Form 3160-3
(June 2015)

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

# APPLICATION FOR PERMIT TO DRILL OR REENTER

5. Lease Serial No.

6. If Indian, Allotee or Tribe Name

1a. Type of work: ☐ DRILL ☐ REENTER

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

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

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

8. Lease Name and Well No.
**[329961]**

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

9. API Well No. **30-025-48420**

| 3a. Address | 3b. Phone No. *(include area code)* | 10. Field and Pool, or Exploratory **[96229]** |
|---|---|---|
| | | |

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.

**GCP Rec 2021-01-07**

**01/27/2021**

**SL**

APPROVED WITH CONDITIONS

**Approval Date: 12/04/2020**

(Continued on page 2)

*(Instructions on page 2)

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

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

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

☐ AMENDED REPORT

# WELL LOCATION AND ACREAGE DEDICATION PLAT

| API Number | Pool Code | Pool Name |
|---|---|---|
| 30-025-48420 | 96229 | Mesa Verde; Bone Spring |

| Property Code | Property Name | Well Number |
|---|---|---|
| 329961 | GIN AND TECTONIC FEDERAL COM | 205H |

| OGRID No. | Operator Name | Elevation |
|---|---|---|
| 229137 | COG OPERATING, LLC | 3593.0' |

## Surface Location

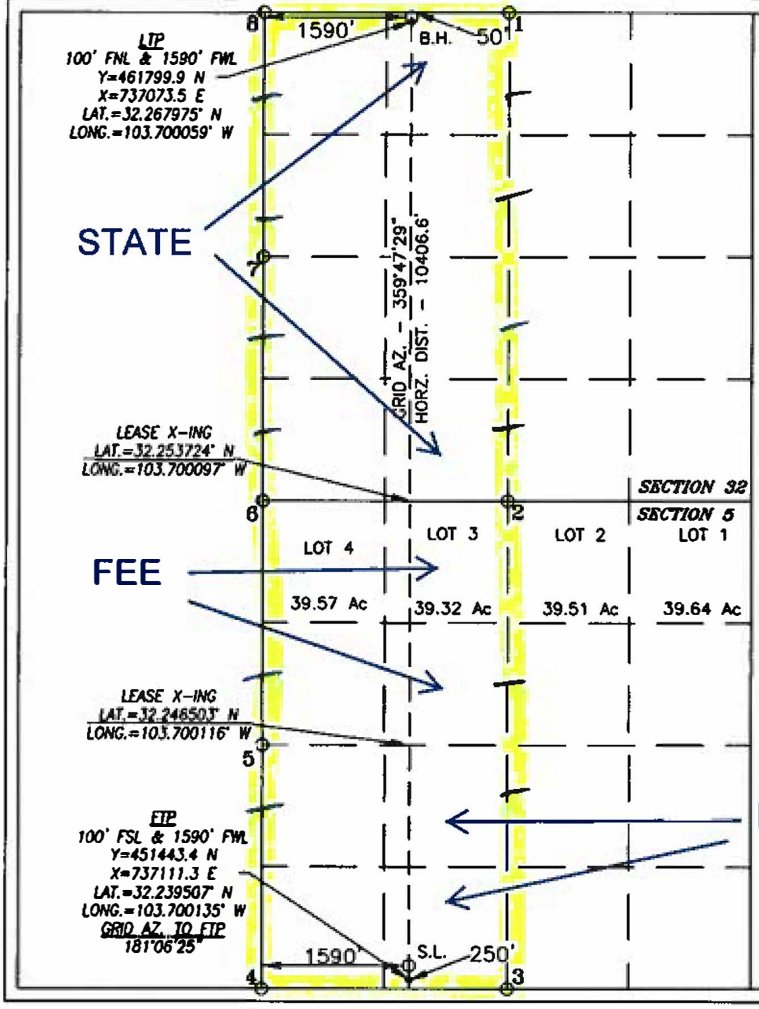
| UL or lot No. | Section | Township | Range | Lot Idn | Feet from the | North/South line | Feet from the | East/West line | County |
|---|---|---|---|---|---|---|---|---|---|
| N | 5 | 24-S | 32-E | | 250 | SOUTH | 1590 | WEST | LEA |

## 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 |
|---|---|---|---|---|---|---|---|---|---|
| C | 32 | 23-S | 32-E | | 50 | NORTH | 1590 | WEST | LEA |

| Dedicated Acres | Joint or Infill | Consolidation Code | Order No. |
|---|---|---|---|
| 639.87 | | | |

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




NAD 83 NME
PROPOSED BOTTOM HOLE LOCATION
Y=461849.9 N
X=737073.4 E
LAT.=32.268113° N
LONG.=103.700059° W

| POINT LEGEND | |
|---|---|
| 1 | Y=461909.3 N X=738118.6 E |
| 2 | Y=456623.7 N X=738146.9 E |
| 3 | Y=451358.5 N X=738151.9 E |
| 4 | Y=451320.3 N X=735518.6 E |
| 5 | Y=453971.6 N X=735569.2 E |
| 6 | Y=456603.0 N X=735510.7 E |
| 7 | Y=459243.2 N X=735500.1 E |
| 8 | Y=461885.7 N X=735483.1 E |

NMNM120906

NAD 83 NME
SURFACE LOCATION
Y=451593.5 N
X=737114.2 E
LAT.=32.239920° N
LONG.=103.700123° W

## OPERATOR CERTIFICATION

*I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.*

Signature Date 1-3-2021

Mayte Reyes
Printed Name

mreyes1@concho.com
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.*

MAY 11, 2020
Date of Survey

Signature & Seal of Professional Surveyor

CHAD L. HARCROW
NEW MEXICO
17777
LICENSED PROFESSIONAL SURVEYOR

5/20/20

Certificate No. CHAD HARCROW 17777
W.O. # 20-697 DRAWN BY: AH

As per LR2000 Lot 1: 39.47 Lot 2: 39.66 Lot 3: 39.84 Lot 4: 40.03

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

State of New Mexico
Energy, Minerals and Natural Resources Department

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

Submit Original to Appropriate District Office

# GAS CAPTURE PLAN

Date: 6/15/2020

☒ Original Operator & OGRID No.: COG Operating LLC, OGRID 229137
☐ Amended - Reason for Amendment:_____

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

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

## Well(s)/Production Facility – Name of facility

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

| Well Name | API | Well Location (ULSTR) | Footages | Expected MCF/D | Flared or Vented | Comments |
|---|---|---|---|---|---|---|
| Gin and Tectonic Fed Com 205H | 30-025-48420 | P-5-24S-32E | 250' FSL 1590' FWL | 4800 MCFD | | Will connect on well pad. |
| | | | | | | |

## Gathering System and Pipeline Notification

Well(s) will be connected to a production facility after flowback operations are complete, if gas transporter system is in place. The gas produced from production facility is dedicated to DCP and will be connected to Eunice low/high pressure gathering system located in Lea County, New Mexico. It will require approximately an undetermined amount of feet of pipeline on lease to connect the facility to low/high pressure gathering system. COG Operating LLC provides (periodically) to DCP a drilling, completion and estimated first production date for wells that are scheduled to be drilled in the foreseeable future. In addition, COG Operating LLC and DCP have periodic conference calls to discuss changes to drilling and completion schedules. Gas from these wells will be processed at Eunice Processing Plant located in Sec 5 Twn, 21S Rng, 36E, Lea County, New Mexico. The actual flow of the gas will be based on compression operating parameters and gathering system pressures.

## Flowback Strategy

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

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

## Alternatives to Reduce Flaring

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

- Power Generation – On lease
  - Only a portion of gas is consumed operating the generator, remainder of gas will be flared
- Compressed Natural Gas – On lease
  - Gas flared would be minimal, but might be uneconomical to operate when gas volume declines
- NGL Removal – On lease
  - Plants are expensive, residue gas is still flared, and uneconomical to operate when gas volume declines

## 1. Geologic Formations

| | | | |
|---|---|---|---|
| TVD of target | 9,170' EOL | Pilot hole depth | NA |
| MD at TD: | 19,181' | Deepest expected fresh water: | 380' |

| Formation | Depth (TVD) from KB | Water/Mineral Bearing/ Target Zone? | Hazards* |
|---|---|---|---|
| Quaternary Fill | Surface | Water | |
| Rustler | 946 | Water | |
| Top of Salt | 1293 | Salt | |
| Base of Salt | 4458 | Salt | |
| Lamar | 4665 | Salt Water | |
| Bell Canyon | 4710 | Salt Water | |
| Cherry Canyon | 5585 | Oil/Gas | |
| Brushy Canyon | 6894 | Oil/Gas | |
| Bone Springs | 8499 | Oil/Gas | |
| M. Avalon Shale | 8882 | Target Oil/Gas | |
| L. Avalon Shale | 9266 | Not Penetrated | |
| Basal Avalon | X | Not Penetrated | |
| 1st Bone Spring Sand | 9650 | Not Penetrated | |
| 2nd Bone Spring Sand | X | Not Penetrated | |
| 3rd Bone Spring Sand | X | Not Penetrated | |

## 2. Casing Program

| Hole Size | Casing From | Casing To | Csg. Size | Weight (lbs) | Grade | Conn. | SF Collapse | SF Burst | SF Tension |
|---|---|---|---|---|---|---|---|---|---|
| 17.5” | 0 | 975 | 13.375” | 54.5 | J55 | STC | 2.53 | 1.33 | 9.67 |
| 12.25” | 0 | 4000 | 9.625” | 40 | J55 | LTC | 1.22 | 1.12 | 3.25 |
| 12.25" | 4000 | 4690 | 9.625" | 40 | L80 | LTC | 1.25 | 1.63 | 5.73 |
| 8.75” | 0 | 19,181 | 5.5” | 17 | P110 | LTC | 1.69 | 3.02 | 2.85 |
| | | | BLM Minimum Safety Factor | | | | 1.125 | 1 | 1.6 Dry<br>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

| | 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 3rd string cement tied back 500' into previous casing? | |
| | |
| Is well located in R-111-P and SOPA? | N |
| If yes, are the first three strings cemented to surface? | |
| Is 2nd string set 100' to 600' below the base of salt? | |
| | |
| Is well located in high Cave/Karst? | N |
| If yes, are there two strings cemented to surface? | |
| (For 2 string wells) If yes, is there a contingency casing if lost circulation occurs? | |
| | |
| Is well located in critical Cave/Karst? | N |
| If yes, are there three strings cemented to surface? | |

**3. Cementing Program**

| Casing | # Sks | Wt. lb/ gal | Yld ft3/ sack | $H_20$ gal/sk | 500# Comp. Strength (hours) | Slurry Description |
|---|---|---|---|---|---|---|
| Surf. | 390 | 13.5 | 1.75 | 9 | 12 | Lead: Class C + 4% Gel + 1% CaCl2 |
| | 250 | 14.8 | 1.34 | 6.34 | 8 | Tail: Class C + 2% CaCl2 |
| Inter. | 890 | 12.7 | 2.0 | 9.6 | 16 | Lead: 35:65:6 C Blend |
| | 250 | 14.8 | 1.34 | 6.34 | 8 | Tail: Class C + 2% CaCl |
| 5.5 Prod | 620 | 11.9 | 2.5 | 19 | 72 | Lead: 50:50:10 H Blend |
| | 2680 | 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% |
| 1st Intermediate | 0' | 50% |
| Production | 4,190' | 25% OH in Lateral (KOP to EOL) – 40% OH in Vertical |

**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: |
|---|---|---|---|---|---|
| 12-1/4" | 13-5/8" | 3M | Annular | x | 50% testing pressure |
| | | | Blind Ram | x | 3M |
| | | | Pipe Ram | x | |
| | | | Double Ram | | |
| | | | Other* | | |
| 8-3/4" | 13-5/8" | 5M | Annular | x | 50% testing pressure |
| | | | Blind Ram | x | 5M |
| | | | Pipe Ram | x | |
| | | | Double Ram | | |
| | | | Other* | | |

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

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

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

**5. Mud Program**

| Depth | | Type | Weight (ppg) | Viscosity | Water Loss |
|---|---|---|---|---|---|
| From | To | | | | |
| 0 | Surf. Shoe | FW Gel | 8.6 - 8.8 | 28-34 | N/C |
| Surf csg | 9-5/8" Int shoe | Saturated Brine | 10 - 10.1 | 28-34 | N/C |
| 9-5/8" Int shoe | Lateral TD | Cut Brine | 8.6 - 9.3 | 28-34 | N/C |

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

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

**6. Logging and Testing Procedures**

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

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

**7. Drilling Conditions**

| Condition | Specify what type and where? |
|---|---|
| BH Pressure at deepest TVD | 4435 psi at 9170' TVD |
| Abnormal Temperature | NO 150 Deg. F. |

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

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

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

**8. Other Facets of Operation**

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

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

# DELAWARE BASIN EAST

**BULLDOG PROSPECT (NM-E)**
**GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332)**
**GIN AND TECTONIC FED COM 205H**

**OWB**

**Plan: PWP1**

# Standard Survey Report

**17 June, 2020**

# Concho Resources LLC

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Well:** | GIN AND TECTONIC FED COM 205H | **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** | GIN AND TECTONIC FED COM 205H | | | | |
|---|---|---|---|---|---|
| **Well Position** | **+N/-S** | 0.0 usft | **Northing:** | 451,534.50 usft | **Latitude:** | 32° 14' 23.267 N |
| | **+E/-W** | 0.0 usft | **Easting:** | 695,930.20 usft | **Longitude:** | 103° 41' 58.706 W |
| **Position Uncertainty** | | 3.0 usft | **Wellhead Elevation:** | usft | **Ground Level:** | 3,593.0 usft |

**Wellbore** OWB

| **Magnetics** | **Model Name** | **Sample Date** | **Declination (°)** | **Dip Angle (°)** | **Field Strength (nT)** |
|---|---|---|---|---|---|
| | IGRF2020 | 6/17/2020 | 6.72 | 59.93 | 47,592.35001831 |

**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 | 359.77 |

**Survey Tool Program** **Date** 6/17/2020

| **From (usft)** | **To (usft)** | **Survey (Wellbore)** | **Tool Name** | **Description** |
|---|---|---|---|---|
| 0.0 | 19,181.4 | PWP1 (OWB) | MWD+IFR1+FDIR | OWSG MWD + IFR1 + FDIR Correction |

**Planned Survey**

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

# Concho Resources LLC

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Well:** | GIN AND TECTONIC FED COM 205H | **North Reference:** | Grid |
| **Wellbore:** | OWB | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | PWP1 | **Database:** | edm |

