.9	1,371.7	1,309.8	61.85	22.176	
11,400.0	11,381.8	16,819.7	12,140.0	14.0	42.6	26.34	251.8	1,544.9	1,304.0	1,242.7	61.37	21.249	
11,500.0	11,481.6	16,822.4	12,140.0	14.2	42.6	26.18	254.5	1,544.9	1,240.8	1,180.0	60.78	20.416	
11,600.0	11,581.4	16,825.1	12,140.0	14.2	42.6	26.02	257.3	1,544.9	1,182.6	1,122.4	60.19	19.649	
11,620.1	11,601.4	16,825.7	12,140.0	14.2	42.6	25.99	257.8	1,544.9	1,171.6	1,111.6	60.02	19.521	
11,625.0	11,606.3	16,825.8	12,140.0	14.2	42.6	16.56	257.9	1,544.9	1,168.9	1,109.0	59.98	19.490	

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

12/11/2020 7:05:57AM

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 AZORES FEDERAL PROJECT (BULLDOG 2432) - *AZORES FED COM #706H - OWB - PWP0												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11683-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
11,650.0	11,631.2	16,825.7	12,140.0	14.2	42.6	-20.39	257.8	1,544.9	1,155.3	1,095.6	59.76	19.333	
11,675.0	11,656.1	16,824.3	12,140.0	14.2	42.6	-38.71	256.4	1,544.9	1,141.7	1,082.1	59.53	19.177	
11,700.0	11,680.8	16,821.8	12,140.0	14.3	42.6	-48.60	253.9	1,544.9	1,128.0	1,068.7	59.30	19.023	
11,725.0	11,705.3	16,818.1	12,140.0	14.3	42.6	-54.93	250.2	1,544.9	1,114.3	1,055.2	59.05	18.870	
11,750.0	11,729.5	16,813.2	12,140.0	14.3	42.5	-59.50	245.4	1,545.0	1,100.6	1,041.8	58.79	18.720	
11,775.0	11,753.3	16,807.2	12,140.0	14.3	42.5	-63.07	239.3	1,545.0	1,087.0	1,028.5	58.53	18.571	
11,800.0	11,776.7	16,800.1	12,140.0	14.3	42.4	-66.02	232.2	1,545.1	1,073.4	1,015.2	58.27	18.423	
11,825.0	11,799.7	16,791.8	12,140.0	14.3	42.4	-68.53	223.9	1,545.1	1,060.0	1,002.0	57.99	18.278	
11,850.0	11,822.1	16,782.4	12,140.0	14.3	42.3	-70.73	214.5	1,545.2	1,046.6	988.9	57.72	18.134	
11,875.0	11,843.9	16,772.0	12,140.0	14.3	42.2	-72.69	204.1	1,545.3	1,033.4	976.0	57.44	17.991	
11,900.0	11,865.0	16,760.5	12,140.0	14.3	42.1	-74.45	192.6	1,545.4	1,020.3	963.1	57.16	17.849	
11,925.0	11,885.4	16,748.0	12,140.0	14.3	42.0	-76.06	180.1	1,545.5	1,007.3	950.4	56.89	17.708	
11,950.0	11,905.1	16,734.5	12,140.0	14.3	41.9	-77.54	166.7	1,545.6	994.5	937.9	56.61	17.567	
11,975.0	11,923.9	16,720.1	12,140.0	14.4	41.8	-78.91	152.2	1,545.7	981.8	925.4	56.34	17.426	
12,000.0	11,941.8	16,704.8	12,140.0	14.4	41.7	-80.20	136.9	1,545.8	969.2	913.1	56.08	17.284	
12,025.0	11,958.8	16,688.7	12,140.0	14.4	41.5	-81.42	120.8	1,545.9	956.8	901.0	55.82	17.142	
12,050.0	11,974.8	16,671.7	12,140.0	14.4	41.4	-82.59	103.8	1,546.1	944.5	888.9	55.56	16.999	
12,075.0	11,989.8	16,653.9	12,140.0	14.4	41.2	-83.71	86.1	1,546.2	932.3	877.0	55.32	16.854	
12,100.0	12,003.7	16,635.5	12,140.0	14.5	41.1	-84.82	67.6	1,546.3	920.3	865.2	55.08	16.708	
12,125.0	12,016.5	16,616.3	12,140.0	14.5	40.9	-85.91	48.5	1,546.5	908.4	853.5	54.86	16.559	
12,150.0	12,028.2	16,596.6	12,140.0	14.6	40.8	-87.00	28.7	1,546.6	896.6	841.9	54.64	16.409	
12,175.0	12,038.7	16,576.3	12,140.0	14.6	40.6	-88.09	8.4	1,546.8	884.9	830.5	54.43	16.257	
12,200.0	12,048.1	16,555.5	12,140.0	14.6	40.4	-89.21	-12.4	1,547.0	873.4	819.1	54.24	16.102	
12,225.0	12,056.2	16,534.2	12,140.0	14.7	40.3	-90.36	-33.6	1,547.1	861.9	807.9	54.05	15.946	
12,250.0	12,063.0	16,512.6	12,140.0	14.7	40.1	-91.55	-55.3	1,547.3	850.6	796.7	53.88	15.787	
12,275.0	12,068.6	16,490.6	12,140.0	14.8	39.9	-92.78	-77.3	1,547.5	839.4	785.7	53.72	15.627	
12,300.0	12,072.9	16,468.4	12,140.0	14.8	39.7	-94.05	-99.5	1,547.6	828.4	774.8	53.57	15.465	
12,325.0	12,075.9	16,445.9	12,140.0	14.9	39.6	-95.38	-122.0	1,547.8	817.6	764.1	53.43	15.302	
12,350.0	12,077.6	16,423.3	12,140.0	15.0	39.4	-96.76	-144.6	1,548.0	806.9	753.6	53.30	15.138	
12,370.7	12,078.0	16,404.5	12,140.0	15.0	39.2	-97.94	-163.4	1,548.1	798.2	745.0	53.21	15.002	
12,400.0	12,078.0	16,377.8	12,140.0	15.1	39.0	-97.99	-190.1	1,548.3	786.3	733.2	53.08	14.814	
12,500.0	12,077.9	16,284.8	12,140.0	15.4	38.2	-98.15	-283.0	1,549.0	749.9	697.2	52.67	14.237	
12,600.0	12,077.8	16,189.5	12,140.0	15.7	37.5	-98.32	-378.4	1,549.8	720.0	667.7	52.28	13.771	
12,700.0	12,077.7	16,092.3	12,140.0	16.1	36.7	-98.46	-475.5	1,550.5	696.8	644.9	51.91	13.423	
12,800.0	12,077.6	15,993.7	12,140.0	16.5	35.9	-98.57	-574.1	1,551.3	680.4	628.8	51.55	13.197	
12,900.0	12,077.5	15,894.2	12,140.0	16.9	35.1	-98.64	-673.6	1,552.0	670.8	619.6	51.21	13.100 SF	
12,989.0	12,077.4	15,805.3	12,140.0	17.2	34.4	-98.66	-762.6	1,552.7	668.1	617.2	50.90	13.125 CC, ES	
12,989.8	12,077.4	15,804.4	12,140.0	17.3	34.4	-98.66	-763.4	1,552.7	668.1	617.2	50.90	13.125	
13,000.0	12,077.4	15,794.3	12,140.0	17.3	34.3	-98.66	-773.6	1,552.8	668.1	617.2	50.86	13.135	
13,100.0	12,077.3	15,694.3	12,139.9	17.7	33.5	-98.67	-873.6	1,553.6	668.1	617.6	50.54	13.218	
13,200.0	12,077.1	15,594.3	12,139.9	18.2	32.7	-98.68	-973.6	1,554.3	668.2	617.9	50.26	13.295	
13,300.0	12,077.0	15,494.3	12,139.9	18.6	32.0	-98.68	-1,073.6	1,555.1	668.2	618.2	50.00	13.364	
13,400.0	12,076.9	15,394.3	12,139.9	19.2	31.2	-98.69	-1,173.6	1,555.9	668.3	618.5	49.78	13.426	
13,500.0	12,076.8	15,294.3	12,139.9	19.7	30.4	-98.70	-1,273.6	1,556.6	668.3	618.8	49.57	13.482	
13,600.0	12,076.7	15,194.3	12,139.9	20.3	29.6	-98.71	-1,373.6	1,557.4	668.4	619.0	49.40	13.532	
13,700.0	12,076.6	15,094.3	12,139.9	20.8	28.9	-98.72	-1,473.6	1,558.2	668.5	619.2	49.24	13.575	
13,800.0	12,076.5	14,994.3	12,139.9	21.4	28.1	-98.72	-1,573.5	1,558.9	668.5	619.4	49.11	13.613	
13,900.0	12,076.4	14,894.3	12,139.9	22.1	27.4	-98.73	-1,673.5	1,559.7	668.6	619.6	49.00	13.645	
14,000.0	12,076.3	14,794.3	12,139.9	22.7	26.6	-98.74	-1,773.5	1,560.5	668.6	619.7	48.91	13.671	
14,100.0	12,076.2	14,694.3	12,139.9	23.4	25.9	-98.75	-1,873.5	1,561.2	668.7	619.9	48.84	13.693	
14,200.0	12,076.1	14,594.3	12,139.9	24.0	25.1	-98.76	-1,973.5	1,562.0	668.7	620.0	48.78	13.709	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11683-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
14,300.0	12,076.0	14,494.3	12,139.9	24.7	24.4	-98.76	-2,073.5	1,562.8	668.8	620.1	48.75	13.720	
14,400.0	12,075.9	14,394.3	12,139.9	25.4	23.7	-98.77	-2,173.5	1,563.5	668.9	620.1	48.73	13.725	
14,500.0	12,075.8	14,294.3	12,139.9	26.1	23.0	-98.78	-2,273.5	1,564.3	668.9	620.2	48.73	13.726	
14,600.0	12,075.7	14,194.3	12,139.9	26.9	22.3	-98.79	-2,373.5	1,565.1	669.0	620.2	48.76	13.721	
14,700.0	12,075.6	14,094.3	12,139.9	27.6	21.6	-98.80	-2,473.5	1,565.9	669.0	620.2	48.79	13.711	
14,800.0	12,075.5	13,994.3	12,139.9	28.3	21.0	-98.80	-2,573.5	1,566.6	669.1	620.2	48.85	13.696	
14,900.0	12,075.4	13,894.3	12,139.9	29.1	20.3	-98.81	-2,673.5	1,567.4	669.2	620.2	48.93	13.675	
15,000.0	12,075.3	13,794.3	12,139.9	29.8	19.7	-98.82	-2,773.5	1,568.2	669.2	620.2	49.03	13.648	
15,100.0	12,075.2	13,694.3	12,139.9	30.6	19.0	-98.83	-2,873.5	1,568.9	669.3	620.1	49.16	13.615	
15,200.0	12,075.1	13,594.3	12,139.9	31.3	18.4	-98.84	-2,973.5	1,569.7	669.3	620.0	49.30	13.575	
15,300.0	12,075.0	13,494.3	12,139.9	32.1	17.9	-98.84	-3,073.5	1,570.5	669.4	619.9	49.48	13.529	
15,400.0	12,074.9	13,394.3	12,139.9	32.9	17.3	-98.85	-3,173.5	1,571.2	669.4	619.8	49.68	13.476	
15,500.0	12,074.8	13,294.3	12,139.9	33.7	16.8	-98.86	-3,273.5	1,572.0	669.5	619.6	49.90	13.416	
15,600.0	12,074.7	13,194.3	12,139.9	34.4	16.3	-98.86	-3,373.5	1,572.8	669.5	619.6	49.90	13.416	
15,700.0	12,074.6	13,094.3	12,139.9	35.2	16.0	-98.84	-3,473.5	1,573.5	673.2	622.3	50.91	13.224	
15,800.0	12,074.5	12,994.3	12,139.9	36.0	15.6	-98.77	-3,573.5	1,574.2	681.4	630.0	51.46	13.241	
15,900.0	12,074.4	12,894.3	12,139.9	36.8	15.3	-98.67	-3,673.5	1,574.9	694.3	642.3	51.94	13.367	
16,000.0	12,074.3	12,794.3	12,139.9	37.6	15.0	-98.53	-3,773.5	1,575.6	711.7	659.4	52.33	13.602	
16,100.0	12,074.2	12,694.3	12,139.9	38.4	14.7	-98.36	-3,873.5	1,576.3	733.6	681.0	52.64	13.937	
16,200.0	12,074.1	12,594.3	12,139.9	39.2	14.4	-98.16	-3,973.5	1,577.0	759.8	706.9	52.88	14.369	
16,300.0	12,074.0	12,494.3	12,139.9	40.0	14.1	-97.97	-4,073.5	1,577.7	790.2	737.1	53.04	14.897	
16,400.0	12,073.9	12,394.3	12,139.9	40.8	13.8	-97.76	-4,173.5	1,578.4	824.6	771.4	53.15	15.515	
16,500.0	12,073.8	12,294.3	12,139.9	41.6	13.6	-97.54	-4,273.5	1,579.1	862.8	809.6	53.21	16.217	
16,600.0	12,073.7	12,194.3	12,139.9	42.4	13.4	-97.33	-4,373.5	1,579.8	904.7	851.5	53.22	17.001	
16,700.0	12,073.6	12,094.3	12,139.9	43.3	13.1	-97.12	-4,473.5	1,580.5	950.2	896.9	53.34	17.815	
16,800.0	12,073.5	11,994.3	12,139.9	44.1	13.0	-96.91	-4,573.5	1,581.2	998.8	945.6	53.46	18.685	
16,900.0	12,073.4	11,894.3	12,139.9	44.9	12.8	-96.70	-4,673.5	1,581.9	1,049.2	995.6	53.55	19.593	
17,000.0	12,073.3	11,794.3	12,139.9	45.7	12.6	-96.49	-4,773.5	1,582.6	1,099.8	1,045.9	53.67	20.500	
17,100.0	12,073.2	11,694.3	12,139.9	46.5	12.5	-96.28	-4,873.5	1,583.3	1,151.6	1,097.3	53.79	21.414	
17,200.0	12,073.1	11,594.3	12,139.9	47.4	12.4	-96.07	-4,973.5	1,584.0	1,205.4	1,150.9	53.91	22.328	
17,300.0	12,073.0	11,494.3	12,139.9	48.2	12.3	-95.86	-5,073.5	1,584.7	1,261.7	1,207.2	54.03	23.242	
17,400.0	12,072.9	11,394.3	12,139.9	49.0	12.3	-95.65	-5,173.5	1,585.4	1,321.1	1,266.7	54.15	24.156	
17,500.0	12,072.8	11,294.3	12,139.9	49.8	12.2	-95.44	-5,273.5	1,586.1	1,383.6	1,329.3	54.27	25.070	
17,600.0	12,072.7	11,194.3	12,139.9	50.7	12.2	-95.23	-5,373.5	1,586.8	1,449.2	1,395.2	54.39	25.984	
17,700.0	12,072.6	11,094.3	12,139.9	51.5	12.2	-95.02	-5,473.5	1,587.5	1,517.6	1,464.0	54.51	26.898	
17,800.0	12,072.5	10,994.3	12,139.9	52.3	12.2	-94.81	-5,573.5	1,588.2	1,588.8	1,535.7	54.63	27.812	
17,900.0	12,072.4	10,894.3	12,139.9	53.2	12.2	-94.60	-5,673.5	1,588.9	1,662.6	1,609.9	54.75	28.726	
18,000.0	12,072.3	10,794.3	12,139.9	54.0	12.2	-94.39	-5,773.5	1,589.6	1,738.6	1,686.4	54.87	29.640	
18,100.0	12,072.2	10,694.3	12,139.9	54.8	12.2	-94.18	-5,873.5	1,590.3	1,816.6	1,764.9	54.99	30.554	
18,200.0	12,072.1	10,594.3	12,139.9	55.7	12.1	-93.97	-5,973.5	1,591.0	1,896.5	1,845.3	55.11	31.468	
18,300.0	12,072.0	10,494.3	12,139.9	56.5	12.1	-93.76	-6,073.5	1,591.7	1,978.0	1,927.4	55.23	32.382	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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		WINDWARD FEDERAL PROJECT (BULLDOG 2432) - KING TUT FEDERAL #4H - OWB - ACTUAL W										Offset Site Error:		0.0 usft		
Survey Program: 191-GYRO-NS, 4565-MWD														Offset Well Error:		3.0 usft
Reference		Offset		Semi Major Axis		Distance										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning			
0.0	0.0	0.0	0.0	3.0	3.0	60.26	504.1	882.4	1,016.2							
100.0	100.0	101.1	101.1	3.0	3.1	60.24	504.4	882.1	1,016.1	1,010.1	6.01	168.934				
200.0	200.0	202.5	202.5	3.0	3.2	60.17	505.2	881.1	1,015.7	1,009.6	6.07	167.265				
243.3	243.3	241.3	241.3	3.0	3.3	60.15	505.5	880.8	1,015.6	1,009.4	6.12	165.820				
300.0	300.0	292.2	292.2	3.0	3.4	60.12	506.0	880.7	1,015.7	1,009.5	6.23	163.127				
400.0	400.0	386.7	386.6	3.0	3.5	60.10	506.8	881.3	1,016.7	1,010.2	6.45	157.625				
500.0	500.0	488.3	488.2	3.1	3.7	60.05	508.0	881.8	1,017.8	1,011.1	6.65	152.965				
600.0	600.0	582.6	582.6	3.1	4.0	60.01	509.3	882.4	1,018.9	1,011.9	6.99	145.816				
700.0	700.0	675.7	675.6	3.1	4.3	59.94	511.2	883.3	1,020.8	1,013.4	7.39	138.130				
800.0	800.0	782.5	782.4	3.2	4.7	59.85	513.5	884.2	1,022.7	1,014.9	7.78	131.475				
900.0	900.0	880.6	880.5	3.2	4.9	59.80	515.2	885.2	1,024.4	1,016.4	8.03	127.562				
1,000.0	1,000.0	999.4	999.3	3.2	5.2	59.77	515.9	885.5	1,024.9	1,016.6	8.31	123.383				
1,064.6	1,064.6	1,062.7	1,062.6	3.3	5.3	59.77	516.0	885.5	1,024.8	1,016.4	8.46	121.171				
1,100.0	1,100.0	1,097.8	1,097.7	3.3	5.4	59.77	516.0	885.5	1,024.8	1,016.3	8.55	119.873				
1,200.0	1,200.0	1,197.5	1,197.4	3.4	5.7	59.76	516.1	885.5	1,024.9	1,016.0	8.86	115.622				
1,300.0	1,300.0	1,298.1	1,298.0	3.4	6.1	59.75	516.3	885.4	1,024.9	1,015.7	9.26	110.650				
1,353.9	1,353.9	1,352.0	1,351.9	3.4	6.3	59.74	516.5	885.3	1,024.9	1,015.5	9.47	108.184				
1,400.0	1,400.0	1,396.3	1,396.2	3.5	6.4	59.73	516.6	885.3	1,025.0	1,015.4	9.62	106.591				
1,500.0	1,500.0	1,501.1	1,501.0	3.5	6.7	59.73	516.7	885.3	1,025.1	1,015.2	9.93	103.191				
1,600.0	1,600.0	1,601.2	1,601.1	3.6	7.0	59.72	516.7	884.8	1,024.7	1,014.4	10.24	100.091				
1,673.5	1,673.5	1,671.7	1,671.5	3.7	7.2	59.72	516.6	884.8	1,024.5	1,014.1	10.46	97.984				
1,700.0	1,700.0	1,696.4	1,696.3	3.7	7.2	59.73	516.5	884.8	1,024.6	1,014.0	10.53	97.263				
1,800.0	1,800.0	1,793.4	1,793.3	3.8	7.5	59.70	517.1	885.0	1,025.0	1,014.1	10.88	94.199				
1,900.0	1,900.0	1,893.7	1,893.6	3.9	8.2	59.68	517.7	885.2	1,025.5	1,013.9	11.53	88.940				
2,000.0	2,000.0	1,994.0	1,993.9	3.9	9.2	59.66	518.2	885.4	1,025.9	1,013.6	12.30	83.386				
2,100.0	2,100.0	2,094.3	2,094.2	4.0	10.1	59.65	518.5	885.6	1,026.3	1,013.1	13.15	78.066				
2,200.0	2,200.0	2,194.1	2,193.9	4.1	11.1	59.65	518.7	885.9	1,026.6	1,012.7	13.92	73.736				
2,300.0	2,300.0	2,292.6	2,292.5	4.2	12.0	59.66	518.9	886.4	1,027.1	1,012.6	14.55	70.590				
2,400.0	2,400.0	2,391.1	2,391.0	4.3	13.0	59.67	518.9	887.1	1,027.7	1,012.6	15.07	68.181				
2,500.0	2,500.0	2,492.0	2,491.9	4.4	13.7	59.70	518.9	887.9	1,028.4	1,012.9	15.48	66.441				
2,600.0	2,600.0	2,595.6	2,595.5	4.5	14.1	-4.78	518.1	888.9	1,027.1	1,011.2	15.85	64.807				
2,684.7	2,684.5	2,683.1	2,683.0	4.5	14.4	-4.73	516.9	889.7	1,023.0	1,006.8	16.18	63.239				
2,700.0	2,699.8	2,699.0	2,698.8	4.5	14.4	-4.71	516.6	889.8	1,022.0	1,005.8	16.24	62.943				
2,800.0	2,799.6	2,798.3	2,798.1	4.6	14.7	-4.63	514.7	890.8	1,015.5	998.7	16.75	60.617				
2,900.0	2,899.4	2,896.2	2,896.0	4.7	15.0	-4.56	513.3	891.7	1,009.1	991.8	17.31	58.307				
3,000.0	2,999.2	2,994.2	2,994.0	4.7	15.4	-4.52	512.3	892.5	1,002.9	985.0	17.86	56.155				
3,100.0	3,099.0	3,077.6	3,077.4	4.8	15.6	-4.49	512.0	893.7	997.5	979.3	18.19	54.831				
3,200.0	3,198.8	3,179.7	3,179.4	4.9	15.9	-4.48	512.4	896.0	993.3	974.7	18.55	53.533				
3,300.0	3,298.6	3,291.9	3,291.6	4.9	16.2	-4.51	513.1	897.0	988.0	969.0	18.95	52.129				
3,400.0	3,398.4	3,395.6	3,395.3	5.0	16.5	-4.53	513.0	897.4	981.9	962.5	19.32	50.815				
3,500.0	3,498.2	3,495.3	3,495.1	5.1	16.8	-4.53	512.7	897.7	975.5	955.8	19.71	49.484				
3,600.0	3,598.0	3,592.0	3,591.7	5.2	17.1	-4.53	512.3	898.1	969.3	949.2	20.10	48.220				
3,700.0	3,697.8	3,690.9	3,690.7	5.3	17.5	-4.52	512.0	898.7	963.2	942.7	20.48	47.022				
3,800.0	3,797.6	3,787.3	3,787.0	5.4	18.0	-4.53	512.0	899.5	957.5	936.6	20.86	45.904				
3,900.0	3,897.3	3,884.6	3,884.4	5.4	18.4	-4.55	512.3	900.5	952.1	930.9	21.24	44.836				
4,000.0	3,997.1	3,989.5	3,989.2	5.5	18.8	-4.57	512.6	901.4	946.6	924.9	21.64	43.740				
4,100.0	4,096.9	4,094.3	4,094.0	5.6	19.2	-4.58	512.5	901.9	940.5	918.5	22.05	42.658				
4,200.0	4,196.7	4,195.4	4,195.2	5.7	19.5	-4.60	512.3	902.0	934.0	911.6	22.45	41.607				
4,300.0	4,296.5	4,294.4	4,294.1	5.8	19.8	-4.62	512.2	902.0	927.6	904.8	22.85	40.598				
4,400.0	4,396.3	4,393.4	4,393.1	5.9	20.0	-4.66	512.3	902.1	921.3	898.0	23.25	39.627				
4,500.0	4,496.1	4,494.2	4,494.0	6.0	20.3	-4.70	512.5	902.1	915.0	891.3	23.62	38.736				

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - KING TUT FEDERAL #4H - OWB - ACTUAL W													Offset Site Error:	0.0 usft
Survey Program: 191-GYRO-NS, 4565-MWD													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,600.0	4,595.9	4,592.5	4,592.3	6.1	20.4		-4.72	512.3	902.2	908.6	884.8	23.84	38.120	
4,700.0	4,695.7	4,691.2	4,690.9	6.2	20.4		-4.72	511.9	902.8	902.5	878.5	23.95	37.676	
4,800.0	4,795.5	4,790.8	4,790.5	6.3	20.4		-4.70	511.5	903.4	896.4	872.3	24.08	37.223	
4,900.0	4,895.3	4,887.7	4,887.4	6.4	20.4		-4.68	510.9	904.3	890.4	866.2	24.21	36.773	
5,000.0	4,995.1	4,985.2	4,984.9	6.5	20.5		-4.65	510.5	905.4	884.8	860.4	24.35	36.332	
5,100.0	5,094.9	5,085.6	5,085.3	6.6	20.5		-4.61	509.9	906.8	879.3	854.8	24.50	35.888	
5,200.0	5,194.6	5,186.3	5,186.0	6.7	20.6		-4.56	509.3	908.1	873.7	849.0	24.66	35.434	
5,300.0	5,294.4	5,286.0	5,285.7	6.8	20.6		-4.52	508.6	909.4	868.0	843.2	24.82	34.973	
5,400.0	5,394.2	5,385.3	5,385.0	6.9	20.7		-4.48	508.2	910.6	862.4	837.4	24.99	34.510	
5,500.0	5,494.0	5,487.2	5,486.9	7.0	20.8		-4.45	507.7	911.7	856.7	831.5	25.17	34.037	
5,600.0	5,593.8	5,588.1	5,587.7	7.1	20.8		-4.41	507.0	912.7	850.8	825.5	25.36	33.553	
5,700.0	5,693.6	5,688.3	5,687.9	7.2	20.9		-4.37	506.2	913.7	844.9	819.3	25.55	33.063	
5,800.0	5,793.4	5,787.9	5,787.5	7.3	21.0		-4.33	505.5	914.6	838.9	813.1	25.75	32.572	
5,900.0	5,893.2	5,886.1	5,885.7	7.4	21.1		-4.29	504.9	915.6	833.0	807.0	25.96	32.089	
6,000.0	5,993.0	5,983.9	5,983.5	7.6	21.2		-4.25	504.3	916.8	827.3	801.2	26.17	31.613	
6,100.0	6,092.8	6,081.9	6,081.5	7.7	21.3		-4.20	503.9	918.2	822.0	795.6	26.39	31.151	
6,200.0	6,192.6	6,182.1	6,181.7	7.8	21.4		-4.16	503.5	919.7	816.7	790.0	26.61	30.687	
6,300.0	6,292.4	6,282.2	6,281.8	7.9	21.5		-4.13	503.2	921.1	811.3	784.4	26.84	30.221	
6,400.0	6,392.2	6,381.8	6,381.4	8.0	21.6		-4.09	502.9	922.5	805.9	778.8	27.08	29.759	
6,500.0	6,491.9	6,480.2	6,479.8	8.1	21.8		-4.04	502.5	924.0	800.7	773.3	27.32	29.302	
6,600.0	6,591.7	6,580.3	6,579.8	8.2	21.9		-3.98	502.0	925.8	795.5	768.0	27.57	28.850	
6,700.0	6,691.5	6,679.8	6,679.4	8.3	22.0		-3.92	501.4	927.5	790.3	762.5	27.83	28.399	
6,800.0	6,791.3	6,779.2	6,778.8	8.5	22.2		-3.86	500.9	929.3	785.2	757.1	28.09	27.954	
6,900.0	6,891.1	6,877.8	6,877.3	8.6	22.3		-3.82	500.8	931.0	780.2	751.9	28.36	27.516	
7,000.0	6,990.9	6,976.5	6,976.0	8.7	22.5		-3.80	500.9	932.7	775.4	746.8	28.63	27.085	
7,100.0	7,090.7	7,076.8	7,076.3	8.8	22.6		-3.78	501.2	934.4	770.6	741.7	28.91	26.656	
7,200.0	7,190.5	7,179.6	7,179.1	8.9	22.8		-3.77	501.4	936.0	765.6	736.4	29.20	26.218	
7,300.0	7,290.3	7,280.3	7,279.7	9.0	23.0		-3.75	501.3	937.4	760.3	730.9	29.49	25.781	
7,400.0	7,390.1	7,382.6	7,382.0	9.2	23.1		-3.73	501.3	938.6	754.9	725.1	29.79	25.338	
7,500.0	7,489.9	7,483.5	7,483.0	9.3	23.3		-3.70	500.9	939.6	749.1	719.1	30.09	24.893	
7,600.0	7,589.7	7,583.2	7,582.6	9.4	23.5		-3.67	500.5	940.6	743.4	713.0	30.40	24.454	
7,700.0	7,689.5	7,682.1	7,681.6	9.5	23.7		-3.63	500.1	941.6	737.7	707.0	30.70	24.025	
7,800.0	7,789.2	7,782.9	7,782.3	9.6	23.8		-3.59	499.7	942.8	732.0	701.0	31.02	23.599	
7,900.0	7,889.0	8,092.6	8,081.0	9.7	24.4		0.94	432.3	933.6	713.8	682.0	31.75	22.481	
8,000.0	7,988.8	8,256.5	8,218.1	9.9	24.8		7.77	344.5	917.7	674.7	642.6	32.11	21.012	
8,100.0	8,088.6	8,432.6	8,340.8	10.0	25.1		19.12	221.8	891.6	629.1	596.6	32.56	19.320	
8,200.0	8,188.4	8,507.1	8,381.9	10.1	25.4		25.48	161.0	878.8	586.3	553.3	33.00	17.765	
8,300.0	8,288.2	8,554.0	8,404.9	10.2	25.5		29.86	120.9	870.9	553.2	519.8	33.31	16.607	
8,400.0	8,388.0	8,592.1	8,421.3	10.3	25.6		33.62	87.0	865.0	533.6	500.1	33.46	15.945	
8,472.5	8,460.4	8,618.4	8,430.9	10.4	25.7		36.31	62.9	860.9	529.2	495.7	33.53	15.784 CC, ES, SF	
8,500.0	8,487.8	8,627.1	8,433.7	10.5	25.8		37.21	54.8	859.5	529.9	496.3	33.55	15.793	
8,600.0	8,587.6	8,649.9	8,440.3	10.6	25.9		39.60	33.3	855.6	543.2	509.6	33.64	16.149	
8,700.0	8,687.4	8,666.8	8,444.6	10.7	25.9		41.38	17.2	852.7	573.2	539.5	33.73	16.992	
8,800.0	8,787.2	8,681.0	8,448.0	10.8	26.0		42.86	3.7	850.2	617.6	583.8	33.78	18.281	
8,900.0	8,887.0	8,694.0	8,450.8	10.9	26.1		44.23	-8.8	848.0	673.6	639.8	33.77	19.945	
9,000.0	8,986.8	8,702.3	8,452.4	11.1	26.1		45.10	-16.9	846.5	738.7	705.0	33.72	21.907	
9,100.0	9,086.6	8,710.5	8,454.0	11.2	26.1		45.95	-24.8	845.0	810.8	777.1	33.68	24.075	
9,200.0	9,186.3	8,717.5	8,455.2	11.3	26.2		46.68	-31.6	843.8	888.1	854.5	33.66	26.385	
9,300.0	9,286.1	8,726.0	8,456.6	11.4	26.2		47.56	-39.8	842.2	969.6	935.9	33.70	28.773	
9,400.0	9,385.9	8,726.0	8,456.6	11.6	26.2		47.56	-39.8	842.2	1,054.2	1,020.4	33.73	31.253	
9,500.0	9,485.7	8,726.0	8,456.6	11.7	26.2		47.56	-39.8	842.2	1,141.2	1,107.4	33.80	33.759	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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