**Planned Survey**

| Measured Depth (usft) | Inclination (°) | Azimuth (°) | Vertical Depth (usft) | +N/-S (usft) | +E/-W (usft) | Vertical Section (usft) | Dogleg Rate (°/100usft) | Build Rate (°/100usft) | Turn Rate (°/100usft) |
|---|---|---|---|---|---|---|---|---|---|
| 1,500.0 | 0.00 | 0.00 | 1,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,600.0 | 0.00 | 0.00 | 1,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,700.0 | 0.00 | 0.00 | 1,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,800.0 | 0.00 | 0.00 | 1,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 1,900.0 | 0.00 | 0.00 | 1,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,000.0 | 0.00 | 0.00 | 2,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,100.0 | 0.00 | 0.00 | 2,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,200.0 | 0.00 | 0.00 | 2,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,300.0 | 0.00 | 0.00 | 2,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,400.0 | 0.00 | 0.00 | 2,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,500.0 | 0.00 | 0.00 | 2,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,600.0 | 0.00 | 0.00 | 2,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,700.0 | 0.00 | 0.00 | 2,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,800.0 | 0.00 | 0.00 | 2,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 2,900.0 | 0.00 | 0.00 | 2,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,000.0 | 0.00 | 0.00 | 3,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,100.0 | 0.00 | 0.00 | 3,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,200.0 | 0.00 | 0.00 | 3,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,300.0 | 0.00 | 0.00 | 3,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,400.0 | 0.00 | 0.00 | 3,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,500.0 | 0.00 | 0.00 | 3,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,600.0 | 0.00 | 0.00 | 3,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,700.0 | 0.00 | 0.00 | 3,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,800.0 | 0.00 | 0.00 | 3,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 3,900.0 | 0.00 | 0.00 | 3,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,000.0 | 0.00 | 0.00 | 4,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,100.0 | 0.00 | 0.00 | 4,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,200.0 | 0.00 | 0.00 | 4,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,300.0 | 0.00 | 0.00 | 4,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,400.0 | 0.00 | 0.00 | 4,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,500.0 | 0.00 | 0.00 | 4,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,600.0 | 0.00 | 0.00 | 4,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,700.0 | 0.00 | 0.00 | 4,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,800.0 | 0.00 | 0.00 | 4,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 4,900.0 | 0.00 | 0.00 | 4,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,000.0 | 0.00 | 0.00 | 5,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,100.0 | 0.00 | 0.00 | 5,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,200.0 | 0.00 | 0.00 | 5,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,300.0 | 0.00 | 0.00 | 5,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,400.0 | 0.00 | 0.00 | 5,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,500.0 | 0.00 | 0.00 | 5,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,600.0 | 0.00 | 0.00 | 5,600.0 | 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 GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Well:** | GIN AND TECTONIC FED COM 205H | **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) |
|---|---|---|---|---|---|---|---|---|---|
| 5,700.0 | 0.00 | 0.00 | 5,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,800.0 | 0.00 | 0.00 | 5,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 5,900.0 | 0.00 | 0.00 | 5,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,000.0 | 0.00 | 0.00 | 6,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,100.0 | 0.00 | 0.00 | 6,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,200.0 | 0.00 | 0.00 | 6,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,300.0 | 0.00 | 0.00 | 6,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,400.0 | 0.00 | 0.00 | 6,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,500.0 | 0.00 | 0.00 | 6,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,600.0 | 0.00 | 0.00 | 6,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,700.0 | 0.00 | 0.00 | 6,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,800.0 | 0.00 | 0.00 | 6,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 6,900.0 | 0.00 | 0.00 | 6,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,000.0 | 0.00 | 0.00 | 7,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,100.0 | 0.00 | 0.00 | 7,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,200.0 | 0.00 | 0.00 | 7,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,300.0 | 0.00 | 0.00 | 7,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,400.0 | 0.00 | 0.00 | 7,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,500.0 | 0.00 | 0.00 | 7,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,600.0 | 0.00 | 0.00 | 7,600.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,700.0 | 0.00 | 0.00 | 7,700.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,800.0 | 0.00 | 0.00 | 7,800.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 7,900.0 | 0.00 | 0.00 | 7,900.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,000.0 | 0.00 | 0.00 | 8,000.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,100.0 | 0.00 | 0.00 | 8,100.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,200.0 | 0.00 | 0.00 | 8,200.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,300.0 | 0.00 | 0.00 | 8,300.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,400.0 | 0.00 | 0.00 | 8,400.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,500.0 | 0.00 | 0.00 | 8,500.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| 8,597.0 | 0.00 | 0.00 | 8,597.0 | 0.0 | 0.0 | 0.0 | 0.00 | 0.00 | 0.00 |
| **Start Build 10.00** | | | | | | | | | |
| 8,600.0 | 0.30 | 1.20 | 8,600.0 | 0.0 | 0.0 | 0.0 | 10.00 | 10.00 | 0.00 |
| 8,700.0 | 10.30 | 1.20 | 8,699.4 | 9.2 | 0.2 | 9.2 | 10.00 | 10.00 | 0.00 |
| 8,800.0 | 20.30 | 1.20 | 8,795.8 | 35.6 | 0.7 | 35.6 | 10.00 | 10.00 | 0.00 |
| 8,900.0 | 30.30 | 1.20 | 8,886.1 | 78.3 | 1.6 | 78.2 | 10.00 | 10.00 | 0.00 |
| 9,000.0 | 40.30 | 1.20 | 8,967.6 | 136.0 | 2.8 | 135.9 | 10.00 | 10.00 | 0.00 |
| 9,100.0 | 50.30 | 1.20 | 9,037.8 | 206.9 | 4.3 | 206.9 | 10.00 | 10.00 | 0.00 |
| 9,200.0 | 60.30 | 1.20 | 9,094.7 | 289.0 | 6.1 | 289.0 | 10.00 | 10.00 | 0.00 |
| 9,300.0 | 70.30 | 1.20 | 9,136.4 | 379.7 | 8.0 | 379.7 | 10.00 | 10.00 | 0.00 |
| 9,400.0 | 80.30 | 1.20 | 9,161.8 | 476.3 | 10.0 | 476.3 | 10.00 | 10.00 | 0.00 |
| 9,497.0 | 90.00 | 1.20 | 9,170.0 | 572.8 | 12.0 | 572.8 | 10.00 | 10.00 | 0.00 |
| **Start DLS 2.00 TFO -90.55** | | | | | | | | | |
| 9,500.0 | 90.00 | 1.14 | 9,170.0 | 575.8 | 12.1 | 575.8 | 2.00 | -0.02 | -2.00 |

# Concho Resources LLC

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Well:** | GIN AND TECTONIC FED COM 205H | **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) |
|---|---|---|---|---|---|---|---|---|---|
| 9,504.0 | 90.00 | 1.06 | 9,170.0 | 579.8 | 12.1 | 579.8 | 2.00 | -0.02 | -2.00 |
| **Start 1800.9 hold at 9504.0 MD** | | | | | | | | | |
| 9,600.0 | 90.00 | 1.06 | 9,170.0 | 675.8 | 13.9 | 675.8 | 0.00 | 0.00 | 0.00 |
| 9,700.0 | 90.00 | 1.06 | 9,170.0 | 775.8 | 15.8 | 775.7 | 0.00 | 0.00 | 0.00 |
| 9,800.0 | 90.00 | 1.06 | 9,170.0 | 875.8 | 17.6 | 875.7 | 0.00 | 0.00 | 0.00 |
| 9,900.0 | 90.00 | 1.06 | 9,170.0 | 975.8 | 19.5 | 975.7 | 0.00 | 0.00 | 0.00 |
| 10,000.0 | 90.00 | 1.06 | 9,170.0 | 1,075.7 | 21.3 | 1,075.7 | 0.00 | 0.00 | 0.00 |
| 10,100.0 | 90.00 | 1.06 | 9,170.0 | 1,175.7 | 23.2 | 1,175.6 | 0.00 | 0.00 | 0.00 |
| 10,200.0 | 90.00 | 1.06 | 9,170.0 | 1,275.7 | 25.0 | 1,275.6 | 0.00 | 0.00 | 0.00 |
| 10,300.0 | 90.00 | 1.06 | 9,170.0 | 1,375.7 | 26.9 | 1,375.6 | 0.00 | 0.00 | 0.00 |
| 10,400.0 | 90.00 | 1.06 | 9,170.0 | 1,475.7 | 28.7 | 1,475.6 | 0.00 | 0.00 | 0.00 |
| 10,500.0 | 90.00 | 1.06 | 9,170.0 | 1,575.7 | 30.6 | 1,575.5 | 0.00 | 0.00 | 0.00 |
| 10,600.0 | 90.00 | 1.06 | 9,170.0 | 1,675.6 | 32.4 | 1,675.5 | 0.00 | 0.00 | 0.00 |
| 10,700.0 | 90.00 | 1.06 | 9,170.0 | 1,775.6 | 34.3 | 1,775.5 | 0.00 | 0.00 | 0.00 |
| 10,800.0 | 90.00 | 1.06 | 9,170.0 | 1,875.6 | 36.1 | 1,875.5 | 0.00 | 0.00 | 0.00 |
| 10,900.0 | 90.00 | 1.06 | 9,170.0 | 1,975.6 | 38.0 | 1,975.4 | 0.00 | 0.00 | 0.00 |
| 11,000.0 | 90.00 | 1.06 | 9,170.0 | 2,075.6 | 39.8 | 2,075.4 | 0.00 | 0.00 | 0.00 |
| 11,100.0 | 90.00 | 1.06 | 9,170.0 | 2,175.6 | 41.7 | 2,175.4 | 0.00 | 0.00 | 0.00 |
| 11,200.0 | 90.00 | 1.06 | 9,170.0 | 2,275.5 | 43.5 | 2,275.4 | 0.00 | 0.00 | 0.00 |
| 11,300.0 | 90.00 | 1.06 | 9,170.0 | 2,375.5 | 45.4 | 2,375.3 | 0.00 | 0.00 | 0.00 |
| 11,304.9 | 90.00 | 1.06 | 9,170.0 | 2,380.4 | 45.5 | 2,380.2 | 0.00 | 0.00 | 0.00 |
| **Start DLS 2.00 TFO -89.97** | | | | | | | | | |
| 11,400.0 | 90.00 | 359.16 | 9,170.0 | 2,475.5 | 45.6 | 2,475.3 | 2.00 | 0.00 | -2.00 |
| 11,424.2 | 90.00 | 358.67 | 9,170.0 | 2,499.7 | 45.2 | 2,499.5 | 2.00 | 0.00 | -2.00 |
| **Start 2522.8 hold at 11424.2 MD** | | | | | | | | | |
| 11,500.0 | 90.00 | 358.67 | 9,170.0 | 2,575.5 | 43.4 | 2,575.3 | 0.00 | 0.00 | 0.00 |
| 11,600.0 | 90.00 | 358.67 | 9,170.0 | 2,675.5 | 41.1 | 2,675.3 | 0.00 | 0.00 | 0.00 |
| 11,700.0 | 90.00 | 358.67 | 9,170.0 | 2,775.4 | 38.8 | 2,775.3 | 0.00 | 0.00 | 0.00 |
| 11,800.0 | 90.00 | 358.67 | 9,170.0 | 2,875.4 | 36.5 | 2,875.2 | 0.00 | 0.00 | 0.00 |
| 11,900.0 | 90.00 | 358.67 | 9,170.0 | 2,975.4 | 34.2 | 2,975.2 | 0.00 | 0.00 | 0.00 |
| 12,000.0 | 90.00 | 358.67 | 9,170.0 | 3,075.4 | 31.9 | 3,075.2 | 0.00 | 0.00 | 0.00 |
| 12,100.0 | 90.00 | 358.67 | 9,170.0 | 3,175.3 | 29.5 | 3,175.2 | 0.00 | 0.00 | 0.00 |
| 12,200.0 | 90.00 | 358.67 | 9,170.0 | 3,275.3 | 27.2 | 3,275.2 | 0.00 | 0.00 | 0.00 |
| 12,300.0 | 90.00 | 358.67 | 9,170.0 | 3,375.3 | 24.9 | 3,375.2 | 0.00 | 0.00 | 0.00 |
| 12,400.0 | 90.00 | 358.67 | 9,170.0 | 3,475.3 | 22.6 | 3,475.1 | 0.00 | 0.00 | 0.00 |
| 12,500.0 | 90.00 | 358.67 | 9,170.0 | 3,575.2 | 20.3 | 3,575.1 | 0.00 | 0.00 | 0.00 |
| 12,600.0 | 90.00 | 358.67 | 9,170.0 | 3,675.2 | 18.0 | 3,675.1 | 0.00 | 0.00 | 0.00 |
| 12,700.0 | 90.00 | 358.67 | 9,170.0 | 3,775.2 | 15.7 | 3,775.1 | 0.00 | 0.00 | 0.00 |
| 12,800.0 | 90.00 | 358.67 | 9,170.0 | 3,875.1 | 13.3 | 3,875.1 | 0.00 | 0.00 | 0.00 |
| 12,900.0 | 90.00 | 358.67 | 9,170.0 | 3,975.1 | 11.0 | 3,975.0 | 0.00 | 0.00 | 0.00 |
| 13,000.0 | 90.00 | 358.67 | 9,170.0 | 4,075.1 | 8.7 | 4,075.0 | 0.00 | 0.00 | 0.00 |
| 13,100.0 | 90.00 | 358.67 | 9,170.0 | 4,175.1 | 6.4 | 4,175.0 | 0.00 | 0.00 | 0.00 |
| 13,200.0 | 90.00 | 358.67 | 9,170.0 | 4,275.0 | 4.1 | 4,275.0 | 0.00 | 0.00 | 0.00 |

# Concho Resources LLC

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Well:** | GIN AND TECTONIC FED COM 205H | **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 | 90.00 | 358.67 | 9,170.0 | 4,375.0 | 1.8 | 4,375.0 | 0.00 | 0.00 | 0.00 |
| 13,400.0 | 90.00 | 358.67 | 9,170.0 | 4,475.0 | -0.5 | 4,475.0 | 0.00 | 0.00 | 0.00 |
| 13,500.0 | 90.00 | 358.67 | 9,170.0 | 4,575.0 | -2.8 | 4,574.9 | 0.00 | 0.00 | 0.00 |
| 13,600.0 | 90.00 | 358.67 | 9,170.0 | 4,674.9 | -5.2 | 4,674.9 | 0.00 | 0.00 | 0.00 |
| 13,700.0 | 90.00 | 358.67 | 9,170.0 | 4,774.9 | -7.5 | 4,774.9 | 0.00 | 0.00 | 0.00 |
| 13,800.0 | 90.00 | 358.67 | 9,170.0 | 4,874.9 | -9.8 | 4,874.9 | 0.00 | 0.00 | 0.00 |
| 13,900.0 | 90.00 | 358.67 | 9,170.0 | 4,974.9 | -12.1 | 4,974.9 | 0.00 | 0.00 | 0.00 |
| 13,947.0 | 90.00 | 358.67 | 9,170.0 | 5,021.9 | -13.2 | 5,021.9 | 0.00 | 0.00 | 0.00 |
| **Start DLS 2.00 TFO 90.00** | | | | | | | | | |
| 14,000.0 | 90.00 | 359.73 | 9,170.0 | 5,074.8 | -13.9 | 5,074.8 | 2.00 | 0.00 | 2.00 |
| 14,002.3 | 90.00 | 359.78 | 9,170.0 | 5,077.2 | -13.9 | 5,077.2 | 2.00 | 0.00 | 2.00 |
| **Start 2580.6 hold at 14002.3 MD** | | | | | | | | | |
| 14,100.0 | 90.00 | 359.78 | 9,170.0 | 5,174.8 | -14.3 | 5,174.8 | 0.00 | 0.00 | 0.00 |
| 14,200.0 | 90.00 | 359.78 | 9,170.0 | 5,274.8 | -14.7 | 5,274.8 | 0.00 | 0.00 | 0.00 |
| 14,300.0 | 90.00 | 359.78 | 9,170.0 | 5,374.8 | -15.1 | 5,374.8 | 0.00 | 0.00 | 0.00 |
| 14,400.0 | 90.00 | 359.78 | 9,170.0 | 5,474.8 | -15.5 | 5,474.8 | 0.00 | 0.00 | 0.00 |
| 14,500.0 | 90.00 | 359.78 | 9,170.0 | 5,574.8 | -15.8 | 5,574.8 | 0.00 | 0.00 | 0.00 |
| 14,600.0 | 90.00 | 359.78 | 9,170.0 | 5,674.8 | -16.2 | 5,674.8 | 0.00 | 0.00 | 0.00 |
| 14,700.0 | 90.00 | 359.78 | 9,170.0 | 5,774.8 | -16.6 | 5,774.8 | 0.00 | 0.00 | 0.00 |
| 14,800.0 | 90.00 | 359.78 | 9,170.0 | 5,874.8 | -17.0 | 5,874.8 | 0.00 | 0.00 | 0.00 |
| 14,900.0 | 90.00 | 359.78 | 9,170.0 | 5,974.8 | -17.4 | 5,974.8 | 0.00 | 0.00 | 0.00 |
| 15,000.0 | 90.00 | 359.78 | 9,170.0 | 6,074.8 | -17.7 | 6,074.8 | 0.00 | 0.00 | 0.00 |
| 15,100.0 | 90.00 | 359.78 | 9,170.0 | 6,174.8 | -18.1 | 6,174.8 | 0.00 | 0.00 | 0.00 |
| 15,200.0 | 90.00 | 359.78 | 9,170.0 | 6,274.8 | -18.5 | 6,274.8 | 0.00 | 0.00 | 0.00 |
| 15,300.0 | 90.00 | 359.78 | 9,170.0 | 6,374.8 | -18.9 | 6,374.8 | 0.00 | 0.00 | 0.00 |
| 15,400.0 | 90.00 | 359.78 | 9,170.0 | 6,474.8 | -19.3 | 6,474.8 | 0.00 | 0.00 | 0.00 |
| 15,500.0 | 90.00 | 359.78 | 9,170.0 | 6,574.8 | -19.7 | 6,574.8 | 0.00 | 0.00 | 0.00 |
| 15,600.0 | 90.00 | 359.78 | 9,170.0 | 6,674.8 | -20.0 | 6,674.8 | 0.00 | 0.00 | 0.00 |
| 15,700.0 | 90.00 | 359.78 | 9,170.0 | 6,774.8 | -20.4 | 6,774.8 | 0.00 | 0.00 | 0.00 |
| 15,800.0 | 90.00 | 359.78 | 9,170.0 | 6,874.8 | -20.8 | 6,874.8 | 0.00 | 0.00 | 0.00 |
| 15,900.0 | 90.00 | 359.78 | 9,170.0 | 6,974.8 | -21.2 | 6,974.8 | 0.00 | 0.00 | 0.00 |
| 16,000.0 | 90.00 | 359.78 | 9,170.0 | 7,074.8 | -21.6 | 7,074.8 | 0.00 | 0.00 | 0.00 |
| 16,100.0 | 90.00 | 359.78 | 9,170.0 | 7,174.8 | -22.0 | 7,174.8 | 0.00 | 0.00 | 0.00 |
| 16,200.0 | 90.00 | 359.78 | 9,170.0 | 7,274.8 | -22.3 | 7,274.8 | 0.00 | 0.00 | 0.00 |
| 16,300.0 | 90.00 | 359.78 | 9,170.0 | 7,374.8 | -22.7 | 7,374.8 | 0.00 | 0.00 | 0.00 |
| 16,400.0 | 90.00 | 359.78 | 9,170.0 | 7,474.8 | -23.1 | 7,474.8 | 0.00 | 0.00 | 0.00 |
| 16,500.0 | 90.00 | 359.78 | 9,170.0 | 7,574.8 | -23.5 | 7,574.8 | 0.00 | 0.00 | 0.00 |
| 16,582.9 | 90.00 | 359.78 | 9,170.0 | 7,657.8 | -23.8 | 7,657.8 | 0.00 | 0.00 | 0.00 |
| **Start DLS 2.00 TFO -90.00** | | | | | | | | | |
| 16,590.3 | 90.00 | 359.63 | 9,170.0 | 7,665.1 | -23.8 | 7,665.1 | 2.00 | 0.00 | -2.00 |
| **Start 2591.1 hold at 16590.3 MD** | | | | | | | | | |
| 16,600.0 | 90.00 | 359.63 | 9,170.0 | 7,674.8 | -23.9 | 7,674.8 | 0.00 | 0.00 | 0.00 |
| 16,700.0 | 90.00 | 359.63 | 9,170.0 | 7,774.8 | -24.5 | 7,774.8 | 0.00 | 0.00 | 0.00 |

# Concho Resources LLC

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Well:** | GIN AND TECTONIC FED COM 205H | **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) |
|---|---|---|---|---|---|---|---|---|---|
| 16,800.0 | 90.00 | 359.63 | 9,170.0 | 7,874.8 | -25.2 | 7,874.8 | 0.00 | 0.00 | 0.00 |
| 16,900.0 | 90.00 | 359.63 | 9,170.0 | 7,974.8 | -25.8 | 7,974.8 | 0.00 | 0.00 | 0.00 |
| 17,000.0 | 90.00 | 359.63 | 9,170.0 | 8,074.8 | -26.5 | 8,074.8 | 0.00 | 0.00 | 0.00 |
| 17,100.0 | 90.00 | 359.63 | 9,170.0 | 8,174.8 | -27.1 | 8,174.8 | 0.00 | 0.00 | 0.00 |
| 17,200.0 | 90.00 | 359.63 | 9,170.0 | 8,274.8 | -27.7 | 8,274.8 | 0.00 | 0.00 | 0.00 |
| 17,300.0 | 90.00 | 359.63 | 9,170.0 | 8,374.8 | -28.4 | 8,374.8 | 0.00 | 0.00 | 0.00 |
| 17,400.0 | 90.00 | 359.63 | 9,170.0 | 8,474.8 | -29.0 | 8,474.8 | 0.00 | 0.00 | 0.00 |
| 17,500.0 | 90.00 | 359.63 | 9,170.0 | 8,574.8 | -29.7 | 8,574.8 | 0.00 | 0.00 | 0.00 |
| 17,600.0 | 90.00 | 359.63 | 9,170.0 | 8,674.8 | -30.3 | 8,674.8 | 0.00 | 0.00 | 0.00 |
| 17,700.0 | 90.00 | 359.63 | 9,170.0 | 8,774.8 | -30.9 | 8,774.8 | 0.00 | 0.00 | 0.00 |
| 17,800.0 | 90.00 | 359.63 | 9,170.0 | 8,874.8 | -31.6 | 8,874.8 | 0.00 | 0.00 | 0.00 |
| 17,900.0 | 90.00 | 359.63 | 9,170.0 | 8,974.8 | -32.2 | 8,974.8 | 0.00 | 0.00 | 0.00 |
| 18,000.0 | 90.00 | 359.63 | 9,170.0 | 9,074.8 | -32.9 | 9,074.8 | 0.00 | 0.00 | 0.00 |
| 18,100.0 | 90.00 | 359.63 | 9,170.0 | 9,174.8 | -33.5 | 9,174.8 | 0.00 | 0.00 | 0.00 |
| 18,200.0 | 90.00 | 359.63 | 9,170.0 | 9,274.8 | -34.1 | 9,274.8 | 0.00 | 0.00 | 0.00 |
| 18,300.0 | 90.00 | 359.63 | 9,170.0 | 9,374.8 | -34.8 | 9,374.8 | 0.00 | 0.00 | 0.00 |
| 18,400.0 | 90.00 | 359.63 | 9,170.0 | 9,474.8 | -35.4 | 9,474.8 | 0.00 | 0.00 | 0.00 |
| 18,500.0 | 90.00 | 359.63 | 9,170.0 | 9,574.8 | -36.0 | 9,574.8 | 0.00 | 0.00 | 0.00 |
| 18,600.0 | 90.00 | 359.63 | 9,170.0 | 9,674.8 | -36.7 | 9,674.8 | 0.00 | 0.00 | 0.00 |
| 18,700.0 | 90.00 | 359.63 | 9,170.0 | 9,774.8 | -37.3 | 9,774.8 | 0.00 | 0.00 | 0.00 |
| 18,800.0 | 90.00 | 359.63 | 9,170.0 | 9,874.8 | -38.0 | 9,874.8 | 0.00 | 0.00 | 0.00 |
| 18,900.0 | 90.00 | 359.63 | 9,170.0 | 9,974.8 | -38.6 | 9,974.8 | 0.00 | 0.00 | 0.00 |
| 19,000.0 | 90.00 | 359.63 | 9,170.0 | 10,074.8 | -39.2 | 10,074.8 | 0.00 | 0.00 | 0.00 |
| 19,100.0 | 90.00 | 359.63 | 9,170.0 | 10,174.8 | -39.9 | 10,174.8 | 0.00 | 0.00 | 0.00 |
| 19,181.4 | 90.00 | 359.63 | 9,170.0 | 10,256.2 | -40.4 | 10,256.3 | 0.00 | 0.00 | 0.00 |
| **TD at 19181.4** | | | | | | | | | |

# Concho Resources LLC

## Survey Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Well:** | GIN AND TECTONIC FED COM 205H | **North Reference:** | Grid |
| **Wellbore:** | OWB | **Survey Calculation Method:** | Minimum Curvature |
| **Design:** | PWP1 | **Database:** | edm |

**Design Targets**

| Target Name - hit/miss target - Shape | Dip Angle (°) | Dip Dir. (°) | TVD (usft) | +N/-S (usft) | +E/-W (usft) | Northing (usft) | Easting (usft) | Latitude | Longitude |
|---|---|---|---|---|---|---|---|---|---|
| LTP (GIN & TECTONI | 0.00 | 0.00 | 9,170.0 | 10,206.2 | -40.3 | 461,740.70 | 695,889.90 | 32° 16' 4.267 N | 103° 41' 58.473 W |
| - plan misses target center by 31.4usft at 19100.0usft MD (9170.0 TVD, 10174.8 N, -39.9 E) | | | | | | | | | |
| - Point | | | | | | | | | |
| T3 (GIN & TECTONIC | 0.00 | 179.78 | 9,170.0 | 7,657.8 | -23.8 | 459,192.26 | 695,906.39 | 32° 15' 39.048 N | 103° 41' 58.457 W |
| - plan hits target center | | | | | | | | | |
| - Rectangle (sides W100.0 H2,634.0 D20.0) | | | | | | | | | |
| PBHL (GIN & TECTOI | 0.00 | 179.63 | 9,170.0 | 10,256.2 | -40.4 | 461,790.70 | 695,889.80 | 32° 16' 4.762 N | 103° 41' 58.471 W |
| - plan hits target center | | | | | | | | | |
| - Rectangle (sides W100.0 H2,650.0 D20.0) | | | | | | | | | |
| FTP (GIN & TECTON | 0.00 | 0.00 | 9,170.0 | -150.1 | -2.9 | 451,384.40 | 695,927.30 | 32° 14' 21.782 N | 103° 41' 58.750 W |
| - plan misses target center by 350.5usft at 8999.9usft MD (8967.5 TVD, 135.9 N, 2.8 E) | | | | | | | | | |
| - Circle (radius 50.0) | | | | | | | | | |
| T2 (GIN & TECTONIC | 0.00 | 178.67 | 9,170.0 | 5,021.9 | -13.2 | 456,556.36 | 695,917.01 | 32° 15' 12.963 N | 103° 41' 58.514 W |
| - plan hits target center | | | | | | | | | |
| - Rectangle (sides W100.0 H2,642.0 D20.0) | | | | | | | | | |
| T1 (GIN & TECTONIC | 0.00 | 181.06 | 9,170.0 | 2,380.4 | 45.5 | 453,914.95 | 695,975.65 | 32° 14' 46.821 N | 103° 41' 58.013 W |
| - plan hits target center | | | | | | | | | |
| - Rectangle (sides W100.0 H2,532.0 D20.0) | | | | | | | | | |

**Plan Annotations**

| Measured Depth (usft) | Vertical Depth (usft) | Local Coordinates +N/-S (usft) | Local Coordinates +E/-W (usft) | Comment |
|---|---|---|---|---|
| 8597 | 8597 | 0 | 0 | Start Build 10.00 |
| 9497 | 9170 | 573 | 12 | Start DLS 2.00 TFO -90.55 |
| 9504 | 9170 | 580 | 12 | Start 1800.9 hold at 9504.0 MD |
| 11,305 | 9170 | 2380 | 45 | Start DLS 2.00 TFO -89.97 |
| 11,424 | 9170 | 2500 | 45 | Start 2522.8 hold at 11424.2 MD |
| 13,947 | 9170 | 5022 | -13 | Start DLS 2.00 TFO 90.00 |
| 14,002 | 9170 | 5077 | -14 | Start 2580.6 hold at 14002.3 MD |
| 16,583 | 9170 | 7658 | -24 | Start DLS 2.00 TFO -90.00 |
| 16,590 | 9170 | 7665 | -24 | Start 2591.1 hold at 16590.3 MD |
| 19,181 | 9170 | 10,256 | -40 | TD at 19181.4 |

Checked By: _____ Approved By: _____ Date: _____

# DELAWARE BASIN EAST

**BULLDOG PROSPECT (NM-E)**
**GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332)**
**GIN AND TECTONIC FED COM 205H**

**OWB**
**PWP1**

# Anticollision Report

**17 June, 2020**

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 3.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | edm |
| **Reference Design:** | PWP1 | **Offset TVD Reference:** | Offset Datum |

**Reference** PWP1

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

**Survey Tool Program** **Date** 6/17/2020

| From (usft) | To (usft) | Survey (Wellbore) | Tool Name | Description |
|---|---|---|---|---|
| 0.0 | 19,181.4 | PWP1 (OWB) | MWD+IFR1+FDIR | OWSG MWD + IFR1 + FDIR Correction |

**Summary**

| Site Name<br>Offset Well - Wellbore - Design | Reference Measured Depth (usft) | Offset Measured Depth (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|
| GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | | | | | | |
| FALCON "32" ST #1 - OWB - AWP | 17,158.7 | 9,226.5 | 39.4 | -230.3 | 0.146 | Stop Drilling Now, CC, ES |
| GIN AND TECTONIC FED COM 206H - OWB - PWP1 | 2,500.0 | 2,499.1 | 30.0 | 17.3 | 2.367 | CC, ES, SF |
| GIN AND TECTONIC FED COM 304H - OWB - PWP1 | 7,759.7 | 7,775.4 | 82.2 | 47.1 | 2.337 | CC |
| GIN AND TECTONIC FED COM 304H - OWB - PWP1 | 7,800.0 | 7,815.5 | 82.3 | 46.9 | 2.323 | ES |
| GIN AND TECTONIC FED COM 304H - OWB - PWP1 | 7,900.0 | 7,915.1 | 83.1 | 47.1 | 2.307 | SF |
| GIN AND TECTONIC FED COM 305H - OWB - PWP1 | 7,914.9 | 7,921.4 | 419.2 | 384.5 | 12.086 | CC |
| GIN AND TECTONIC FED COM 305H - OWB - PWP1 | 19,181.4 | 19,472.5 | 465.5 | 286.8 | 2.605 | ES, SF |
| GIN AND TECTONIC FED COM 306H - OWB - PWP1 | 2,500.0 | 2,493.7 | 507.6 | 494.7 | 39.307 | CC, ES |
| GIN AND TECTONIC FED COM 306H - OWB - PWP1 | 8,500.0 | 8,430.0 | 997.6 | 958.4 | 25.451 | SF |
| GIN AND TECTONIC FED COM 504H - OWB - PWP1 | 5,517.5 | 5,525.5 | 79.9 | 54.4 | 3.133 | CC, ES |
| GIN AND TECTONIC FED COM 504H - OWB - PWP1 | 5,600.0 | 5,607.7 | 80.2 | 54.5 | 3.116 | SF |
| GIN AND TECTONIC FED COM 505H - OWB - PWP1 | 2,500.0 | 2,494.4 | 295.1 | 282.5 | 23.282 | CC |
| GIN AND TECTONIC FED COM 505H - OWB - PWP1 | 2,600.0 | 2,592.2 | 295.5 | 282.4 | 22.642 | ES |
| GIN AND TECTONIC FED COM 505H - OWB - PWP1 | 8,650.0 | 8,650.9 | 396.7 | 359.0 | 10.514 | SF |
| GIN AND TECTONIC FED COM 506H - OWB - PWP1 | 5,500.0 | 5,495.0 | 325.1 | 300.6 | 13.245 | CC, ES |
| GIN AND TECTONIC FED COM 506H - OWB - PWP1 | 5,700.0 | 5,674.9 | 331.1 | 305.7 | 13.066 | SF |
| GIN AND TECTONIC FED COM 706H - OWB - PWP1 | 8,639.5 | 8,654.8 | 209.2 | 169.1 | 5.222 | CC, ES |
| GIN AND TECTONIC FED COM 706H - OWB - PWP1 | 8,650.0 | 8,665.3 | 209.2 | 169.1 | 5.219 | SF |
| GIN AND TECTONIC FED COM 707H - OWB - PWP1 | 3,000.0 | 2,991.3 | 590.4 | 575.8 | 40.518 | CC |
| GIN AND TECTONIC FED COM 707H - OWB - PWP1 | 3,300.0 | 3,289.2 | 591.0 | 575.2 | 37.568 | ES |
| GIN AND TECTONIC FED COM 707H - OWB - PWP1 | 8,700.0 | 8,698.3 | 630.9 | 592.8 | 16.588 | SF |
| GIN AND TECTONIC FED COM 708H - OWB - PWP1 | 2,500.0 | 2,491.3 | 620.4 | 601.9 | 33.660 | CC, ES |
| GIN AND TECTONIC FED COM 708H - OWB - PWP1 | 8,200.0 | 8,136.2 | 998.4 | 940.3 | 17.199 | SF |

**Offset Design** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - FALCON "32" ST #1 - OWB - AWP

**Offset Site Error:** 3.0 usft

**Survey Program:** 384-INC-ONLY **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16,200.0 | 9,170.0 | 9,241.0 | 9,239.6 | 69.3 | 193.4 | 111.01 | 8,233.6 | 11.9 | 959.5 | 730.8 | 228.65 | 4.196 | |
| 16,300.0 | 9,170.0 | 9,239.4 | 9,238.0 | 70.1 | 193.4 | 108.87 | 8,233.6 | 11.9 | 859.6 | 630.9 | 228.70 | 3.759 | |
| 16,400.0 | 9,170.0 | 9,237.8 | 9,236.4 | 70.8 | 193.3 | 106.72 | 8,233.6 | 11.9 | 759.7 | 531.0 | 228.76 | 3.321 | |
| 16,500.0 | 9,170.0 | 9,236.3 | 9,234.8 | 71.6 | 193.3 | 104.54 | 8,233.7 | 11.9 | 659.9 | 431.0 | 228.83 | 2.884 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - FALCON "32" ST #1 - OWB - AWP