WINDWARD FEDERAL PROJECT (BULLDOG 2432) - KING TUT FEDERAL #4H - OWB - ACTUAL W													Offset Site Error:	0.0 usft
Survey Program: 191-GYRO-NS, 4565-MWD													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
9,600.0	9,585.5	8,726.0	8,456.6	11.8	26.2	47.56	-39.8	842.2	1,230.3	1,196.4	33.92	36.272		
9,700.0	9,685.3	8,739.6	8,458.6	11.9	26.3	48.96	-53.0	839.8	1,320.7	1,286.5	34.13	38.691		
9,800.0	9,785.1	8,742.6	8,459.1	12.0	26.3	49.27	-55.9	839.3	1,412.4	1,378.1	34.32	41.154		
9,900.0	9,884.9	8,745.4	8,459.4	12.2	26.3	49.55	-58.6	838.9	1,505.2	1,470.7	34.53	43.593		
10,000.0	9,984.7	8,757.0	8,460.8	12.3	26.4	50.73	-70.0	836.9	1,599.0	1,564.2	34.80	45.950		
10,100.0	10,084.5	8,757.0	8,460.8	12.4	26.4	50.73	-70.0	836.9	1,693.3	1,658.3	35.03	48.339		
10,200.0	10,184.3	8,757.0	8,460.8	12.5	26.4	50.73	-70.0	836.9	1,788.2	1,753.0	35.28	50.694		
10,300.0	10,284.1	8,757.0	8,460.8	12.7	26.4	50.73	-70.0	836.9	1,883.7	1,848.2	35.53	53.011		
10,400.0	10,383.9	8,757.0	8,460.8	12.8	26.4	50.73	-70.0	836.9	1,979.6	1,943.8	35.80	55.289		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #702H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11557-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.5	0.5	3.0	3.0	-90.57	-0.3	-30.0	30.0					
100.0	100.0	100.5	100.5	3.0	3.0	-90.57	-0.3	-30.0	30.0	24.0	6.00	5.000		
200.0	200.0	200.5	200.5	3.0	3.0	-90.57	-0.3	-30.0	30.0	24.0	6.00	4.998		
300.0	300.0	300.5	300.5	3.0	3.0	-90.57	-0.3	-30.0	30.0	24.0	6.01	4.993		
400.0	400.0	400.5	400.5	3.0	3.0	-90.57	-0.3	-30.0	30.0	24.0	6.02	4.985		
500.0	500.0	500.5	500.5	3.1	3.1	-90.57	-0.3	-30.0	30.0	24.0	6.03	4.975		
600.0	600.0	600.5	600.5	3.1	3.1	-90.57	-0.3	-30.0	30.0	24.0	6.05	4.962		
700.0	700.0	700.5	700.5	3.1	3.1	-90.57	-0.3	-30.0	30.0	23.9	6.07	4.946		
800.0	800.0	800.5	800.5	3.2	3.2	-90.57	-0.3	-30.0	30.0	23.9	6.09	4.928		
900.0	900.0	900.5	900.5	3.2	3.2	-90.57	-0.3	-30.0	30.0	23.9	6.11	4.908		
1,000.0	1,000.0	1,000.5	1,000.5	3.2	3.2	-90.57	-0.3	-30.0	30.0	23.9	6.14	4.885		
1,100.0	1,100.0	1,100.5	1,100.5	3.3	3.3	-90.57	-0.3	-30.0	30.0	23.8	6.17	4.861		
1,200.0	1,200.0	1,200.5	1,200.5	3.4	3.4	-90.57	-0.3	-30.0	30.0	23.8	6.21	4.834		
1,300.0	1,300.0	1,300.5	1,300.5	3.4	3.4	-90.57	-0.3	-30.0	30.0	23.8	6.24	4.805		
1,400.0	1,400.0	1,400.5	1,400.5	3.5	3.5	-90.57	-0.3	-30.0	30.0	23.7	6.28	4.774		
1,500.0	1,500.0	1,500.5	1,500.5	3.5	3.5	-90.57	-0.3	-30.0	30.0	23.7	6.33	4.742		
1,600.0	1,600.0	1,600.5	1,600.5	3.6	3.6	-90.57	-0.3	-30.0	30.0	23.6	6.37	4.708		
1,700.0	1,700.0	1,700.5	1,700.5	3.7	3.7	-90.57	-0.3	-30.0	30.0	23.6	6.42	4.673		
1,800.0	1,800.0	1,800.5	1,800.5	3.8	3.8	-90.57	-0.3	-30.0	30.0	23.5	6.47	4.636		
1,900.0	1,900.0	1,900.5	1,900.5	3.9	3.9	-90.57	-0.3	-30.0	30.0	23.5	6.53	4.598		
2,000.0	2,000.0	2,000.5	2,000.5	3.9	3.9	-90.57	-0.3	-30.0	30.0	23.4	6.58	4.558		
2,100.0	2,100.0	2,100.5	2,100.5	4.0	4.0	-90.57	-0.3	-30.0	30.0	23.4	6.64	4.518		
2,200.0	2,200.0	2,200.5	2,200.5	4.1	4.1	-90.57	-0.3	-30.0	30.0	23.3	6.70	4.477		
2,300.0	2,300.0	2,300.5	2,300.5	4.2	4.2	-90.57	-0.3	-30.0	30.0	23.2	6.76	4.435		
2,400.0	2,400.0	2,400.5	2,400.5	4.3	4.3	-90.57	-0.3	-30.0	30.0	23.2	6.83	4.392		
2,416.5	2,416.5	2,417.0	2,417.0	4.3	4.3	-90.57	-0.3	-30.0	30.0	23.2	6.84	4.385 CC		
2,500.0	2,500.0	2,500.5	2,500.5	4.4	4.4	-90.57	-0.3	-30.0	30.0	23.1	6.90	4.349 ES, SF		
2,600.0	2,600.0	2,600.5	2,600.4	4.5	4.5	-153.23	1.5	-30.0	31.6	24.6	6.97	4.537		
2,684.7	2,684.5	2,684.9	2,684.8	4.5	4.6	-149.47	5.7	-30.1	35.6	28.6	7.04	5.060		
2,700.0	2,699.8	2,700.2	2,700.0	4.5	4.6	-148.65	6.7	-30.1	36.6	29.5	7.06	5.185		
2,800.0	2,799.6	2,799.8	2,799.3	4.6	4.7	-142.20	14.9	-30.3	43.4	36.2	7.19	6.028		
2,900.0	2,899.4	2,899.4	2,898.5	4.7	4.8	-137.07	23.6	-30.5	50.7	43.3	7.36	6.889		
3,000.0	2,999.2	2,999.1	2,997.8	4.7	4.9	-133.24	32.3	-30.6	58.3	50.8	7.52	7.751		
3,100.0	3,099.0	3,098.7	3,097.1	4.8	5.0	-130.31	41.0	-30.8	66.1	58.4	7.68	8.607		
3,200.0	3,198.8	3,198.3	3,196.3	4.9	5.1	-128.01	49.7	-30.9	74.0	66.2	7.83	9.452		
3,300.0	3,298.6	3,298.0	3,295.6	4.9	5.2	-126.15	58.4	-31.1	82.1	74.1	7.98	10.283		
3,400.0	3,398.4	3,397.6	3,394.8	5.0	5.3	-124.63	67.0	-31.3	90.2	82.1	8.13	11.096		
3,500.0	3,498.2	3,497.3	3,494.1	5.1	5.4	-123.35	75.7	-31.4	98.4	90.1	8.27	11.890		
3,600.0	3,598.0	3,596.9	3,593.4	5.2	5.5	-122.28	84.4	-31.6	106.6	98.1	8.41	12.665		
3,700.0	3,697.8	3,696.6	3,692.6	5.3	5.6	-121.35	93.1	-31.8	114.8	106.2	8.55	13.419		
3,800.0	3,797.6	3,796.2	3,791.9	5.4	5.7	-120.55	101.8	-31.9	123.1	114.4	8.70	14.151		
3,900.0	3,897.3	3,895.9	3,891.2	5.4	5.8	-119.85	110.4	-32.1	131.3	122.5	8.84	14.863		
4,000.0	3,997.1	3,995.5	3,990.4	5.5	5.9	-119.24	119.1	-32.3	139.6	130.7	8.98	15.553		
4,100.0	4,096.9	4,095.1	4,089.7	5.6	6.0	-118.69	127.8	-32.4	148.0	138.8	9.12	16.222		
4,200.0	4,196.7	4,194.8	4,189.0	5.7	6.2	-118.20	136.5	-32.6	156.3	147.0	9.26	16.870		
4,300.0	4,296.5	4,294.4	4,288.2	5.8	6.3	-117.77	145.2	-32.8	164.6	155.2	9.41	17.498		
4,400.0	4,396.3	4,394.1	4,387.5	5.9	6.4	-117.37	153.9	-32.9	173.0	163.4	9.55	18.105		
4,500.0	4,496.1	4,493.7	4,486.8	6.0	6.5	-117.01	162.5	-33.1	181.3	171.6	9.70	18.692		
4,600.0	4,595.9	4,593.4	4,586.0	6.1	6.6	-116.68	171.2	-33.3	189.7	179.8	9.85	19.260		
4,700.0	4,695.7	4,693.0	4,685.3	6.2	6.7	-116.38	179.9	-33.4	198.0	188.1	10.00	19.808		
4,800.0	4,795.5	4,792.7	4,784.6	6.3	6.8	-116.10	188.6	-33.6	206.4	196.3	10.15	20.338		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #702H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11557-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	4,895.3	4,892.3	4,883.8	6.4	6.9	-115.85	197.3	-33.7	214.8	204.5	10.30	20.850	
5,000.0	4,995.1	4,991.9	4,983.1	6.5	7.1	-115.61	206.0	-33.9	223.2	212.7	10.46	21.344	
5,100.0	5,094.9	5,091.6	5,082.4	6.6	7.2	-115.40	214.6	-34.1	231.6	220.9	10.61	21.821	
5,200.0	5,194.6	5,191.2	5,181.6	6.7	7.3	-115.19	223.3	-34.2	239.9	229.2	10.77	22.281	
5,300.0	5,294.4	5,290.9	5,280.9	6.8	7.4	-115.00	232.0	-34.4	248.3	237.4	10.93	22.725	
5,400.0	5,394.2	5,390.5	5,380.2	6.9	7.5	-114.83	240.7	-34.6	256.7	245.6	11.09	23.153	
5,500.0	5,494.0	5,490.2	5,479.4	7.0	7.6	-114.66	249.4	-34.7	265.1	253.9	11.25	23.567	
5,600.0	5,593.8	5,589.8	5,578.7	7.1	7.8	-114.50	258.1	-34.9	273.5	262.1	11.41	23.965	
5,700.0	5,693.6	5,689.5	5,677.9	7.2	7.9	-114.36	266.7	-35.1	281.9	270.3	11.58	24.350	
5,800.0	5,793.4	5,789.1	5,777.2	7.3	8.0	-114.22	275.4	-35.2	290.3	278.6	11.74	24.720	
5,900.0	5,893.2	5,888.7	5,876.5	7.4	8.1	-114.09	284.1	-35.4	298.7	286.8	11.91	25.077	
6,000.0	5,993.0	5,988.4	5,975.7	7.6	8.2	-113.97	292.8	-35.6	307.1	295.0	12.08	25.422	
6,100.0	6,092.8	6,088.0	6,075.0	7.7	8.4	-113.85	301.5	-35.7	315.5	303.3	12.25	25.754	
6,200.0	6,192.6	6,187.7	6,174.3	7.8	8.5	-113.74	310.2	-35.9	323.9	311.5	12.42	26.074	
6,300.0	6,292.4	6,287.3	6,273.5	7.9	8.6	-113.63	318.8	-36.0	332.3	319.7	12.60	26.383	
6,400.0	6,392.2	6,387.0	6,372.8	8.0	8.7	-113.53	327.5	-36.2	340.7	328.0	12.77	26.680	
6,500.0	6,491.9	6,486.6	6,472.1	8.1	8.8	-113.44	336.2	-36.4	349.1	336.2	12.95	26.967	
6,600.0	6,591.7	6,586.2	6,571.3	8.2	9.0	-113.35	344.9	-36.5	357.5	344.4	13.12	27.243	
6,700.0	6,691.5	6,685.9	6,670.6	8.3	9.1	-113.26	353.6	-36.7	366.0	352.6	13.30	27.509	
6,800.0	6,791.3	6,785.5	6,769.9	8.5	9.2	-113.18	362.3	-36.9	374.4	360.9	13.48	27.766	
6,900.0	6,891.1	6,885.2	6,869.1	8.6	9.3	-113.10	370.9	-37.0	382.8	369.1	13.66	28.013	
7,000.0	6,990.9	6,984.8	6,968.4	8.7	9.4	-113.03	379.6	-37.2	391.2	377.3	13.85	28.251	
7,100.0	7,090.7	7,084.5	7,067.7	8.8	9.6	-112.95	388.3	-37.4	399.6	385.6	14.03	28.481	
7,200.0	7,190.5	7,184.1	7,166.9	8.9	9.7	-112.89	397.0	-37.5	408.0	393.8	14.22	28.702	
7,300.0	7,290.3	7,283.8	7,266.2	9.0	9.8	-112.82	405.7	-37.7	416.4	402.0	14.40	28.915	
7,400.0	7,390.1	7,383.4	7,365.5	9.2	9.9	-112.75	414.4	-37.9	424.8	410.2	14.59	29.120	
7,500.0	7,489.9	7,483.0	7,464.7	9.3	10.1	-112.69	423.0	-38.0	433.2	418.5	14.78	29.318	
7,600.0	7,589.7	7,582.7	7,564.0	9.4	10.2	-112.63	431.7	-38.2	441.7	426.7	14.97	29.508	
7,700.0	7,689.5	7,682.3	7,663.3	9.5	10.3	-112.58	440.4	-38.4	450.1	434.9	15.16	29.692	
7,800.0	7,789.2	7,782.0	7,762.5	9.6	10.4	-112.52	449.1	-38.5	458.5	443.1	15.35	29.869	
7,900.0	7,889.0	7,881.6	7,861.8	9.7	10.6	-112.47	457.8	-38.7	466.9	451.4	15.54	30.039	
8,000.0	7,988.8	7,981.3	7,961.0	9.9	10.7	-112.42	466.5	-38.8	475.3	459.6	15.74	30.203	
8,100.0	8,088.6	8,080.9	8,060.3	10.0	10.8	-112.37	475.1	-39.0	483.7	467.8	15.93	30.361	
8,200.0	8,188.4	8,180.6	8,159.6	10.1	10.9	-112.32	483.8	-39.2	492.2	476.0	16.13	30.513	
8,300.0	8,288.2	8,280.2	8,258.8	10.2	11.0	-112.28	492.5	-39.3	500.6	484.3	16.33	30.660	
8,400.0	8,388.0	8,379.8	8,358.1	10.3	11.2	-112.23	501.2	-39.5	509.0	492.5	16.53	30.801	
8,500.0	8,487.8	8,479.5	8,457.4	10.5	11.3	-112.19	509.9	-39.7	517.4	500.7	16.73	30.936	
8,600.0	8,587.6	8,579.1	8,556.6	10.6	11.4	-112.15	518.6	-39.8	525.8	508.9	16.93	31.067	
8,700.0	8,687.4	8,678.8	8,655.9	10.7	11.5	-112.11	527.2	-40.0	534.3	517.1	17.13	31.193	
8,800.0	8,787.2	8,778.4	8,755.2	10.8	11.7	-112.07	535.9	-40.2	542.7	525.3	17.33	31.314	
8,900.0	8,887.0	8,878.1	8,854.4	10.9	11.8	-112.03	544.6	-40.3	551.1	533.6	17.53	31.430	
9,000.0	8,986.8	8,977.7	8,953.7	11.1	11.9	-111.99	553.3	-40.5	559.5	541.8	17.74	31.543	
9,100.0	9,086.6	9,077.4	9,053.0	11.2	12.0	-111.96	562.0	-40.7	567.9	550.0	17.94	31.650	
9,200.0	9,186.3	9,177.0	9,152.2	11.3	12.2	-111.92	570.6	-40.8	576.3	558.2	18.15	31.754	
9,300.0	9,286.1	9,276.6	9,251.5	11.4	12.3	-111.89	579.3	-41.0	584.8	566.4	18.36	31.854	
9,400.0	9,385.9	9,376.3	9,350.8	11.6	12.4	-111.86	588.0	-41.1	593.2	574.6	18.57	31.950	
9,500.0	9,485.7	9,475.9	9,450.0	11.7	12.5	-111.83	596.7	-41.3	601.6	582.8	18.78	32.042	
9,600.0	9,585.5	9,575.6	9,549.3	11.8	12.7	-111.80	605.4	-41.5	610.0	591.0	18.99	32.130	
9,700.0	9,685.3	9,677.9	9,651.2	11.9	12.8	-111.77	614.2	-41.6	618.4	599.2	19.19	32.225	
9,800.0	9,785.1	9,785.7	9,758.7	12.0	12.9	-111.85	621.9	-41.8	625.7	606.4	19.37	32.298	
9,900.0	9,884.9	9,893.6	9,866.5	12.2	13.1	-112.06	627.6	-41.9	631.8	612.2	19.55	32.320	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #702H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11557-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance										
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,000.0	9,984.7	10,001.7	9,974.5	12.3	13.2	-112.41	631.3	-42.0	636.6	616.8	19.71	32.291		
10,100.0	10,084.5	10,109.7	10,082.5	12.4	13.4	-112.88	632.9	-42.0	640.1	620.2	19.88	32.198		
10,200.0	10,184.3	10,211.9	10,184.8	12.5	13.5	-113.41	633.0	-42.0	642.7	622.6	20.04	32.073		
10,300.0	10,284.1	10,311.7	10,284.6	12.7	13.6	-113.93	633.0	-42.0	645.3	625.1	20.19	31.953		
10,400.0	10,383.9	10,411.5	10,384.4	12.8	13.7	-114.45	633.0	-42.0	647.9	627.5	20.35	31.836		
10,500.0	10,483.6	10,511.3	10,484.1	12.9	13.9	-114.97	633.0	-42.0	650.6	630.1	20.51	31.722		
10,600.0	10,583.4	10,611.1	10,583.9	13.0	14.0	-115.48	633.0	-42.0	653.3	632.7	20.67	31.611		
10,700.0	10,683.2	10,710.9	10,683.7	13.2	14.1	-115.99	633.0	-42.0	656.1	635.3	20.83	31.503		
10,800.0	10,783.0	10,810.7	10,783.5	13.3	14.2	-116.49	633.0	-42.0	659.0	638.0	20.99	31.398		
10,900.0	10,882.8	10,910.5	10,883.3	13.4	14.4	-116.99	633.0	-42.0	661.9	640.8	21.15	31.296		
11,000.0	10,982.6	11,010.3	10,983.1	13.5	14.5	-117.48	633.0	-42.0	664.9	643.5	21.31	31.197		
11,100.0	11,082.4	11,110.1	11,082.9	13.7	14.6	-117.97	633.0	-42.0	667.9	646.4	21.47	31.100		
11,200.0	11,182.2	11,209.9	11,182.7	13.8	14.8	-118.46	633.0	-42.0	670.9	649.3	21.64	31.005		
11,300.0	11,282.0	11,309.7	11,282.5	13.9	14.9	-118.94	633.0	-42.0	674.0	652.2	21.80	30.914		
11,400.0	11,381.8	11,409.5	11,382.3	14.0	15.0	-119.41	633.0	-42.0	677.2	655.2	21.97	30.825		
11,500.0	11,481.6	11,509.2	11,482.1	14.2	15.1	-119.89	633.0	-42.0	680.3	658.2	22.13	30.743		
11,600.0	11,581.4	11,609.0	11,581.9	14.2	15.2	-120.35	633.0	-42.0	683.6	661.4	22.21	30.774		
11,620.1	11,601.4	11,639.4	11,612.2	14.2	15.2	-120.51	632.8	-42.0	684.2	662.0	22.19	30.832		
11,625.0	11,606.3	11,665.2	11,637.9	14.2	15.2	-129.79	631.5	-42.0	684.3	662.0	22.21	30.815		
11,650.0	11,631.2	11,790.4	11,760.0	14.2	15.2	-167.11	605.2	-41.8	682.9	659.6	23.27	29.344		
11,675.0	11,656.1	11,899.0	11,857.3	14.2	15.3	173.02	557.4	-41.5	679.4	654.3	25.12	27.052		
11,700.0	11,680.8	11,988.4	11,927.6	14.3	15.4	161.18	502.4	-41.1	674.7	648.0	26.76	25.210		
11,725.0	11,705.3	12,044.0	11,965.6	14.3	15.4	153.94	461.8	-40.8	669.5	642.1	27.43	24.410		
11,750.0	11,729.5	12,119.7	12,009.4	14.3	15.5	146.88	400.3	-40.3	664.3	635.8	28.49	23.314		
11,775.0	11,753.3	12,168.5	12,032.3	14.3	15.5	142.06	357.2	-40.0	659.5	630.8	28.71	22.972		
11,800.0	11,776.7	12,209.9	12,048.1	14.3	15.6	138.12	318.9	-39.7	655.3	626.7	28.64	22.883		
11,825.0	11,799.7	12,245.7	12,059.1	14.3	15.6	134.77	284.8	-39.5	652.0	623.6	28.37	22.979		
11,850.0	11,822.1	12,277.4	12,066.7	14.3	15.6	131.84	254.1	-39.2	649.7	621.7	27.98	23.215		
11,875.0	11,843.9	12,305.8	12,071.7	14.3	15.6	129.20	226.2	-39.0	648.3	620.8	27.52	23.557		
11,893.5	11,859.6	12,325.1	12,074.2	14.3	15.6	127.37	207.0	-38.9	648.0	620.9	27.16	23.862		
11,900.0	11,865.0	12,331.6	12,074.8	14.3	15.6	126.75	200.5	-38.9	648.1	621.0	27.03	23.979		
11,925.0	11,885.4	12,355.6	12,076.5	14.3	15.6	124.43	176.7	-38.7	648.9	622.4	26.53	24.457		
11,950.0	11,905.1	12,377.9	12,077.0	14.3	15.6	122.19	154.3	-38.5	650.8	624.7	26.06	24.971		
11,975.0	11,923.9	12,392.0	12,076.9	14.4	15.6	120.50	140.2	-38.4	653.9	628.3	25.58	25.559		
12,000.0	11,941.8	12,407.3	12,076.9	14.4	15.7	118.69	124.9	-38.3	658.1	632.9	25.20	26.113		
12,025.0	11,958.8	12,423.5	12,076.9	14.4	15.7	116.77	108.8	-38.2	663.3	638.4	24.91	26.626		
12,050.0	11,974.8	12,440.4	12,076.9	14.4	15.7	114.77	91.8	-38.1	669.5	644.8	24.71	27.097		
12,075.0	11,989.8	12,458.1	12,076.9	14.4	15.7	112.69	74.1	-37.9	676.6	652.0	24.58	27.522		
12,100.0	12,003.7	12,476.6	12,076.9	14.5	15.7	110.57	55.6	-37.8	684.4	659.9	24.53	27.904		
12,125.0	12,016.5	12,495.7	12,076.8	14.5	15.7	108.41	36.5	-37.7	692.9	668.3	24.53	28.248		
12,150.0	12,028.2	12,515.4	12,076.8	14.6	15.7	106.24	16.8	-37.5	701.9	677.3	24.58	28.550		
12,175.0	12,038.7	12,535.7	12,076.8	14.6	15.7	104.08	-3.5	-37.4	711.3	686.6	24.68	28.823		
12,200.0	12,048.1	12,556.5	12,076.8	14.6	15.7	101.96	-24.3	-37.2	721.1	696.3	24.80	29.075		
12,225.0	12,056.2	12,577.7	12,076.8	14.7	15.7	99.90	-45.5	-37.1	731.2	706.3	24.95	29.312		
12,250.0	12,063.0	12,599.4	12,076.7	14.7	15.7	97.91	-67.1	-36.9	741.6	716.5	25.10	29.539		
12,275.0	12,068.6	12,621.3	12,076.7	14.8	15.7	96.02	-89.1	-36.8	752.0	726.7	25.28	29.748		
12,300.0	12,072.9	12,643.6	12,076.7	14.8	15.7	94.23	-111.3	-36.6	762.6	737.1	25.46	29.953		
12,325.0	12,075.9	12,666.0	12,076.7	14.9	15.7	92.56	-133.8	-36.4	773.1	747.5	25.64	30.156		
12,350.0	12,077.6	12,688.6	12,076.7	15.0	15.7	91.01	-156.4	-36.3	783.7	757.9	25.81	30.358		
12,370.7	12,078.0	12,707.4	12,076.6	15.0	15.7	89.82	-175.2	-36.1	792.4	766.4	25.96	30.521		
12,400.0	12,078.0	12,734.1	12,076.6	15.1	15.7	89.83	-201.9	-35.9	804.4	778.2	26.18	30.729		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #702H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11557-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
12,500.0	12,077.9	12,827.1	12,076.5	15.4	15.8	89.84	-294.9	-35.3	841.2	814.2	26.97	31.190		
12,600.0	12,077.8	12,922.4	12,076.4	15.7	15.8	89.86	-390.2	-34.6	871.4	843.5	27.85	31.288		
12,700.0	12,077.7	13,019.6	12,076.3	16.1	15.8	89.87	-487.3	-33.9	894.9	866.1	28.81	31.057		
12,800.0	12,077.6	13,118.2	12,076.2	16.5	15.9	89.88	-585.9	-33.1	911.5	881.7	29.85	30.538		
12,900.0	12,077.5	13,217.7	12,076.1	16.9	15.9	89.88	-685.4	-32.4	921.3	890.3	30.94	29.773		
12,989.8	12,077.4	13,307.5	12,076.0	17.3	16.0	89.89	-775.2	-31.8	924.1	892.1	31.97	28.909		
13,000.0	12,077.4	13,317.6	12,076.0	17.3	16.1	89.89	-785.4	-31.7	924.1	892.0	32.08	28.803		
13,100.0	12,077.3	13,417.6	12,075.9	17.7	16.8	89.89	-885.4	-31.0	924.1	890.8	33.27	27.776		
13,200.0	12,077.1	13,517.6	12,075.8	18.2	17.5	89.89	-985.3	-30.2	924.1	889.6	34.50	26.785		
13,300.0	12,077.0	13,617.6	12,075.7	18.6	18.2	89.89	-1,085.3	-29.5	924.1	888.3	35.77	25.833		
13,400.0	12,076.9	13,717.6	12,075.6	19.2	18.9	89.89	-1,185.3	-28.8	924.1	887.0	37.08	24.922		
13,500.0	12,076.8	13,817.6	12,075.5	19.7	19.6	89.89	-1,285.3	-28.1	924.1	885.7	38.42	24.052		
13,600.0	12,076.7	13,917.6	12,075.4	20.3	20.4	89.89	-1,385.3	-27.3	924.1	884.3	39.79	23.224		
13,700.0	12,076.6	14,017.6	12,075.3	20.8	21.1	89.89	-1,485.3	-26.6	924.1	882.9	41.19	22.437		
13,800.0	12,076.5	14,117.6	12,075.2	21.4	21.9	89.89	-1,585.3	-25.9	924.1	881.5	42.61	21.689		
13,900.0	12,076.4	14,217.6	12,075.1	22.1	22.7	89.89	-1,685.3	-25.2	924.1	880.0	44.05	20.979		
14,000.0	12,076.3	14,317.6	12,075.0	22.7	23.4	89.89	-1,785.3	-24.4	924.1	878.6	45.51	20.305		
14,100.0	12,076.2	14,417.6	12,074.9	23.4	24.2	89.89	-1,885.3	-23.7	924.1	877.1	46.99	19.666		
14,200.0	12,076.1	14,517.6	12,074.8	24.0	25.0	89.89	-1,985.3	-23.0	924.1	875.6	48.48	19.059		
14,300.0	12,076.0	14,617.6	12,074.7	24.7	25.8	89.89	-2,085.3	-22.2	924.1	874.1	49.99	18.483		
14,400.0	12,075.9	14,717.6	12,074.6	25.4	26.6	89.89	-2,185.3	-21.5	924.1	872.6	51.52	17.937		
14,500.0	12,075.8	14,817.6	12,074.5	26.1	27.4	89.89	-2,285.3	-20.8	924.1	871.0	53.05	17.417		
14,600.0	12,075.7	14,917.6	12,074.4	26.9	28.2	89.89	-2,385.3	-20.1	924.1	869.5	54.60	16.924		
14,700.0	12,075.6	15,017.6	12,074.3	27.6	29.0	89.89	-2,485.3	-19.3	924.1	867.9	56.16	16.454		
14,800.0	12,075.5	15,117.6	12,074.2	28.3	29.8	89.89	-2,585.3	-18.6	924.1	866.3	57.73	16.008		
14,900.0	12,075.4	15,217.6	12,074.1	29.1	30.6	89.89	-2,685.3	-17.9	924.1	864.8	59.30	15.582		
15,000.0	12,075.3	15,317.6	12,074.0	29.8	31.4	89.89	-2,785.3	-17.2	924.1	863.2	60.89	15.177		
15,100.0	12,075.2	15,417.6	12,073.9	30.6	32.2	89.89	-2,885.3	-16.4	924.1	861.6	62.48	14.790		
15,200.0	12,075.1	15,517.6	12,073.8	31.3	33.1	89.89	-2,985.3	-15.7	924.1	860.0	64.08	14.421		
15,300.0	12,075.0	15,617.6	12,073.7	32.1	33.9	89.89	-3,085.3	-15.0	924.1	858.4	65.68	14.069		
15,400.0	12,074.9	15,717.6	12,073.6	32.9	34.7	89.89	-3,185.3	-14.3	924.1	856.8	67.29	13.732		
15,500.0	12,074.8	15,817.6	12,073.5	33.7	35.5	89.89	-3,285.3	-13.5	924.1	855.1	68.91	13.410		
15,600.0	12,074.7	15,917.6	12,073.4	34.4	36.4	89.89	-3,385.3	-12.8	924.1	853.5	70.53	13.102		
15,700.0	12,074.6	16,017.6	12,073.3	35.2	37.2	89.89	-3,485.3	-12.1	924.1	851.9	72.16	12.806		
15,800.0	12,074.5	16,117.6	12,073.2	36.0	38.0	89.89	-3,585.3	-11.3	924.1	850.3	73.79	12.523		
15,900.0	12,074.4	16,217.6	12,073.1	36.8	38.9	89.89	-3,685.3	-10.6	924.1	848.6	75.42	12.252		
16,000.0	12,074.2	16,317.6	12,073.0	37.6	39.7	89.89	-3,785.3	-9.9	924.1	847.0	77.06	11.991		
16,100.0	12,074.1	16,417.6	12,072.9	38.4	40.5	89.89	-3,885.3	-9.2	924.0	845.3	78.70	11.741		
16,200.0	12,074.0	16,517.6	12,072.8	39.2	41.4	89.89	-3,985.3	-8.4	924.0	843.7	80.35	11.500		
16,300.0	12,073.9	16,617.6	12,072.7	40.0	42.2	89.89	-4,085.3	-7.7	924.0	842.0	82.00	11.269		
16,400.0	12,073.8	16,717.6	12,072.6	40.8	43.0	89.89	-4,185.3	-7.0	924.0	840.4	83.65	11.047		
16,500.0	12,073.7	16,817.6	12,072.5	41.6	43.9	89.89	-4,285.3	-6.3	924.0	838.7	85.30	10.832		
16,600.0	12,073.6	16,917.6	12,072.4	42.4	44.7	89.89	-4,385.3	-5.5	924.0	837.1	86.96	10.626		
16,700.0	12,073.5	17,017.6	12,072.3	43.3	45.5	89.89	-4,485.3	-4.8	924.0	835.4	88.62	10.427		
16,800.0	12,073.4	17,117.6	12,072.2	44.1	46.4	89.90	-4,585.3	-4.1	924.0	833.8	90.29	10.235		
16,900.0	12,073.3	17,217.6	12,072.1	44.9	47.2	89.90	-4,685.2	-3.4	924.0	832.1	91.95	10.049		
17,000.0	12,073.2	17,317.6	12,072.0	45.7	48.1	89.90	-4,785.2	-2.6	924.0	830.4	93.62	9.870		
17,100.0	12,073.1	17,417.6	12,071.9	46.5	48.9	89.90	-4,885.2	-1.9	924.0	828.7	95.29	9.697		
17,200.0	12,073.0	17,517.6	12,071.8	47.4	49.8	89.90	-4,985.2	-1.2	924.0	827.1	96.96	9.530		
17,300.0	12,072.9	17,617.6	12,071.7	48.2	50.6	89.90	-5,085.2	-0.4	924.0	825.4	98.63	9.369		
17,400.0	12,072.8	17,717.6	12,071.6	49.0	51.4	89.90	-5,185.2	0.3	924.0	823.7	100.31	9.212		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #702H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11557-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance								Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
17,500.0	12,072.7	17,817.6	12,071.5	49.8	52.3	89.90	-5,285.2	1.0	924.0	822.0	101.98	9.061		
17,600.0	12,072.6	17,917.6	12,071.4	50.7	53.1	89.90	-5,385.2	1.7	924.0	820.4	103.66	8.914		
17,700.0	12,072.5	18,017.6	12,071.3	51.5	54.0	89.90	-5,485.2	2.5	924.0	818.7	105.34	8.772		
17,800.0	12,072.4	18,117.6	12,071.2	52.3	54.8	89.90	-5,585.2	3.2	924.0	817.0	107.02	8.634		
17,900.0	12,072.3	18,217.6	12,071.1	53.2	55.7	89.90	-5,685.2	3.9	924.0	815.3	108.70	8.501		
18,000.0	12,072.2	18,317.6	12,071.0	54.0	56.5	89.90	-5,785.2	4.6	924.0	813.6	110.39	8.371		
18,100.0	12,072.1	18,417.6	12,070.9	54.8	57.4	89.90	-5,885.2	5.4	924.0	812.0	112.07	8.245		
18,200.0	12,072.0	18,517.6	12,070.8	55.7	58.2	89.90	-5,985.2	6.1	924.0	810.3	113.76	8.123		
18,300.0	12,071.9	18,617.6	12,070.7	56.5	59.1	89.90	-6,085.2	6.8	924.0	808.6	115.44	8.004		
18,400.0	12,071.8	18,717.6	12,070.6	57.3	59.9	89.90	-6,185.2	7.5	924.0	806.9	117.13	7.889		
18,500.0	12,071.7	18,817.6	12,070.5	58.2	60.8	89.90	-6,285.2	8.3	924.0	805.2	118.82	7.777		
18,600.0	12,071.6	18,917.6	12,070.4	59.0	61.6	89.90	-6,385.2	9.0	924.0	803.5	120.51	7.668		
18,700.0	12,071.5	19,017.6	12,070.3	59.8	62.5	89.90	-6,485.2	9.7	924.0	801.8	122.20	7.561		
18,800.0	12,071.3	19,117.6	12,070.2	60.7	63.3	89.90	-6,585.2	10.5	924.0	800.1	123.89	7.458		
18,900.0	12,071.2	19,217.6	12,070.1	61.5	64.2	89.90	-6,685.2	11.2	924.0	798.4	125.59	7.358		
19,000.0	12,071.1	19,317.6	12,070.0	62.4	65.0	89.90	-6,785.2	11.9	924.0	796.7	127.28	7.260		
19,100.0	12,071.0	19,417.6	12,069.9	63.2	65.9	89.90	-6,885.2	12.6	924.0	795.0	128.97	7.164		
19,200.0	12,070.9	19,517.6	12,069.8	64.0	66.7	89.90	-6,985.2	13.4	924.0	793.3	130.67	7.071		
19,300.0	12,070.8	19,617.6	12,069.7	64.9	67.6	89.90	-7,085.2	14.1	924.0	791.6	132.37	6.981		
19,400.0	12,070.7	19,717.6	12,069.6	65.7	68.4	89.90	-7,185.2	14.8	924.0	789.9	134.06	6.892		
19,500.0	12,070.6	19,817.6	12,069.5	66.6	69.3	89.90	-7,285.2	15.5	924.0	788.2	135.76	6.806		
19,600.0	12,070.5	19,917.6	12,069.4	67.4	70.1	89.90	-7,385.2	16.3	924.0	786.5	137.46	6.722		
19,700.0	12,070.4	20,017.6	12,069.3	68.3	71.0	89.90	-7,485.2	17.0	924.0	784.8	139.16	6.640		
19,800.0	12,070.3	20,117.6	12,069.2	69.1	71.8	89.90	-7,585.2	17.7	924.0	783.1	140.86	6.560		
19,900.0	12,070.2	20,217.6	12,069.1	69.9	72.7	89.90	-7,685.2	18.4	924.0	781.4	142.56	6.482		
20,000.0	12,070.1	20,317.6	12,069.0	70.8	73.6	89.90	-7,785.2	19.2	924.0	779.7	144.26	6.405		
20,100.0	12,070.0	20,417.6	12,068.9	71.6	74.4	89.90	-7,885.2	19.9	924.0	778.0	145.96	6.331		
20,200.0	12,069.9	20,517.6	12,068.8	72.5	75.3	89.90	-7,985.2	20.6	924.0	776.3	147.66	6.258		
20,300.0	12,069.8	20,617.6	12,068.7	73.3	76.1	89.90	-8,085.2	21.4	924.0	774.6	149.36	6.186		
20,400.0	12,069.7	20,717.6	12,068.6	74.2	77.0	89.90	-8,185.2	22.1	924.0	772.9	151.06	6.117		
20,500.0	12,069.6	20,817.6	12,068.5	75.0	77.8	89.90	-8,285.2	22.8	924.0	771.2	152.77	6.048		
20,600.0	12,069.5	20,917.6	12,068.4	75.9	78.7	89.90	-8,385.1	23.5	924.0	769.5	154.47	5.982		
20,700.0	12,069.4	21,017.6	12,068.3	76.7	79.5	89.90	-8,485.1	24.3	924.0	767.8	156.17	5.916		
20,800.0	12,069.3	21,117.6	12,068.2	77.6	80.4	89.90	-8,585.1	25.0	924.0	766.1	157.88	5.852		
20,900.0	12,069.2	21,217.6	12,068.1	78.4	81.2	89.90	-8,685.1	25.7	924.0	764.4	159.58	5.790		
21,000.0	12,069.1	21,317.6	12,068.0	79.3	82.1	89.90	-8,785.1	26.4	924.0	762.7	161.29	5.729		
21,100.0	12,069.0	21,417.6	12,067.9	80.1	83.0	89.91	-8,885.1	27.2	924.0	761.0	163.00	5.669		
21,200.0	12,068.9	21,517.6	12,067.8	81.0	83.8	89.91	-8,985.1	27.9	924.0	759.3	164.70	5.610		
21,300.0	12,068.8	21,617.6	12,067.7	81.8	84.7	89.91	-9,085.1	28.6	924.0	757.6	166.41	5.552		
21,400.0	12,068.7	21,717.6	12,067.6	82.7	85.5	89.91	-9,185.1	29.3	924.0	755.9	168.11	5.496		
21,500.0	12,068.6	21,817.6	12,067.5	83.5	86.4	89.91	-9,285.1	30.1	924.0	754.2	169.82	5.441		
21,600.0	12,068.4	21,917.6	12,067.4	84.4	87.2	89.91	-9,385.1	30.8	924.0	752.4	171.53	5.387		
21,700.0	12,068.3	22,017.6	12,067.3	85.2	88.1	89.91	-9,485.1	31.5	924.0	750.7	173.24	5.334		
21,800.0	12,068.2	22,117.6	12,067.2	86.1	88.9	89.91	-9,585.1	32.3	924.0	749.0	174.95	5.281		
21,900.0	12,068.1	22,217.6	12,067.1	86.9	89.8	89.91	-9,685.1	33.0	924.0	747.3	176.65	5.230		
22,000.0	12,068.0	22,317.6	12,067.0	87.8	90.7	89.91	-9,785.1	33.7	924.0	745.6	178.36	5.180		
22,034.6	12,068.0	22,352.2	12,067.0	88.1	91.0	89.91	-9,819.7	34.0	924.0	745.0	178.95	5.163		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #703H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Highside Toolface (°)	Offset Wellbore Centre		Distance		Minimum Separation (usft)	Separation Factor	Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)		+N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)				
0.0	0.0	0.3	0.3	3.0	3.0	-90.57	-0.6	-60.0	60.0					
100.0	100.0	100.3	100.3	3.0	3.0	-90.57	-0.6	-60.0	60.0	54.0	6.00	9.995		
200.0	200.0	200.3	200.3	3.0	3.0	-90.57	-0.6	-60.0	60.0	54.0	6.04	9.932		
300.0	300.0	300.3	300.3	3.0	3.1	-90.57	-0.6	-60.0	60.0	53.9	6.12	9.800		
400.0	400.0	400.3	400.3	3.0	3.2	-90.57	-0.6	-60.0	60.0	53.8	6.24	9.610		
500.0	500.0	500.3	500.3	3.1	3.4	-90.57	-0.6	-60.0	60.0	53.6	6.40	9.375		
600.0	600.0	600.3	600.3	3.1	3.6	-90.57	-0.6	-60.0	60.0	53.4	6.59	9.107		
700.0	700.0	700.3	700.3	3.1	3.8	-90.57	-0.6	-60.0	60.0	53.2	6.80	8.819		
800.0	800.0	800.3	800.3	3.2	4.0	-90.57	-0.6	-60.0	60.0	53.0	7.04	8.521		
900.0	900.0	900.3	900.3	3.2	4.2	-90.57	-0.6	-60.0	60.0	52.7	7.30	8.219		
1,000.0	1,000.0	1,000.3	1,000.3	3.2	4.5	-90.57	-0.6	-60.0	60.0	52.4	7.57	7.921		
1,100.0	1,100.0	1,100.3	1,100.3	3.3	4.8	-90.57	-0.6	-60.0	60.0	52.1	7.86	7.630		
1,200.0	1,200.0	1,200.3	1,200.3	3.4	5.1	-90.57	-0.6	-60.0	60.0	51.8	8.16	7.349		
1,300.0	1,300.0	1,300.3	1,300.3	3.4	5.4	-90.57	-0.6	-60.0	60.0	51.5	8.48	7.079		
1,400.0	1,400.0	1,400.3	1,400.3	3.5	5.7	-90.57	-0.6	-60.0	60.0	51.2	8.80	6.821		
1,500.0	1,500.0	1,500.3	1,500.3	3.5	6.0	-90.57	-0.6	-60.0	60.0	50.9	9.13	6.575		
1,600.0	1,600.0	1,600.3	1,600.3	3.6	6.3	-90.57	-0.6	-60.0	60.0	50.5	9.46	6.342		
1,700.0	1,700.0	1,700.3	1,700.3	3.7	6.6	-90.57	-0.6	-60.0	60.0	50.2	9.80	6.122		
1,800.0	1,800.0	1,800.3	1,800.3	3.8	6.9	-90.57	-0.6	-60.0	60.0	49.9	10.15	5.912		
1,900.0	1,900.0	1,900.3	1,900.3	3.9	7.2	-90.57	-0.6	-60.0	60.0	49.5	10.50	5.715		
2,000.0	2,000.0	2,000.3	2,000.3	3.9	7.6	-90.57	-0.6	-60.0	60.0	49.1	10.86	5.527		
2,100.0	2,100.0	2,100.3	2,100.3	4.0	7.9	-90.57	-0.6	-60.0	60.0	48.8	11.22	5.350		
2,200.0	2,200.0	2,200.3	2,200.3	4.1	8.2	-90.57	-0.6	-60.0	60.0	48.4	11.58	5.182		
2,300.0	2,300.0	2,300.3	2,300.3	4.2	8.6	-90.57	-0.6	-60.0	60.0	48.1	11.95	5.023		
2,400.0	2,400.0	2,400.3	2,400.3	4.3	8.9	-90.57	-0.6	-60.0	60.0	47.7	12.31	4.873		
2,500.0	2,500.0	2,500.3	2,500.3	4.4	9.2	-90.57	-0.6	-60.0	60.0	47.3	12.69	4.730 CC, ES		
2,600.0	2,600.0	2,600.3	2,600.3	4.5	9.6	-155.78	-0.6	-60.0	61.6	48.5	13.06	4.715 SF		
2,684.7	2,684.5	2,684.8	2,684.8	4.5	9.9	-157.26	-0.6	-60.0	65.4	52.1	13.39	4.888		
2,700.0	2,699.8	2,700.1	2,700.1	4.5	9.9	-157.59	-0.6	-60.0	66.4	52.9	13.45	4.934		
2,800.0	2,799.6	2,799.9	2,799.9	4.6	10.3	-159.53	-0.6	-60.0	72.4	58.5	13.85	5.224		
2,900.0	2,899.4	2,899.7	2,899.7	4.7	10.6	-161.18	-0.6	-60.0	78.4	64.2	14.26	5.499		
3,000.0	2,999.2	2,999.5	2,999.5	4.7	10.9	-162.59	-0.6	-60.0	84.5	69.9	14.68	5.760		
3,100.0	3,099.0	3,099.3	3,099.3	4.8	11.3	-163.80	-0.6	-60.0	90.7	75.6	15.10	6.007		
3,200.0	3,198.8	3,199.1	3,199.1	4.9	11.6	-164.87	-0.6	-60.0	96.9	81.4	15.53	6.240		
3,300.0	3,298.6	3,298.9	3,298.9	4.9	12.0	-165.80	-0.6	-60.0	103.2	87.2	15.97	6.461		
3,400.0	3,398.4	3,398.7	3,398.7	5.0	12.3	-166.63	-0.6	-60.0	109.4	93.0	16.40	6.670		
3,500.0	3,498.2	3,498.5	3,498.5	5.1	12.7	-167.37	-0.6	-60.0	115.7	98.8	16.84	6.868		
3,600.0	3,598.0	3,598.3	3,598.3	5.2	13.0	-168.03	-0.6	-60.0	122.0	104.7	17.29	7.055		
3,700.0	3,697.8	3,698.1	3,698.1	5.3	13.4	-168.62	-0.6	-60.0	128.3	110.6	17.74	7.233		
3,800.0	3,797.6	3,797.9	3,797.9	5.4	13.7	-169.16	-0.6	-60.0	134.6	116.4	18.18	7.402		
3,900.0	3,897.3	3,897.6	3,897.6	5.4	14.1	-169.66	-0.6	-60.0	140.9	122.3	18.64	7.563		
4,000.0	3,997.1	3,997.4	3,997.4	5.5	14.4	-170.11	-0.6	-60.0	147.3	128.2	19.09	7.715		
4,100.0	4,096.9	4,097.2	4,097.2	5.6	14.8	-170.52	-0.6	-60.0	153.6	134.1	19.54	7.861		
4,200.0	4,196.7	4,197.0	4,197.0	5.7	15.1	-170.90	-0.6	-60.0	160.0	140.0	20.00	7.999		
4,300.0	4,296.5	4,296.8	4,296.8	5.8	15.5	-171.25	-0.6	-60.0	166.4	145.9	20.46	8.131		
4,400.0	4,396.3	4,396.6	4,396.6	5.9	15.8	-171.58	-0.6	-60.0	172.7	151.8	20.92	8.256		
4,500.0	4,496.1	4,496.4	4,496.4	6.0	16.2	-171.88	-0.6	-60.0	179.1	157.7	21.38	8.377		
4,600.0	4,595.9	4,596.2	4,596.2	6.1	16.5	-172.16	-0.6	-60.0	185.5	163.6	21.84	8.491		
4,700.0	4,695.7	4,696.0	4,696.0	6.2	16.9	-172.42	-0.6	-60.0	191.9	169.6	22.31	8.601		
4,800.0	4,795.5	4,795.8	4,795.8	6.3	17.2	-172.67	-0.6	-60.0	198.2	175.5	22.77	8.706		
4,900.0	4,895.3	4,895.6	4,895.6	6.4	17.6	-172.90	-0.6	-60.0	204.6	181.4	23.24	8.807		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #703H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,995.1	4,995.4	4,995.4	6.5	17.9	-173.11		-0.6	-60.0	211.0	187.3	23.70	8.903	
5,100.0	5,094.9	5,095.2	5,095.2	6.6	18.3	-173.32		-0.6	-60.0	217.4	193.3	24.17	8.996	
5,200.0	5,194.6	5,194.9	5,194.9	6.7	18.6	-173.51		-0.6	-60.0	223.8	199.2	24.64	9.085	
5,300.0	5,294.4	5,294.7	5,294.7	6.8	19.0	-173.69		-0.6	-60.0	230.2	205.1	25.11	9.170	
5,400.0	5,394.2	5,394.5	5,394.5	6.9	19.3	-173.86		-0.6	-60.0	236.6	211.1	25.58	9.252	
5,500.0	5,494.0	5,494.3	5,494.3	7.0	19.7	-174.02		-0.6	-60.0	243.0	217.0	26.05	9.331	
5,600.0	5,593.8	5,588.8	5,588.8	7.1	20.0	-173.94		0.0	-61.2	250.4	223.9	26.49	9.455	
5,700.0	5,693.6	5,682.6	5,682.5	7.2	20.4	-173.36		2.1	-65.2	260.1	233.2	26.90	9.669	
5,800.0	5,793.4	5,776.1	5,775.7	7.3	20.7	-172.36		5.5	-71.8	272.0	244.7	27.29	9.969	
5,900.0	5,893.2	5,875.1	5,874.3	7.4	21.0	-171.19		9.8	-80.0	285.1	257.4	27.70	10.290	
6,000.0	5,993.0	5,974.1	5,972.8	7.6	21.4	-170.13		14.1	-88.3	298.2	270.1	28.12	10.605	
6,100.0	6,092.8	6,073.1	6,071.4	7.7	21.7	-169.15		18.4	-96.5	311.4	282.9	28.54	10.913	
6,200.0	6,192.6	6,172.1	6,169.9	7.8	22.1	-168.25		22.7	-104.8	324.7	295.8	28.96	11.213	
6,300.0	6,292.4	6,271.1	6,268.4	7.9	22.4	-167.43		27.0	-113.0	338.1	308.7	29.39	11.506	
6,400.0	6,392.2	6,370.0	6,367.0	8.0	22.7	-166.66		31.2	-121.3	351.6	321.8	29.82	11.792	
6,500.0	6,491.9	6,469.0	6,465.5	8.1	23.1	-165.96		35.5	-129.5	365.1	334.8	30.25	12.071	
6,600.0	6,591.7	6,568.0	6,564.1	8.2	23.4	-165.30		39.8	-137.8	378.6	348.0	30.68	12.342	
6,700.0	6,691.5	6,667.0	6,662.6	8.3	23.8	-164.69		44.1	-146.0	392.2	361.1	31.11	12.607	
6,800.0	6,791.3	6,766.0	6,761.2	8.5	24.1	-164.12		48.4	-154.3	405.9	374.3	31.55	12.865	
6,900.0	6,891.1	6,865.0	6,859.7	8.6	24.5	-163.59		52.7	-162.5	419.6	387.6	31.99	13.116	
7,000.0	6,990.9	6,964.0	6,958.3	8.7	24.8	-163.09		57.0	-170.8	433.3	400.9	32.43	13.361	
7,100.0	7,090.7	7,063.0	7,056.8	8.8	25.2	-162.62		61.2	-179.0	447.0	414.2	32.87	13.599	
7,200.0	7,190.5	7,161.9	7,155.4	8.9	25.5	-162.18		65.5	-187.3	460.8	427.5	33.32	13.832	
7,300.0	7,290.3	7,260.9	7,253.9	9.0	25.9	-161.76		69.8	-195.5	474.6	440.8	33.76	14.058	
7,400.0	7,390.1	7,359.9	7,352.5	9.2	26.2	-161.37		74.1	-203.8	488.4	454.2	34.21	14.278	
7,500.0	7,489.9	7,458.9	7,451.0	9.3	26.6	-161.00		78.4	-212.0	502.3	467.6	34.66	14.493	
7,600.0	7,589.7	7,557.9	7,549.6	9.4	26.9	-160.65		82.7	-220.3	516.1	481.0	35.10	14.703	
7,700.0	7,689.5	7,656.9	7,648.1	9.5	27.3	-160.32		87.0	-228.5	530.0	494.4	35.55	14.907	
7,800.0	7,789.2	7,755.9	7,746.7	9.6	27.6	-160.01		91.2	-236.8	543.9	507.9	36.01	15.106	
7,900.0	7,889.0	7,854.8	7,845.2	9.7	28.0	-159.71		95.5	-245.0	557.8	521.4	36.46	15.300	
8,000.0	7,988.8	7,953.8	7,943.8	9.9	28.3	-159.42		99.8	-253.3	571.7	534.8	36.91	15.489	
8,100.0	8,088.6	8,052.8	8,042.3	10.0	28.7	-159.15		104.1	-261.5	585.7	548.3	37.37	15.673	
8,200.0	8,188.4	8,151.8	8,140.9	10.1	29.0	-158.89		108.4	-269.8	599.6	561.8	37.82	15.853	
8,300.0	8,288.2	8,250.8	8,239.4	10.2	29.4	-158.64		112.7	-278.0	613.6	575.3	38.28	16.029	
8,400.0	8,388.0	8,349.8	8,338.0	10.3	29.7	-158.41		117.0	-286.3	627.6	588.8	38.74	16.200	
8,500.0	8,487.8	8,448.8	8,436.5	10.5	30.1	-158.18		121.2	-294.5	641.5	602.3	39.20	16.367	
8,600.0	8,587.6	8,547.8	8,535.1	10.6	30.4	-157.97		125.5	-302.8	655.5	615.9	39.66	16.530	
8,700.0	8,687.4	8,646.7	8,633.6	10.7	30.8	-157.76		129.8	-311.0	669.5	629.4	40.12	16.690	
8,800.0	8,787.2	8,745.7	8,732.2	10.8	31.1	-157.56		134.1	-319.3	683.5	643.0	40.58	16.845	
8,900.0	8,887.0	8,844.7	8,830.7	10.9	31.5	-157.37		138.4	-327.5	697.6	656.5	41.04	16.997	
9,000.0	8,986.8	8,943.7	8,929.3	11.1	31.9	-157.19		142.7	-335.7	711.6	670.1	41.50	17.146	
9,100.0	9,086.6	9,042.7	9,027.8	11.2	32.2	-157.01		147.0	-344.0	725.6	683.6	41.97	17.291	
9,200.0	9,186.3	9,141.7	9,126.4	11.3	32.6	-156.84		151.2	-352.2	739.7	697.2	42.43	17.432	
9,300.0	9,286.1	9,240.7	9,224.9	11.4	32.9	-156.68		155.5	-360.5	753.7	710.8	42.89	17.571	
9,400.0	9,385.9	9,339.6	9,323.5	11.6	33.3	-156.52		159.8	-368.7	767.7	724.4	43.36	17.706	
9,500.0	9,485.7	9,438.6	9,422.0	11.7	33.6	-156.37		164.1	-377.0	781.8	738.0	43.83	17.838	
9,600.0	9,585.5	9,537.6	9,520.6	11.8	34.0	-156.23		168.4	-385.2	795.9	751.6	44.29	17.968	
9,700.0	9,685.3	9,636.6	9,619.1	11.9	34.3	-156.08		172.7	-393.5	809.9	765.2	44.76	18.094	
9,800.0	9,785.1	9,735.6	9,717.7	12.0	34.7	-155.95		177.0	-401.7	824.0	778.8	45.23	18.218	
9,900.0	9,884.9	9,834.6	9,816.2	12.2	35.0	-155.82		181.2	-410.0	838.1	792.4	45.70	18.339	
10,000.0	9,984.7	9,933.6	9,914.8	12.3	35.4	-155.69		185.5	-418.2	852.1	806.0	46.17	18.458	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #703H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,100.0	10,084.5	10,032.6	10,013.3	12.4	35.8	-155.57	189.8	-426.5	866.2	819.6	46.64	18.574		
10,200.0	10,184.3	10,131.5	10,111.9	12.5	36.1	-155.45	194.1	-434.7	880.3	833.2	47.11	18.687		
10,300.0	10,284.1	10,230.5	10,210.4	12.7	36.5	-155.33	198.4	-443.0	894.4	846.8	47.58	18.798		
10,400.0	10,383.9	10,329.5	10,309.0	12.8	36.8	-155.22	202.7	-451.2	908.5	860.4	48.05	18.907		
10,500.0	10,483.6	10,428.5	10,407.5	12.9	37.2	-155.11	207.0	-459.5	922.6	874.1	48.52	19.014		
10,600.0	10,583.4	10,527.5	10,506.1	13.0	37.5	-155.01	211.2	-467.7	936.7	887.7	49.00	19.118		
10,700.0	10,683.2	10,626.5	10,604.6	13.2	37.9	-154.90	215.5	-476.0	950.8	901.3	49.47	19.220		
10,800.0	10,783.0	10,725.5	10,703.2	13.3	38.2	-154.81	219.8	-484.2	964.9	915.0	49.94	19.320		
10,900.0	10,882.8	10,824.4	10,801.7	13.4	38.6	-154.71	224.1	-492.5	979.0	928.6	50.42	19.419		
11,000.0	10,982.6	10,923.4	10,900.3	13.5	39.0	-154.62	228.4	-500.7	993.1	942.2	50.89	19.515		
11,100.0	11,082.4	11,022.4	10,998.8	13.7	39.3	-154.52	232.7	-509.0	1,007.2	955.9	51.37	19.609		
11,200.0	11,182.2	11,121.4	11,097.4	13.8	39.7	-154.44	237.0	-517.2	1,021.3	969.5	51.84	19.701		
11,300.0	11,282.0	11,220.4	11,195.9	13.9	40.0	-154.35	241.2	-525.5	1,035.5	983.1	52.32	19.792		
11,400.0	11,381.8	11,319.4	11,294.5	14.0	40.4	-154.27	245.5	-533.7	1,049.6	996.8	52.79	19.881		
11,500.0	11,481.6	11,418.4	11,393.0	14.2	40.7	-154.19	249.8	-542.0	1,063.7	1,010.4	53.27	19.968		
11,600.0	11,581.4	11,517.4	11,491.6	14.2	41.1	-154.11	254.1	-550.2	1,077.8	1,024.1	53.73	20.059		
11,620.1	11,601.4	11,537.2	11,511.3	14.2	41.2	-154.09	255.0	-551.9	1,080.7	1,026.9	53.81	20.084		
11,625.0	11,606.3	11,542.1	11,516.2	14.2	41.2	-163.24	255.2	-552.3	1,081.4	1,027.5	53.83	20.090		
11,650.0	11,631.2	11,566.8	11,540.7	14.2	41.3	161.20	256.2	-554.3	1,085.3	1,031.4	53.92	20.129		
11,675.0	11,656.1	11,591.2	11,565.1	14.2	41.4	144.24	257.3	-556.4	1,089.8	1,035.8	54.01	20.179		
11,700.0	11,680.8	11,615.5	11,589.2	14.3	41.4	135.66	258.3	-558.4	1,094.8	1,040.7	54.09	20.240		
11,725.0	11,705.3	11,633.2	11,606.9	14.3	41.5	130.51	259.1	-559.9	1,100.4	1,046.2	54.17	20.313		
11,750.0	11,729.5	11,650.0	11,623.6	14.3	41.6	126.99	259.3	-561.5	1,106.8	1,052.5	54.25	20.401		
11,775.0	11,753.3	11,656.9	11,630.5	14.3	41.6	124.20	259.3	-562.3	1,113.9	1,059.6	54.33	20.503		
11,800.0	11,776.7	11,668.6	11,642.0	14.3	41.6	121.94	259.0	-563.6	1,121.8	1,067.4	54.41	20.619		
11,825.0	11,799.7	11,675.0	11,648.4	14.3	41.7	119.88	258.7	-564.4	1,130.4	1,075.9	54.48	20.748		
11,850.0	11,822.1	11,691.2	11,664.5	14.3	41.7	118.15	257.7	-566.6	1,139.7	1,085.1	54.55	20.891		
11,875.0	11,843.9	11,700.0	11,673.1	14.3	41.7	116.38	257.0	-567.9	1,149.7	1,095.1	54.63	21.046		
11,900.0	11,865.0	11,713.0	11,685.9	14.3	41.8	114.74	255.6	-569.9	1,160.3	1,105.6	54.69	21.214		
11,925.0	11,885.4	11,725.0	11,697.6	14.3	41.8	113.10	254.0	-571.9	1,171.5	1,116.8	54.76	21.393		
11,950.0	11,905.1	11,733.8	11,706.2	14.3	41.9	111.38	252.7	-573.4	1,183.4	1,128.5	54.83	21.584		
11,975.0	11,923.9	11,743.8	11,715.9	14.4	41.9	109.65	251.1	-575.3	1,195.7	1,140.8	54.89	21.784		
12,000.0	11,941.8	11,750.0	11,721.9	14.4	41.9	107.79	249.9	-576.4	1,208.6	1,153.7	54.95	21.995		
12,025.0	11,958.8	11,762.9	11,734.3	14.4	42.0	106.07	247.4	-579.0	1,221.9	1,166.9	55.01	22.215		
12,050.0	11,974.8	11,775.0	11,745.8	14.4	42.0	104.30	244.7	-581.5	1,235.7	1,180.7	55.06	22.444		
12,075.0	11,989.8	11,780.8	11,751.3	14.4	42.0	102.28	243.3	-582.8	1,249.9	1,194.8	55.11	22.681		
12,100.0	12,003.7	11,789.3	11,759.2	14.5	42.0	100.29	241.2	-584.7	1,264.5	1,209.3	55.16	22.926		
12,125.0	12,016.5	11,800.0	11,769.3	14.5	42.1	98.34	238.3	-587.1	1,279.4	1,224.2	55.20	23.178		
12,150.0	12,028.2	11,800.0	11,769.3	14.6	42.1	95.93	238.3	-587.1	1,294.6	1,239.4	55.24	23.437		
12,175.0	12,038.7	11,812.4	11,780.8	14.6	42.1	93.99	234.7	-590.1	1,310.0	1,254.8	55.27	23.701		
12,200.0	12,048.1	11,819.4	11,787.2	14.6	42.1	91.79	232.6	-591.8	1,325.7	1,270.4	55.30	23.972		
12,225.0	12,056.2	11,825.0	11,792.3	14.7	42.2	89.51	230.8	-593.2	1,341.6	1,286.2	55.33	24.247		
12,250.0	12,063.0	11,832.1	11,798.8	14.7	42.2	87.29	228.5	-595.0	1,357.6	1,302.2	55.35	24.527		
12,275.0	12,068.6	11,837.8	11,803.9	14.8	42.2	85.01	226.5	-596.5	1,373.7	1,318.3	55.37	24.811		
12,300.0	12,072.9	11,843.0	11,808.6	14.8	42.2	82.71	224.7	-597.9	1,389.9	1,334.5	55.38	25.098		
12,325.0	12,075.9	11,850.0	11,814.8	14.9	42.2	80.53	222.2	-599.8	1,406.1	1,350.7	55.38	25.388		
12,350.0	12,077.6	11,850.0	11,814.8	15.0	42.2	78.04	222.2	-599.8	1,422.4	1,367.0	55.38	25.682		
12,370.7	12,078.0	11,855.0	11,819.3	15.0	42.2	76.25	220.3	-601.2	1,435.8	1,380.4	55.38	25.926		
12,400.0	12,078.0	11,859.3	11,823.0	15.1	42.3	76.69	218.7	-602.4	1,454.7	1,399.3	55.37	26.271		
12,500.0	12,077.9	11,875.0	11,836.8	15.4	42.3	78.16	212.5	-606.8	1,518.3	1,462.9	55.38	27.417		
12,600.0	12,077.8	11,900.0	11,858.1	15.7	42.4	79.84	201.8	-614.3	1,580.2	1,524.8	55.42	28.515		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #703H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,700.0	12,077.7	11,931.8	11,884.2	16.1	42.5	81.57		186.6	-624.5	1,640.0	1,584.5	55.49	29.553	
12,800.0	12,077.6	11,975.3	11,917.8	16.5	42.6	83.43		163.5	-639.4	1,697.3	1,641.7	55.62	30.515	
12,900.0	12,077.5	12,035.8	11,960.1	16.9	42.7	85.45		126.6	-661.9	1,751.3	1,695.5	55.82	31.373	
12,989.8	12,077.4	12,110.6	12,004.4	17.3	42.9	87.31		74.5	-692.1	1,796.2	1,740.1	56.11	32.014	
13,000.0	12,077.4	12,120.6	12,009.6	17.3	42.9	87.51		67.1	-696.2	1,801.0	1,744.9	56.14	32.080	
13,100.0	12,077.3	12,233.3	12,055.3	17.7	43.1	89.19		-23.1	-745.3	1,848.4	1,791.8	56.66	32.625	
13,200.0	12,077.1	13,242.3	12,076.1	18.2	44.4	89.96		-992.1	-954.6	1,848.4	1,787.7	60.75	30.428	
13,300.0	12,077.0	13,342.3	12,076.0	18.6	44.5	89.96		-1,092.1	-953.8	1,848.4	1,787.0	61.48	30.068	
13,400.0	12,076.9	13,442.3	12,075.9	19.2	44.7	89.96		-1,192.1	-953.1	1,848.4	1,786.2	62.24	29.696	
13,500.0	12,076.8	13,542.3	12,075.8	19.7	44.9	89.96		-1,292.1	-952.4	1,848.4	1,785.4	63.05	29.317	
13,600.0	12,076.7	13,642.3	12,075.7	20.3	45.1	89.96		-1,392.1	-951.6	1,848.4	1,784.5	63.89	28.931	
13,700.0	12,076.6	13,742.3	12,075.6	20.8	45.3	89.96		-1,492.1	-950.9	1,848.4	1,783.6	64.76	28.541	
13,800.0	12,076.5	13,842.3	12,075.5	21.4	45.6	89.96		-1,592.1	-950.2	1,848.4	1,782.7	65.67	28.147	
13,900.0	12,076.4	13,942.3	12,075.4	22.1	45.8	89.96		-1,692.1	-949.5	1,848.4	1,781.8	66.60	27.752	
14,000.0	12,076.3	14,042.3	12,075.3	22.7	46.1	89.96		-1,792.1	-948.7	1,848.4	1,780.8	67.57	27.357	
14,100.0	12,076.2	14,142.3	12,075.2	23.4	46.4	89.96		-1,892.1	-948.0	1,848.4	1,779.8	68.55	26.962	
14,200.0	12,076.1	14,242.3	12,075.1	24.0	46.7	89.96		-1,992.1	-947.3	1,848.4	1,778.8	69.57	26.569	
14,300.0	12,076.0	14,342.3	12,075.0	24.7	47.0	89.96		-2,092.1	-946.5	1,848.4	1,777.8	70.61	26.179	
14,400.0	12,075.9	14,442.3	12,074.9	25.4	47.3	89.96		-2,192.1	-945.8	1,848.4	1,776.7	71.67	25.791	
14,500.0	12,075.8	14,542.3	12,074.8	26.1	47.6	89.96		-2,292.1	-945.1	1,848.4	1,775.6	72.75	25.408	
14,600.0	12,075.7	14,642.3	12,074.7	26.9	48.0	89.96		-2,392.1	-944.3	1,848.4	1,774.5	73.85	25.028	
14,700.0	12,075.6	14,742.3	12,074.6	27.6	48.4	89.96		-2,492.1	-943.6	1,848.4	1,773.4	74.97	24.653	
14,800.0	12,075.5	14,842.3	12,074.4	28.3	48.7	89.96		-2,592.1	-942.9	1,848.4	1,772.2	76.12	24.284	
14,900.0	12,075.4	14,942.3	12,074.3	29.1	49.1	89.96		-2,692.1	-942.2	1,848.4	1,771.1	77.28	23.919	
15,000.0	12,075.3	15,042.3	12,074.2	29.8	49.5	89.96		-2,792.1	-941.4	1,848.4	1,769.9	78.45	23.560	
15,100.0	12,075.2	15,142.3	12,074.1	30.6	49.9	89.96		-2,892.1	-940.7	1,848.3	1,768.7	79.65	23.207	
15,200.0	12,075.1	15,242.3	12,074.0	31.3	50.4	89.96		-2,992.1	-940.0	1,848.3	1,767.5	80.86	22.860	
15,300.0	12,075.0	15,342.3	12,073.9	32.1	50.8	89.96		-3,092.1	-939.2	1,848.3	1,766.3	82.08	22.519	
15,400.0	12,074.9	15,442.3	12,073.8	32.9	51.2	89.96		-3,192.1	-938.5	1,848.3	1,765.0	83.32	22.183	
15,500.0	12,074.8	15,542.3	12,073.7	33.7	51.7	89.96		-3,292.1	-937.8	1,848.3	1,763.8	84.57	21.854	
15,600.0	12,074.7	15,642.3	12,073.6	34.4	52.2	89.96		-3,392.1	-937.0	1,848.3	1,762.5	85.84	21.532	
15,700.0	12,074.6	15,742.3	12,073.5	35.2	52.6	89.96		-3,492.1	-936.3	1,848.3	1,761.2	87.12	21.215	
15,800.0	12,074.5	15,842.3	12,073.4	36.0	53.1	89.96		-3,592.1	-935.6	1,848.3	1,759.9	88.42	20.905	
15,900.0	12,074.4	15,942.3	12,073.3	36.8	53.6	89.96		-3,692.1	-934.9	1,848.3	1,758.6	89.72	20.600	
16,000.0	12,074.2	16,042.3	12,073.2	37.6	54.1	89.96		-3,792.0	-934.1	1,848.3	1,757.3	91.04	20.302	
16,100.0	12,074.1	16,142.3	12,073.1	38.4	54.6	89.96		-3,892.0	-933.4	1,848.3	1,755.9	92.37	20.010	
16,200.0	12,074.0	16,242.3	12,073.0	39.2	55.2	89.96		-3,992.0	-932.7	1,848.3	1,754.6	93.71	19.724	
16,300.0	12,073.9	16,342.3	12,072.9	40.0	55.7	89.96		-4,092.0	-931.9	1,848.3	1,753.2	95.06	19.444	
16,400.0	12,073.8	16,442.3	12,072.8	40.8	56.2	89.96		-4,192.0	-931.2	1,848.3	1,751.9	96.42	19.169	
16,500.0	12,073.7	16,542.3	12,072.7	41.6	56.8	89.96		-4,292.0	-930.5	1,848.3	1,750.5	97.79	18.901	
16,600.0	12,073.6	16,642.3	12,072.6	42.4	57.3	89.96		-4,392.0	-929.7	1,848.3	1,749.1	99.17	18.638	
16,700.0	12,073.5	16,742.3	12,072.5	43.3	57.9	89.96		-4,492.0	-929.0	1,848.3	1,747.7	100.56	18.380	
16,800.0	12,073.4	16,842.3	12,072.4	44.1	58.5	89.96		-4,592.0	-928.3	1,848.3	1,746.3	101.96	18.128	
16,900.0	12,073.3	16,942.3	12,072.3	44.9	59.0	89.96		-4,692.0	-927.6	1,848.3	1,744.9	103.36	17.881	
17,000.0	12,073.2	17,042.3	12,072.2	45.7	59.6	89.96		-4,792.0	-926.8	1,848.3	1,743.5	104.78	17.640	
17,100.0	12,073.1	17,142.3	12,072.1	46.5	60.2	89.96		-4,892.0	-926.1	1,848.3	1,742.1	106.20	17.404	
17,200.0	12,073.0	17,242.3	12,072.0	47.4	60.8	89.96		-4,992.0	-925.4	1,848.3	1,740.6	107.63	17.172	
17,300.0	12,072.9	17,342.3	12,071.9	48.2	61.4	89.96		-5,092.0	-924.6	1,848.2	1,739.2	109.07	16.946	
17,400.0	12,072.8	17,442.3	12,071.8	49.0	62.0	89.96		-5,192.0	-923.9	1,848.2	1,737.7	110.51	16.724	
17,500.0	12,072.7	17,542.3	12,071.7	49.8	62.6	89.96		-5,292.0	-923.2	1,848.2	1,736.3	111.96	16.508	
17,600.0	12,072.6	17,642.3	12,071.6	50.7	63.3	89.96		-5,392.0	-922.4	1,848.2	1,734.8	113.42	16.295	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #703H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
17,700.0	12,072.5	17,742.3	12,071.5	51.5	63.9	89.96	-5,492.0	-921.7	1,848.2	1,733.3	114.89	16.087		
17,800.0	12,072.4	17,842.3	12,071.4	52.3	64.5	89.96	-5,592.0	-921.0	1,848.2	1,731.9	116.36	15.884		
17,900.0	12,072.3	17,942.3	12,071.3	53.2	65.2	89.96	-5,692.0	-920.3	1,848.2	1,730.4	117.83	15.685		
18,000.0	12,072.2	18,042.3	12,071.2	54.0	65.8	89.96	-5,792.0	-919.5	1,848.2	1,728.9	119.32	15.490		
18,100.0	12,072.1	18,142.3	12,071.1	54.8	66.5	89.96	-5,892.0	-918.8	1,848.2	1,727.4	120.81	15.299		
18,200.0	12,072.0	18,242.3	12,071.0	55.7	67.1	89.96	-5,992.0	-918.1	1,848.2	1,725.9	122.30	15.112		
18,300.0	12,071.9	18,342.3	12,070.9	56.5	67.8	89.96	-6,092.0	-917.3	1,848.2	1,724.4	123.80	14.929		
18,400.0	12,071.8	18,442.3	12,070.7	57.3	68.4	89.96	-6,192.0	-916.6	1,848.2	1,722.9	125.31	14.749		
18,500.0	12,071.7	18,542.3	12,070.6	58.2	69.1	89.96	-6,292.0	-915.9	1,848.2	1,721.4	126.82	14.574		
18,600.0	12,071.6	18,642.3	12,070.5	59.0	69.8	89.96	-6,392.0	-915.1	1,848.2	1,719.9	128.33	14.402		
18,700.0	12,071.5	18,742.3	12,070.4	59.8	70.4	89.96	-6,492.0	-914.4	1,848.2	1,718.3	129.85	14.233		
18,800.0	12,071.3	18,842.3	12,070.3	60.7	71.1	89.96	-6,592.0	-913.7	1,848.2	1,716.8	131.38	14.068		
18,900.0	12,071.2	18,942.3	12,070.2	61.5	71.8	89.96	-6,692.0	-913.0	1,848.2	1,715.3	132.90	13.906		
19,000.0	12,071.1	19,042.3	12,070.1	62.4	72.5	89.96	-6,792.0	-912.2	1,848.2	1,713.7	134.44	13.747		
19,100.0	12,071.0	19,142.3	12,070.0	63.2	73.2	89.96	-6,892.0	-911.5	1,848.2	1,712.2	135.97	13.592		
19,200.0	12,070.9	19,242.3	12,069.9	64.0	73.9	89.96	-6,992.0	-910.8	1,848.2	1,710.6	137.52	13.440		
19,300.0	12,070.8	19,342.3	12,069.8	64.9	74.6	89.96	-7,092.0	-910.0	1,848.2	1,709.1	139.06	13.290		
19,400.0	12,070.7	19,442.3	12,069.7	65.7	75.3	89.96	-7,192.0	-909.3	1,848.1	1,707.5	140.61	13.144		
19,500.0	12,070.6	19,542.3	12,069.6	66.6	76.0	89.96	-7,292.0	-908.6	1,848.1	1,706.0	142.16	13.000		
19,600.0	12,070.5	19,642.3	12,069.5	67.4	76.7	89.96	-7,392.0	-907.8	1,848.1	1,704.4	143.72	12.859		
19,700.0	12,070.4	19,742.3	12,069.4	68.3	77.4	89.96	-7,491.9	-907.1	1,848.1	1,702.9	145.28	12.721		
19,800.0	12,070.3	19,842.3	12,069.3	69.1	78.1	89.96	-7,591.9	-906.4	1,848.1	1,701.3	146.84	12.586		
19,900.0	12,070.2	19,942.3	12,069.2	69.9	78.8	89.96	-7,691.9	-905.7	1,848.1	1,699.7	148.41	12.453		
20,000.0	12,070.1	20,042.3	12,069.1	70.8	79.5	89.96	-7,791.9	-904.9	1,848.1	1,698.1	149.98	12.323		
20,100.0	12,070.0	20,142.3	12,069.0	71.6	80.3	89.96	-7,891.9	-904.2	1,848.1	1,696.6	151.55	12.195		
20,200.0	12,069.9	20,242.3	12,068.9	72.5	81.0	89.96	-7,991.9	-903.5	1,848.1	1,695.0	153.13	12.069		
20,300.0	12,069.8	20,342.3	12,068.8	73.3	81.7	89.96	-8,091.9	-902.7	1,848.1	1,693.4	154.71	11.946		
20,400.0	12,069.7	20,442.3	12,068.7	74.2	82.5	89.96	-8,191.9	-902.0	1,848.1	1,691.8	156.29	11.825		
20,500.0	12,069.6	20,542.3	12,068.6	75.0	83.2	89.96	-8,291.9	-901.3	1,848.1	1,690.2	157.87	11.706		
20,600.0	12,069.5	20,642.3	12,068.5	75.9	83.9	89.96	-8,391.9	-900.6	1,848.1	1,688.6	159.46	11.590		
20,700.0	12,069.4	20,742.3	12,068.4	76.7	84.7	89.96	-8,491.9	-899.8	1,848.1	1,687.0	161.05	11.475		
20,800.0	12,069.3	20,842.3	12,068.3	77.6	85.4	89.96	-8,591.9	-899.1	1,848.1	1,685.4	162.64	11.363		
20,900.0	12,069.2	20,942.3	12,068.2	78.4	86.1	89.96	-8,691.9	-898.4	1,848.1	1,683.8	164.24	11.253		
21,000.0	12,069.1	21,042.3	12,068.1	79.3	86.9	89.96	-8,791.9	-897.6	1,848.1	1,682.2	165.83	11.144		
21,100.0	12,069.0	21,142.3	12,068.0	80.1	87.6	89.96	-8,891.9	-896.9	1,848.1	1,680.6	167.43	11.038		
21,200.0	12,068.9	21,242.3	12,067.9	81.0	88.4	89.96	-8,991.9	-896.2	1,848.1	1,679.0	169.03	10.933		
21,300.0	12,068.8	21,342.3	12,067.8	81.8	89.1	89.96	-9,091.9	-895.4	1,848.1	1,677.4	170.64	10.830		
21,400.0	12,068.7	21,442.3	12,067.7	82.7	89.9	89.96	-9,191.9	-894.7	1,848.1	1,675.8	172.24	10.729		
21,500.0	12,068.6	21,542.3	12,067.6	83.5	90.6	89.96	-9,291.9	-894.0	1,848.1	1,674.2	173.85	10.630		
21,600.0	12,068.4	21,642.3	12,067.5	84.4	91.4	89.96	-9,391.9	-893.3	1,848.0	1,672.6	175.46	10.532		
21,700.0	12,068.3	21,742.3	12,067.4	85.2	92.2	89.96	-9,491.9	-892.5	1,848.0	1,671.0	177.08	10.436		
21,800.0	12,068.2	21,842.3	12,067.3	86.1	92.9	89.96	-9,591.9	-891.8	1,848.0	1,669.3	178.69	10.342		
21,900.0	12,068.1	21,942.3	12,067.1	86.9	93.7	89.96	-9,691.9	-891.1	1,848.0	1,667.7	180.31	10.249		
22,000.0	12,068.0	22,042.3	12,067.0	87.8	94.4	89.96	-9,791.9	-890.3	1,848.0	1,666.2	181.84	10.163		
22,034.6	12,068.0	22,076.9	12,067.0	88.1	94.6	89.96	-9,826.5	-890.1	1,848.0	1,665.7	182.32	10.136		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #11H - OWB - ACTUAL												Offset Site Error: 0.0 usft		
Survey Program: 100-Standard Keeper 104, 8607-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	53.56	481.7	652.5	811.0					
100.0	100.0	101.7	101.7	3.0	3.0	53.60	481.1	652.6	810.8	804.8	6.00	135.127		
200.0	200.0	201.0	201.0	3.0	3.0	53.66	480.3	652.8	810.4	804.4	6.01	134.961		
300.0	300.0	298.6	298.6	3.0	3.0	53.72	479.4	653.1	810.2	804.2	6.01	134.707		
400.0	400.0	398.8	398.8	3.0	3.0	53.77	478.8	653.3	810.0	804.0	6.03	134.340		
415.1	415.1	413.0	412.9	3.0	3.0	53.77	478.7	653.4	810.0	803.9	6.03	134.285		
500.0	500.0	492.7	492.7	3.1	3.0	53.81	478.4	653.9	810.2	804.2	6.05	134.023		
600.0	600.0	591.6	591.6	3.1	3.1	53.85	478.4	654.9	811.0	805.0	6.07	133.689		
700.0	700.0	691.6	691.5	3.1	3.1	53.90	478.3	656.0	811.9	805.8	6.09	133.214		
800.0	800.0	791.0	790.9	3.2	3.1	53.95	478.2	657.0	812.6	806.5	6.13	132.585		
900.0	900.0	894.2	894.2	3.2	3.1	53.99	478.2	658.0	813.4	807.2	6.17	131.797		
1,000.0	1,000.0	986.5	986.5	3.2	3.2	54.01	478.3	658.7	814.1	807.9	6.22	130.931		
1,100.0	1,100.0	1,083.8	1,083.8	3.3	3.2	53.98	479.6	659.7	815.8	809.5	6.27	130.013		
1,200.0	1,200.0	1,189.4	1,189.3	3.4	3.2	53.93	481.1	660.6	817.3	810.9	6.34	128.888		
1,300.0	1,300.0	1,297.1	1,297.0	3.4	3.2	53.77	483.5	659.7	817.9	811.5	6.40	127.741		
1,400.0	1,400.0	1,398.3	1,398.2	3.5	3.2	53.47	486.7	657.2	817.8	811.3	6.46	126.589		
1,500.0	1,500.0	1,500.8	1,500.5	3.5	3.2	53.20	489.8	654.8	817.7	811.2	6.52	125.377		
1,600.0	1,600.0	1,599.5	1,599.2	3.6	3.2	53.00	491.9	652.8	817.4	810.8	6.59	124.123		
1,700.0	1,700.0	1,700.0	1,699.6	3.7	3.3	52.79	494.1	650.7	817.0	810.4	6.65	122.807		
1,800.0	1,800.0	1,802.2	1,801.8	3.8	3.3	52.57	496.4	648.5	816.7	810.0	6.73	121.438		
1,900.0	1,900.0	1,911.6	1,911.2	3.9	3.3	52.34	498.2	645.5	815.5	808.7	6.80	119.958		
2,000.0	2,000.0	2,014.9	2,014.4	3.9	3.3	52.13	499.5	642.3	813.9	807.0	6.87	118.419		
2,100.0	2,100.0	2,120.3	2,119.7	4.0	3.3	52.06	498.6	639.5	811.2	804.2	6.95	116.799		
2,200.0	2,200.0	2,220.3	2,219.7	4.1	3.4	52.01	497.5	637.0	808.5	801.5	7.02	115.125		
2,300.0	2,300.0	2,315.1	2,314.5	4.2	3.4	51.98	496.4	634.9	806.1	799.0	7.11	113.438		
2,400.0	2,400.0	2,415.5	2,414.8	4.3	3.4	51.94	495.5	632.9	803.9	796.7	7.20	111.719		
2,500.0	2,500.0	2,510.7	2,510.1	4.4	3.5	51.94	494.5	631.5	802.2	794.9	7.29	110.029		
2,600.0	2,600.0	2,611.7	2,611.0	4.5	3.5	-12.66	493.6	630.0	798.8	791.4	7.40	107.919		
2,684.7	2,684.5	2,694.6	2,693.9	4.5	3.5	-12.74	492.8	629.1	793.4	785.9	7.51	105.689		
2,700.0	2,699.8	2,710.3	2,709.6	4.5	3.5	-12.76	492.7	628.9	792.2	784.7	7.53	105.250		
2,800.0	2,799.6	2,815.9	2,815.2	4.6	3.6	-12.90	491.8	627.1	784.1	776.4	7.66	102.327		
2,900.0	2,899.4	2,915.6	2,914.9	4.7	3.7	-13.08	491.2	624.6	775.5	767.7	7.80	99.399		
3,000.0	2,999.2	3,008.8	3,008.0	4.7	3.7	-13.22	490.5	623.0	767.4	759.5	7.94	96.622		
3,100.0	3,099.0	3,104.4	3,103.6	4.8	3.8	-13.28	489.3	622.4	759.9	751.8	8.09	93.966		
3,200.0	3,198.8	3,203.1	3,202.3	4.9	3.8	-13.32	488.0	622.4	752.8	744.5	8.23	91.442		
3,300.0	3,298.6	3,298.5	3,297.8	4.9	3.9	-13.37	487.2	622.5	746.0	737.6	8.38	89.057		
3,400.0	3,398.4	3,397.9	3,397.1	5.0	3.9	-13.46	486.7	622.5	739.5	731.0	8.53	86.701		
3,500.0	3,498.2	3,494.5	3,493.7	5.1	3.9	-13.47	485.8	623.5	733.4	724.8	8.66	84.656		
3,600.0	3,598.0	3,598.7	3,597.9	5.2	4.0	-13.57	485.5	623.7	727.1	718.3	8.82	82.462		
3,700.0	3,697.8	3,698.1	3,697.3	5.3	4.1	-13.69	485.4	623.4	720.5	711.5	8.98	80.252		
3,800.0	3,797.6	3,797.3	3,796.5	5.4	4.1	-13.71	484.2	624.0	714.0	704.9	9.13	78.222		
3,900.0	3,897.3	3,898.5	3,897.6	5.4	4.2	-13.65	482.3	625.3	707.6	698.3	9.28	76.286		
4,000.0	3,997.1	4,001.7	4,000.9	5.5	4.2	-13.79	481.9	624.5	700.5	691.1	9.44	74.172		
4,100.0	4,096.9	4,099.0	4,098.2	5.6	4.3	-14.08	483.0	622.8	693.6	684.0	9.61	72.193		
4,200.0	4,196.7	4,198.4	4,197.5	5.7	4.3	-14.32	483.8	621.6	686.9	677.2	9.77	70.308		
4,300.0	4,296.5	4,301.7	4,300.8	5.8	4.4	-14.53	484.0	620.6	680.1	670.1	9.95	68.374		
4,400.0	4,396.3	4,403.1	4,402.2	5.9	4.5	-14.74	483.9	619.3	672.8	662.7	10.13	66.408		
4,500.0	4,496.1	4,504.3	4,503.4	6.0	4.6	-14.93	483.5	617.9	665.3	654.9	10.32	64.454		
4,600.0	4,595.9	4,604.7	4,603.8	6.1	4.6	-15.14	483.1	616.3	657.6	647.1	10.51	62.553		
4,700.0	4,695.7	4,705.8	4,704.9	6.2	4.7	-15.37	482.7	614.4	649.7	639.0	10.71	60.686		
4,800.0	4,795.5	4,814.6	4,813.6	6.3	4.8	-15.76	482.8	610.7	640.9	630.0	10.91	58.758		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #11H - OWB - ACTUAL													Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8607-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		
4,900.0	4,895.3	4,916.4	4,915.3	6.4	4.9	-16.25	483.2	605.8	631.4	620.3	11.10	56.870		
5,000.0	4,995.1	5,022.1	5,020.8	6.5	5.0	-16.83	483.6	599.6	621.2	609.9	11.30	54.948		
5,100.0	5,094.9	5,121.8	5,120.3	6.6	5.1	-17.47	484.3	593.0	610.6	599.1	11.50	53.093		
5,200.0	5,194.6	5,221.3	5,219.5	6.7	5.2	-18.14	484.9	586.2	599.9	588.2	11.69	51.293		
5,300.0	5,294.4	5,319.5	5,317.5	6.8	5.2	-18.85	485.6	579.4	589.3	577.4	11.89	49.571		
5,400.0	5,394.2	5,417.5	5,415.2	6.9	5.3	-19.57	486.5	572.8	579.1	567.0	12.08	47.943		
5,500.0	5,494.0	5,515.6	5,513.2	7.0	5.4	-20.31	487.5	566.4	569.1	556.9	12.27	46.391		
5,600.0	5,593.8	5,613.7	5,611.0	7.1	5.5	-21.07	488.5	560.2	559.5	547.1	12.46	44.919		
5,700.0	5,693.6	5,713.5	5,710.7	7.2	5.6	-21.90	489.9	553.7	550.1	537.4	12.64	43.506		
5,800.0	5,793.4	5,812.0	5,809.0	7.3	5.7	-22.60	490.3	548.3	540.7	527.9	12.83	42.135		
5,900.0	5,893.2	5,911.6	5,908.5	7.4	5.8	-23.26	490.3	543.4	531.5	518.4	13.02	40.805		
6,000.0	5,993.0	6,009.8	6,006.5	7.6	5.9	-23.95	490.4	538.6	522.5	509.3	13.21	39.546		
6,100.0	6,092.8	6,110.5	6,107.1	7.7	6.0	-24.68	490.6	533.5	513.5	500.1	13.40	38.318		
6,200.0	6,192.6	6,211.0	6,207.5	7.8	6.1	-25.44	490.5	528.4	504.4	490.8	13.59	37.116		
6,300.0	6,292.4	6,310.6	6,307.0	7.9	6.2	-26.18	490.2	523.4	495.2	481.4	13.78	35.946		
6,400.0	6,392.2	6,410.3	6,406.5	8.0	6.3	-26.97	489.9	518.3	486.0	472.1	13.96	34.815		
6,500.0	6,491.9	6,509.1	6,505.2	8.1	6.4	-27.75	489.5	513.5	477.0	462.9	14.14	33.730		
6,600.0	6,591.7	6,609.8	6,605.8	8.2	6.5	-28.62	489.2	508.2	468.0	453.7	14.32	32.675		
6,700.0	6,691.5	6,709.3	6,705.1	8.3	6.6	-29.51	488.8	502.9	458.9	444.4	14.50	31.651		
6,800.0	6,791.3	6,809.0	6,804.6	8.5	6.8	-30.43	488.3	497.6	449.9	435.2	14.67	30.665		
6,900.0	6,891.1	6,906.8	6,902.3	8.6	6.9	-31.37	487.9	492.5	441.1	426.3	14.84	29.731		
7,000.0	6,990.9	7,006.8	7,002.2	8.7	7.0	-32.33	487.5	487.5	432.6	417.6	15.00	28.835		
7,100.0	7,090.7	7,106.5	7,101.8	8.8	7.1	-33.33	486.9	482.5	424.0	408.9	15.16	27.965		
7,200.0	7,190.5	7,205.4	7,200.6	8.9	7.2	-34.33	486.3	477.7	415.7	400.4	15.32	27.140		
7,300.0	7,290.3	7,304.8	7,299.9	9.0	7.3	-35.38	485.7	473.0	407.5	392.0	15.47	26.342		
7,400.0	7,390.1	7,403.9	7,398.8	9.2	7.4	-36.44	485.0	468.4	399.5	383.8	15.62	25.578		
7,500.0	7,489.9	7,504.4	7,499.2	9.3	7.5	-37.67	484.6	463.0	391.5	375.7	15.75	24.850		
7,600.0	7,589.7	7,604.3	7,598.9	9.4	7.7	-39.00	484.1	457.2	383.5	367.6	15.88	24.151		
7,700.0	7,689.5	7,704.4	7,698.9	9.5	7.8	-40.34	483.4	451.6	375.4	359.4	16.00	23.465		
7,800.0	7,789.2	7,802.9	7,797.3	9.6	7.9	-41.63	482.4	446.6	367.6	351.5	16.11	22.814		
7,900.0	7,889.0	7,902.2	7,896.4	9.7	8.0	-42.99	481.6	441.6	360.2	343.9	16.22	22.204		
8,000.0	7,988.8	8,002.2	7,996.3	9.9	8.1	-44.43	480.5	436.4	352.6	336.3	16.32	21.604		
8,100.0	8,088.6	8,098.9	8,092.8	10.0	8.2	-45.98	480.2	431.0	345.9	329.5	16.39	21.104		
8,200.0	8,188.4	8,197.6	8,191.3	10.1	8.3	-47.67	480.3	425.3	339.9	323.4	16.45	20.660		
8,300.0	8,288.2	8,298.4	8,292.0	10.2	8.5	-49.48	480.4	419.3	334.0	317.5	16.50	20.239		
8,400.0	8,388.0	8,398.3	8,391.7	10.3	8.6	-51.32	480.2	413.4	328.2	311.7	16.55	19.836		
8,500.0	8,487.8	8,497.0	8,490.3	10.5	8.7	-53.15	479.8	407.8	322.7	306.2	16.58	19.462		
8,600.0	8,587.6	8,596.9	8,590.0	10.6	8.8	-55.08	479.4	402.1	317.5	300.9	16.60	19.130		
8,700.0	8,687.4	8,700.0	8,700.6	10.7	10.9	-58.08	456.5	392.7	302.1	283.2	18.87	16.011		
8,800.0	8,787.2	8,948.9	8,922.4	10.8	11.4	-61.84	385.0	379.1	254.2	231.0	23.27	10.927		
8,900.0	8,887.0	9,065.6	9,014.2	10.9	12.1	-69.81	315.4	361.8	191.3	165.4	25.85	7.397		
9,000.0	8,986.8	9,149.1	9,071.0	11.1	12.5	-84.38	255.3	350.4	118.5	91.6	26.88	4.407		
9,100.0	9,086.6	9,211.1	9,107.8	11.2	12.9	-122.48	207.1	337.9	54.0	32.3	21.70	2.488		
9,129.1	9,115.6	9,225.8	9,115.6	11.2	13.0	-137.50	195.0	334.6	47.7	27.5	20.22	2.360 CC, ES, SF		
9,200.0	9,186.3	9,254.7	9,129.5	11.3	13.1	-165.98	170.6	327.8	79.5	50.0	29.49	2.697		
9,300.0	9,286.1	9,284.0	9,141.6	11.4	13.3	174.53	145.0	320.4	163.6	130.8	32.83	4.983		
9,400.0	9,385.9	9,313.0	9,151.7	11.6	13.5	163.13	118.9	312.9	256.1	222.2	33.88	7.559		
9,500.0	9,485.7	9,323.1	9,154.8	11.7	13.5	160.33	109.6	310.2	350.9	316.3	34.62	10.135		
9,600.0	9,585.5	9,340.2	9,159.7	11.8	13.6	156.49	93.9	305.8	447.0	411.9	35.14	12.722		
9,700.0	9,685.3	9,360.0	9,165.1	11.9	13.8	153.04	75.5	300.7	543.8	508.3	35.60	15.279		
9,800.0	9,785.1	9,368.7	9,167.3	12.0	13.8	151.77	67.3	298.5	641.1	605.1	36.01	17.803		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #11H - OWB - ACTUAL												Offset Site Error:	0.0 usft	
Survey Program: 100-Standard Keeper 104, 8607-MWD												Offset Well Error:	3.0 usft	
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
9,900.0	9,884.9	9,381.9	9,170.5	12.2	13.9	150.08	55.0	295.2	738.8	702.4	36.39	20.299		
10,000.0	9,984.7	9,393.9	9,173.3	12.3	14.0	148.75	43.7	292.2	836.6	799.9	36.77	22.756		
10,100.0	10,084.5	9,408.0	9,176.5	12.4	14.1	147.38	30.4	288.8	934.8	897.6	37.13	25.173		
10,200.0	10,184.3	9,408.0	9,176.5	12.5	14.1	147.38	30.4	288.8	1,033.1	995.6	37.50	27.549		
10,300.0	10,284.1	9,408.0	9,176.5	12.7	14.1	147.38	30.4	288.8	1,131.7	1,093.9	37.86	29.895		
10,400.0	10,383.9	9,422.1	9,179.4	12.8	14.2	146.16	17.1	285.3	1,230.3	1,192.1	38.21	32.198		
10,500.0	10,483.6	9,426.3	9,180.2	12.9	14.2	145.83	13.0	284.3	1,329.1	1,290.5	38.56	34.468		
10,600.0	10,583.4	9,437.0	9,182.0	13.0	14.3	145.02	2.8	281.8	1,428.1	1,389.2	38.92	36.697		
10,700.0	10,683.2	9,437.0	9,182.0	13.2	14.3	145.02	2.8	281.8	1,527.1	1,487.9	39.27	38.893		
10,800.0	10,783.0	9,437.0	9,182.0	13.3	14.3	145.02	2.8	281.8	1,626.3	1,586.7	39.61	41.053		
10,900.0	10,882.8	9,437.0	9,182.0	13.4	14.3	145.02	2.8	281.8	1,725.5	1,685.5	39.96	43.179		
11,000.0	10,982.6	9,437.0	9,182.0	13.5	14.3	145.02	2.8	281.8	1,824.8	1,784.5	40.31	45.268		