**Offset Site Error:** 3.0 usft

**Survey Program:** 384-INC-ONLY

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16,582.9 | 9,170.0 | 9,235.0 | 9,233.6 | 72.2 | 193.3 | 102.72 | 8,233.7 | 11.9 | 577.1 | 348.2 | 228.92 | 2.521 | |
| 16,590.3 | 9,170.0 | 9,234.9 | 9,233.5 | 72.3 | 193.3 | 102.11 | 8,233.7 | 11.9 | 569.8 | 340.8 | 228.92 | 2.489 | |
| 16,600.0 | 9,170.0 | 9,234.8 | 9,233.3 | 72.4 | 193.3 | 101.90 | 8,233.7 | 11.9 | 560.1 | 331.1 | 228.94 | 2.446 | |
| 16,700.0 | 9,170.0 | 9,233.2 | 9,231.8 | 73.1 | 193.2 | 99.78 | 8,233.7 | 11.9 | 460.4 | 231.3 | 229.11 | 2.010 | |
| 16,800.0 | 9,170.0 | 9,231.7 | 9,230.3 | 73.9 | 193.2 | 97.66 | 8,233.7 | 11.9 | 360.9 | 131.5 | 229.41 | 1.573 | Advise and Monitor |
| 16,900.0 | 9,170.0 | 9,230.3 | 9,228.8 | 74.7 | 193.1 | 95.55 | 8,233.7 | 11.9 | 261.7 | 31.6 | 230.08 | 1.137 | Shut in Producers |
| 17,000.0 | 9,170.0 | 9,228.8 | 9,227.4 | 75.5 | 193.1 | 93.44 | 8,233.8 | 11.9 | 163.6 | -68.6 | 232.17 | 0.704 | Stop Drilling Now |
| 17,100.0 | 9,170.0 | 9,227.4 | 9,225.9 | 76.2 | 193.1 | 91.36 | 8,233.8 | 11.9 | 70.7 | -174.0 | 244.79 | 0.289 | Stop Drilling Now |
| 17,158.7 | 9,170.0 | 9,226.5 | 9,225.1 | 76.7 | 193.0 | 90.14 | 8,233.8 | 11.9 | 39.4 | -230.3 | 269.74 | 0.146 | Stop Drilling Now, CC, ES, SF |
| 17,200.0 | 9,170.0 | 9,226.0 | 9,224.5 | 77.0 | 193.0 | 89.30 | 8,233.8 | 11.9 | 57.1 | -195.3 | 252.32 | 0.226 | Stop Drilling Now |
| 17,300.0 | 9,170.0 | 9,224.6 | 9,223.1 | 77.8 | 193.0 | 87.26 | 8,233.8 | 11.9 | 146.6 | -86.9 | 233.51 | 0.628 | Stop Drilling Now |
| 17,400.0 | 9,170.0 | 9,223.2 | 9,221.7 | 78.6 | 192.9 | 85.26 | 8,233.8 | 11.9 | 244.4 | 13.7 | 230.74 | 1.059 | Shut in Producers |
| 17,500.0 | 9,170.0 | 9,221.8 | 9,220.4 | 79.4 | 192.9 | 83.30 | 8,233.9 | 11.9 | 343.5 | 113.5 | 229.94 | 1.494 | Shut in Producers |
| 17,600.0 | 9,170.0 | 9,220.5 | 9,219.0 | 80.2 | 192.9 | 81.37 | 8,233.9 | 11.9 | 443.0 | 213.3 | 229.63 | 1.929 | Advise and Monitor |
| 17,700.0 | 9,170.0 | 9,219.1 | 9,217.7 | 81.0 | 192.8 | 79.49 | 8,233.9 | 11.9 | 542.6 | 313.1 | 229.49 | 2.364 | |
| 17,800.0 | 9,170.0 | 9,217.8 | 9,216.4 | 81.7 | 192.8 | 77.65 | 8,233.9 | 11.9 | 642.4 | 413.0 | 229.43 | 2.800 | |
| 17,900.0 | 9,170.0 | 9,216.5 | 9,215.1 | 82.5 | 192.8 | 75.86 | 8,233.9 | 11.9 | 742.2 | 512.8 | 229.41 | 3.235 | |
| 18,000.0 | 9,170.0 | 9,215.2 | 9,213.8 | 83.3 | 192.7 | 74.12 | 8,234.0 | 11.9 | 842.1 | 612.7 | 229.41 | 3.671 | |
| 18,100.0 | 9,170.0 | 9,214.0 | 9,212.5 | 84.1 | 192.7 | 72.43 | 8,234.0 | 11.9 | 942.0 | 712.6 | 229.42 | 4.106 | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 206H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8665-MWD+HRGM+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -90.76 | -0.4 | -30.0 | 30.0 | | | | |
| 100.0 | 100.0 | 99.1 | 99.1 | 3.0 | 3.0 | -90.76 | -0.4 | -30.0 | 30.0 | 24.0 | 6.00 | 4.998 | |
| 200.0 | 200.0 | 199.1 | 199.1 | 3.0 | 3.0 | -90.76 | -0.4 | -30.0 | 30.0 | 24.0 | 6.04 | 4.967 | |
| 300.0 | 300.0 | 299.1 | 299.1 | 3.1 | 3.0 | -90.76 | -0.4 | -30.0 | 30.0 | 23.9 | 6.12 | 4.902 | |
| 400.0 | 400.0 | 399.1 | 399.1 | 3.2 | 3.0 | -90.76 | -0.4 | -30.0 | 30.0 | 23.8 | 6.24 | 4.808 | |
| 500.0 | 500.0 | 499.1 | 499.1 | 3.4 | 3.1 | -90.76 | -0.4 | -30.0 | 30.0 | 23.6 | 6.40 | 4.691 | |
| 600.0 | 600.0 | 599.1 | 599.1 | 3.6 | 3.1 | -90.76 | -0.4 | -30.0 | 30.0 | 23.4 | 6.58 | 4.557 | |
| 700.0 | 700.0 | 699.1 | 699.1 | 3.8 | 3.1 | -90.76 | -0.4 | -30.0 | 30.0 | 23.2 | 6.80 | 4.413 | |
| 800.0 | 800.0 | 799.1 | 799.1 | 4.0 | 3.2 | -90.76 | -0.4 | -30.0 | 30.0 | 23.0 | 7.04 | 4.264 | |
| 900.0 | 900.0 | 899.1 | 899.1 | 4.2 | 3.2 | -90.76 | -0.4 | -30.0 | 30.0 | 22.7 | 7.29 | 4.113 | |
| 1,000.0 | 1,000.0 | 999.1 | 999.1 | 4.5 | 3.2 | -90.76 | -0.4 | -30.0 | 30.0 | 22.4 | 7.57 | 3.964 | |
| 1,100.0 | 1,100.0 | 1,099.1 | 1,099.1 | 4.8 | 3.3 | -90.76 | -0.4 | -30.0 | 30.0 | 22.1 | 7.86 | 3.819 | |
| 1,200.0 | 1,200.0 | 1,199.1 | 1,199.1 | 5.1 | 3.4 | -90.76 | -0.4 | -30.0 | 30.0 | 21.8 | 8.16 | 3.678 | |
| 1,300.0 | 1,300.0 | 1,299.1 | 1,299.1 | 5.3 | 3.4 | -90.76 | -0.4 | -30.0 | 30.0 | 21.5 | 8.47 | 3.543 | |
| 1,400.0 | 1,400.0 | 1,399.1 | 1,399.1 | 5.6 | 3.5 | -90.76 | -0.4 | -30.0 | 30.0 | 21.2 | 8.79 | 3.413 | |
| 1,500.0 | 1,500.0 | 1,499.1 | 1,499.1 | 6.0 | 3.5 | -90.76 | -0.4 | -30.0 | 30.0 | 20.9 | 9.12 | 3.291 | |
| 1,600.0 | 1,600.0 | 1,599.1 | 1,599.1 | 6.3 | 3.6 | -90.76 | -0.4 | -30.0 | 30.0 | 20.5 | 9.45 | 3.174 | |
| 1,700.0 | 1,700.0 | 1,699.1 | 1,699.1 | 6.6 | 3.7 | -90.76 | -0.4 | -30.0 | 30.0 | 20.2 | 9.79 | 3.063 | |
| 1,800.0 | 1,800.0 | 1,799.1 | 1,799.1 | 6.9 | 3.8 | -90.76 | -0.4 | -30.0 | 30.0 | 19.9 | 10.14 | 2.959 | |
| 1,900.0 | 1,900.0 | 1,899.1 | 1,899.1 | 7.2 | 3.9 | -90.76 | -0.4 | -30.0 | 30.0 | 19.5 | 10.49 | 2.860 | |
| 2,000.0 | 2,000.0 | 1,999.1 | 1,999.1 | 7.6 | 3.9 | -90.76 | -0.4 | -30.0 | 30.0 | 19.2 | 10.85 | 2.766 | |
| 2,100.0 | 2,100.0 | 2,099.1 | 2,099.1 | 7.9 | 4.0 | -90.76 | -0.4 | -30.0 | 30.0 | 18.8 | 11.21 | 2.677 | |
| 2,200.0 | 2,200.0 | 2,199.1 | 2,199.1 | 8.2 | 4.1 | -90.76 | -0.4 | -30.0 | 30.0 | 18.4 | 11.57 | 2.593 | |
| 2,300.0 | 2,300.0 | 2,299.1 | 2,299.1 | 8.6 | 4.2 | -90.76 | -0.4 | -30.0 | 30.0 | 18.1 | 11.94 | 2.514 | |
| 2,400.0 | 2,400.0 | 2,399.1 | 2,399.1 | 8.9 | 4.3 | -90.76 | -0.4 | -30.0 | 30.0 | 17.7 | 12.31 | 2.438 | |
| 2,500.0 | 2,500.0 | 2,499.1 | 2,499.1 | 9.2 | 4.4 | -90.76 | -0.4 | -30.0 | 30.0 | 17.3 | 12.68 | 2.367 | CC, ES, SF |
| 2,600.0 | 2,600.0 | 2,598.1 | 2,598.1 | 9.6 | 4.5 | -89.94 | 0.0 | -31.6 | 31.6 | 18.6 | 13.05 | 2.425 | |
| 2,700.0 | 2,700.0 | 2,696.8 | 2,696.6 | 9.9 | 4.5 | -87.89 | 1.3 | -36.5 | 36.6 | 23.2 | 13.42 | 2.730 | |
| 2,800.0 | 2,800.0 | 2,795.1 | 2,794.5 | 10.3 | 4.6 | -85.48 | 3.5 | -44.7 | 45.0 | 31.2 | 13.79 | 3.265 | |
| 2,900.0 | 2,900.0 | 2,893.5 | 2,892.3 | 10.6 | 4.6 | -83.35 | 6.5 | -55.7 | 56.5 | 42.4 | 14.18 | 3.986 | |
| 3,000.0 | 3,000.0 | 2,992.7 | 2,990.8 | 10.9 | 4.7 | -81.87 | 9.6 | -67.4 | 68.6 | 54.0 | 14.60 | 4.700 | |
| 3,100.0 | 3,100.0 | 3,092.0 | 3,089.3 | 11.3 | 4.7 | -80.84 | 12.8 | -79.1 | 80.7 | 65.7 | 15.02 | 5.376 | |
| 3,200.0 | 3,200.0 | 3,191.2 | 3,187.8 | 11.6 | 4.8 | -80.07 | 15.9 | -90.8 | 92.9 | 77.4 | 15.44 | 6.015 | |
| 3,300.0 | 3,300.0 | 3,290.5 | 3,286.3 | 12.0 | 4.9 | -79.49 | 19.0 | -102.5 | 105.0 | 89.1 | 15.86 | 6.619 | |
| 3,400.0 | 3,400.0 | 3,389.7 | 3,384.9 | 12.3 | 4.9 | -79.02 | 22.2 | -114.2 | 117.2 | 100.9 | 16.29 | 7.192 | |
| 3,500.0 | 3,500.0 | 3,489.0 | 3,483.4 | 12.7 | 5.0 | -78.64 | 25.3 | -125.8 | 129.3 | 112.6 | 16.72 | 7.734 | |
| 3,600.0 | 3,600.0 | 3,588.3 | 3,581.9 | 13.0 | 5.1 | -78.33 | 28.4 | -137.5 | 141.5 | 124.3 | 17.15 | 8.248 | |
| 3,700.0 | 3,700.0 | 3,687.5 | 3,680.4 | 13.4 | 5.1 | -78.06 | 31.5 | -149.2 | 153.7 | 136.1 | 17.59 | 8.736 | |
| 3,800.0 | 3,800.0 | 3,786.8 | 3,778.9 | 13.7 | 5.2 | -77.84 | 34.7 | -160.9 | 165.8 | 147.8 | 18.03 | 9.199 | |
| 3,900.0 | 3,900.0 | 3,886.0 | 3,877.4 | 14.1 | 5.3 | -77.64 | 37.8 | -172.6 | 178.0 | 159.5 | 18.47 | 9.640 | |
| 4,000.0 | 4,000.0 | 3,985.3 | 3,975.9 | 14.4 | 5.4 | -77.47 | 40.9 | -184.3 | 190.2 | 171.3 | 18.91 | 10.058 | |
| 4,100.0 | 4,100.0 | 4,084.5 | 4,074.5 | 14.8 | 5.5 | -77.33 | 44.1 | -196.0 | 202.4 | 183.0 | 19.35 | 10.457 | |
| 4,200.0 | 4,200.0 | 4,183.8 | 4,173.0 | 15.1 | 5.6 | -77.19 | 47.2 | -207.6 | 214.5 | 194.7 | 19.80 | 10.837 | |
| 4,300.0 | 4,300.0 | 4,283.0 | 4,271.5 | 15.5 | 5.6 | -77.08 | 50.3 | -219.3 | 226.7 | 206.5 | 20.24 | 11.200 | |
| 4,400.0 | 4,400.0 | 4,382.3 | 4,370.0 | 15.8 | 5.7 | -76.97 | 53.5 | -231.0 | 238.9 | 218.2 | 20.69 | 11.546 | |
| 4,500.0 | 4,500.0 | 4,481.6 | 4,468.5 | 16.2 | 5.8 | -76.87 | 56.6 | -242.7 | 251.1 | 229.9 | 21.14 | 11.876 | |
| 4,600.0 | 4,600.0 | 4,580.8 | 4,567.0 | 16.5 | 5.9 | -76.79 | 59.7 | -254.4 | 263.2 | 241.7 | 21.59 | 12.192 | |
| 4,700.0 | 4,700.0 | 4,680.1 | 4,665.5 | 16.9 | 6.0 | -76.71 | 62.9 | -266.1 | 275.4 | 253.4 | 22.05 | 12.494 | |
| 4,800.0 | 4,800.0 | 4,779.3 | 4,764.1 | 17.2 | 6.1 | -76.64 | 66.0 | -277.7 | 287.6 | 265.1 | 22.50 | 12.783 | |
| 4,900.0 | 4,900.0 | 4,878.6 | 4,862.6 | 17.6 | 6.2 | -76.57 | 69.1 | -289.4 | 299.8 | 276.8 | 22.95 | 13.060 | |
| 5,000.0 | 5,000.0 | 4,977.8 | 4,961.1 | 17.9 | 6.3 | -76.51 | 72.2 | -301.1 | 312.0 | 288.6 | 23.41 | 13.326 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 206H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8665-MWD+HRGM+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,077.1 | 5,059.6 | 18.3 | 6.4 | -76.45 | 75.4 | -312.8 | 324.2 | 300.3 | 23.87 | 13.581 | |
| 5,200.0 | 5,200.0 | 5,176.3 | 5,158.1 | 18.7 | 6.5 | -76.40 | 78.5 | -324.5 | 336.3 | 312.0 | 24.33 | 13.826 | |
| 5,300.0 | 5,300.0 | 5,275.6 | 5,256.6 | 19.0 | 6.6 | -76.35 | 81.6 | -336.2 | 348.5 | 323.7 | 24.79 | 14.061 | |
| 5,400.0 | 5,400.0 | 5,374.8 | 5,355.2 | 19.4 | 6.7 | -76.30 | 84.8 | -347.8 | 360.7 | 335.5 | 25.25 | 14.287 | |
| 5,500.0 | 5,500.0 | 5,474.1 | 5,453.7 | 19.7 | 6.8 | -76.26 | 87.9 | -359.5 | 372.9 | 347.2 | 25.71 | 14.504 | |
| 5,600.0 | 5,600.0 | 5,573.4 | 5,552.2 | 20.1 | 6.9 | -76.22 | 91.0 | -371.2 | 385.1 | 358.9 | 26.17 | 14.714 | |
| 5,700.0 | 5,700.0 | 5,672.6 | 5,650.7 | 20.4 | 7.0 | -76.18 | 94.2 | -382.9 | 397.3 | 370.6 | 26.63 | 14.915 | |
| 5,800.0 | 5,800.0 | 5,771.9 | 5,749.2 | 20.8 | 7.1 | -76.15 | 97.3 | -394.6 | 409.4 | 382.3 | 27.10 | 15.110 | |
| 5,900.0 | 5,900.0 | 5,871.1 | 5,847.7 | 21.1 | 7.3 | -76.12 | 100.4 | -406.3 | 421.6 | 394.1 | 27.56 | 15.297 | |
| 6,000.0 | 6,000.0 | 5,970.4 | 5,946.2 | 21.5 | 7.4 | -76.08 | 103.5 | -417.9 | 433.8 | 405.8 | 28.03 | 15.478 | |
| 6,100.0 | 6,100.0 | 6,069.6 | 6,044.8 | 21.8 | 7.5 | -76.06 | 106.7 | -429.6 | 446.0 | 417.5 | 28.49 | 15.652 | |
| 6,200.0 | 6,200.0 | 6,168.9 | 6,143.3 | 22.2 | 7.6 | -76.03 | 109.8 | -441.3 | 458.2 | 429.2 | 28.96 | 15.821 | |
| 6,300.0 | 6,300.0 | 6,268.1 | 6,241.8 | 22.6 | 7.7 | -76.00 | 112.9 | -453.0 | 470.4 | 440.9 | 29.43 | 15.984 | |
| 6,400.0 | 6,400.0 | 6,367.4 | 6,340.3 | 22.9 | 7.8 | -75.98 | 116.1 | -464.7 | 482.6 | 452.7 | 29.90 | 16.141 | |
| 6,500.0 | 6,500.0 | 6,466.6 | 6,438.8 | 23.3 | 7.9 | -75.95 | 119.2 | -476.4 | 494.7 | 464.4 | 30.36 | 16.294 | |
| 6,600.0 | 6,600.0 | 6,565.9 | 6,537.3 | 23.6 | 8.0 | -75.93 | 122.3 | -488.0 | 506.9 | 476.1 | 30.83 | 16.441 | |
| 6,700.0 | 6,700.0 | 6,665.2 | 6,635.8 | 24.0 | 8.2 | -75.91 | 125.5 | -499.7 | 519.1 | 487.8 | 31.30 | 16.584 | |
| 6,800.0 | 6,800.0 | 6,764.4 | 6,734.4 | 24.3 | 8.3 | -75.89 | 128.6 | -511.4 | 531.3 | 499.5 | 31.77 | 16.722 | |
| 6,900.0 | 6,900.0 | 6,863.7 | 6,832.9 | 24.7 | 8.4 | -75.87 | 131.7 | -523.1 | 543.5 | 511.2 | 32.24 | 16.856 | |
| 7,000.0 | 7,000.0 | 6,962.9 | 6,931.4 | 25.0 | 8.5 | -75.85 | 134.9 | -534.8 | 555.7 | 523.0 | 32.71 | 16.986 | |
| 7,100.0 | 7,100.0 | 7,062.2 | 7,029.9 | 25.4 | 8.6 | -75.83 | 138.0 | -546.5 | 567.9 | 534.7 | 33.18 | 17.112 | |
| 7,200.0 | 7,200.0 | 7,161.4 | 7,128.4 | 25.8 | 8.7 | -75.81 | 141.1 | -558.2 | 580.0 | 546.4 | 33.66 | 17.235 | |
| 7,300.0 | 7,300.0 | 7,260.7 | 7,226.9 | 26.1 | 8.9 | -75.79 | 144.2 | -569.8 | 592.2 | 558.1 | 34.13 | 17.353 | |
| 7,400.0 | 7,400.0 | 7,359.9 | 7,325.4 | 26.5 | 9.0 | -75.78 | 147.4 | -581.5 | 604.4 | 569.8 | 34.60 | 17.469 | |
| 7,500.0 | 7,500.0 | 7,459.2 | 7,424.0 | 26.8 | 9.1 | -75.76 | 150.5 | -593.2 | 616.6 | 581.5 | 35.07 | 17.581 | |
| 7,600.0 | 7,600.0 | 7,558.4 | 7,522.5 | 27.2 | 9.2 | -75.75 | 153.6 | -604.9 | 628.8 | 593.2 | 35.55 | 17.690 | |
| 7,700.0 | 7,700.0 | 7,657.7 | 7,621.0 | 27.5 | 9.3 | -75.73 | 156.8 | -616.6 | 641.0 | 604.9 | 36.02 | 17.796 | |
| 7,800.0 | 7,800.0 | 7,757.0 | 7,719.5 | 27.9 | 9.5 | -75.72 | 159.9 | -628.3 | 653.2 | 616.7 | 36.49 | 17.899 | |
| 7,900.0 | 7,900.0 | 7,856.2 | 7,818.0 | 28.2 | 9.6 | -75.71 | 163.0 | -639.9 | 665.3 | 628.4 | 36.97 | 17.999 | |
| 8,000.0 | 8,000.0 | 7,955.5 | 7,916.5 | 28.6 | 9.7 | -75.69 | 166.2 | -651.6 | 677.5 | 640.1 | 37.44 | 18.096 | |
| 8,100.0 | 8,100.0 | 8,054.7 | 8,015.1 | 29.0 | 9.8 | -75.68 | 169.3 | -663.3 | 689.7 | 651.8 | 37.91 | 18.191 | |
| 8,200.0 | 8,200.0 | 8,154.0 | 8,113.6 | 29.3 | 9.9 | -75.67 | 172.4 | -675.0 | 701.9 | 663.5 | 38.39 | 18.284 | |
| 8,300.0 | 8,300.0 | 8,253.2 | 8,212.1 | 29.7 | 10.1 | -75.66 | 175.6 | -686.7 | 714.1 | 675.2 | 38.86 | 18.374 | |
| 8,400.0 | 8,400.0 | 8,352.5 | 8,310.6 | 30.0 | 10.2 | -75.65 | 178.7 | -698.4 | 726.3 | 686.9 | 39.34 | 18.461 | |
| 8,500.0 | 8,500.0 | 8,451.7 | 8,409.1 | 30.4 | 10.3 | -75.64 | 181.8 | -710.0 | 738.5 | 698.6 | 39.82 | 18.547 | |
| 8,597.0 | 8,597.0 | 8,548.0 | 8,504.7 | 30.7 | 10.4 | -75.63 | 184.9 | -721.4 | 750.3 | 710.0 | 40.28 | 18.628 | |
| 8,600.0 | 8,600.0 | 8,551.0 | 8,507.6 | 30.7 | 10.4 | -76.79 | 184.9 | -721.7 | 750.6 | 710.3 | 40.29 | 18.630 | |
| 8,650.0 | 8,649.9 | 8,600.6 | 8,556.9 | 30.9 | 10.5 | -76.43 | 186.5 | -727.6 | 756.2 | 715.7 | 40.52 | 18.661 | |
| 8,700.0 | 8,699.4 | 8,650.0 | 8,605.9 | 31.1 | 10.6 | -76.47 | 188.1 | -733.4 | 760.7 | 720.0 | 40.71 | 18.686 | |
| 8,750.0 | 8,748.2 | 8,690.2 | 8,645.8 | 31.3 | 10.6 | -76.70 | 189.9 | -738.1 | 764.5 | 723.7 | 40.83 | 18.725 | |
| 8,800.0 | 8,795.8 | 8,726.6 | 8,681.7 | 31.4 | 10.6 | -76.95 | 193.7 | -742.5 | 768.3 | 727.3 | 40.92 | 18.776 | |
| 8,850.0 | 8,841.9 | 8,763.3 | 8,717.6 | 31.6 | 10.6 | -77.27 | 199.9 | -746.9 | 771.9 | 730.9 | 41.00 | 18.826 | |
| 8,900.0 | 8,886.1 | 8,800.0 | 8,753.0 | 31.7 | 10.6 | -77.65 | 208.5 | -751.4 | 775.6 | 734.5 | 41.09 | 18.877 | |
| 8,950.0 | 8,928.1 | 8,837.8 | 8,788.8 | 31.9 | 10.7 | -78.10 | 219.6 | -756.0 | 779.2 | 738.0 | 41.18 | 18.923 | |
| 9,000.0 | 8,967.6 | 8,875.8 | 8,824.0 | 32.0 | 10.7 | -78.61 | 233.2 | -760.6 | 782.8 | 741.5 | 41.27 | 18.968 | |
| 9,050.0 | 9,004.3 | 8,914.3 | 8,858.7 | 32.2 | 10.7 | -79.17 | 249.3 | -765.3 | 786.4 | 745.0 | 41.37 | 19.008 | |
| 9,100.0 | 9,037.8 | 8,950.0 | 8,889.7 | 32.3 | 10.7 | -79.70 | 266.3 | -769.6 | 790.0 | 748.5 | 41.46 | 19.055 | |
| 9,150.0 | 9,068.1 | 8,993.4 | 8,926.0 | 32.4 | 10.8 | -80.47 | 289.5 | -774.7 | 793.7 | 752.0 | 41.61 | 19.073 | |
| 9,200.0 | 9,094.7 | 9,034.2 | 8,958.4 | 32.5 | 10.8 | -81.19 | 313.9 | -779.4 | 797.4 | 755.6 | 41.76 | 19.093 | |
| 9,250.0 | 9,117.5 | 9,075.9 | 8,989.7 | 32.6 | 10.9 | -81.97 | 341.1 | -784.0 | 801.2 | 759.2 | 41.94 | 19.104 | |
| 9,300.0 | 9,136.4 | 9,118.7 | 9,019.6 | 32.7 | 11.0 | -82.80 | 371.3 | -788.6 | 805.0 | 762.9 | 42.14 | 19.105 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 206H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8665-MWD+HRGM+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,350.0 | 9,151.2 | 9,162.8 | 9,048.0 | 32.7 | 11.0 | -83.67 | 404.7 | -793.2 | 808.9 | 766.6 | 42.37 | 19.092 | |
| 9,400.0 | 9,161.8 | 9,208.3 | 9,074.5 | 32.8 | 11.1 | -84.59 | 441.4 | -797.6 | 813.0 | 770.3 | 42.64 | 19.066 | |
| 9,450.0 | 9,168.0 | 9,255.3 | 9,098.8 | 32.9 | 11.2 | -85.56 | 481.4 | -801.9 | 817.0 | 774.1 | 42.95 | 19.024 | |
| 9,497.0 | 9,170.0 | 9,301.2 | 9,119.2 | 32.9 | 11.4 | -86.51 | 522.3 | -805.8 | 820.9 | 777.6 | 43.28 | 18.969 | |
| 9,504.0 | 9,170.0 | 9,308.2 | 9,122.1 | 32.9 | 11.4 | -86.71 | 528.7 | -806.4 | 821.5 | 778.1 | 43.33 | 18.958 | |
| 9,600.0 | 9,170.0 | 9,411.4 | 9,154.6 | 33.0 | 11.8 | -89.00 | 626.2 | -813.7 | 829.3 | 785.1 | 44.17 | 18.773 | |
| 9,700.0 | 9,170.0 | 9,529.3 | 9,169.8 | 33.1 | 12.4 | -90.05 | 742.8 | -819.8 | 836.2 | 790.9 | 45.27 | 18.472 | |
| 9,800.0 | 9,170.0 | 9,667.9 | 9,170.0 | 33.3 | 13.5 | -90.06 | 881.3 | -822.2 | 839.8 | 793.1 | 46.70 | 17.983 | |
| 9,900.0 | 9,170.0 | 9,777.9 | 9,170.0 | 33.4 | 14.6 | -90.06 | 991.3 | -820.3 | 840.0 | 792.0 | 47.95 | 17.519 | |
| 10,000.0 | 9,170.0 | 9,877.9 | 9,170.0 | 33.6 | 15.6 | -90.06 | 1,091.2 | -818.5 | 840.0 | 790.8 | 49.17 | 17.083 | |
| 10,100.0 | 9,170.0 | 9,977.9 | 9,170.0 | 33.8 | 16.7 | -90.06 | 1,191.2 | -816.7 | 840.0 | 789.5 | 50.46 | 16.646 | |
| 10,200.0 | 9,170.0 | 10,077.9 | 9,170.0 | 34.0 | 17.8 | -90.06 | 1,291.2 | -814.8 | 840.0 | 788.2 | 51.81 | 16.212 | |
| 10,300.0 | 9,170.0 | 10,177.9 | 9,170.0 | 34.3 | 18.9 | -90.06 | 1,391.2 | -813.0 | 840.0 | 786.8 | 53.22 | 15.784 | |
| 10,400.0 | 9,170.0 | 10,277.9 | 9,170.0 | 34.6 | 20.1 | -90.06 | 1,491.2 | -811.1 | 840.0 | 785.3 | 54.67 | 15.365 | |
| 10,500.0 | 9,170.0 | 10,377.9 | 9,170.0 | 34.8 | 21.3 | -90.06 | 1,591.2 | -809.3 | 840.0 | 783.8 | 56.16 | 14.957 | |
| 10,600.0 | 9,170.0 | 10,477.9 | 9,170.0 | 35.1 | 22.5 | -90.06 | 1,691.1 | -807.4 | 840.0 | 782.3 | 57.69 | 14.560 | |
| 10,700.0 | 9,170.0 | 10,577.9 | 9,170.0 | 35.5 | 23.8 | -90.06 | 1,791.1 | -805.6 | 840.0 | 780.7 | 59.25 | 14.176 | |
| 10,800.0 | 9,170.0 | 10,677.9 | 9,170.0 | 35.8 | 25.0 | -90.06 | 1,891.1 | -803.7 | 840.0 | 779.1 | 60.85 | 13.804 | |
| 10,900.0 | 9,170.0 | 10,777.9 | 9,170.0 | 36.2 | 26.3 | -90.06 | 1,991.1 | -801.9 | 840.0 | 777.5 | 62.48 | 13.445 | |
| 11,000.0 | 9,170.0 | 10,877.9 | 9,170.0 | 36.5 | 27.6 | -90.06 | 2,091.1 | -800.1 | 840.0 | 775.9 | 64.13 | 13.099 | |
| 11,100.0 | 9,170.0 | 10,977.9 | 9,170.0 | 36.9 | 28.9 | -90.06 | 2,191.1 | -798.2 | 840.0 | 774.2 | 65.80 | 12.766 | |
| 11,200.0 | 9,170.0 | 11,077.9 | 9,170.0 | 37.3 | 30.2 | -90.06 | 2,291.0 | -796.4 | 840.0 | 772.5 | 67.50 | 12.444 | |
| 11,200.0 | 9,170.0 | 11,077.9 | 9,170.0 | 37.3 | 30.2 | -90.06 | 2,291.0 | -796.4 | 840.0 | 772.5 | 67.50 | 12.444 | |
| 11,304.9 | 9,170.0 | 11,175.5 | 9,170.0 | 37.8 | 31.4 | -90.06 | 2,388.6 | -794.7 | 840.2 | 770.9 | 69.21 | 12.139 | |
| 11,400.0 | 9,170.0 | 11,249.0 | 9,170.0 | 38.2 | 32.4 | -90.06 | 2,462.1 | -794.9 | 840.6 | 770.1 | 70.58 | 11.911 | |
| 11,424.2 | 9,170.0 | 11,269.0 | 9,170.0 | 38.3 | 32.7 | -90.06 | 2,482.2 | -795.3 | 840.6 | 769.7 | 70.94 | 11.850 | |
| 11,454.4 | 9,170.0 | 11,297.5 | 9,170.0 | 38.4 | 33.0 | -90.06 | 2,510.6 | -795.9 | 840.6 | 769.2 | 71.45 | 11.766 | |
| 11,500.0 | 9,170.0 | 11,343.1 | 9,170.0 | 38.6 | 33.6 | -90.06 | 2,556.2 | -797.0 | 840.6 | 768.4 | 72.25 | 11.635 | |
| 11,600.0 | 9,170.0 | 11,443.1 | 9,170.0 | 39.1 | 35.0 | -90.06 | 2,656.2 | -799.3 | 840.6 | 766.6 | 74.04 | 11.354 | |
| 11,700.0 | 9,170.0 | 11,543.1 | 9,170.0 | 39.6 | 36.3 | -90.06 | 2,756.2 | -801.6 | 840.6 | 764.7 | 75.84 | 11.084 | |
| 11,800.0 | 9,170.0 | 11,643.1 | 9,170.0 | 40.1 | 37.6 | -90.06 | 2,856.1 | -803.9 | 840.6 | 762.9 | 77.66 | 10.824 | |
| 11,900.0 | 9,170.0 | 11,743.1 | 9,170.0 | 40.6 | 38.9 | -90.06 | 2,956.1 | -806.2 | 840.5 | 761.1 | 79.49 | 10.574 | |