11,100.0	11,082.4	9,437.0	9,182.0	13.7	14.3	145.02	2.8	281.8	1,924.2	1,883.6	40.66	47.323		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #12H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8582-MWD+IFR1+MS												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	54.77	482.0	682.5	835.5				
100.0	100.0	95.7	95.7	3.0	3.0	54.76	482.2	682.5	835.7	829.7	6.00	139.271	
200.0	200.0	192.2	192.2	3.0	3.0	54.74	482.7	682.7	836.1	830.1	6.01	139.217	
300.0	300.0	292.6	292.6	3.0	3.0	54.70	483.6	683.0	836.9	830.9	6.02	139.034	
400.0	400.0	387.9	387.9	3.0	3.0	54.67	484.5	683.5	837.9	831.8	6.04	138.727	
500.0	500.0	485.4	485.4	3.1	3.0	54.63	485.6	684.3	839.2	833.1	6.07	138.288	
600.0	600.0	585.2	585.1	3.1	3.1	54.61	486.9	685.4	840.8	834.7	6.11	137.701	
700.0	700.0	716.6	716.5	3.1	3.1	54.56	487.2	684.6	840.5	834.3	6.13	137.081	
800.0	800.0	814.8	814.7	3.2	3.1	54.51	486.6	682.3	838.2	832.1	6.15	136.327	
900.0	900.0	912.2	912.1	3.2	3.1	54.45	486.1	680.2	836.2	830.0	6.17	135.423	
1,000.0	1,000.0	1,012.8	1,012.7	3.2	3.1	54.39	485.9	678.4	834.6	828.4	6.21	134.447	
1,100.0	1,100.0	1,111.6	1,111.5	3.3	3.1	54.32	485.6	676.4	832.8	826.5	6.25	133.290	
1,200.0	1,200.0	1,213.3	1,213.1	3.4	3.2	54.25	485.4	674.3	831.0	824.7	6.30	131.997	
1,300.0	1,300.0	1,313.5	1,313.3	3.4	3.2	54.20	485.1	672.6	829.4	823.0	6.35	130.599	
1,400.0	1,400.0	1,403.4	1,403.2	3.5	3.2	54.22	484.2	671.9	828.2	821.8	6.41	129.213	
1,500.0	1,500.0	1,501.1	1,500.9	3.5	3.2	54.40	481.8	673.0	827.7	821.2	6.47	127.931	
1,600.0	1,600.0	1,601.7	1,601.5	3.6	3.2	54.59	479.2	674.1	827.1	820.5	6.53	126.590	
1,700.0	1,700.0	1,704.3	1,704.0	3.7	3.2	54.79	476.6	675.4	826.7	820.1	6.60	125.242	
1,800.0	1,800.0	1,802.6	1,802.2	3.8	3.3	54.99	474.0	676.7	826.2	819.5	6.67	123.854	
1,900.0	1,900.0	1,902.3	1,901.9	3.9	3.3	55.20	471.3	678.0	825.7	819.0	6.74	122.449	
1,949.9	1,949.9	1,948.3	1,947.9	3.9	3.3	55.28	470.2	678.5	825.5	818.8	6.78	121.767	
2,000.0	2,000.0	1,993.4	1,993.0	3.9	3.3	55.33	469.7	679.1	825.7	818.9	6.81	121.167	
2,100.0	2,100.0	2,094.3	2,093.9	4.0	3.3	55.39	469.4	680.1	826.3	819.5	6.89	119.954	
2,200.0	2,200.0	2,190.2	2,189.8	4.1	3.4	55.46	468.9	681.3	827.1	820.1	6.97	118.743	
2,300.0	2,300.0	2,286.5	2,286.0	4.2	3.4	55.53	468.7	682.7	828.3	821.2	7.05	117.561	
2,400.0	2,400.0	2,386.2	2,385.8	4.3	3.4	55.57	469.1	684.2	829.6	822.5	7.13	116.336	
2,500.0	2,500.0	2,486.0	2,485.5	4.4	3.5	55.59	469.6	685.6	831.2	823.9	7.22	115.061	
2,600.0	2,600.0	2,583.1	2,582.7	4.5	3.5	-8.93	470.2	687.5	831.3	824.0	7.33	113.416	
2,684.7	2,684.5	2,665.8	2,665.2	4.5	3.5	-8.92	470.5	689.3	828.9	821.5	7.43	111.536	
2,700.0	2,699.8	2,680.7	2,680.2	4.5	3.6	-8.92	470.6	689.7	828.3	820.8	7.45	111.166	
2,800.0	2,799.6	2,778.7	2,778.1	4.6	3.6	-8.90	470.8	692.4	824.3	816.7	7.58	108.791	
2,900.0	2,899.4	2,878.6	2,878.0	4.7	3.7	-8.86	471.0	695.4	820.5	812.8	7.71	106.432	
3,000.0	2,999.2	2,979.9	2,979.3	4.7	3.7	-8.85	471.3	697.9	816.3	808.5	7.85	104.009	
3,100.0	3,099.0	3,084.2	3,083.5	4.8	3.8	-8.86	471.7	700.0	811.9	803.9	8.00	101.537	
3,200.0	3,198.8	3,185.7	3,185.0	4.9	3.8	-9.05	473.9	700.3	807.0	798.9	8.14	99.082	
3,300.0	3,298.6	3,281.2	3,280.5	4.9	3.9	-9.23	476.2	700.8	802.4	794.1	8.29	96.738	
3,400.0	3,398.4	3,376.0	3,375.2	5.0	3.9	-9.37	478.2	702.0	798.3	789.8	8.45	94.454	
3,500.0	3,498.2	3,509.2	3,508.4	5.1	4.0	-9.53	479.8	703.1	793.6	784.9	8.63	91.986	
3,600.0	3,598.0	3,611.7	3,611.0	5.2	4.0	-9.65	479.2	701.1	785.3	776.6	8.74	89.821	
3,700.0	3,697.8	3,707.5	3,706.7	5.3	4.0	-9.72	478.3	700.1	777.5	768.6	8.86	87.737	
3,800.0	3,797.6	3,805.2	3,804.4	5.4	4.1	-9.70	476.5	699.9	770.0	761.0	8.99	85.645	
3,900.0	3,897.3	3,903.4	3,902.5	5.4	4.1	-9.58	473.9	700.6	762.7	753.6	9.13	83.568	
4,000.0	3,997.1	4,005.5	4,004.6	5.5	4.2	-9.43	470.5	701.3	755.0	745.8	9.27	81.486	
4,100.0	4,096.9	4,093.4	4,092.5	5.6	4.2	-9.38	469.2	702.2	748.5	739.1	9.41	79.554	
4,200.0	4,196.7	4,191.2	4,190.3	5.7	4.3	-9.37	468.6	703.3	742.8	733.2	9.57	77.632	
4,300.0	4,296.5	4,303.4	4,302.5	5.8	4.4	-9.47	468.5	703.0	736.2	726.4	9.72	75.725	
4,400.0	4,396.3	4,404.5	4,403.5	5.9	4.4	-9.57	468.0	702.0	728.7	718.9	9.86	73.885	
4,500.0	4,496.1	4,503.7	4,502.7	6.0	4.4	-9.67	467.6	701.0	721.3	711.3	10.01	72.069	
4,600.0	4,595.9	4,603.5	4,602.6	6.1	4.5	-9.76	467.0	700.1	713.9	703.7	10.16	70.278	
4,700.0	4,695.7	4,703.2	4,702.2	6.2	4.5	-9.84	466.3	699.2	706.4	696.1	10.31	68.508	
4,800.0	4,795.5	4,803.2	4,802.2	6.3	4.5	-9.91	465.4	698.3	698.8	688.3	10.47	66.748	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #12H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8582-MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,900.0	4,895.3	4,903.5	4,902.5	6.4	4.6	-9.98	464.3	697.4	691.1	680.5	10.63	65.009	
5,000.0	4,995.1	5,001.8	5,000.8	6.5	4.7	-10.01	463.0	696.8	683.4	672.6	10.79	63.313	
5,100.0	5,094.9	5,101.1	5,100.1	6.6	4.7	-10.02	461.4	696.3	675.8	664.9	10.96	61.658	
5,200.0	5,194.6	5,202.9	5,201.9	6.7	4.8	-10.04	459.9	695.8	668.2	657.0	11.13	60.019	
5,300.0	5,294.4	5,302.4	5,301.3	6.8	4.9	-10.06	458.3	695.1	660.4	649.1	11.30	58.414	
5,400.0	5,394.2	5,398.4	5,397.3	6.9	4.9	-10.12	457.4	694.4	652.9	641.4	11.48	56.883	
5,500.0	5,494.0	5,495.7	5,494.7	7.0	5.0	-10.33	458.2	693.4	646.2	634.5	11.65	55.459	
5,600.0	5,593.8	5,595.3	5,594.2	7.1	5.0	-10.57	459.2	692.3	639.5	627.7	11.83	54.066	
5,700.0	5,693.6	5,695.0	5,693.9	7.2	5.0	-10.81	460.3	691.1	632.9	620.9	12.01	52.717	
5,800.0	5,793.4	5,795.4	5,794.3	7.3	5.1	-11.07	461.4	689.8	626.2	614.0	12.18	51.391	
5,900.0	5,893.2	5,895.8	5,894.7	7.4	5.1	-11.34	462.3	688.4	619.3	607.0	12.37	50.081	
6,000.0	5,993.0	5,996.4	5,995.3	7.6	5.2	-11.61	463.3	687.0	612.4	599.9	12.55	48.800	
6,100.0	6,092.8	6,093.3	6,092.1	7.7	5.2	-11.88	464.4	685.8	605.9	593.1	12.73	47.605	
6,200.0	6,192.6	6,191.7	6,190.6	7.8	5.3	-12.15	465.5	684.7	599.4	586.4	12.91	46.440	
6,300.0	6,292.4	6,293.2	6,292.1	7.9	5.3	-12.44	466.6	683.5	592.7	579.7	13.09	45.284	
6,400.0	6,392.2	6,393.0	6,391.8	8.0	5.4	-12.73	467.7	682.4	586.3	573.0	13.27	44.179	
6,500.0	6,491.9	6,491.9	6,490.7	8.1	5.4	-13.01	468.7	681.3	579.7	566.3	13.45	43.096	
6,600.0	6,591.7	6,592.9	6,591.8	8.2	5.5	-13.30	469.7	680.3	573.3	559.7	13.64	42.044	
6,700.0	6,691.5	6,689.3	6,688.1	8.3	5.6	-13.58	470.6	679.3	566.8	553.0	13.81	41.030	
6,800.0	6,791.3	6,786.1	6,784.9	8.5	5.6	-13.80	471.6	679.4	561.3	547.3	13.98	40.143	
6,900.0	6,891.1	6,885.1	6,883.9	8.6	5.7	-14.05	472.8	679.4	555.8	541.6	14.15	39.263	
7,000.0	6,990.9	6,983.4	6,982.1	8.7	5.7	-14.33	474.3	679.5	550.6	536.3	14.33	38.430	
7,100.0	7,090.7	7,083.0	7,081.8	8.8	5.8	-14.64	476.1	679.6	545.6	531.1	14.50	37.622	
7,200.0	7,190.5	7,185.1	7,183.8	8.9	5.9	-14.94	477.6	679.5	540.3	525.6	14.68	36.799	
7,300.0	7,290.3	7,284.4	7,283.2	9.0	5.9	-15.23	479.0	679.6	535.0	520.2	14.86	36.004	
7,400.0	7,390.1	7,384.1	7,382.8	9.2	6.0	-15.52	480.4	679.6	529.7	514.7	15.04	35.223	
7,500.0	7,489.9	7,484.0	7,482.8	9.3	6.1	-15.82	481.8	679.6	524.5	509.3	15.22	34.459	
7,600.0	7,589.7	7,584.2	7,582.9	9.4	6.1	-16.08	482.9	680.0	519.3	503.9	15.40	33.714	
7,700.0	7,689.5	7,684.6	7,683.3	9.5	6.2	-16.32	483.8	680.4	514.0	498.4	15.59	32.976	
7,800.0	7,789.2	7,786.1	7,784.8	9.6	6.3	-16.55	484.3	680.8	508.4	492.7	15.77	32.234	
7,900.0	7,889.0	7,889.3	7,888.0	9.7	6.3	-16.73	484.1	681.0	502.3	486.4	15.96	31.470	
8,000.0	7,988.8	7,991.8	7,990.5	9.9	6.4	-16.87	483.2	681.1	495.7	479.5	16.15	30.694	
8,100.0	8,088.6	8,092.5	8,091.1	10.0	6.4	-16.98	482.1	681.2	488.8	472.5	16.33	29.929	
8,200.0	8,188.4	8,193.5	8,192.2	10.1	6.5	-17.09	480.7	681.1	481.5	465.0	16.52	29.154	
8,300.0	8,288.2	8,295.5	8,294.1	10.2	6.5	-17.21	479.0	680.7	474.0	457.3	16.71	28.372	
8,400.0	8,388.0	8,397.1	8,395.7	10.3	6.6	-17.35	477.0	679.7	465.9	449.0	16.90	27.567	
8,500.0	8,487.8	8,496.8	8,495.5	10.5	6.6	-17.51	475.1	678.6	457.6	440.5	17.09	26.778	
8,600.0	8,587.6	8,594.8	8,593.4	10.6	6.7	-17.71	473.5	677.4	449.4	432.2	17.25	26.060	
8,700.0	8,687.4	8,730.7	8,727.8	10.7	11.1	-16.10	457.6	682.1	438.1	416.7	21.37	20.504	
8,800.0	8,787.2	8,857.7	8,845.7	10.8	12.0	-10.24	413.7	698.9	419.9	398.1	21.79	19.273	
8,900.0	8,887.0	8,965.2	8,937.5	10.9	12.3	-2.64	360.4	715.0	398.1	376.7	21.33	18.666 SF	
9,000.0	8,986.8	9,050.8	9,005.4	11.1	12.6	5.04	310.8	730.3	382.3	362.0	20.33	18.805	
9,087.6	9,074.2	9,112.8	9,048.4	11.2	12.8	11.87	268.1	743.2	376.8	357.3	19.47	19.356 CC, ES	
9,100.0	9,086.6	9,120.4	9,053.3	11.2	12.8	12.76	262.5	744.9	376.9	357.5	19.40	19.431	
9,200.0	9,186.3	9,182.5	9,091.7	11.3	13.0	20.21	215.6	758.3	386.8	367.3	19.49	19.842	
9,300.0	9,286.1	9,218.0	9,111.8	11.4	13.1	24.56	187.4	766.1	413.6	392.2	21.38	19.345	
9,400.0	9,385.9	9,251.4	9,128.8	11.6	13.2	28.67	159.8	774.1	457.1	433.2	23.87	19.149	
9,500.0	9,485.7	9,266.0	9,135.5	11.7	13.2	30.45	147.4	777.9	514.5	487.9	26.54	19.384	
9,600.0	9,585.5	9,289.4	9,145.3	11.8	13.3	33.27	127.1	784.5	582.0	553.3	28.64	20.322	
9,700.0	9,685.3	9,313.0	9,153.6	11.9	13.4	36.02	106.3	791.7	657.2	626.8	30.35	21.654	
9,800.0	9,785.1	9,313.0	9,153.6	12.0	13.4	36.02	106.3	791.7	737.4	705.5	31.84	23.155	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #12H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8582-MWD+IFR1+MS												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	
9,900.0	9,884.9	9,328.4	9,158.5	12.2	13.4	37.76	92.5	796.5	821.5	788.6	32.99	24.904	
10,000.0	9,984.7	9,339.9	9,161.8	12.3	13.4	39.03	82.1	800.2	908.6	874.6	33.96	26.753	
10,100.0	10,084.5	9,360.0	9,167.1	12.4	13.5	41.17	63.9	806.8	997.8	963.0	34.81	28.669	
10,200.0	10,184.3	9,360.0	9,167.1	12.5	13.5	41.17	63.9	806.8	1,088.5	1,053.0	35.54	30.629	
10,300.0	10,284.1	9,360.0	9,167.1	12.7	13.5	41.17	63.9	806.8	1,180.7	1,144.5	36.18	32.633	
10,400.0	10,383.9	9,378.3	9,171.4	12.8	13.5	43.04	47.1	812.7	1,273.8	1,237.0	36.76	34.648	
10,500.0	10,483.6	9,386.6	9,173.2	12.9	13.5	43.88	39.4	815.4	1,367.7	1,330.4	37.31	36.660	
10,600.0	10,583.4	9,407.0	9,177.3	13.0	13.6	45.85	20.5	821.8	1,462.5	1,424.7	37.83	38.655	
10,700.0	10,683.2	9,407.0	9,177.3	13.2	13.6	45.85	20.5	821.8	1,557.6	1,519.3	38.32	40.647	
10,800.0	10,783.0	9,407.0	9,177.3	13.3	13.6	45.85	20.5	821.8	1,653.3	1,614.5	38.78	42.630	
10,900.0	10,882.8	9,407.0	9,177.3	13.4	13.6	45.85	20.5	821.8	1,749.4	1,710.2	39.23	44.599	
11,000.0	10,982.6	9,407.0	9,177.3	13.5	13.6	45.85	20.5	821.8	1,846.0	1,806.4	39.66	46.550	
11,100.0	11,082.4	9,423.8	9,180.3	13.7	13.6	47.43	4.8	826.9	1,942.7	1,902.6	40.10	48.442	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #4H - OWB - ACTUAL													Offset Site Error:	0.0 usft
Survey Program: 100-GYRO-NS, 9967-MWD													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 (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	57.27		503.0	782.5	930.2				
100.0	100.0	100.2	100.2	3.0	3.0	57.26		503.1	782.4	930.2	924.2	6.01	154.852	
200.0	200.0	200.1	200.1	3.0	3.1	57.23		503.5	782.1	930.2	924.1	6.09	152.820	
264.5	264.5	264.5	264.5	3.0	3.2	57.20		503.8	781.9	930.2	924.0	6.17	150.825	
300.0	300.0	300.0	300.0	3.0	3.3	57.19		504.0	781.8	930.2	924.0	6.22	149.494	
400.0	400.0	398.2	398.2	3.0	3.5	57.15		504.6	781.6	930.3	923.9	6.40	145.335	
500.0	500.0	494.6	494.6	3.1	3.7	57.10		505.5	781.4	930.7	924.0	6.62	140.486	
600.0	600.0	591.5	591.5	3.1	3.9	57.05		506.6	781.6	931.4	924.5	6.88	135.330	
700.0	700.0	691.1	691.1	3.1	4.2	57.01		507.7	782.0	932.4	925.2	7.17	130.123	
800.0	800.0	790.0	790.0	3.2	4.4	56.97		508.8	782.5	933.4	925.9	7.46	125.139	
900.0	900.0	899.9	899.8	3.2	4.7	56.92		509.8	782.6	934.0	926.2	7.78	120.076	
1,000.0	1,000.0	1,003.2	1,003.1	3.2	5.0	56.89		510.0	782.2	933.8	925.8	8.04	116.180	
1,100.0	1,100.0	1,100.6	1,100.6	3.3	5.2	56.90		509.9	782.1	933.6	925.3	8.35	111.819	
1,200.0	1,200.0	1,200.3	1,200.3	3.4	5.5	56.90		509.8	782.0	933.6	924.9	8.68	107.504	
1,300.0	1,300.0	1,300.2	1,300.2	3.4	5.8	56.90		509.8	782.0	933.5	924.5	9.02	103.459	
1,400.0	1,400.0	1,401.2	1,401.1	3.5	6.1	56.90		509.8	782.0	933.5	924.1	9.36	99.684	
1,500.0	1,500.0	1,500.3	1,500.3	3.5	6.4	56.90		509.7	781.9	933.4	923.7	9.71	96.151	
1,600.0	1,600.0	1,600.5	1,600.5	3.6	6.7	56.90		509.7	781.9	933.3	923.3	10.06	92.749	
1,700.0	1,700.0	1,700.5	1,700.5	3.7	7.1	56.90		509.7	781.9	933.3	922.9	10.43	89.523	
1,800.0	1,800.0	1,800.4	1,800.3	3.8	7.4	56.90		509.6	781.8	933.3	922.5	10.79	86.520	
1,900.0	1,900.0	1,900.5	1,900.5	3.9	7.7	56.90		509.6	781.8	933.2	922.1	11.15	83.680	
2,000.0	2,000.0	2,000.8	2,000.8	3.9	8.1	56.90		509.5	781.7	933.1	921.6	11.52	80.978	
2,100.0	2,100.0	2,100.0	2,100.0	4.0	8.4	56.90		509.5	781.7	933.1	921.2	11.88	78.538	
2,100.1	2,100.1	2,100.1	2,100.1	4.0	8.4	56.90		509.5	781.7	933.1	921.2	11.88	78.535	
2,200.0	2,200.0	2,199.8	2,199.7	4.1	8.7	56.91		509.5	781.7	933.1	920.9	12.24	76.257	
2,300.0	2,300.0	2,298.6	2,298.6	4.2	9.0	56.91		509.5	781.8	933.2	920.6	12.59	74.134	
2,400.0	2,400.0	2,399.9	2,399.8	4.3	9.3	56.91		509.6	781.9	933.3	920.3	12.97	71.977	
2,500.0	2,500.0	2,497.2	2,497.1	4.4	9.7	56.91		509.6	782.0	933.5	920.1	13.34	69.993	
2,600.0	2,600.0	2,597.2	2,597.2	4.5	10.0	-7.66		510.0	782.2	932.0	918.3	13.74	67.847	
2,684.7	2,684.5	2,682.9	2,682.9	4.5	10.3	-7.74		510.6	782.0	928.1	914.0	14.10	65.838	
2,700.0	2,699.8	2,698.5	2,698.4	4.5	10.3	-7.75		510.7	782.0	927.1	913.0	14.16	65.467	
2,800.0	2,799.6	2,800.0	2,800.0	4.6	10.6	-7.85		511.2	781.7	920.8	906.2	14.58	63.145	
2,900.0	2,899.4	2,900.0	2,900.0	4.7	11.0	-7.93		511.5	781.4	914.3	899.3	14.99	61.005	
3,000.0	2,999.2	2,997.7	2,997.6	4.7	11.3	-7.97		511.2	781.5	907.8	892.4	15.40	58.931	
3,100.0	3,099.0	3,090.3	3,090.3	4.8	11.6	-7.97		510.9	782.3	902.0	886.2	15.80	57.073	
3,200.0	3,198.8	3,188.3	3,188.3	4.9	11.9	-8.01		511.2	783.4	896.7	880.5	16.22	55.298	
3,300.0	3,298.6	3,291.6	3,291.6	4.9	12.3	-8.09		512.1	784.1	891.4	874.7	16.66	53.492	
3,400.0	3,398.4	3,399.4	3,399.3	5.0	12.6	-8.19		512.8	784.1	885.4	868.2	17.12	51.701	
3,500.0	3,498.2	3,496.1	3,496.1	5.1	12.9	-8.25		512.8	784.1	879.0	861.5	17.54	50.131	
3,600.0	3,598.0	3,588.2	3,588.1	5.2	13.2	-8.30		513.0	784.7	873.3	855.4	17.93	48.709	
3,700.0	3,697.8	3,693.0	3,692.9	5.3	13.6	-8.40		514.1	785.2	867.9	849.5	18.40	47.173	
3,800.0	3,797.6	3,794.6	3,794.6	5.4	14.0	-8.52		515.0	785.1	862.0	843.1	18.86	45.712	
3,900.0	3,897.3	3,895.3	3,895.2	5.4	14.3	-8.60		515.5	785.2	855.9	836.6	19.31	44.317	
4,000.0	3,997.1	3,995.2	3,995.1	5.5	14.7	-8.68		515.8	785.3	849.8	830.0	19.77	42.989	
4,100.0	4,096.9	4,095.1	4,095.0	5.6	15.0	-8.77		516.2	785.3	843.6	823.4	20.22	41.721	
4,200.0	4,196.7	4,193.0	4,192.9	5.7	15.4	-8.88		516.9	785.2	837.6	816.9	20.67	40.524	
4,300.0	4,296.5	4,300.5	4,300.4	5.8	15.7	-8.99		517.3	784.9	831.3	810.1	21.13	39.337	
4,400.0	4,396.3	4,409.0	4,408.9	5.9	16.1	-9.06		516.6	784.0	823.8	802.2	21.61	38.127	
4,500.0	4,496.1	4,500.0	4,499.9	6.0	16.4	-9.06		515.2	783.6	816.3	794.3	22.03	37.049	
4,600.0	4,595.9	4,596.2	4,596.1	6.1	16.7	-9.02		513.7	784.1	809.5	787.0	22.47	36.020	
4,700.0	4,695.7	4,686.5	4,686.4	6.2	17.0	-8.99		512.9	785.3	803.7	780.8	22.88	35.124	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #4H - OWB - ACTUAL													Offset Site Error:	0.0 usft
Survey Program: 100-GYRO-NS, 9967-MWD													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,800.0	4,795.5	4,785.3	4,785.2	6.3	17.4	-9.04		513.4	786.5	798.6	775.3	23.32	34.239	
4,900.0	4,895.3	4,891.0	4,890.8	6.4	17.7	-9.20		514.8	786.8	793.2	769.4	23.81	33.318	
5,000.0	4,995.1	4,997.7	4,997.5	6.5	18.1	-9.39		516.2	786.0	787.0	762.7	24.29	32.400	
5,100.0	5,094.9	5,097.5	5,097.3	6.6	18.4	-9.58		517.2	784.9	780.3	755.6	24.74	31.536	
5,200.0	5,194.6	5,197.5	5,197.4	6.7	18.8	-9.78		518.3	783.7	773.6	748.4	25.20	30.700	
5,300.0	5,294.4	5,297.7	5,297.5	6.8	19.1	-9.98		519.5	782.4	766.9	741.2	25.66	29.891	
5,400.0	5,394.2	5,398.5	5,398.3	6.9	19.4	-10.20		520.6	781.0	760.1	734.0	26.12	29.104	
5,500.0	5,494.0	5,497.9	5,497.7	7.0	19.8	-10.41		521.7	779.6	753.2	726.7	26.57	28.348	
5,600.0	5,593.8	5,595.4	5,595.2	7.1	20.1	-10.62		522.8	778.4	746.6	719.6	27.02	27.628	
5,700.0	5,693.6	5,695.2	5,694.9	7.2	20.4	-10.82		523.8	777.5	740.1	712.6	27.48	26.928	
5,800.0	5,793.4	5,792.2	5,791.9	7.3	20.8	-11.01		524.8	776.7	733.8	705.8	27.94	26.265	
5,900.0	5,893.2	5,892.8	5,892.5	7.4	21.1	-11.19		525.8	776.2	727.6	699.2	28.40	25.615	
6,000.0	5,993.0	5,991.4	5,991.1	7.6	21.5	-11.35		526.5	775.9	721.5	692.6	28.87	24.992	
6,100.0	6,092.8	6,093.3	6,093.0	7.7	21.8	-11.52		527.2	775.5	715.3	685.9	29.34	24.378	
6,200.0	6,192.6	6,194.1	6,193.8	7.8	22.2	-11.69		527.8	775.0	708.8	679.0	29.81	23.781	
6,300.0	6,292.4	6,294.1	6,293.8	7.9	22.5	-11.84		528.1	774.5	702.4	672.1	30.27	23.205	
6,400.0	6,392.2	6,393.0	6,392.7	8.0	22.9	-11.99		528.4	774.0	695.9	665.2	30.73	22.649	
6,500.0	6,491.9	6,494.1	6,493.8	8.1	23.2	-12.15		528.7	773.6	689.4	658.3	31.19	22.105	
6,600.0	6,591.7	6,594.8	6,594.5	8.2	23.6	-12.29		528.8	773.1	682.8	651.2	31.65	21.573	
6,700.0	6,691.5	6,693.3	6,693.0	8.3	23.9	-12.45		529.0	772.6	676.2	644.1	32.11	21.061	
6,800.0	6,791.3	6,793.6	6,793.3	8.5	24.2	-12.61		529.2	772.1	669.7	637.1	32.57	20.561	
6,900.0	6,891.1	6,891.2	6,890.9	8.6	24.6	-12.77		529.5	771.7	663.2	630.2	33.02	20.083	
7,000.0	6,990.9	6,990.5	6,990.2	8.7	24.9	-12.94		530.0	771.4	657.0	623.5	33.49	19.617	
7,100.0	7,090.7	7,092.6	7,092.3	8.8	25.3	-13.11		530.3	771.0	650.7	616.7	33.97	19.158	
7,200.0	7,190.5	7,193.1	7,192.8	8.9	25.6	-13.28		530.4	770.6	644.1	609.7	34.43	18.709	
7,300.0	7,290.3	7,297.2	7,296.9	9.0	26.0	-13.45		530.3	769.8	637.2	602.3	34.91	18.253	
7,400.0	7,390.1	7,396.2	7,395.9	9.2	26.3	-13.59		529.7	769.0	629.9	594.6	35.37	17.808	
7,500.0	7,489.9	7,496.1	7,495.8	9.3	26.7	-13.73		529.1	768.3	622.7	586.9	35.84	17.375	
7,600.0	7,589.7	7,594.7	7,594.4	9.4	27.0	-13.85		528.4	767.7	615.6	579.3	36.31	16.955	
7,700.0	7,689.5	7,696.0	7,695.7	9.5	27.3	-13.93		527.3	767.5	608.5	571.7	36.79	16.540	
7,800.0	7,789.2	7,796.8	7,796.5	9.6	27.7	-13.96		525.6	767.4	601.1	563.9	37.27	16.130	
7,900.0	7,889.0	7,899.2	7,898.9	9.7	28.1	-13.97		523.5	767.2	593.4	555.7	37.75	15.720	
8,000.0	7,988.8	7,999.6	7,999.2	9.9	28.4	-13.98		521.3	766.8	585.5	547.3	38.23	15.316	
8,100.0	8,088.6	8,098.4	8,098.0	10.0	28.8	-14.01		519.3	766.3	577.5	538.8	38.70	14.924	
8,200.0	8,188.4	8,200.4	8,200.0	10.1	29.1	-14.06		517.3	765.6	569.5	530.3	39.18	14.534	
8,300.0	8,288.2	8,299.7	8,299.2	10.2	29.5	-14.14		515.4	764.5	561.2	521.6	39.65	14.153	
8,400.0	8,388.0	8,399.7	8,399.2	10.3	29.8	-14.23		513.6	763.4	553.0	512.9	40.13	13.781	
8,500.0	8,487.8	8,497.5	8,497.0	10.5	30.2	-14.33		511.9	762.5	544.9	504.3	40.59	13.423	
8,600.0	8,587.6	8,598.9	8,598.4	10.6	30.5	-14.56		511.1	760.7	536.8	495.7	41.07	13.071	
8,700.0	8,687.4	8,698.0	8,697.5	10.7	30.8	-14.88		511.0	758.3	528.6	487.1	41.53	12.728	
8,800.0	8,787.2	8,794.7	8,794.2	10.8	31.2	-15.19		510.9	756.3	520.8	478.8	41.98	12.403	
8,900.0	8,887.0	8,892.0	8,891.5	10.9	31.5	-15.44		510.6	755.1	513.4	471.0	42.44	12.097	
9,000.0	8,986.8	8,988.8	8,988.2	11.1	31.8	-15.57		509.8	755.0	506.6	463.7	42.90	11.810	
9,100.0	9,086.6	9,088.1	9,087.5	11.2	32.2	-15.64		508.9	755.6	500.2	456.9	43.37	11.534	
9,200.0	9,186.3	9,192.5	9,191.9	11.3	32.6	-15.68		507.3	756.1	493.4	449.6	43.87	11.248	
9,300.0	9,286.1	9,296.0	9,295.4	11.4	32.9	-15.72		505.2	755.8	485.7	441.3	44.36	10.949	
9,400.0	9,385.9	9,395.0	9,394.4	11.6	33.3	-15.77		503.0	755.3	477.6	432.8	44.83	10.654	
9,500.0	9,485.7	9,494.0	9,493.3	11.7	33.6	-15.78		500.6	755.2	469.8	424.5	45.30	10.369	
9,600.0	9,585.5	9,598.7	9,598.0	11.8	34.0	-15.77		497.7	754.7	461.4	415.6	45.80	10.074	
9,700.0	9,685.3	9,696.9	9,696.2	11.9	34.3	-15.78		494.9	753.9	452.7	406.4	46.27	9.783	
9,800.0	9,785.1	9,791.9	9,791.1	12.0	34.7	-15.80		492.6	753.5	444.6	397.9	46.72	9.515	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #4H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 100-GYRO-NS, 9967-MWD												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
9,900.0	9,884.9	9,895.0	9,894.2	12.2	35.0	-15.88	490.5	753.0	436.7	389.5	47.22	9.249	
10,000.0	9,984.7	10,049.3	10,047.9	12.3	35.2	-15.59	479.5	747.7	423.9	376.4	47.55	8.915	
10,100.0	10,084.5	10,213.4	10,205.8	12.4	35.3	-12.30	437.5	736.0	396.3	348.8	47.54	8.337	
10,200.0	10,184.3	10,367.4	10,341.9	12.5	35.4	-4.73	368.9	716.2	353.3	306.0	47.28	7.473	
10,300.0	10,284.1	10,490.1	10,434.8	12.7	35.5	7.59	293.2	691.2	296.9	249.8	47.08	6.306	
10,400.0	10,383.9	10,571.1	10,487.2	12.8	35.6	21.59	233.8	674.8	244.3	197.2	47.14	5.183	
10,500.0	10,483.6	10,623.4	10,514.9	12.9	35.6	33.70	190.7	664.1	208.6	162.1	46.53	4.483	
10,550.3	10,533.8	10,643.1	10,523.6	13.0	35.7	38.75	173.5	660.4	203.4	157.4	45.93	4.428	CC, ES, SF
10,600.0	10,583.4	10,658.7	10,529.8	13.0	35.7	42.86	159.4	657.4	208.7	163.0	45.67	4.569	
10,700.0	10,683.2	10,681.0	10,537.6	13.2	35.8	48.71	139.0	653.2	248.1	202.5	45.59	5.441	
10,800.0	10,783.0	10,704.0	10,544.7	13.3	35.8	54.61	117.6	648.7	313.4	268.3	45.14	6.944	
10,900.0	10,882.8	10,712.0	10,546.9	13.4	35.8	56.61	110.1	647.1	392.6	347.9	44.68	8.787	
11,000.0	10,982.6	10,727.1	10,550.6	13.5	35.9	60.28	95.8	643.9	479.0	434.5	44.52	10.760	
11,100.0	11,082.4	10,743.0	10,553.9	13.7	35.9	63.97	80.6	640.7	569.8	525.2	44.56	12.786	
11,200.0	11,182.2	10,743.0	10,553.9	13.8	35.9	63.97	80.6	640.7	662.8	618.2	44.62	14.854	
11,300.0	11,282.0	10,743.0	10,553.9	13.9	35.9	63.97	80.6	640.7	757.6	712.8	44.77	16.920	
11,400.0	11,381.8	10,743.0	10,553.9	14.0	35.9	63.97	80.6	640.7	853.6	808.6	44.99	18.971	
11,500.0	11,481.6	10,743.0	10,553.9	14.2	35.9	63.97	80.6	640.7	950.4	905.1	45.26	21.000	
11,600.0	11,581.4	10,743.0	10,553.9	14.2	35.9	63.97	80.6	640.7	1,047.8	1,002.1	45.64	22.957	
11,620.1	11,601.4	10,743.0	10,553.9	14.2	35.9	63.97	80.6	640.7	1,067.4	1,021.7	45.70	23.356	
11,625.0	11,606.3	10,743.0	10,553.9	14.2	35.9	56.06	80.6	640.7	1,072.2	1,026.5	45.72	23.453	
11,650.0	11,631.2	10,743.0	10,553.9	14.2	35.9	25.56	80.6	640.7	1,096.5	1,050.7	45.79	23.946	
11,675.0	11,656.1	10,743.0	10,553.9	14.2	35.9	12.26	80.6	640.7	1,120.5	1,074.6	45.86	24.433	
11,700.0	11,680.8	10,743.0	10,553.9	14.3	35.9	6.47	80.6	640.7	1,144.1	1,098.2	45.93	24.913	
11,725.0	11,705.3	10,743.0	10,553.9	14.3	35.9	3.61	80.6	640.7	1,167.4	1,121.4	45.99	25.384	
11,750.0	11,729.5	10,743.0	10,553.9	14.3	35.9	2.05	80.6	640.7	1,190.3	1,144.2	46.05	25.847	
11,775.0	11,753.3	10,743.0	10,553.9	14.3	35.9	1.14	80.6	640.7	1,212.7	1,166.6	46.11	26.300	
11,800.0	11,776.7	10,743.0	10,553.9	14.3	35.9	0.58	80.6	640.7	1,234.7	1,188.5	46.17	26.742	
11,825.0	11,799.7	10,767.2	10,557.5	14.3	36.0	1.64	57.1	635.8	1,255.0	1,208.5	46.52	26.975	
11,850.0	11,822.1	10,769.3	10,557.7	14.3	36.0	1.40	55.1	635.4	1,275.7	1,229.1	46.60	27.373	
11,875.0	11,843.9	10,771.6	10,557.9	14.3	36.0	1.25	52.8	634.9	1,295.7	1,249.0	46.68	27.756	
11,900.0	11,865.0	10,774.0	10,558.2	14.3	36.0	1.15	50.5	634.5	1,315.2	1,268.4	46.76	28.123	
11,925.0	11,885.4	10,776.5	10,558.4	14.3	36.0	1.10	48.1	634.0	1,333.9	1,287.1	46.85	28.475	
11,950.0	11,905.1	10,801.0	10,559.5	14.3	36.1	1.91	24.1	629.3	1,352.9	1,305.7	47.19	28.668	
11,975.0	11,923.9	10,801.0	10,559.5	14.4	36.1	1.76	24.1	629.3	1,370.1	1,322.8	47.24	29.001	
12,000.0	11,941.8	10,801.0	10,559.5	14.4	36.1	1.64	24.1	629.3	1,386.5	1,339.2	47.29	29.318	
12,025.0	11,958.8	10,801.0	10,559.5	14.4	36.1	1.54	24.1	629.3	1,402.2	1,354.9	47.34	29.617	
12,050.0	11,974.8	10,801.0	10,559.5	14.4	36.1	1.46	24.1	629.3	1,417.1	1,369.7	47.40	29.899	
12,075.0	11,989.8	10,801.0	10,559.5	14.4	36.1	1.39	24.1	629.3	1,431.3	1,383.9	47.45	30.164	
12,100.0	12,003.7	10,801.0	10,559.5	14.5	36.1	1.34	24.1	629.3	1,444.7	1,397.2	47.51	30.410	
12,125.0	12,016.5	10,801.0	10,559.5	14.5	36.1	1.29	24.1	629.3	1,457.3	1,409.7	47.57	30.637	
12,150.0	12,028.2	10,801.0	10,559.5	14.6	36.1	1.26	24.1	629.3	1,469.1	1,421.4	47.63	30.845	
12,175.0	12,038.7	10,817.6	10,559.6	14.6	36.2	1.66	7.7	626.2	1,479.8	1,432.1	47.75	30.991	
12,200.0	12,048.1	10,832.0	10,559.6	14.6	36.2	1.99	-6.4	623.4	1,489.7	1,441.8	47.87	31.122	
12,225.0	12,056.2	10,841.4	10,559.6	14.7	36.3	2.19	-15.6	621.6	1,498.5	1,450.6	47.94	31.260	
12,250.0	12,063.0	10,856.9	10,559.4	14.7	36.3	2.52	-30.8	618.6	1,506.3	1,458.3	48.01	31.372	
12,275.0	12,068.6	10,874.0	10,559.3	14.8	36.4	2.89	-47.6	615.4	1,513.0	1,464.9	48.10	31.459	
12,300.0	12,072.9	10,892.2	10,559.0	14.8	36.5	3.28	-65.5	612.1	1,518.6	1,470.5	48.18	31.521	
12,325.0	12,075.9	10,910.8	10,558.8	14.9	36.5	3.67	-83.8	608.8	1,523.1	1,474.9	48.26	31.558	
12,350.0	12,077.6	10,929.7	10,558.5	15.0	36.6	4.06	-102.4	605.6	1,526.4	1,478.1	48.35	31.571	
12,370.7	12,078.0	10,945.5	10,558.3	15.0	36.7	4.40	-118.0	602.9	1,528.3	1,479.9	48.42	31.563	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #4H - OWB - ACTUAL													Offset Site Error:	0.0 usft
Survey Program: 100-GYRO-NS, 9967-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		
12,400.0	12,078.0	10,972.4	10,557.8	15.1	36.8	5.05	-144.5	598.5	1,530.5	1,482.0	48.54	31.534		
12,500.0	12,077.9	11,077.8	10,556.7	15.4	37.4	7.31	-248.8	583.6	1,537.8	1,488.9	48.98	31.396		
12,600.0	12,077.8	11,170.9	10,555.8	15.7	38.0	9.00	-341.4	573.7	1,545.1	1,495.7	49.46	31.238		
12,700.0	12,077.7	11,267.7	10,554.3	16.1	38.7	10.38	-437.9	566.6	1,552.1	1,502.2	49.98	31.054		
12,800.0	12,077.6	11,376.3	10,552.7	16.5	39.5	11.47	-546.4	561.4	1,557.8	1,507.3	50.55	30.820		
12,900.0	12,077.5	11,493.5	10,550.8	16.9	40.4	12.06	-663.6	560.7	1,561.6	1,510.4	51.14	30.537		
12,989.8	12,077.4	11,576.0	10,549.7	17.3	41.1	12.18	-746.1	562.3	1,563.1	1,511.4	51.63	30.275		
13,000.0	12,077.4	11,584.3	10,549.5	17.3	41.1	12.18	-754.4	562.5	1,563.2	1,511.5	51.68	30.247		
13,100.0	12,077.3	11,698.9	10,547.1	17.7	42.1	12.06	-868.9	566.2	1,564.8	1,512.5	52.29	29.927		
13,200.0	12,077.1	11,784.1	10,545.4	18.2	42.8	11.93	-953.9	570.1	1,565.8	1,512.9	52.88	29.613		
13,300.0	12,077.0	11,908.9	10,542.7	18.6	44.0	11.70	-1,078.5	576.7	1,567.0	1,513.4	53.57	29.251		
13,400.0	12,076.9	12,026.3	10,542.6	19.2	45.2	11.53	-1,195.8	582.3	1,566.0	1,511.7	54.31	28.832		
13,500.0	12,076.8	12,123.6	10,542.4	19.7	46.2	11.39	-1,293.0	587.0	1,565.4	1,510.3	55.05	28.434		
13,600.0	12,076.7	12,224.8	10,542.9	20.3	47.2	11.27	-1,394.2	591.1	1,564.0	1,508.2	55.84	28.008		
13,700.0	12,076.6	12,316.3	10,542.6	20.8	48.2	11.16	-1,485.6	594.9	1,563.6	1,507.0	56.64	27.605		
13,787.9	12,076.5	12,397.9	10,542.5	21.4	49.1	11.08	-1,567.1	597.6	1,563.2	1,505.8	57.38	27.245		
13,800.0	12,076.5	12,406.7	10,542.5	21.4	49.2	11.08	-1,575.9	597.8	1,563.2	1,505.7	57.47	27.199		
13,900.0	12,076.4	12,493.3	10,541.2	22.1	50.2	11.02	-1,662.5	599.7	1,564.2	1,505.8	58.33	26.816		
14,000.0	12,076.3	12,640.0	10,541.0	22.7	52.0	10.93	-1,809.1	603.4	1,564.0	1,504.6	59.36	26.349		
14,100.0	12,076.2	12,713.2	10,541.6	23.4	52.8	10.88	-1,882.2	605.4	1,562.7	1,502.4	60.27	25.930		
14,200.0	12,076.1	12,841.2	10,541.3	24.0	54.4	10.77	-2,010.2	609.4	1,562.6	1,501.2	61.35	25.468		
14,298.0	12,076.0	12,908.1	10,541.6	24.7	55.3	10.71	-2,077.1	611.7	1,561.6	1,499.3	62.28	25.073		
14,300.0	12,076.0	12,909.5	10,541.6	24.7	55.3	10.70	-2,078.5	611.8	1,561.6	1,499.3	62.30	25.065		
14,400.0	12,075.9	13,039.8	10,541.1	25.4	56.9	10.53	-2,208.6	617.5	1,561.3	1,497.9	63.41	24.624		
14,474.2	12,075.8	13,084.5	10,540.9	25.9	57.5	10.46	-2,253.3	619.7	1,560.8	1,496.7	64.11	24.345		
14,500.0	12,075.8	13,102.5	10,540.7	26.1	57.8	10.43	-2,271.3	620.6	1,560.9	1,496.5	64.36	24.251		
14,600.0	12,075.7	13,232.8	10,539.7	26.9	59.5	10.22	-2,401.4	627.2	1,560.9	1,495.4	65.50	23.832		
14,637.2	12,075.7	13,247.6	10,539.5	27.1	59.7	10.19	-2,416.2	628.0	1,560.8	1,495.0	65.85	23.703		
14,700.0	12,075.6	13,289.5	10,538.8	27.6	60.2	10.12	-2,458.0	630.3	1,561.3	1,494.8	66.48	23.485		
14,800.0	12,075.5	13,432.7	10,537.1	28.3	62.1	9.89	-2,601.0	637.3	1,561.7	1,494.0	67.71	23.065		
14,900.0	12,075.4	13,538.8	10,538.6	29.1	63.6	9.78	-2,707.0	641.5	1,559.7	1,490.8	68.85	22.653		
15,000.0	12,075.3	13,641.8	10,539.3	29.8	65.0	9.64	-2,809.9	646.2	1,558.3	1,488.3	69.98	22.268		
15,100.0	12,075.2	13,738.1	10,540.6	30.6	66.3	9.46	-2,906.0	652.0	1,555.9	1,484.8	71.10	21.882		
15,200.0	12,075.1	13,856.9	10,541.5	31.3	68.0	9.24	-3,024.6	659.1	1,554.4	1,482.1	72.29	21.500		
15,300.0	12,075.0	13,935.3	10,542.9	32.1	69.1	9.13	-3,102.8	663.1	1,551.8	1,478.4	73.44	21.131		
15,400.0	12,074.9	14,062.4	10,544.2	32.9	70.9	8.95	-3,229.8	669.2	1,550.3	1,475.6	74.70	20.753		
15,500.0	12,074.8	14,146.3	10,545.9	33.7	72.1	8.84	-3,313.6	673.1	1,547.5	1,471.7	75.87	20.397		
15,600.0	12,074.7	14,233.4	10,546.9	34.4	73.4	8.70	-3,400.6	677.5	1,545.7	1,468.7	77.04	20.065		
15,700.0	12,074.6	14,320.0	10,547.1	35.2	74.6	8.56	-3,487.0	682.0	1,544.7	1,466.5	78.21	19.752		
15,751.9	12,074.5	14,363.5	10,546.8	35.6	75.3	8.48	-3,530.5	684.5	1,544.6	1,465.8	78.81	19.598		
15,800.0	12,074.5	14,402.7	10,546.4	36.0	75.9	8.41	-3,569.6	686.6	1,544.7	1,465.3	79.37	19.462		
15,900.0	12,074.4	14,485.3	10,544.8	36.8	77.1	8.26	-3,652.1	691.2	1,545.9	1,465.3	80.54	19.194		
16,000.0	12,074.2	14,607.0	10,541.9	37.6	78.9	8.03	-3,773.6	697.9	1,547.6	1,465.8	81.82	18.915		
16,100.0	12,074.1	14,699.1	10,541.0	38.4	80.2	7.89	-3,865.5	702.4	1,547.9	1,464.8	83.05	18.638		
16,200.0	12,074.0	14,830.2	10,540.2	39.2	82.2	7.72	-3,996.6	707.8	1,547.9	1,463.5	84.38	18.344		
16,300.0	12,073.9	14,927.0	10,540.8	40.0	83.6	7.63	-4,093.3	711.0	1,546.9	1,461.2	85.66	18.058		
16,400.0	12,073.8	15,027.0	10,541.3	40.8	85.1	7.53	-4,193.3	714.7	1,545.9	1,458.9	86.94	17.781		
16,500.0	12,073.7	15,125.4	10,541.6	41.6	86.6	7.40	-4,291.5	718.8	1,545.1	1,456.8	88.22	17.514		
16,600.0	12,073.6	15,228.7	10,542.1	42.4	88.2	7.27	-4,394.7	723.3	1,544.0	1,454.5	89.51	17.249		
16,700.0	12,073.5	15,328.5	10,542.6	43.3	89.7	7.15	-4,494.4	727.3	1,543.0	1,452.2	90.81	16.991		
16,800.0	12,073.4	15,430.4	10,543.1	44.1	91.2	7.02	-4,596.2	731.6	1,541.9	1,449.8	92.12	16.738		