| 12,000.0 | 9,170.0 | 11,843.1 | 9,170.0 | 41.1 | 40.3 | -90.06 | 3,056.1 | -808.4 | 840.5 | 759.2 | 81.34 | 10.334 | |
| 12,100.0 | 9,170.0 | 11,943.1 | 9,170.0 | 41.6 | 41.6 | -90.06 | 3,156.1 | -810.7 | 840.5 | 757.3 | 83.20 | 10.102 | |
| 12,200.0 | 9,170.0 | 12,043.1 | 9,170.0 | 42.2 | 42.9 | -90.06 | 3,256.0 | -813.0 | 840.5 | 755.4 | 85.08 | 9.879 | |
| 12,300.0 | 9,170.0 | 12,143.1 | 9,170.0 | 42.7 | 44.3 | -90.06 | 3,356.0 | -815.3 | 840.5 | 753.5 | 86.97 | 9.664 | |
| 12,400.0 | 9,170.0 | 12,243.1 | 9,170.0 | 43.3 | 45.6 | -90.06 | 3,456.0 | -817.6 | 840.4 | 751.6 | 88.87 | 9.457 | |
| 12,500.0 | 9,170.0 | 12,343.1 | 9,170.0 | 43.8 | 47.0 | -90.06 | 3,556.0 | -819.9 | 840.4 | 749.6 | 90.78 | 9.257 | |
| 12,600.0 | 9,170.0 | 12,443.1 | 9,170.0 | 44.4 | 48.3 | -90.06 | 3,655.9 | -822.2 | 840.4 | 747.7 | 92.71 | 9.065 | |
| 12,700.0 | 9,170.0 | 12,543.1 | 9,170.0 | 45.0 | 49.6 | -90.06 | 3,755.9 | -824.5 | 840.4 | 745.7 | 94.64 | 8.879 | |
| 12,800.0 | 9,170.0 | 12,643.1 | 9,170.0 | 45.6 | 51.0 | -90.06 | 3,855.9 | -826.8 | 840.4 | 743.8 | 96.59 | 8.700 | |
| 12,900.0 | 9,170.0 | 12,743.1 | 9,170.0 | 46.2 | 52.3 | -90.06 | 3,955.9 | -829.1 | 840.3 | 741.8 | 98.55 | 8.527 | |
| 13,000.0 | 9,170.0 | 12,843.1 | 9,170.0 | 46.8 | 53.7 | -90.06 | 4,055.8 | -831.4 | 840.3 | 739.8 | 100.51 | 8.360 | |
| 13,100.0 | 9,170.0 | 12,943.1 | 9,170.0 | 47.4 | 55.0 | -90.06 | 4,155.8 | -833.7 | 840.3 | 737.8 | 102.48 | 8.199 | |
| 13,200.0 | 9,170.0 | 13,043.1 | 9,170.0 | 48.1 | 56.4 | -90.06 | 4,255.8 | -836.0 | 840.3 | 735.8 | 104.47 | 8.043 | |
| 13,300.0 | 9,170.0 | 13,143.1 | 9,170.0 | 48.7 | 57.8 | -90.06 | 4,355.7 | -838.2 | 840.3 | 733.8 | 106.46 | 7.893 | |
| 13,400.0 | 9,170.0 | 13,243.1 | 9,170.0 | 49.4 | 59.1 | -90.06 | 4,455.7 | -840.5 | 840.2 | 731.8 | 108.46 | 7.747 | |
| 13,500.0 | 9,170.0 | 13,343.1 | 9,170.0 | 50.0 | 60.5 | -90.06 | 4,555.7 | -842.8 | 840.2 | 729.7 | 110.46 | 7.606 | |
| 13,600.0 | 9,170.0 | 13,443.1 | 9,170.0 | 50.7 | 61.8 | -90.06 | 4,655.7 | -845.1 | 840.2 | 727.7 | 112.48 | 7.470 | |
| 13,700.0 | 9,170.0 | 13,543.1 | 9,170.0 | 51.3 | 63.2 | -90.06 | 4,755.6 | -847.4 | 840.2 | 725.7 | 114.50 | 7.338 | |
| 13,800.0 | 9,170.0 | 13,643.1 | 9,170.0 | 52.0 | 64.5 | -90.06 | 4,855.6 | -849.7 | 840.1 | 723.6 | 116.52 | 7.210 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 206H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8665-MWD+HRGM+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13,900.0 | 9,170.0 | 13,743.1 | 9,170.0 | 52.7 | 65.9 | -90.06 | 4,955.6 | -852.0 | 840.1 | 721.6 | 118.56 | 7.086 | |
| 13,947.0 | 9,170.0 | 13,790.1 | 9,170.0 | 53.0 | 66.5 | -90.06 | 5,002.6 | -853.1 | 840.1 | 720.6 | 119.51 | 7.030 | |
| 13,947.6 | 9,170.0 | 13,790.7 | 9,170.0 | 53.0 | 66.5 | -90.06 | 5,003.2 | -853.1 | 840.1 | 720.6 | 119.52 | 7.029 | |
| 14,002.3 | 9,170.0 | 13,864.3 | 9,170.0 | 53.4 | 67.5 | -90.06 | 5,076.8 | -854.1 | 840.1 | 719.2 | 120.90 | 6.949 | |
| 14,033.5 | 9,170.0 | 13,892.7 | 9,170.0 | 53.6 | 67.9 | -90.06 | 5,105.1 | -854.2 | 840.1 | 718.6 | 121.50 | 6.915 | |
| 14,100.0 | 9,170.0 | 13,959.2 | 9,170.0 | 54.0 | 68.8 | -90.06 | 5,171.7 | -854.4 | 840.1 | 717.3 | 122.86 | 6.838 | |
| 14,200.0 | 9,170.0 | 14,059.2 | 9,170.0 | 54.7 | 70.2 | -90.06 | 5,271.7 | -854.8 | 840.1 | 715.2 | 124.90 | 6.726 | |
| 14,300.0 | 9,170.0 | 14,159.2 | 9,170.0 | 55.4 | 71.6 | -90.06 | 5,371.7 | -855.2 | 840.1 | 713.2 | 126.96 | 6.617 | |
| 14,400.0 | 9,170.0 | 14,259.2 | 9,170.0 | 56.1 | 72.9 | -90.06 | 5,471.7 | -855.6 | 840.1 | 711.1 | 129.02 | 6.512 | |
| 14,500.0 | 9,170.0 | 14,359.2 | 9,170.0 | 56.8 | 74.3 | -90.06 | 5,571.7 | -855.9 | 840.1 | 709.0 | 131.08 | 6.409 | |
| 14,600.0 | 9,170.0 | 14,459.2 | 9,170.0 | 57.5 | 75.6 | -90.06 | 5,671.7 | -856.3 | 840.1 | 707.0 | 133.15 | 6.310 | |
| 14,700.0 | 9,170.0 | 14,559.2 | 9,170.0 | 58.2 | 77.0 | -90.06 | 5,771.7 | -856.7 | 840.1 | 704.9 | 135.22 | 6.213 | |
| 14,800.0 | 9,170.0 | 14,659.2 | 9,170.0 | 58.9 | 78.4 | -90.06 | 5,871.7 | -857.1 | 840.1 | 702.8 | 137.30 | 6.119 | |
| 14,900.0 | 9,170.0 | 14,759.2 | 9,170.0 | 59.7 | 79.7 | -90.06 | 5,971.7 | -857.5 | 840.1 | 700.7 | 139.38 | 6.027 | |
| 15,000.0 | 9,170.0 | 14,859.2 | 9,170.0 | 60.4 | 81.1 | -90.06 | 6,071.7 | -857.8 | 840.1 | 698.6 | 141.47 | 5.938 | |
| 15,100.0 | 9,170.0 | 14,959.2 | 9,170.0 | 61.1 | 82.4 | -90.06 | 6,171.7 | -858.2 | 840.1 | 696.5 | 143.56 | 5.852 | |
| 15,200.0 | 9,170.0 | 15,059.2 | 9,170.0 | 61.8 | 83.8 | -90.06 | 6,271.7 | -858.6 | 840.1 | 694.4 | 145.65 | 5.768 | |
| 15,300.0 | 9,170.0 | 15,159.2 | 9,170.0 | 62.6 | 85.2 | -90.06 | 6,371.7 | -859.0 | 840.1 | 692.3 | 147.75 | 5.686 | |
| 15,400.0 | 9,170.0 | 15,259.2 | 9,170.0 | 63.3 | 86.5 | -90.06 | 6,471.7 | -859.3 | 840.1 | 690.2 | 149.85 | 5.606 | |
| 15,500.0 | 9,170.0 | 15,359.2 | 9,170.0 | 64.1 | 87.9 | -90.06 | 6,571.7 | -859.7 | 840.1 | 688.1 | 151.95 | 5.529 | |
| 15,600.0 | 9,170.0 | 15,459.2 | 9,170.0 | 64.8 | 89.3 | -90.06 | 6,671.7 | -860.1 | 840.1 | 686.0 | 154.06 | 5.453 | |
| 15,700.0 | 9,170.0 | 15,559.2 | 9,170.0 | 65.5 | 90.6 | -90.06 | 6,771.6 | -860.5 | 840.0 | 683.9 | 156.17 | 5.379 | |
| 15,800.0 | 9,170.0 | 15,659.2 | 9,170.0 | 66.3 | 92.0 | -90.06 | 6,871.6 | -860.8 | 840.0 | 681.8 | 158.28 | 5.307 | |
| 15,900.0 | 9,170.0 | 15,759.2 | 9,170.0 | 67.0 | 93.4 | -90.06 | 6,971.6 | -861.2 | 840.0 | 679.6 | 160.40 | 5.237 | |
| 16,000.0 | 9,170.0 | 15,859.2 | 9,170.0 | 67.8 | 94.7 | -90.06 | 7,071.6 | -861.6 | 840.0 | 677.5 | 162.52 | 5.169 | |
| 16,100.0 | 9,170.0 | 15,959.2 | 9,170.0 | 68.6 | 96.1 | -90.06 | 7,171.6 | -862.0 | 840.0 | 675.4 | 164.64 | 5.102 | |
| 16,200.0 | 9,170.0 | 16,059.2 | 9,170.0 | 69.3 | 97.5 | -90.06 | 7,271.6 | -862.4 | 840.0 | 673.3 | 166.77 | 5.037 | |
| 16,300.0 | 9,170.0 | 16,159.2 | 9,170.0 | 70.1 | 98.8 | -90.06 | 7,371.6 | -862.7 | 840.0 | 671.1 | 168.89 | 4.974 | |
| 16,400.0 | 9,170.0 | 16,259.2 | 9,170.0 | 70.8 | 100.2 | -90.06 | 7,471.6 | -863.1 | 840.0 | 669.0 | 171.02 | 4.912 | |
| 16,500.0 | 9,170.0 | 16,359.2 | 9,170.0 | 71.6 | 101.6 | -90.06 | 7,571.6 | -863.5 | 840.0 | 666.9 | 173.16 | 4.851 | |
| 16,582.9 | 9,170.0 | 16,441.9 | 9,170.0 | 72.2 | 102.7 | -90.06 | 7,654.3 | -863.8 | 840.0 | 665.1 | 174.92 | 4.802 | |
| 16,590.3 | 9,170.0 | 16,447.7 | 9,170.0 | 72.3 | 102.8 | -90.06 | 7,660.2 | -863.8 | 840.0 | 664.9 | 175.06 | 4.798 | |
| 16,592.4 | 9,170.0 | 16,449.4 | 9,170.0 | 72.3 | 102.8 | -90.06 | 7,661.8 | -863.8 | 840.0 | 664.9 | 175.10 | 4.797 | |
| 16,592.4 | 9,170.0 | 16,449.4 | 9,170.0 | 72.3 | 102.8 | -90.06 | 7,661.8 | -863.8 | 840.0 | 664.9 | 175.10 | 4.797 | |
| 16,600.0 | 9,170.0 | 16,457.0 | 9,170.0 | 72.4 | 102.9 | -90.06 | 7,669.4 | -863.9 | 840.0 | 664.7 | 175.26 | 4.793 | |
| 16,700.0 | 9,170.0 | 16,557.0 | 9,170.0 | 73.1 | 104.3 | -90.06 | 7,769.4 | -864.5 | 840.0 | 662.6 | 177.40 | 4.735 | |
| 16,800.0 | 9,170.0 | 16,657.0 | 9,170.0 | 73.9 | 105.6 | -90.06 | 7,869.4 | -865.2 | 840.0 | 660.5 | 179.54 | 4.679 | |
| 16,900.0 | 9,170.0 | 16,757.0 | 9,170.0 | 74.7 | 107.0 | -90.06 | 7,969.4 | -865.8 | 840.0 | 658.3 | 181.68 | 4.624 | |
| 17,000.0 | 9,170.0 | 16,857.0 | 9,170.0 | 75.5 | 108.4 | -90.06 | 8,069.4 | -866.4 | 840.0 | 656.2 | 183.82 | 4.570 | |
| 17,100.0 | 9,170.0 | 16,957.0 | 9,170.0 | 76.2 | 109.7 | -90.06 | 8,169.4 | -867.1 | 840.0 | 654.0 | 185.97 | 4.517 | |
| 17,200.0 | 9,170.0 | 17,057.0 | 9,170.0 | 77.0 | 111.1 | -90.06 | 8,269.4 | -867.7 | 840.0 | 651.9 | 188.12 | 4.465 | |
| 17,300.0 | 9,170.0 | 17,157.0 | 9,170.0 | 77.8 | 112.5 | -90.06 | 8,369.4 | -868.4 | 840.0 | 649.7 | 190.27 | 4.415 | |
| 17,400.0 | 9,170.0 | 17,257.0 | 9,170.0 | 78.6 | 113.8 | -90.06 | 8,469.4 | -869.0 | 840.0 | 647.6 | 192.42 | 4.366 | |
| 17,500.0 | 9,170.0 | 17,357.0 | 9,170.0 | 79.4 | 115.2 | -90.06 | 8,569.4 | -869.7 | 840.0 | 645.4 | 194.57 | 4.317 | |
| 17,600.0 | 9,170.0 | 17,457.0 | 9,170.0 | 80.2 | 116.6 | -90.06 | 8,669.4 | -870.3 | 840.0 | 643.3 | 196.73 | 4.270 | |
| 17,700.0 | 9,170.0 | 17,557.0 | 9,170.0 | 81.0 | 117.9 | -90.06 | 8,769.4 | -870.9 | 840.0 | 641.1 | 198.88 | 4.224 | |
| 17,800.0 | 9,170.0 | 17,657.0 | 9,170.0 | 81.7 | 119.3 | -90.06 | 8,869.4 | -871.6 | 840.0 | 639.0 | 201.04 | 4.178 | |
| 17,900.0 | 9,170.0 | 17,757.0 | 9,170.0 | 82.5 | 120.7 | -90.06 | 8,969.4 | -872.2 | 840.0 | 636.8 | 203.20 | 4.134 | |
| 18,000.0 | 9,170.0 | 17,857.0 | 9,170.0 | 83.3 | 122.0 | -90.06 | 9,069.4 | -872.9 | 840.0 | 634.7 | 205.36 | 4.090 | |
| 18,100.0 | 9,170.0 | 17,957.0 | 9,170.0 | 84.1 | 123.4 | -90.06 | 9,169.4 | -873.5 | 840.0 | 632.5 | 207.53 | 4.048 | |
| 18,200.0 | 9,170.0 | 18,057.0 | 9,170.0 | 84.9 | 124.8 | -90.06 | 9,269.4 | -874.1 | 840.0 | 630.3 | 209.69 | 4.006 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 206H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8665-MWD+HRGM+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18,300.0 | 9,170.0 | 18,157.0 | 9,170.0 | 85.7 | 126.1 | -90.06 | 9,369.4 | -874.8 | 840.0 | 628.2 | 211.86 | 3.965 | |
| 18,400.0 | 9,170.0 | 18,257.0 | 9,170.0 | 86.5 | 127.5 | -90.06 | 9,469.4 | -875.4 | 840.0 | 626.0 | 214.02 | 3.925 | |
| 18,500.0 | 9,170.0 | 18,357.0 | 9,170.0 | 87.3 | 128.9 | -90.06 | 9,569.4 | -876.1 | 840.0 | 623.8 | 216.19 | 3.886 | |
| 18,600.0 | 9,170.0 | 18,457.0 | 9,170.0 | 88.1 | 130.3 | -90.06 | 9,669.4 | -876.7 | 840.0 | 621.7 | 218.36 | 3.847 | |