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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		WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #4H - OWB - ACTUAL											Offset Site Error:		0.0 usft
Survey Program:		100-GYRO-NS, 9967-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			
16,900.0	12,073.3	15,526.9	10,543.7	44.9	92.7	6.89	-4,692.7	735.9	1,540.8	1,447.4	93.43	16.492			
17,000.0	12,073.2	15,638.7	10,544.3	45.7	94.4	6.74	-4,804.3	740.9	1,539.8	1,445.0	94.76	16.249			
17,100.0	12,073.1	15,725.9	10,545.1	46.5	95.8	6.61	-4,891.4	745.2	1,538.3	1,442.2	96.06	16.014			
17,200.0	12,073.0	15,825.3	10,545.2	47.4	97.3	6.48	-4,990.7	749.4	1,537.7	1,440.3	97.39	15.789			
17,295.2	12,072.9	15,908.0	10,545.3	48.1	98.6	6.39	-5,073.4	752.6	1,537.1	1,438.5	98.64	15.584			
17,300.0	12,072.9	15,911.8	10,545.3	48.2	98.6	6.38	-5,077.2	752.7	1,537.1	1,438.4	98.70	15.574			
17,400.0	12,072.8	16,005.0	10,544.5	49.0	100.1	6.28	-5,170.3	755.9	1,537.6	1,437.6	100.03	15.371			
17,500.0	12,072.7	16,086.9	10,543.6	49.8	101.4	6.24	-5,252.2	757.7	1,538.5	1,437.1	101.35	15.180			
17,600.0	12,072.6	16,158.0	10,541.5	50.7	102.5	6.18	-5,323.3	759.5	1,541.1	1,438.4	102.63	15.016			
17,700.0	12,072.5	16,229.3	10,538.1	51.5	103.6	6.13	-5,394.4	761.0	1,545.6	1,441.7	103.89	14.878			
17,800.0	12,072.4	16,370.9	10,532.2	52.3	105.8	6.04	-5,535.9	763.8	1,549.4	1,443.9	105.46	14.691			
17,900.0	12,072.3	16,527.5	10,529.9	53.2	108.2	5.86	-5,692.3	769.7	1,550.6	1,443.6	106.99	14.492			
18,000.0	12,072.2	16,640.3	10,530.9	54.0	110.0	5.67	-5,805.0	775.7	1,549.0	1,440.7	108.37	14.293			
18,100.0	12,072.1	16,733.1	10,531.9	54.8	111.4	5.50	-5,897.6	781.1	1,547.4	1,437.7	109.72	14.103			
18,200.0	12,072.0	16,816.0	10,532.0	55.7	112.7	5.33	-5,980.4	786.3	1,546.7	1,435.6	111.05	13.927			
18,210.1	12,072.0	16,823.7	10,532.0	55.7	112.9	5.32	-5,988.0	786.8	1,546.7	1,435.5	111.19	13.910			
18,300.0	12,071.9	16,895.2	10,531.0	56.5	114.0	5.16	-6,059.4	791.6	1,547.3	1,434.9	112.37	13.770			
18,400.0	12,071.8	17,021.8	10,529.4	57.3	116.0	4.87	-6,185.6	800.2	1,548.0	1,434.2	113.79	13.604			
18,500.0	12,071.7	17,139.6	10,530.4	58.2	117.9	4.58	-6,303.2	809.0	1,546.4	1,431.2	115.18	13.426			
18,600.0	12,071.6	17,226.2	10,531.0	59.0	119.2	4.36	-6,389.5	815.7	1,545.1	1,428.6	116.52	13.260			
18,700.0	12,071.5	17,315.5	10,530.7	59.8	120.7	4.12	-6,478.5	822.7	1,544.8	1,426.9	117.87	13.106			
18,800.0	12,071.3	17,448.7	10,530.9	60.7	122.8	3.81	-6,611.4	832.1	1,544.2	1,424.9	119.29	12.944			
18,900.0	12,071.2	17,546.6	10,532.5	61.5	124.3	3.60	-6,709.1	838.5	1,542.1	1,421.4	120.69	12.777			
19,000.0	12,071.1	17,644.4	10,534.0	62.4	125.9	3.38	-6,806.6	845.2	1,540.1	1,418.0	122.08	12.616			
19,100.0	12,071.0	17,747.1	10,535.5	63.2	127.5	3.19	-6,909.1	851.4	1,538.2	1,414.7	123.48	12.457			
19,200.0	12,070.9	17,852.2	10,537.7	64.0	129.2	3.03	-7,014.0	856.4	1,535.7	1,410.8	124.90	12.296			
19,300.0	12,070.8	17,932.5	10,538.9	64.9	130.5	2.91	-7,094.3	860.4	1,534.0	1,407.7	126.30	12.146			
19,364.9	12,070.8	17,980.6	10,539.0	65.4	131.3	2.83	-7,142.3	862.8	1,533.6	1,406.4	127.19	12.057			
19,400.0	12,070.7	18,014.0	10,538.8	65.7	131.8	2.78	-7,175.6	864.4	1,533.7	1,406.1	127.69	12.011			
19,500.0	12,070.6	18,096.6	10,537.7	66.6	133.1	2.67	-7,258.2	867.9	1,534.7	1,405.6	129.08	11.890			
19,600.0	12,070.5	18,213.9	10,536.6	67.4	135.0	2.58	-7,375.4	871.0	1,535.5	1,404.9	130.57	11.760			
19,700.0	12,070.4	18,319.4	10,536.7	68.3	136.7	2.59	-7,480.9	871.5	1,535.3	1,403.2	132.04	11.627			
19,731.9	12,070.4	18,347.8	10,536.7	68.5	137.1	2.61	-7,509.3	871.4	1,535.2	1,402.7	132.50	11.587			
19,800.0	12,070.3	18,414.0	10,536.6	69.1	138.2	2.65	-7,575.5	870.6	1,535.4	1,401.9	133.50	11.501			
19,900.0	12,070.2	18,523.0	10,536.9	69.9	139.9	2.74	-7,684.5	869.2	1,535.0	1,400.0	135.00	11.371			
20,000.0	12,070.1	18,617.1	10,537.2	70.8	141.4	2.81	-7,778.6	868.0	1,534.7	1,398.3	136.47	11.246			
20,011.8	12,070.1	18,627.7	10,537.2	70.9	141.6	2.82	-7,789.2	867.8	1,534.7	1,398.1	136.64	11.232			
20,100.0	12,070.0	18,708.2	10,537.0	71.6	142.9	2.86	-7,869.7	867.1	1,535.0	1,397.0	137.93	11.129			
20,200.0	12,069.9	18,799.9	10,536.2	72.5	144.3	2.89	-7,961.4	867.0	1,535.7	1,396.3	139.38	11.018			
20,300.0	12,069.8	18,890.5	10,534.9	73.3	145.8	2.91	-8,051.9	867.1	1,537.1	1,396.3	140.83	10.915			
20,400.0	12,069.7	18,984.2	10,533.1	74.2	147.3	2.93	-8,145.6	867.3	1,539.0	1,396.7	142.28	10.817			
20,500.0	12,069.6	19,085.7	10,530.9	75.0	148.9	2.93	-8,247.1	867.7	1,541.1	1,397.3	143.76	10.720			
20,600.0	12,069.5	19,196.7	10,528.9	75.9	150.7	2.94	-8,358.1	868.3	1,542.7	1,397.4	145.28	10.619			
20,700.0	12,069.4	19,299.8	10,527.8	76.7	152.3	2.94	-8,461.2	869.0	1,543.8	1,397.0	146.77	10.518			
20,800.0	12,069.3	19,401.2	10,526.6	77.6	154.0	2.92	-8,562.6	870.1	1,544.8	1,396.5	148.26	10.420			
20,900.0	12,069.2	19,504.6	10,525.5	78.4	155.6	2.89	-8,666.0	871.7	1,545.6	1,395.9	149.74	10.322			
21,000.0	12,069.1	19,596.7	10,524.5	79.3	157.1	2.84	-8,758.0	873.7	1,546.6	1,395.4	151.19	10.229			
21,100.0	12,069.0	19,676.7	10,522.9	80.1	158.4	2.77	-8,837.9	876.0	1,548.4	1,395.8	152.59	10.148			
21,200.0	12,068.9	19,818.1	10,520.4	81.0	160.7	2.68	-8,979.3	879.4	1,550.1	1,395.9	154.21	10.052			
21,266.7	12,068.8	19,882.8	10,520.4	81.5	161.7	2.65	-9,044.0	880.5	1,550.1	1,394.9	155.20	9.988			
21,300.0	12,068.8	19,914.7	10,520.3	81.8	162.2	2.64	-9,075.9	881.1	1,550.1	1,394.4	155.69	9.956			

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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 WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #4H - OWB - ACTUAL													Offset Site Error:	0.0 usft
Survey Program: 100-GYRO-NS, 9967-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		
21,400.0	12,068.7	20,010.2	10,519.9	82.7	163.8	2.59	-9,171.4	883.1	1,550.4	1,393.2	157.16	9.865		
21,500.0	12,068.6	20,106.4	10,519.3	83.5	165.3	2.52	-9,267.5	885.7	1,550.8	1,392.2	158.63	9.776		
21,600.0	12,068.4	20,199.3	10,518.2	84.4	166.8	2.44	-9,360.4	888.5	1,551.7	1,391.6	160.09	9.693		
21,700.0	12,068.3	20,293.0	10,516.9	85.2	168.3	2.34	-9,454.0	891.9	1,553.0	1,391.4	161.54	9.614		
21,800.0	12,068.2	20,361.0	10,515.6	86.1	169.5	2.25	-9,521.9	894.8	1,554.9	1,392.0	162.87	9.547		
21,900.0	12,068.1	20,361.0	10,515.6	86.9	169.5	2.25	-9,521.9	894.8	1,561.7	1,398.1	163.55	9.549		
22,000.0	12,068.0	20,361.0	10,515.6	87.8	169.5	2.25	-9,521.9	894.8	1,574.8	1,411.1	163.67	9.622		
22,034.6	12,068.0	20,361.0	10,515.6	88.1	169.5	2.25	-9,521.9	894.8	1,580.7	1,417.2	163.59	9.663		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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=26' @ 3576.0usft (MCVAY 8)