| 18,700.0 | 9,170.0 | 18,557.0 | 9,170.0 | 88.9 | 131.6 | -90.06 | 9,769.4 | -877.3 | 840.0 | 619.5 | 220.53 | 3.809 | |
| 18,800.0 | 9,170.0 | 18,657.0 | 9,170.0 | 89.7 | 133.0 | -90.06 | 9,869.4 | -878.0 | 840.0 | 617.3 | 222.70 | 3.772 | |
| 18,900.0 | 9,170.0 | 18,757.0 | 9,170.0 | 90.5 | 134.4 | -90.06 | 9,969.4 | -878.6 | 840.0 | 615.2 | 224.88 | 3.736 | |
| 19,000.0 | 9,170.0 | 18,857.0 | 9,170.0 | 91.3 | 135.7 | -90.06 | 10,069.4 | -879.3 | 840.0 | 613.0 | 227.05 | 3.700 | |
| 19,100.0 | 9,170.0 | 18,957.0 | 9,170.0 | 92.1 | 137.1 | -90.06 | 10,169.4 | -879.9 | 840.0 | 610.8 | 229.23 | 3.665 | |
| 19,108.3 | 9,170.0 | 18,965.2 | 9,170.0 | 92.2 | 137.2 | -90.06 | 10,177.6 | -879.9 | 840.0 | 610.6 | 229.41 | 3.662 | |
| 19,181.4 | 9,170.0 | 19,036.7 | 9,170.0 | 92.8 | 138.2 | -90.06 | 10,249.1 | -880.4 | 840.0 | 609.1 | 230.98 | 3.637 | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 304H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8818-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -57.62 | 244.4 | -385.4 | 456.4 | | | | |
| 100.0 | 100.0 | 96.2 | 96.2 | 3.0 | 3.0 | -57.62 | 244.4 | -385.4 | 456.4 | 450.4 | 6.00 | 76.025 | |
| 200.0 | 200.0 | 196.2 | 196.2 | 3.0 | 3.0 | -57.62 | 244.4 | -385.4 | 456.4 | 450.3 | 6.04 | 75.541 | |
| 300.0 | 300.0 | 296.2 | 296.2 | 3.1 | 3.0 | -57.62 | 244.4 | -385.4 | 456.4 | 450.2 | 6.12 | 74.525 | |
| 400.0 | 400.0 | 396.2 | 396.2 | 3.2 | 3.0 | -57.62 | 244.4 | -385.4 | 456.4 | 450.1 | 6.25 | 73.054 | |
| 500.0 | 500.0 | 496.2 | 496.2 | 3.4 | 3.1 | -57.62 | 244.4 | -385.4 | 456.4 | 450.0 | 6.41 | 71.226 | |
| 600.0 | 600.0 | 596.2 | 596.2 | 3.6 | 3.1 | -57.62 | 244.4 | -385.4 | 456.4 | 449.8 | 6.60 | 69.144 | |
| 700.0 | 700.0 | 696.2 | 696.2 | 3.8 | 3.1 | -57.62 | 244.4 | -385.4 | 456.4 | 449.5 | 6.82 | 66.900 | |
| 800.0 | 800.0 | 796.2 | 796.2 | 4.0 | 3.2 | -57.62 | 244.4 | -385.4 | 456.4 | 449.3 | 7.07 | 64.574 | |
| 900.0 | 900.0 | 896.2 | 896.2 | 4.2 | 3.2 | -57.62 | 244.4 | -385.4 | 456.4 | 449.0 | 7.33 | 62.227 | |
| 1,000.0 | 1,000.0 | 996.2 | 996.2 | 4.5 | 3.2 | -57.62 | 244.4 | -385.4 | 456.4 | 448.7 | 7.62 | 59.905 | |
| 1,100.0 | 1,100.0 | 1,096.2 | 1,096.2 | 4.8 | 3.3 | -57.62 | 244.4 | -385.4 | 456.4 | 448.4 | 7.92 | 57.638 | |
| 1,200.0 | 1,200.0 | 1,196.2 | 1,196.2 | 5.1 | 3.4 | -57.62 | 244.4 | -385.4 | 456.4 | 448.1 | 8.23 | 55.448 | |
| 1,300.0 | 1,300.0 | 1,296.2 | 1,296.2 | 5.3 | 3.4 | -57.62 | 244.4 | -385.4 | 456.4 | 447.8 | 8.55 | 53.347 | |
| 1,400.0 | 1,400.0 | 1,396.2 | 1,396.2 | 5.6 | 3.5 | -57.62 | 244.4 | -385.4 | 456.4 | 447.5 | 8.89 | 51.343 | |
| 1,500.0 | 1,500.0 | 1,496.2 | 1,496.2 | 6.0 | 3.5 | -57.62 | 244.4 | -385.4 | 456.4 | 447.1 | 9.23 | 49.437 | |
| 1,600.0 | 1,600.0 | 1,596.2 | 1,596.2 | 6.3 | 3.6 | -57.62 | 244.4 | -385.4 | 456.4 | 446.8 | 9.58 | 47.630 | |
| 1,700.0 | 1,700.0 | 1,696.2 | 1,696.2 | 6.6 | 3.7 | -57.62 | 244.4 | -385.4 | 456.4 | 446.4 | 9.94 | 45.918 | |
| 1,800.0 | 1,800.0 | 1,796.2 | 1,796.2 | 6.9 | 3.8 | -57.62 | 244.4 | -385.4 | 456.4 | 446.1 | 10.30 | 44.300 | |
| 1,900.0 | 1,900.0 | 1,896.2 | 1,896.2 | 7.2 | 3.9 | -57.62 | 244.4 | -385.4 | 456.4 | 445.7 | 10.67 | 42.769 | |
| 2,000.0 | 2,000.0 | 1,996.2 | 1,996.2 | 7.6 | 3.9 | -57.62 | 244.4 | -385.4 | 456.4 | 445.3 | 11.04 | 41.322 | |
| 2,100.0 | 2,100.0 | 2,096.2 | 2,096.2 | 7.9 | 4.0 | -57.62 | 244.4 | -385.4 | 456.4 | 444.9 | 11.42 | 39.955 | |
| 2,200.0 | 2,200.0 | 2,196.2 | 2,196.2 | 8.2 | 4.1 | -57.62 | 244.4 | -385.4 | 456.4 | 444.6 | 11.80 | 38.661 | |
| 2,300.0 | 2,300.0 | 2,296.2 | 2,296.2 | 8.6 | 4.2 | -57.62 | 244.4 | -385.4 | 456.4 | 444.2 | 12.19 | 37.437 | |
| 2,400.0 | 2,400.0 | 2,396.2 | 2,396.2 | 8.9 | 4.3 | -57.62 | 244.4 | -385.4 | 456.4 | 443.8 | 12.58 | 36.279 | |
| 2,500.0 | 2,500.0 | 2,496.2 | 2,496.2 | 9.2 | 4.4 | -57.62 | 244.4 | -385.4 | 456.4 | 443.4 | 12.97 | 35.181 | |
| 2,600.0 | 2,600.0 | 2,614.0 | 2,614.0 | 9.6 | 4.4 | -57.57 | 243.6 | -383.3 | 454.5 | 441.1 | 13.33 | 34.093 | |
| 2,700.0 | 2,700.0 | 2,732.1 | 2,731.9 | 9.9 | 4.5 | -57.40 | 240.9 | -376.7 | 448.5 | 434.9 | 13.64 | 32.873 | |
| 2,800.0 | 2,800.0 | 2,834.5 | 2,833.9 | 10.3 | 4.5 | -57.19 | 237.6 | -368.5 | 440.0 | 426.0 | 13.98 | 31.464 | |
| 2,900.0 | 2,900.0 | 2,934.1 | 2,933.1 | 10.6 | 4.5 | -56.97 | 234.3 | -360.4 | 431.5 | 417.1 | 14.33 | 30.100 | |
| 3,000.0 | 3,000.0 | 3,033.8 | 3,032.4 | 10.9 | 4.5 | -56.75 | 231.1 | -352.4 | 422.9 | 408.2 | 14.69 | 28.791 | |
| 3,100.0 | 3,100.0 | 3,133.4 | 3,131.6 | 11.3 | 4.5 | -56.51 | 227.8 | -344.3 | 414.4 | 399.3 | 15.05 | 27.536 | |
| 3,200.0 | 3,200.0 | 3,233.0 | 3,230.8 | 11.6 | 4.5 | -56.27 | 224.5 | -336.3 | 405.8 | 390.4 | 15.41 | 26.332 | |
| 3,300.0 | 3,300.0 | 3,332.6 | 3,330.1 | 12.0 | 4.6 | -56.01 | 221.3 | -328.2 | 397.3 | 381.5 | 15.78 | 25.177 | |
| 3,400.0 | 3,400.0 | 3,432.2 | 3,429.3 | 12.3 | 4.6 | -55.74 | 218.0 | -320.2 | 388.8 | 372.6 | 16.15 | 24.069 | |
| 3,500.0 | 3,500.0 | 3,531.8 | 3,528.6 | 12.7 | 4.7 | -55.46 | 214.8 | -312.1 | 380.3 | 363.7 | 16.53 | 23.005 | |
| 3,600.0 | 3,600.0 | 3,631.5 | 3,627.8 | 13.0 | 4.7 | -55.17 | 211.5 | -304.1 | 371.8 | 354.8 | 16.91 | 21.985 | |
| 3,700.0 | 3,700.0 | 3,731.1 | 3,727.0 | 13.4 | 4.7 | -54.87 | 208.3 | -296.0 | 363.3 | 346.0 | 17.29 | 21.005 | |
| 3,800.0 | 3,800.0 | 3,830.7 | 3,826.3 | 13.7 | 4.8 | -54.55 | 205.0 | -288.0 | 354.8 | 337.1 | 17.68 | 20.064 | |
| 3,900.0 | 3,900.0 | 3,930.3 | 3,925.5 | 14.1 | 4.8 | -54.21 | 201.8 | -279.9 | 346.3 | 328.2 | 18.07 | 19.161 | |
| 4,000.0 | 4,000.0 | 4,029.9 | 4,024.8 | 14.4 | 4.9 | -53.86 | 198.5 | -271.9 | 337.8 | 319.4 | 18.47 | 18.294 | |
| 4,100.0 | 4,100.0 | 4,129.6 | 4,124.0 | 14.8 | 5.0 | -53.49 | 195.3 | -263.8 | 329.4 | 310.5 | 18.87 | 17.460 | |
| 4,200.0 | 4,200.0 | 4,229.2 | 4,223.2 | 15.1 | 5.0 | -53.10 | 192.0 | -255.8 | 321.0 | 301.7 | 19.27 | 16.660 | |
| 4,300.0 | 4,300.0 | 4,328.8 | 4,322.5 | 15.5 | 5.1 | -52.69 | 188.8 | -247.7 | 312.5 | 292.9 | 19.67 | 15.890 | |
| 4,400.0 | 4,400.0 | 4,428.4 | 4,421.7 | 15.8 | 5.1 | -52.26 | 185.5 | -239.7 | 304.1 | 284.1 | 20.08 | 15.150 | |
| 4,500.0 | 4,500.0 | 4,528.0 | 4,521.0 | 16.2 | 5.2 | -51.80 | 182.3 | -231.6 | 295.8 | 275.3 | 20.48 | 14.439 | |
| 4,600.0 | 4,600.0 | 4,627.7 | 4,620.2 | 16.5 | 5.3 | -51.31 | 179.0 | -223.6 | 287.4 | 266.5 | 20.89 | 13.755 | |
| 4,700.0 | 4,700.0 | 4,727.3 | 4,719.4 | 16.9 | 5.4 | -50.80 | 175.8 | -215.5 | 279.1 | 257.8 | 21.31 | 13.097 | |
| 4,800.0 | 4,800.0 | 4,826.9 | 4,818.7 | 17.2 | 5.4 | -50.26 | 172.5 | -207.5 | 270.7 | 249.0 | 21.72 | 12.465 | |
| 4,900.0 | 4,900.0 | 4,926.5 | 4,917.9 | 17.6 | 5.5 | -49.68 | 169.3 | -199.4 | 262.5 | 240.3 | 22.14 | 11.856 | |
| 5,000.0 | 5,000.0 | 5,026.1 | 5,017.2 | 17.9 | 5.6 | -49.06 | 166.0 | -191.4 | 254.2 | 231.6 | 22.56 | 11.270 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 304H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8818-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,125.8 | 5,116.4 | 18.3 | 5.7 | -48.40 | 162.7 | -183.3 | 246.0 | 223.0 | 22.97 | 10.706 | |
| 5,200.0 | 5,200.0 | 5,225.4 | 5,215.6 | 18.7 | 5.8 | -47.70 | 159.5 | -175.3 | 237.8 | 214.4 | 23.39 | 10.163 | |
| 5,300.0 | 5,300.0 | 5,325.0 | 5,314.9 | 19.0 | 5.8 | -46.94 | 156.2 | -167.2 | 229.6 | 205.8 | 23.82 | 9.641 | |
| 5,400.0 | 5,400.0 | 5,424.6 | 5,414.1 | 19.4 | 5.9 | -46.13 | 153.0 | -159.2 | 221.5 | 197.3 | 24.24 | 9.138 | |
| 5,500.0 | 5,500.0 | 5,524.2 | 5,513.4 | 19.7 | 6.0 | -45.26 | 149.7 | -151.1 | 213.4 | 188.8 | 24.66 | 8.654 | |
| 5,600.0 | 5,600.0 | 5,623.9 | 5,612.6 | 20.1 | 6.1 | -44.32 | 146.5 | -143.1 | 205.4 | 180.3 | 25.08 | 8.189 | |
| 5,700.0 | 5,700.0 | 5,723.5 | 5,711.8 | 20.4 | 6.2 | -43.31 | 143.2 | -135.0 | 197.5 | 171.9 | 25.51 | 7.741 | |
| 5,800.0 | 5,800.0 | 5,823.1 | 5,811.1 | 20.8 | 6.3 | -42.21 | 140.0 | -127.0 | 189.6 | 163.6 | 25.93 | 7.310 | |
| 5,900.0 | 5,900.0 | 5,922.7 | 5,910.3 | 21.1 | 6.4 | -41.01 | 136.7 | -118.9 | 181.8 | 155.4 | 26.36 | 6.896 | |
| 6,000.0 | 6,000.0 | 6,022.3 | 6,009.6 | 21.5 | 6.5 | -39.71 | 133.5 | -110.9 | 174.0 | 147.2 | 26.78 | 6.498 | |
| 6,100.0 | 6,100.0 | 6,122.0 | 6,108.8 | 21.8 | 6.6 | -38.29 | 130.2 | -102.8 | 166.4 | 139.2 | 27.21 | 6.116 | |
| 6,200.0 | 6,200.0 | 6,221.6 | 6,208.0 | 22.2 | 6.7 | -36.73 | 127.0 | -94.8 | 158.9 | 131.2 | 27.63 | 5.750 | |
| 6,300.0 | 6,300.0 | 6,321.2 | 6,307.3 | 22.6 | 6.8 | -35.02 | 123.7 | -86.7 | 151.5 | 123.4 | 28.06 | 5.399 | |
| 6,400.0 | 6,400.0 | 6,420.8 | 6,406.5 | 22.9 | 6.9 | -33.14 | 120.5 | -78.7 | 144.2 | 115.8 | 28.48 | 5.064 | |
| 6,500.0 | 6,500.0 | 6,520.4 | 6,505.8 | 23.3 | 7.0 | -31.06 | 117.2 | -70.6 | 137.2 | 108.3 | 28.91 | 4.745 | |
| 6,600.0 | 6,600.0 | 6,620.1 | 6,605.0 | 23.6 | 7.1 | -28.76 | 114.0 | -62.6 | 130.3 | 101.0 | 29.34 | 4.441 | |
| 6,700.0 | 6,700.0 | 6,719.7 | 6,704.2 | 24.0 | 7.2 | -26.21 | 110.7 | -54.5 | 123.7 | 93.9 | 29.77 | 4.154 | |
| 6,800.0 | 6,800.0 | 6,819.3 | 6,803.5 | 24.3 | 7.3 | -23.38 | 107.5 | -46.5 | 117.3 | 87.1 | 30.21 | 3.883 | |
| 6,900.0 | 6,900.0 | 6,918.9 | 6,902.7 | 24.7 | 7.4 | -20.23 | 104.2 | -38.4 | 111.2 | 80.6 | 30.65 | 3.630 | |
| 7,000.0 | 7,000.0 | 7,018.5 | 7,002.0 | 25.0 | 7.5 | -16.74 | 101.0 | -30.4 | 105.6 | 74.5 | 31.10 | 3.394 | |