Offset Depths are relative to Offset Datum

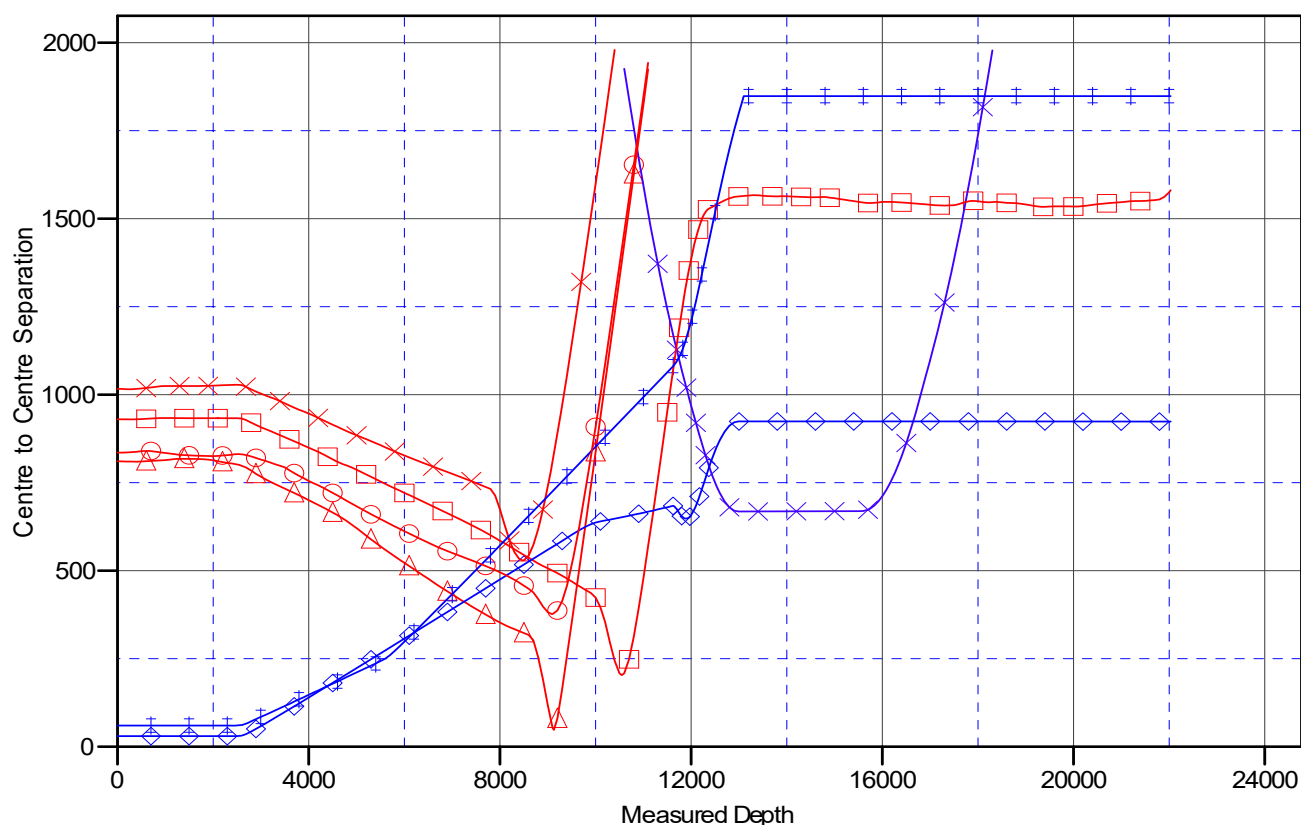
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: WINDWARD FED #701H

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

Grid Convergence at Surface is: 0.33°

Ladder Plot



LEGEND

*AZORES FED COM #706H, OWB, PWP0 V0	WINDWARD FEDERAL #11H OWB, ACTUAL WELLPATH V0	WINDWARD FEDERAL #12H OWB, ACTUAL WELLPATH V0
KING TUT FEDERAL #4H, OWB, ACTUAL WELLPATH V0	WINDWARD FED #703H, OWB, PWP1 V0	
WINDWARD FEDERAL #4H, OWB, ACTUAL WELLPATH V0	WINDWARD FED #702H, OWB, PWP1 V0	

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 WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD 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=26' @ 3576.0usft (MCVAY 8)

Offset Depths are relative to Offset Datum

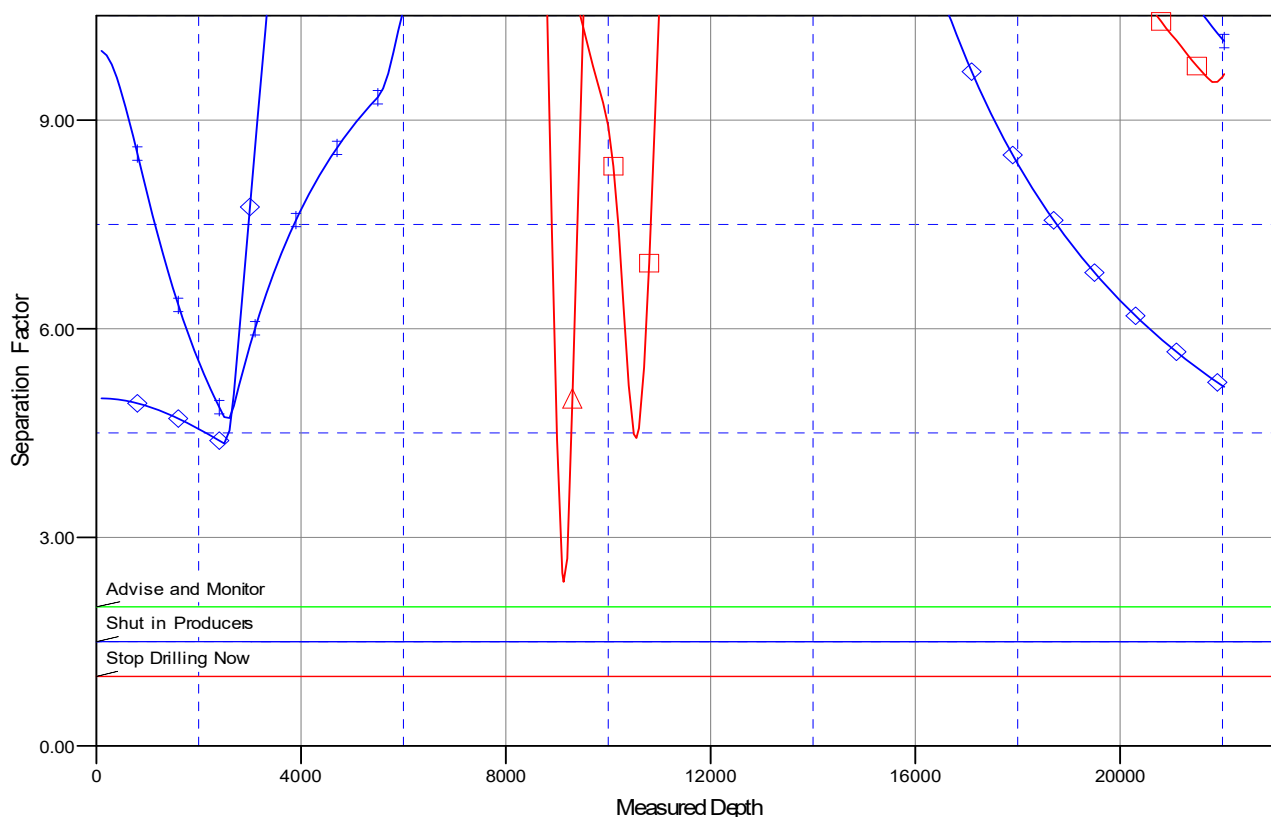
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: WINDWARD FED #701H

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

Grid Convergence at Surface is: 0.33°

Separation Factor Plot



LEGEND

- *AZORES FED COM #708H, OWB, PWP0 V0
- KING TUT FEDERAL #4H, OWB, ACTUAL WELLPATH V0
- WINDWARD FEDERAL #4H, OWB, ACTUAL WELLPATH V0
- WINDWARD FEDERAL #11H OWB, ACTUAL WELLPATH V0
- WINDWARD FED #703H, OWB, PWP1 V0
- WINDWARD FED #702H, OWB, PWP1 V0
- WINDWARD FEDERAL #12H OWB, ACTUAL WELLPATH V0

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

12/11/2020 7:05:57AM

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COMPASS 5000.15 Build 91E

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)

WINDWARD FEDERAL PROJECT (BULLDOG 2432)

WINDWARD FED #701H

OWB

Plan: PWP1

Standard Survey Report

11 December, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Well:	WINDWARD 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	WINDWARD FED #701H			
Well Position	+N/-S	0.0 usft	Northing:	434,721.40 usfi
	+E/-W	0.0 usft	Easting:	693,231.80 usfi
Position Uncertainty		3.0 usft	Wellhead Elevation:	usfi
			Latitude:	32° 11' 37.044 N
			Longitude:	103° 42' 31.260 W
			Ground Level:	3,550.0 usft

Wellbore	OWB
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/27/2020	6.68	59.87	47,526.70755483

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	174.42

Survey Tool Program		Date	12/11/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,520.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,520.0	22,034.6	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Well:	WINDWARD 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)
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,600.0	2.00	64.54	2,600.0	0.8	1.6	-0.6	2.00	2.00	0.00
2,684.7	3.69	64.54	2,684.5	2.6	5.4	-2.0	2.00	2.00	0.00
Start 8935.4 hold at 2684.7 MD									
2,700.0	3.69	64.54	2,699.8	3.0	6.3	-2.4	0.00	0.00	0.00
2,800.0	3.69	64.54	2,799.6	5.8	12.1	-4.6	0.00	0.00	0.00
2,900.0	3.69	64.54	2,899.4	8.5	17.9	-6.7	0.00	0.00	0.00
3,000.0	3.69	64.54	2,999.2	11.3	23.7	-8.9	0.00	0.00	0.00
3,100.0	3.69	64.54	3,099.0	14.1	29.5	-11.1	0.00	0.00	0.00
3,200.0	3.69	64.54	3,198.8	16.8	35.3	-13.3	0.00	0.00	0.00
3,300.0	3.69	64.54	3,298.6	19.6	41.2	-15.5	0.00	0.00	0.00
3,400.0	3.69	64.54	3,398.4	22.4	47.0	-17.7	0.00	0.00	0.00
3,500.0	3.69	64.54	3,498.2	25.1	52.8	-19.9	0.00	0.00	0.00
3,600.0	3.69	64.54	3,598.0	27.9	58.6	-22.1	0.00	0.00	0.00
3,700.0	3.69	64.54	3,697.8	30.7	64.4	-24.3	0.00	0.00	0.00
3,800.0	3.69	64.54	3,797.6	33.4	70.2	-26.5	0.00	0.00	0.00
3,900.0	3.69	64.54	3,897.3	36.2	76.0	-28.7	0.00	0.00	0.00
4,000.0	3.69	64.54	3,997.1	39.0	81.9	-30.8	0.00	0.00	0.00
4,100.0	3.69	64.54	4,096.9	41.8	87.7	-33.0	0.00	0.00	0.00
4,200.0	3.69	64.54	4,196.7	44.5	93.5	-35.2	0.00	0.00	0.00
4,300.0	3.69	64.54	4,296.5	47.3	99.3	-37.4	0.00	0.00	0.00
4,400.0	3.69	64.54	4,396.3	50.1	105.1	-39.6	0.00	0.00	0.00
4,500.0	3.69	64.54	4,496.1	52.8	110.9	-41.8	0.00	0.00	0.00
4,600.0	3.69	64.54	4,595.9	55.6	116.8	-44.0	0.00	0.00	0.00
4,700.0	3.69	64.54	4,695.7	58.4	122.6	-46.2	0.00	0.00	0.00
4,800.0	3.69	64.54	4,795.5	61.1	128.4	-48.4	0.00	0.00	0.00
4,900.0	3.69	64.54	4,895.3	63.9	134.2	-50.6	0.00	0.00	0.00
5,000.0	3.69	64.54	4,995.1	66.7	140.0	-52.8	0.00	0.00	0.00
5,100.0	3.69	64.54	5,094.9	69.4	145.8	-54.9	0.00	0.00	0.00
5,200.0	3.69	64.54	5,194.6	72.2	151.6	-57.1	0.00	0.00	0.00
5,300.0	3.69	64.54	5,294.4	75.0	157.5	-59.3	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Well:	WINDWARD 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	3.69	64.54	5,394.2	77.8	163.3	-61.5	0.00	0.00	0.00
5,500.0	3.69	64.54	5,494.0	80.5	169.1	-63.7	0.00	0.00	0.00
5,600.0	3.69	64.54	5,593.8	83.3	174.9	-65.9	0.00	0.00	0.00
5,700.0	3.69	64.54	5,693.6	86.1	180.7	-68.1	0.00	0.00	0.00
5,800.0	3.69	64.54	5,793.4	88.8	186.5	-70.3	0.00	0.00	0.00
5,900.0	3.69	64.54	5,893.2	91.6	192.4	-72.5	0.00	0.00	0.00
6,000.0	3.69	64.54	5,993.0	94.4	198.2	-74.7	0.00	0.00	0.00
6,100.0	3.69	64.54	6,092.8	97.1	204.0	-76.9	0.00	0.00	0.00
6,200.0	3.69	64.54	6,192.6	99.9	209.8	-79.0	0.00	0.00	0.00
6,300.0	3.69	64.54	6,292.4	102.7	215.6	-81.2	0.00	0.00	0.00
6,400.0	3.69	64.54	6,392.2	105.4	221.4	-83.4	0.00	0.00	0.00
6,500.0	3.69	64.54	6,491.9	108.2	227.2	-85.6	0.00	0.00	0.00
6,600.0	3.69	64.54	6,591.7	111.0	233.1	-87.8	0.00	0.00	0.00
6,700.0	3.69	64.54	6,691.5	113.8	238.9	-90.0	0.00	0.00	0.00
6,800.0	3.69	64.54	6,791.3	116.5	244.7	-92.2	0.00	0.00	0.00
6,900.0	3.69	64.54	6,891.1	119.3	250.5	-94.4	0.00	0.00	0.00
7,000.0	3.69	64.54	6,990.9	122.1	256.3	-96.6	0.00	0.00	0.00
7,100.0	3.69	64.54	7,090.7	124.8	262.1	-98.8	0.00	0.00	0.00
7,200.0	3.69	64.54	7,190.5	127.6	268.0	-101.0	0.00	0.00	0.00
7,300.0	3.69	64.54	7,290.3	130.4	273.8	-103.2	0.00	0.00	0.00
7,400.0	3.69	64.54	7,390.1	133.1	279.6	-105.3	0.00	0.00	0.00
7,500.0	3.69	64.54	7,489.9	135.9	285.4	-107.5	0.00	0.00	0.00
7,600.0	3.69	64.54	7,589.7	138.7	291.2	-109.7	0.00	0.00	0.00
7,700.0	3.69	64.54	7,689.5	141.4	297.0	-111.9	0.00	0.00	0.00
7,800.0	3.69	64.54	7,789.2	144.2	302.8	-114.1	0.00	0.00	0.00
7,900.0	3.69	64.54	7,889.0	147.0	308.7	-116.3	0.00	0.00	0.00
8,000.0	3.69	64.54	7,988.8	149.8	314.5	-118.5	0.00	0.00	0.00
8,100.0	3.69	64.54	8,088.6	152.5	320.3	-120.7	0.00	0.00	0.00
8,200.0	3.69	64.54	8,188.4	155.3	326.1	-122.9	0.00	0.00	0.00
8,300.0	3.69	64.54	8,288.2	158.1	331.9	-125.1	0.00	0.00	0.00
8,400.0	3.69	64.54	8,388.0	160.8	337.7	-127.3	0.00	0.00	0.00
8,500.0	3.69	64.54	8,487.8	163.6	343.6	-129.4	0.00	0.00	0.00
8,600.0	3.69	64.54	8,587.6	166.4	349.4	-131.6	0.00	0.00	0.00
8,700.0	3.69	64.54	8,687.4	169.1	355.2	-133.8	0.00	0.00	0.00
8,800.0	3.69	64.54	8,787.2	171.9	361.0	-136.0	0.00	0.00	0.00
8,900.0	3.69	64.54	8,887.0	174.7	366.8	-138.2	0.00	0.00	0.00
9,000.0	3.69	64.54	8,986.8	177.4	372.6	-140.4	0.00	0.00	0.00
9,100.0	3.69	64.54	9,086.6	180.2	378.4	-142.6	0.00	0.00	0.00
9,200.0	3.69	64.54	9,186.3	183.0	384.3	-144.8	0.00	0.00	0.00
9,300.0	3.69	64.54	9,286.1	185.8	390.1	-147.0	0.00	0.00	0.00
9,400.0	3.69	64.54	9,385.9	188.5	395.9	-149.2	0.00	0.00	0.00
9,500.0	3.69	64.54	9,485.7	191.3	401.7	-151.4	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Well:	WINDWARD 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)
9,600.0	3.69	64.54	9,585.5	194.1	407.5	-153.5	0.00	0.00	0.00
9,700.0	3.69	64.54	9,685.3	196.8	413.3	-155.7	0.00	0.00	0.00
9,800.0	3.69	64.54	9,785.1	199.6	419.2	-157.9	0.00	0.00	0.00
9,900.0	3.69	64.54	9,884.9	202.4	425.0	-160.1	0.00	0.00	0.00
10,000.0	3.69	64.54	9,984.7	205.1	430.8	-162.3	0.00	0.00	0.00
10,100.0	3.69	64.54	10,084.5	207.9	436.6	-164.5	0.00	0.00	0.00
10,200.0	3.69	64.54	10,184.3	210.7	442.4	-166.7	0.00	0.00	0.00
10,300.0	3.69	64.54	10,284.1	213.4	448.2	-168.9	0.00	0.00	0.00
10,400.0	3.69	64.54	10,383.9	216.2	454.0	-171.1	0.00	0.00	0.00
10,500.0	3.69	64.54	10,483.6	219.0	459.9	-173.3	0.00	0.00	0.00
10,600.0	3.69	64.54	10,583.4	221.8	465.7	-175.5	0.00	0.00	0.00
10,700.0	3.69	64.54	10,683.2	224.5	471.5	-177.7	0.00	0.00	0.00
10,800.0	3.69	64.54	10,783.0	227.3	477.3	-179.8	0.00	0.00	0.00
10,900.0	3.69	64.54	10,882.8	230.1	483.1	-182.0	0.00	0.00	0.00
11,000.0	3.69	64.54	10,982.6	232.8	488.9	-184.2	0.00	0.00	0.00
11,100.0	3.69	64.54	11,082.4	235.6	494.8	-186.4	0.00	0.00	0.00
11,200.0	3.69	64.54	11,182.2	238.4	500.6	-188.6	0.00	0.00	0.00
11,300.0	3.69	64.54	11,282.0	241.1	506.4	-190.8	0.00	0.00	0.00
11,400.0	3.69	64.54	11,381.8	243.9	512.2	-193.0	0.00	0.00	0.00
11,500.0	3.69	64.54	11,481.6	246.7	518.0	-195.2	0.00	0.00	0.00
11,600.0	3.69	64.54	11,581.4	249.4	523.8	-197.4	0.00	0.00	0.00
11,620.1	3.69	64.54	11,601.4	250.0	525.0	-197.8	0.00	0.00	0.00
Start DLS 12.00 TFO 90.28									
11,700.0	10.25	133.91	11,680.8	246.2	532.5	-193.3	12.00	8.21	86.81
11,800.0	21.87	145.56	11,776.7	224.6	549.5	-170.1	12.00	11.62	11.65
11,900.0	33.75	149.27	11,865.0	185.2	574.3	-128.5	12.00	11.88	3.71
12,000.0	45.69	151.20	11,941.8	129.7	605.8	-70.3	12.00	11.94	1.93
12,100.0	57.65	152.47	12,003.7	60.7	642.7	2.1	12.00	11.96	1.27
12,200.0	69.62	153.44	12,048.1	-19.0	683.3	85.3	12.00	11.97	0.97
12,300.0	81.59	154.27	12,072.9	-105.8	725.9	175.8	12.00	11.97	0.83
12,370.7	90.06	154.82	12,078.0	-169.4	756.2	242.1	12.00	11.97	0.78
Start DLS 4.00 TFO 89.99									
12,400.0	90.06	155.99	12,078.0	-196.1	768.4	269.8	4.00	0.00	4.00
12,500.0	90.06	159.99	12,077.9	-288.7	805.9	365.7	4.00	0.00	4.00
12,600.0	90.06	163.99	12,077.8	-383.8	836.8	463.3	4.00	0.00	4.00
12,700.0	90.06	167.99	12,077.7	-480.8	861.0	562.2	4.00	0.00	4.00
12,800.0	90.06	171.99	12,077.6	-579.3	878.4	661.9	4.00	0.00	4.00
12,900.0	90.06	175.99	12,077.5	-678.7	888.8	761.9	4.00	0.00	4.00
12,989.8	90.06	179.58	12,077.4	-768.5	892.3	851.5	4.00	0.00	4.00
Start 9044.8 hold at 12989.8 MD									
13,000.0	90.06	179.58	12,077.4	-778.6	892.4	861.7	0.00	0.00	0.00
13,100.0	90.06	179.58	12,077.3	-878.6	893.1	961.2	0.00	0.00	0.00
13,200.0	90.06	179.58	12,077.1	-978.6	893.8	1,060.8	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Well:	WINDWARD 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)
13,300.0	90.06	179.58	12,077.0	-1,078.6	894.5	1,160.4	0.00	0.00	0.00
13,400.0	90.06	179.58	12,076.9	-1,178.6	895.3	1,260.0	0.00	0.00	0.00
13,500.0	90.06	179.58	12,076.8	-1,278.6	896.0	1,359.6	0.00	0.00	0.00
13,600.0	90.06	179.58	12,076.7	-1,378.6	896.7	1,459.2	0.00	0.00	0.00
13,700.0	90.06	179.58	12,076.6	-1,478.6	897.5	1,558.8	0.00	0.00	0.00
13,800.0	90.06	179.58	12,076.5	-1,578.6	898.2	1,658.4	0.00	0.00	0.00
13,900.0	90.06	179.58	12,076.4	-1,678.6	898.9	1,758.0	0.00	0.00	0.00
14,000.0	90.06	179.58	12,076.3	-1,778.6	899.6	1,857.6	0.00	0.00	0.00
14,100.0	90.06	179.58	12,076.2	-1,878.6	900.4	1,957.2	0.00	0.00	0.00
14,200.0	90.06	179.58	12,076.1	-1,978.6	901.1	2,056.8	0.00	0.00	0.00
14,300.0	90.06	179.58	12,076.0	-2,078.6	901.8	2,156.4	0.00	0.00	0.00
14,400.0	90.06	179.58	12,075.9	-2,178.6	902.5	2,256.0	0.00	0.00	0.00
14,500.0	90.06	179.58	12,075.8	-2,278.6	903.3	2,355.6	0.00	0.00	0.00
14,600.0	90.06	179.58	12,075.7	-2,378.6	904.0	2,455.2	0.00	0.00	0.00
14,700.0	90.06	179.58	12,075.6	-2,478.6	904.7	2,554.8	0.00	0.00	0.00
14,800.0	90.06	179.58	12,075.5	-2,578.6	905.4	2,654.4	0.00	0.00	0.00
14,900.0	90.06	179.58	12,075.4	-2,678.6	906.2	2,754.0	0.00	0.00	0.00
15,000.0	90.06	179.58	12,075.3	-2,778.6	906.9	2,853.5	0.00	0.00	0.00
15,100.0	90.06	179.58	12,075.2	-2,878.6	907.6	2,953.1	0.00	0.00	0.00
15,200.0	90.06	179.58	12,075.1	-2,978.6	908.3	3,052.7	0.00	0.00	0.00
15,300.0	90.06	179.58	12,075.0	-3,078.6	909.1	3,152.3	0.00	0.00	0.00
15,400.0	90.06	179.58	12,074.9	-3,178.6	909.8	3,251.9	0.00	0.00	0.00
15,500.0	90.06	179.58	12,074.8	-3,278.6	910.5	3,351.5	0.00	0.00	0.00
15,600.0	90.06	179.58	12,074.7	-3,378.6	911.2	3,451.1	0.00	0.00	0.00
15,700.0	90.06	179.58	12,074.6	-3,478.6	912.0	3,550.7	0.00	0.00	0.00
15,800.0	90.06	179.58	12,074.5	-3,578.6	912.7	3,650.3	0.00	0.00	0.00
15,900.0	90.06	179.58	12,074.4	-3,678.6	913.4	3,749.9	0.00	0.00	0.00
16,000.0	90.06	179.58	12,074.2	-3,778.6	914.1	3,849.5	0.00	0.00	0.00
16,100.0	90.06	179.58	12,074.1	-3,878.6	914.9	3,949.1	0.00	0.00	0.00
16,200.0	90.06	179.58	12,074.0	-3,978.6	915.6	4,048.7	0.00	0.00	0.00
16,300.0	90.06	179.58	12,073.9	-4,078.6	916.3	4,148.3	0.00	0.00	0.00
16,400.0	90.06	179.58	12,073.8	-4,178.5	917.0	4,247.9	0.00	0.00	0.00
16,500.0	90.06	179.58	12,073.7	-4,278.5	917.8	4,347.5	0.00	0.00	0.00
16,600.0	90.06	179.58	12,073.6	-4,378.5	918.5	4,447.1	0.00	0.00	0.00
16,700.0	90.06	179.58	12,073.5	-4,478.5	919.2	4,546.7	0.00	0.00	0.00
16,800.0	90.06	179.58	12,073.4	-4,578.5	919.9	4,646.3	0.00	0.00	0.00
16,900.0	90.06	179.58	12,073.3	-4,678.5	920.7	4,745.8	0.00	0.00	0.00
17,000.0	90.06	179.58	12,073.2	-4,778.5	921.4	4,845.4	0.00	0.00	0.00
17,100.0	90.06	179.58	12,073.1	-4,878.5	922.1	4,945.0	0.00	0.00	0.00
17,200.0	90.06	179.58	12,073.0	-4,978.5	922.8	5,044.6	0.00	0.00	0.00
17,300.0	90.06	179.58	12,072.9	-5,078.5	923.6	5,144.2	0.00	0.00	0.00
17,400.0	90.06	179.58	12,072.8	-5,178.5	924.3	5,243.8	0.00	0.00	0.00
17,500.0	90.06	179.58	12,072.7	-5,278.5	925.0	5,343.4	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Well:	WINDWARD 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)
17,600.0	90.06	179.58	12,072.6	-5,378.5	925.7	5,443.0	0.00	0.00	0.00
17,700.0	90.06	179.58	12,072.5	-5,478.5	926.5	5,542.6	0.00	0.00	0.00
17,800.0	90.06	179.58	12,072.4	-5,578.5	927.2	5,642.2	0.00	0.00	0.00
17,900.0	90.06	179.58	12,072.3	-5,678.5	927.9	5,741.8	0.00	0.00	0.00
18,000.0	90.06	179.58	12,072.2	-5,778.5	928.6	5,841.4	0.00	0.00	0.00
18,100.0	90.06	179.58	12,072.1	-5,878.5	929.4	5,941.0	0.00	0.00	0.00
18,200.0	90.06	179.58	12,072.0	-5,978.5	930.1	6,040.6	0.00	0.00	0.00
18,300.0	90.06	179.58	12,071.9	-6,078.5	930.8	6,140.2	0.00	0.00	0.00
18,400.0	90.06	179.58	12,071.8	-6,178.5	931.5	6,239.8	0.00	0.00	0.00
18,500.0	90.06	179.58	12,071.7	-6,278.5	932.3	6,339.4	0.00	0.00	0.00
18,600.0	90.06	179.58	12,071.6	-6,378.5	933.0	6,439.0	0.00	0.00	0.00
18,700.0	90.06	179.58	12,071.5	-6,478.5	933.7	6,538.6	0.00	0.00	0.00
18,800.0	90.06	179.58	12,071.3	-6,578.5	934.4	6,638.1	0.00	0.00	0.00
18,900.0	90.06	179.58	12,071.2	-6,678.5	935.2	6,737.7	0.00	0.00	0.00
19,000.0	90.06	179.58	12,071.1	-6,778.5	935.9	6,837.3	0.00	0.00	0.00
19,100.0	90.06	179.58	12,071.0	-6,878.5	936.6	6,936.9	0.00	0.00	0.00
19,200.0	90.06	179.58	12,070.9	-6,978.5	937.3	7,036.5	0.00	0.00	0.00
19,300.0	90.06	179.58	12,070.8	-7,078.5	938.1	7,136.1	0.00	0.00	0.00
19,400.0	90.06	179.58	12,070.7	-7,178.5	938.8	7,235.7	0.00	0.00	0.00
19,500.0	90.06	179.58	12,070.6	-7,278.5	939.5	7,335.3	0.00	0.00	0.00
19,600.0	90.06	179.58	12,070.5	-7,378.5	940.2	7,434.9	0.00	0.00	0.00
19,700.0	90.06	179.58	12,070.4	-7,478.5	941.0	7,534.5	0.00	0.00	0.00
19,800.0	90.06	179.58	12,070.3	-7,578.5	941.7	7,634.1	0.00	0.00	0.00
19,900.0	90.06	179.58	12,070.2	-7,678.5	942.4	7,733.7	0.00	0.00	0.00
20,000.0	90.06	179.58	12,070.1	-7,778.5	943.1	7,833.3	0.00	0.00	0.00
20,100.0	90.06	179.58	12,070.0	-7,878.5	943.9	7,932.9	0.00	0.00	0.00
20,200.0	90.06	179.58	12,069.9	-7,978.4	944.6	8,032.5	0.00	0.00	0.00
20,300.0	90.06	179.58	12,069.8	-8,078.4	945.3	8,132.1	0.00	0.00	0.00
20,400.0	90.06	179.58	12,069.7	-8,178.4	946.0	8,231.7	0.00	0.00	0.00
20,500.0	90.06	179.58	12,069.6	-8,278.4	946.8	8,331.3	0.00	0.00	0.00
20,600.0	90.06	179.58	12,069.5	-8,378.4	947.5	8,430.9	0.00	0.00	0.00
20,700.0	90.06	179.58	12,069.4	-8,478.4	948.2	8,530.4	0.00	0.00	0.00
20,800.0	90.06	179.58	12,069.3	-8,578.4	948.9	8,630.0	0.00	0.00	0.00
20,900.0	90.06	179.58	12,069.2	-8,678.4	949.7	8,729.6	0.00	0.00	0.00
21,000.0	90.06	179.58	12,069.1	-8,778.4	950.4	8,829.2	0.00	0.00	0.00
21,100.0	90.06	179.58	12,069.0	-8,878.4	951.1	8,928.8	0.00	0.00	0.00
21,200.0	90.06	179.58	12,068.9	-8,978.4	951.8	9,028.4	0.00	0.00	0.00
21,300.0	90.06	179.58	12,068.8	-9,078.4	952.6	9,128.0	0.00	0.00	0.00
21,400.0	90.06	179.58	12,068.7	-9,178.4	953.3	9,227.6	0.00	0.00	0.00
21,500.0	90.06	179.58	12,068.6	-9,278.4	954.0	9,327.2	0.00	0.00	0.00
21,600.0	90.06	179.58	12,068.4	-9,378.4	954.7	9,426.8	0.00	0.00	0.00
21,700.0	90.06	179.58	12,068.3	-9,478.4	955.5	9,526.4	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #701H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3576.0usft (MCVAY 8)
Well:	WINDWARD 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)
21,800.0	90.06	179.58	12,068.2	-9,578.4	956.2	9,626.0	0.00	0.00	0.00
21,900.0	90.06	179.58	12,068.1	-9,678.4	956.9	9,725.6	0.00	0.00	0.00
22,000.0	90.06	179.58	12,068.0	-9,778.4	957.6	9,825.2	0.00	0.00	0.00
22,034.6	90.06	179.58	12,068.0	-9,813.0	957.9	9,859.6	0.00	0.00	0.00
TD at 22034.6									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
PBHL (WINDWARD F - plan hits target center - Rectangle (sides W100.0 H10,408.0 D20.0)	0.06	359.58	12,068.0	-9,813.0	957.9	424,908.40	694,189.70	32° 9' 59.881 N	103° 42' 20.780 W
LTP (WINDWARD FE - plan misses target center by 0.1usft at 21984.6usft MD (12068.1 TVD, -9763.0 N, 957.5 E) - Point	0.00	0.00	12,068.0	-9,763.0	957.5	424,958.40	694,189.30	32° 10' 0.376 N	103° 42' 20.781 W
FTP (WINDWARD FE - plan misses target center by 551.8usft at 11934.0usft MD (11892.6 TVD, 168.0 N, 584.3 E) - Circle (radius 50.0)	0.00	0.00	12,078.0	594.1	882.0	435,315.50	694,113.80	32° 11' 42.873 N	103° 42' 20.956 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
2685	2685	3	5	Start 8935.4 hold at 2684.7 MD
11,620	11,601	250	525	Start DLS 12.00 TFO 90.28
12,371	12,078	-169	756	Start DLS 4.00 TFO 89.99
12,990	12,077	-768	892	Start 9044.8 hold at 12989.8 MD
22,035	12,068	-9813	958	TD at 22034.6

Checked By: _____ Approved By: _____ Date: _____



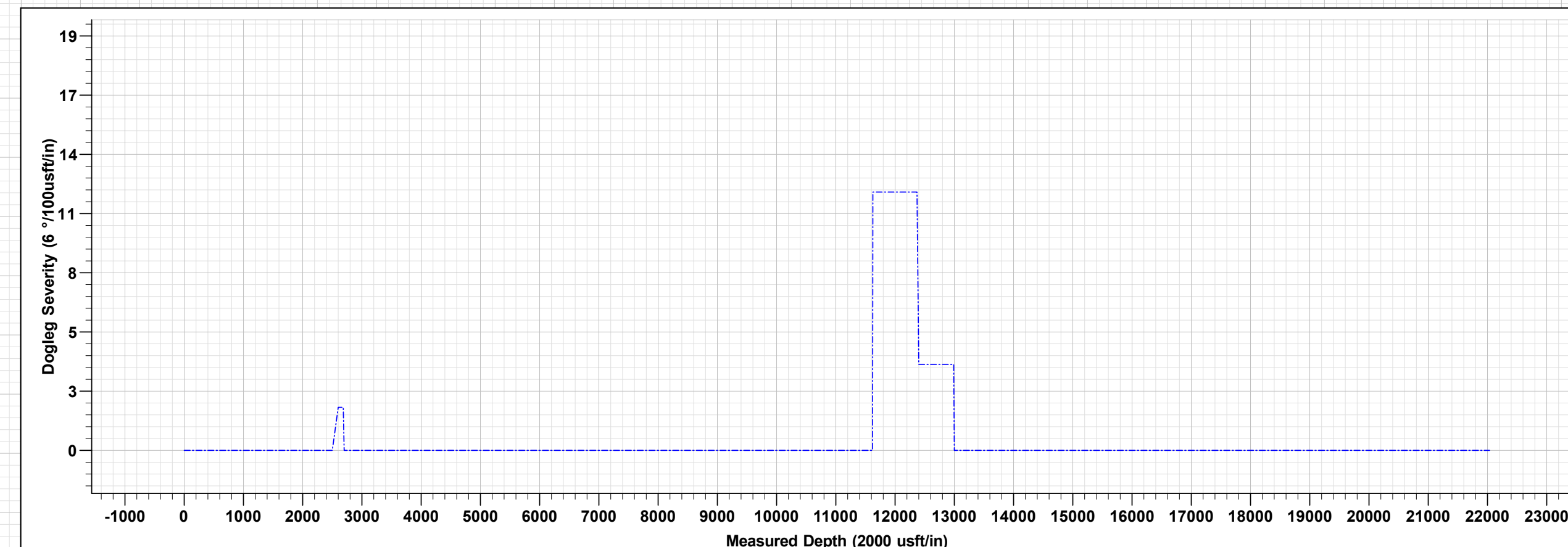
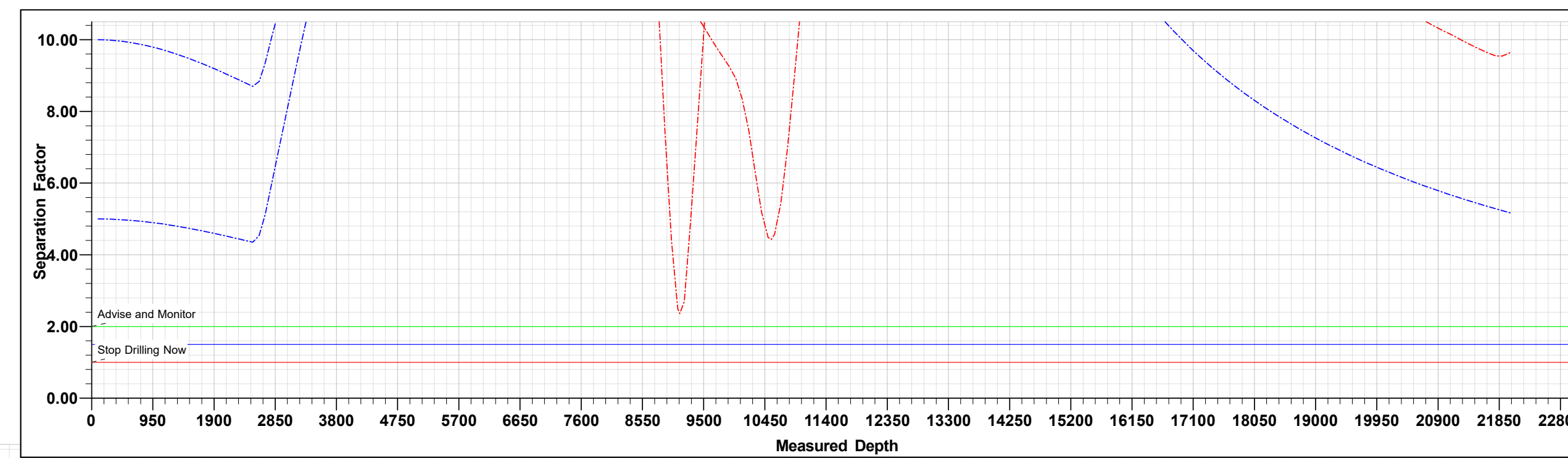
Project: BULLDOG PROSPECT (NM-E)
Site: WINDWARD FEDERAL PROJECT (BULLDOG 2432)
Well: WINDWARD FED #701H
Wellbore: OWB
Design: PWP1
GL: 3550.0
KB=26' @ 3576.0usft (MCVAY 8)

WELL DETAILS: WINDWARD FED #701H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	434721.40	693231.80	32° 11' 37.044 N	103° 42' 31.260 W

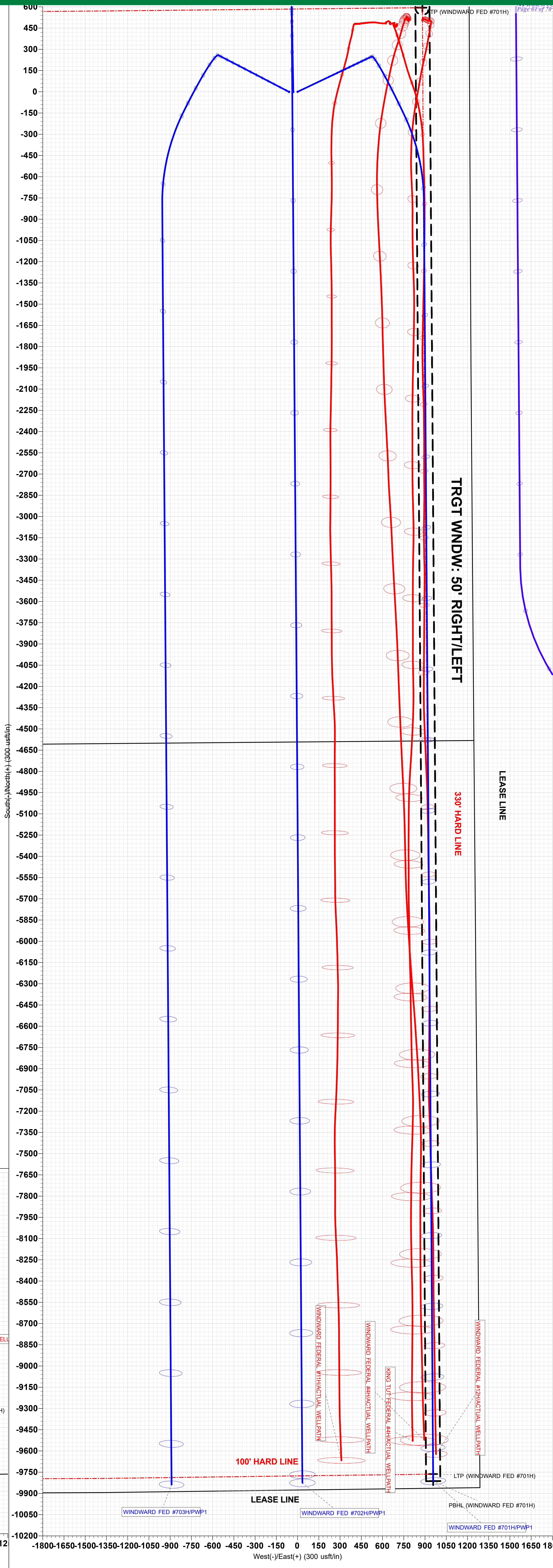
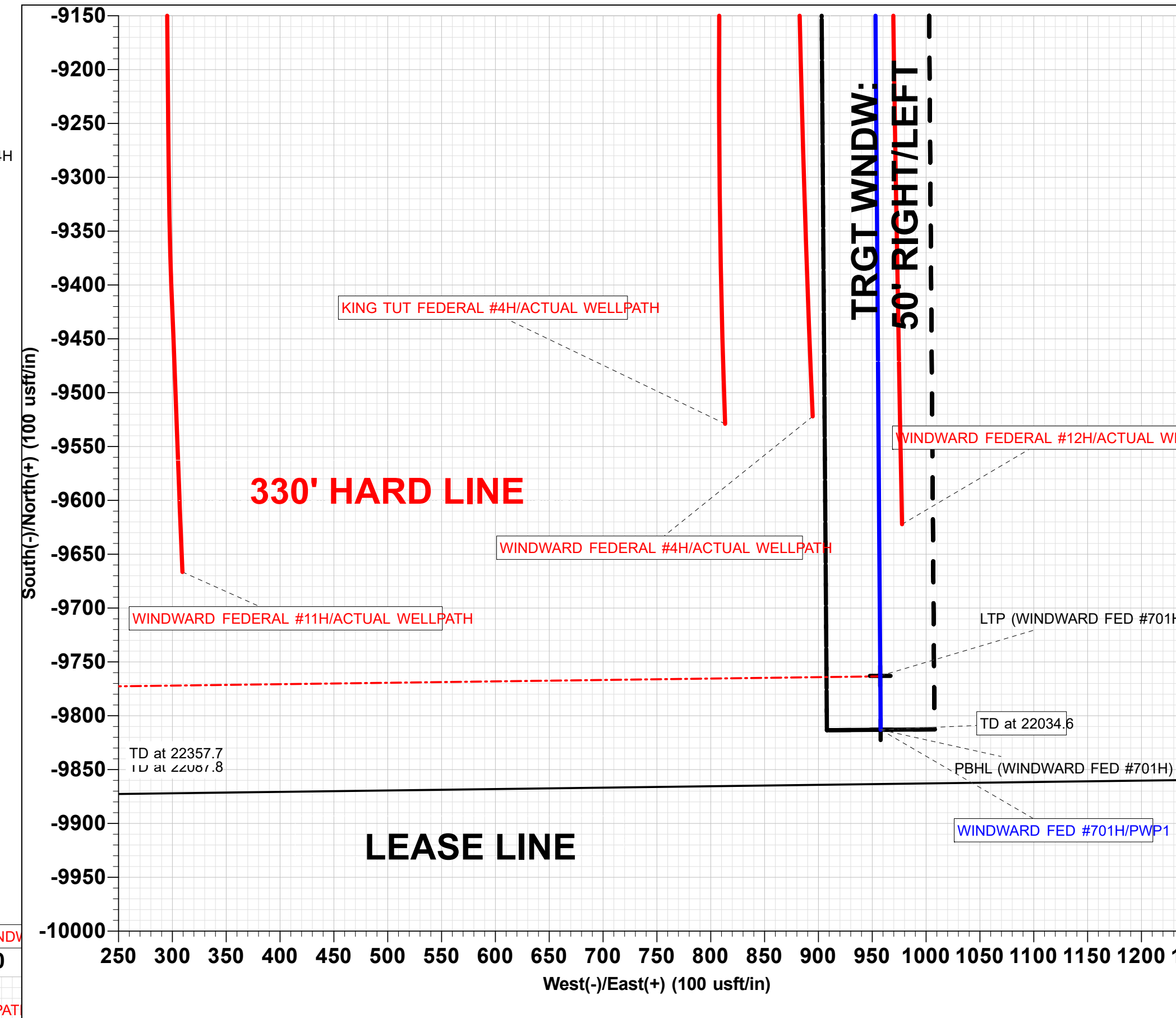
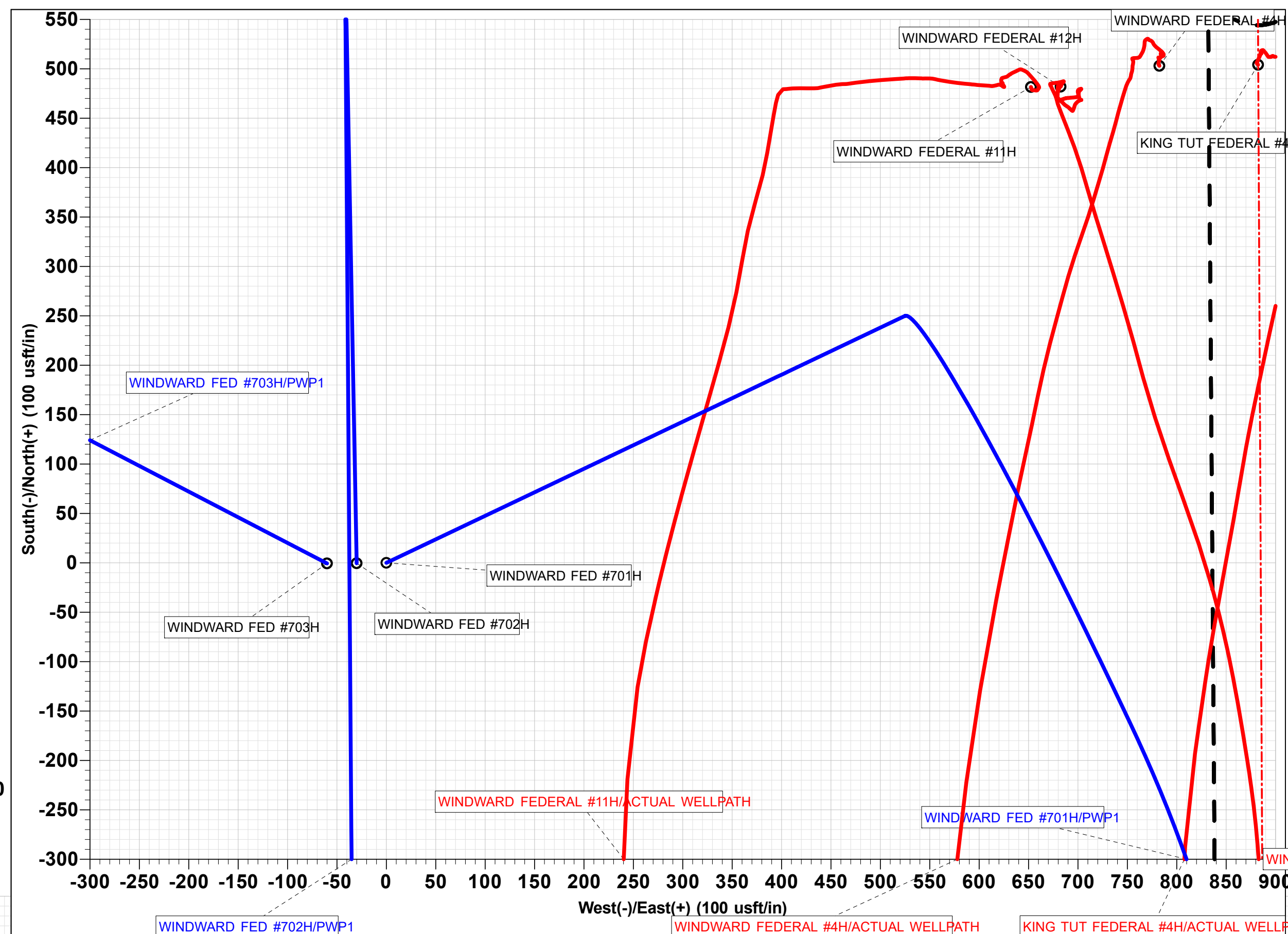
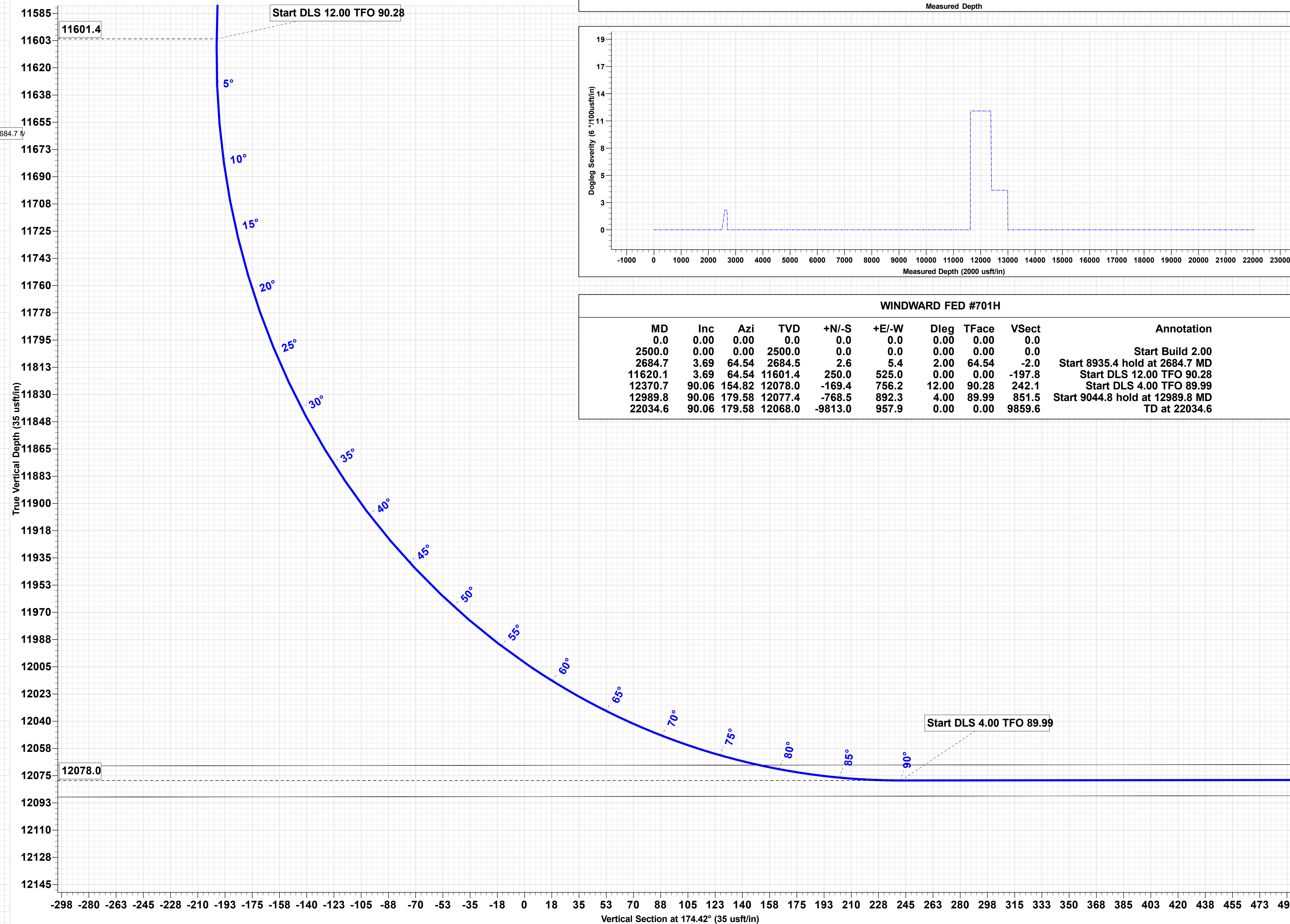
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LTP (WINDWARD FED #701H)	12068.0	-9763.0	957.5	424958.40	694189.30	32° 10' 0.376 N	103° 42' 20.781 W
PBHL (WINDWARD FED #701H)	12068.0	-9813.0	957.9	424908.40	694189.70	32° 9' 59.881 N	103° 42' 20.780 W
FTP (WINDWARD FED #701H)	12078.0	594.1	882.0	435315.50	694113.80	32° 11' 42.873 N	103° 42' 20.956 W

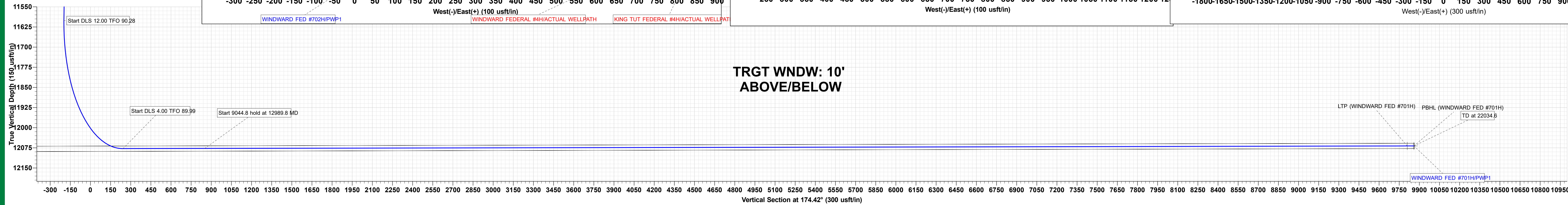


WINDWARD FED #701H

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start 8935.4 hold at 2684.7 MD
2684.7	3.69	64.54	2684.5	2.6	5.4	2.00	64.54	-2.0	Start DLS 12.00 TFO 90.28
11620.1	3.69	64.54	11601.4	250.0	525.0	0.00	0.00	-197.8	Start DLS 4.00 TFO 89.99
12370.7	90.06	154.82	12078.0	-169.4	756.2	12.00	90.28	242.1	TD at 22034.6
12989.8	90.06	179.58	12077.4	-768.5	892.3	4.00	89.99	851.5	
22034.6	90.06	179.58	12068.0	-9813.0	957.9	0.00	0.00	9859.6	

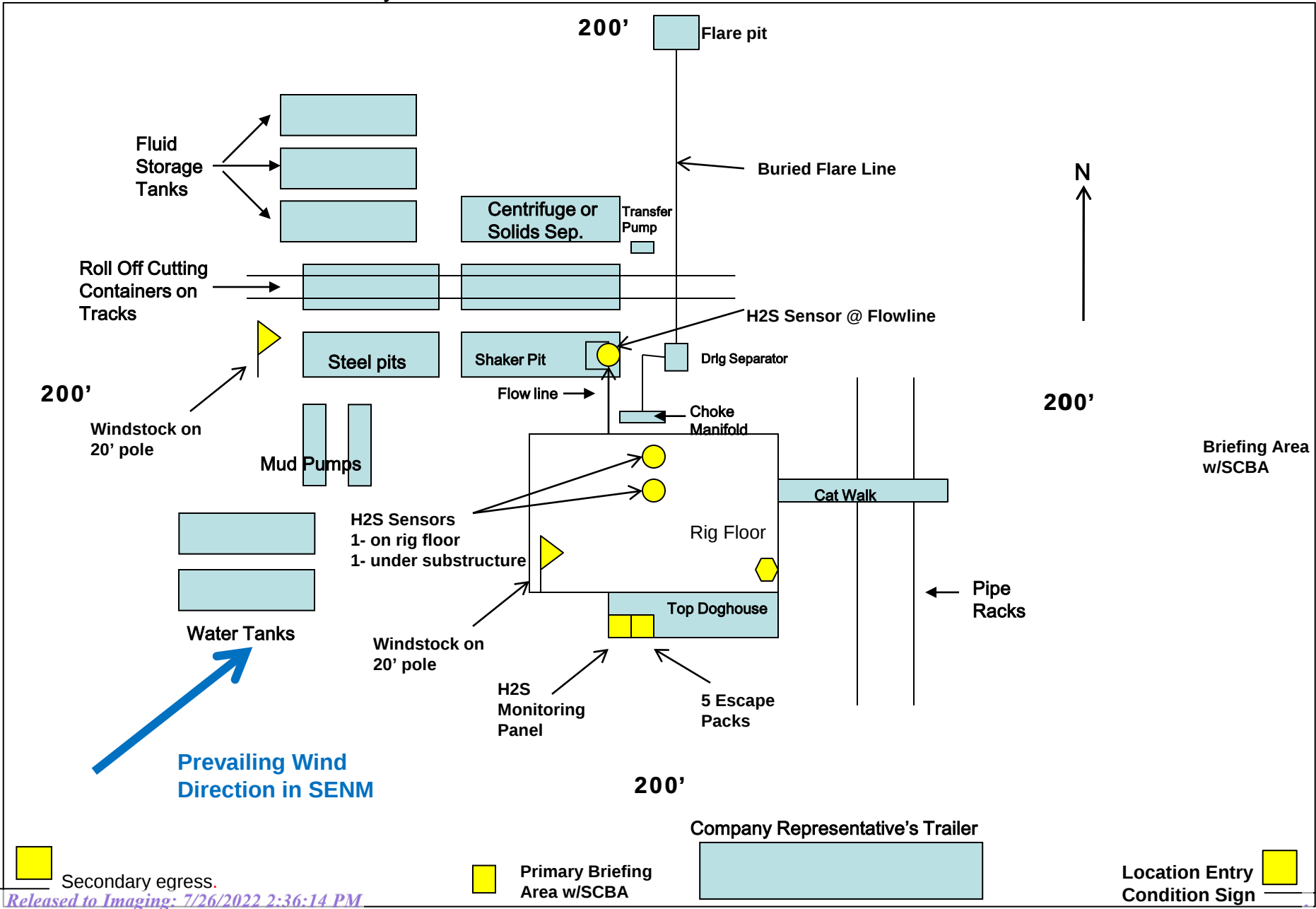


TRGT WNDW: 10'
ABOVE/BELOW



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

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



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

W A R N I N G

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

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

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

EMERGENCY RESPONSE NUMBERS

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

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 120008

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 120008
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	7/26/2022
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	7/26/2022
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	7/26/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	7/26/2022