| 7,100.0 | 7,100.0 | 7,118.2 | 7,101.2 | 25.4 | 7.6 | -12.86 | 97.7 | -22.3 | 100.3 | 68.8 | 31.57 | 3.179 | |
| 7,200.0 | 7,200.0 | 7,217.8 | 7,200.5 | 25.8 | 7.7 | -8.58 | 94.4 | -14.3 | 95.6 | 63.6 | 32.05 | 2.983 | |
| 7,300.0 | 7,300.0 | 7,317.4 | 7,299.7 | 26.1 | 7.8 | -3.89 | 91.2 | -6.2 | 91.5 | 58.9 | 32.55 | 2.810 | |
| 7,400.0 | 7,400.0 | 7,417.0 | 7,398.9 | 26.5 | 7.9 | 1.20 | 87.9 | 1.8 | 88.0 | 54.9 | 33.08 | 2.660 | |
| 7,500.0 | 7,500.0 | 7,516.6 | 7,498.2 | 26.8 | 8.0 | 6.66 | 84.7 | 9.9 | 85.3 | 51.7 | 33.64 | 2.535 | |
| 7,600.0 | 7,600.0 | 7,616.2 | 7,597.4 | 27.2 | 8.1 | 12.43 | 81.4 | 17.9 | 83.4 | 49.2 | 34.22 | 2.437 | |
| 7,700.0 | 7,700.0 | 7,715.9 | 7,696.7 | 27.5 | 8.3 | 18.39 | 78.2 | 26.0 | 82.4 | 47.6 | 34.82 | 2.367 | |
| 7,759.7 | 7,759.7 | 7,775.4 | 7,755.9 | 27.7 | 8.3 | 22.00 | 76.2 | 30.8 | 82.2 | 47.1 | 35.18 | 2.337 CC | |
| 7,800.0 | 7,800.0 | 7,815.5 | 7,795.9 | 27.9 | 8.4 | 24.44 | 74.9 | 34.0 | 82.3 | 46.9 | 35.43 | 2.323 ES | |
| 7,900.0 | 7,900.0 | 7,915.1 | 7,895.1 | 28.2 | 8.5 | 30.43 | 71.7 | 42.1 | 83.1 | 47.1 | 36.04 | 2.307 SF | |
| 8,000.0 | 8,000.0 | 8,014.7 | 7,994.4 | 28.6 | 8.6 | 36.24 | 68.4 | 50.1 | 84.9 | 48.2 | 36.64 | 2.316 | |
| 8,100.0 | 8,100.0 | 8,114.3 | 8,093.6 | 29.0 | 8.7 | 41.76 | 65.2 | 58.2 | 87.4 | 50.2 | 37.23 | 2.348 | |
| 8,200.0 | 8,200.0 | 8,214.0 | 8,192.9 | 29.3 | 8.8 | 46.93 | 61.9 | 66.2 | 90.7 | 52.9 | 37.80 | 2.401 | |
| 8,300.0 | 8,300.0 | 8,313.6 | 8,292.1 | 29.7 | 8.9 | 51.70 | 58.7 | 74.3 | 94.8 | 56.4 | 38.35 | 2.471 | |
| 8,400.0 | 8,400.0 | 8,413.2 | 8,391.3 | 30.0 | 9.0 | 56.06 | 55.4 | 82.3 | 99.4 | 60.5 | 38.88 | 2.556 | |
| 8,500.0 | 8,500.0 | 8,512.8 | 8,490.6 | 30.4 | 9.2 | 60.01 | 52.2 | 90.4 | 104.5 | 65.1 | 39.40 | 2.653 | |
| 8,597.0 | 8,597.0 | 8,609.5 | 8,586.8 | 30.7 | 9.3 | 63.48 | 49.0 | 98.2 | 109.9 | 70.1 | 39.88 | 2.756 | |
| 8,600.0 | 8,600.0 | 8,612.4 | 8,589.8 | 30.7 | 9.3 | 62.37 | 48.9 | 98.4 | 110.1 | 70.2 | 39.90 | 2.760 | |
| 8,650.0 | 8,649.9 | 8,662.1 | 8,639.3 | 30.9 | 9.3 | 64.95 | 47.3 | 102.5 | 112.0 | 71.9 | 40.15 | 2.789 | |
| 8,700.0 | 8,699.4 | 8,711.2 | 8,688.2 | 31.1 | 9.4 | 69.52 | 45.7 | 106.4 | 112.6 | 72.2 | 40.40 | 2.786 | |
| 8,750.0 | 8,748.2 | 8,759.4 | 8,736.3 | 31.3 | 9.4 | 75.97 | 44.1 | 110.3 | 112.7 | 72.1 | 40.62 | 2.775 | |
| 8,800.0 | 8,795.8 | 8,806.4 | 8,783.0 | 31.4 | 9.5 | 84.00 | 42.6 | 114.1 | 113.9 | 73.2 | 40.77 | 2.795 | |
| 8,850.0 | 8,841.9 | 8,850.0 | 8,826.5 | 31.6 | 9.5 | 92.21 | 42.0 | 117.9 | 118.0 | 77.3 | 40.75 | 2.897 | |
| 8,900.0 | 8,886.1 | 8,894.9 | 8,871.0 | 31.7 | 9.5 | 99.85 | 44.6 | 122.7 | 126.2 | 85.5 | 40.72 | 3.099 | |
| 8,950.0 | 8,928.1 | 8,940.4 | 8,915.8 | 31.9 | 9.5 | 106.36 | 50.7 | 128.6 | 138.0 | 97.2 | 40.71 | 3.389 | |
| 9,000.0 | 8,967.6 | 8,987.3 | 8,961.0 | 32.0 | 9.6 | 111.73 | 60.6 | 135.7 | 152.8 | 112.0 | 40.76 | 3.747 | |
| 9,050.0 | 9,004.3 | 9,035.5 | 9,006.5 | 32.2 | 9.6 | 115.98 | 74.4 | 143.9 | 169.9 | 129.0 | 40.86 | 4.158 | |
| 9,100.0 | 9,037.8 | 9,085.4 | 9,051.9 | 32.3 | 9.6 | 119.24 | 92.5 | 153.5 | 188.8 | 147.8 | 41.00 | 4.605 | |
| 9,150.0 | 9,068.1 | 9,137.1 | 9,097.0 | 32.4 | 9.7 | 121.65 | 115.3 | 164.4 | 209.0 | 167.9 | 41.16 | 5.078 | |
| 9,200.0 | 9,094.7 | 9,191.0 | 9,141.4 | 32.5 | 9.7 | 123.35 | 143.2 | 176.7 | 230.1 | 188.8 | 41.34 | 5.567 | |
| 9,250.0 | 9,117.5 | 9,247.1 | 9,184.4 | 32.6 | 9.8 | 124.47 | 176.4 | 190.6 | 251.7 | 210.2 | 41.50 | 6.066 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 304H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8818-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,300.0 | 9,136.4 | 9,306.0 | 9,225.6 | 32.7 | 9.8 | 125.08 | 215.5 | 206.0 | 273.6 | 231.9 | 41.65 | 6.569 | |
| 9,350.0 | 9,151.2 | 9,367.8 | 9,264.0 | 32.7 | 9.9 | 125.28 | 260.8 | 223.0 | 295.3 | 253.5 | 41.78 | 7.067 | |
| 9,400.0 | 9,161.8 | 9,432.9 | 9,298.5 | 32.8 | 10.0 | 125.12 | 312.7 | 241.7 | 316.6 | 274.7 | 41.90 | 7.555 | |
| 9,450.0 | 9,168.0 | 9,501.6 | 9,328.0 | 32.9 | 10.2 | 124.64 | 371.4 | 261.9 | 337.1 | 295.1 | 42.02 | 8.022 | |
| 9,497.0 | 9,170.0 | 9,569.7 | 9,349.7 | 32.9 | 10.3 | 123.92 | 432.6 | 282.1 | 355.5 | 313.3 | 42.16 | 8.430 | |
| 9,504.0 | 9,170.0 | 9,580.1 | 9,352.4 | 32.9 | 10.3 | 124.05 | 442.2 | 285.2 | 358.1 | 315.9 | 42.19 | 8.487 | |
| 9,600.0 | 9,170.0 | 9,728.5 | 9,370.0 | 33.0 | 10.7 | 122.78 | 582.5 | 328.7 | 386.5 | 343.7 | 42.80 | 9.029 | |
| 9,700.0 | 9,170.0 | 9,838.4 | 9,370.0 | 33.1 | 11.1 | 120.66 | 688.5 | 358.0 | 407.7 | 364.3 | 43.45 | 9.384 | |
| 9,800.0 | 9,170.0 | 9,950.4 | 9,370.0 | 33.3 | 11.6 | 119.02 | 797.5 | 383.5 | 426.1 | 381.9 | 44.13 | 9.655 | |
| 9,900.0 | 9,170.0 | 10,064.1 | 9,370.0 | 33.4 | 12.1 | 117.78 | 909.2 | 405.1 | 441.2 | 396.3 | 44.87 | 9.834 | |
| 10,000.0 | 9,170.0 | 10,179.3 | 9,370.0 | 33.6 | 12.7 | 116.88 | 1,023.0 | 422.4 | 453.0 | 407.3 | 45.65 | 9.924 | |
| 10,100.0 | 9,170.0 | 10,295.4 | 9,370.0 | 33.8 | 13.4 | 116.28 | 1,138.4 | 435.2 | 461.2 | 414.7 | 46.46 | 9.927 | |
| 10,200.0 | 9,170.0 | 10,412.3 | 9,370.0 | 34.0 | 14.1 | 115.95 | 1,255.0 | 443.4 | 465.8 | 418.5 | 47.31 | 9.847 | |
| 10,300.0 | 9,170.0 | 10,525.3 | 9,370.0 | 34.3 | 14.8 | 115.88 | 1,367.9 | 446.8 | 466.9 | 418.7 | 48.15 | 9.695 | |
| 10,400.0 | 9,170.0 | 10,625.3 | 9,370.0 | 34.6 | 15.4 | 115.88 | 1,467.9 | 448.7 | 466.9 | 417.9 | 48.98 | 9.532 | |
| 10,500.0 | 9,170.0 | 10,725.3 | 9,370.0 | 34.8 | 16.1 | 115.88 | 1,567.9 | 450.5 | 466.9 | 417.0 | 49.85 | 9.365 | |
| 10,600.0 | 9,170.0 | 10,825.3 | 9,370.0 | 35.1 | 16.8 | 115.88 | 1,667.9 | 452.4 | 466.9 | 416.1 | 50.76 | 9.197 | |
| 10,700.0 | 9,170.0 | 10,925.3 | 9,370.0 | 35.5 | 17.5 | 115.88 | 1,767.9 | 454.2 | 466.9 | 415.1 | 51.71 | 9.028 | |
| 10,800.0 | 9,170.0 | 11,025.3 | 9,370.0 | 35.8 | 18.2 | 115.88 | 1,867.8 | 456.1 | 466.9 | 414.2 | 52.70 | 8.860 | |
| 10,900.0 | 9,170.0 | 11,125.3 | 9,370.0 | 36.2 | 18.9 | 115.88 | 1,967.8 | 457.9 | 466.9 | 413.1 | 53.71 | 8.691 | |
| 11,000.0 | 9,170.0 | 11,225.3 | 9,370.0 | 36.5 | 19.6 | 115.88 | 2,067.8 | 459.8 | 466.8 | 412.1 | 54.76 | 8.525 | |
| 11,100.0 | 9,170.0 | 11,325.3 | 9,370.0 | 36.9 | 20.4 | 115.88 | 2,167.8 | 461.6 | 466.8 | 411.0 | 55.84 | 8.360 | |
| 11,200.0 | 9,170.0 | 11,425.3 | 9,370.0 | 37.3 | 21.1 | 115.88 | 2,267.8 | 463.4 | 466.8 | 409.9 | 56.95 | 8.197 | |
| 11,304.9 | 9,170.0 | 11,530.2 | 9,370.0 | 37.8 | 21.9 | 115.88 | 2,372.7 | 465.4 | 466.8 | 408.7 | 58.14 | 8.030 | |
| 11,305.1 | 9,170.0 | 11,530.4 | 9,370.0 | 37.8 | 21.9 | 115.88 | 2,372.8 | 465.4 | 466.8 | 408.7 | 58.14 | 8.030 | |
| 11,400.0 | 9,170.0 | 11,640.2 | 9,370.0 | 38.2 | 22.8 | 115.88 | 2,482.7 | 465.6 | 466.9 | 407.6 | 59.31 | 7.872 | |
| 11,424.2 | 9,170.0 | 11,667.0 | 9,370.0 | 38.3 | 23.0 | 115.89 | 2,509.4 | 465.0 | 466.8 | 407.2 | 59.60 | 7.833 | |
| 11,424.2 | 9,170.0 | 11,667.0 | 9,370.0 | 38.3 | 23.0 | 115.89 | 2,509.4 | 465.0 | 466.8 | 407.2 | 59.60 | 7.833 | |
| 11,500.0 | 9,170.0 | 11,742.8 | 9,370.0 | 38.6 | 23.5 | 115.89 | 2,585.2 | 463.3 | 466.8 | 406.3 | 60.50 | 7.717 | |
| 11,600.0 | 9,170.0 | 11,842.8 | 9,370.0 | 39.1 | 24.3 | 115.89 | 2,685.2 | 461.0 | 466.8 | 405.1 | 61.70 | 7.567 | |
| 11,700.0 | 9,170.0 | 11,942.8 | 9,370.0 | 39.6 | 25.1 | 115.89 | 2,785.2 | 458.7 | 466.8 | 403.9 | 62.92 | 7.420 | |
| 11,800.0 | 9,170.0 | 12,042.8 | 9,370.0 | 40.1 | 25.9 | 115.89 | 2,885.1 | 456.4 | 466.8 | 402.7 | 64.16 | 7.276 | |
| 11,900.0 | 9,170.0 | 12,142.8 | 9,370.0 | 40.6 | 26.7 | 115.88 | 2,985.1 | 454.0 | 466.8 | 401.4 | 65.42 | 7.136 | |
| 12,000.0 | 9,170.0 | 12,242.8 | 9,370.0 | 41.1 | 27.5 | 115.88 | 3,085.1 | 451.7 | 466.8 | 400.1 | 66.70 | 6.999 | |
| 12,100.0 | 9,170.0 | 12,342.8 | 9,370.0 | 41.6 | 28.3 | 115.88 | 3,185.0 | 449.4 | 466.8 | 398.8 | 67.99 | 6.866 | |
| 12,200.0 | 9,170.0 | 12,442.8 | 9,370.0 | 42.2 | 29.1 | 115.88 | 3,285.0 | 447.1 | 466.8 | 397.5 | 69.30 | 6.736 | |
| 12,300.0 | 9,170.0 | 12,542.8 | 9,370.0 | 42.7 | 29.9 | 115.88 | 3,385.0 | 444.8 | 466.8 | 396.2 | 70.63 | 6.610 | |
| 12,400.0 | 9,170.0 | 12,642.8 | 9,370.0 | 43.3 | 30.7 | 115.88 | 3,485.0 | 442.5 | 466.8 | 394.9 | 71.97 | 6.487 | |
| 12,500.0 | 9,170.0 | 12,742.8 | 9,370.0 | 43.8 | 31.5 | 115.88 | 3,584.9 | 440.2 | 466.8 | 393.5 | 73.32 | 6.367 | |
| 12,600.0 | 9,170.0 | 12,842.8 | 9,370.0 | 44.4 | 32.3 | 115.88 | 3,684.9 | 437.9 | 466.8 | 392.1 | 74.69 | 6.250 | |
| 12,700.0 | 9,170.0 | 12,942.8 | 9,370.0 | 45.0 | 33.1 | 115.88 | 3,784.9 | 435.5 | 466.8 | 390.8 | 76.07 | 6.137 | |
| 12,800.0 | 9,170.0 | 13,042.8 | 9,370.0 | 45.6 | 34.0 | 115.88 | 3,884.9 | 433.2 | 466.8 | 389.4 | 77.46 | 6.027 | |
| 12,900.0 | 9,170.0 | 13,142.8 | 9,370.0 | 46.2 | 34.8 | 115.88 | 3,984.8 | 430.9 | 466.8 | 388.0 | 78.86 | 5.920 | |
| 13,000.0 | 9,170.0 | 13,242.8 | 9,370.0 | 46.8 | 35.6 | 115.88 | 4,084.8 | 428.6 | 466.8 | 386.6 | 80.27 | 5.816 | |
| 13,100.0 | 9,170.0 | 13,342.8 | 9,370.0 | 47.4 | 36.4 | 115.88 | 4,184.8 | 426.3 | 466.8 | 385.1 | 81.69 | 5.714 | |
| 13,200.0 | 9,170.0 | 13,442.8 | 9,370.0 | 48.1 | 37.3 | 115.88 | 4,284.8 | 424.0 | 466.8 | 383.7 | 83.12 | 5.616 | |
| 13,300.0 | 9,170.0 | 13,542.8 | 9,370.0 | 48.7 | 38.1 | 115.88 | 4,384.7 | 421.7 | 466.8 | 382.3 | 84.57 | 5.520 | |
| 13,400.0 | 9,170.0 | 13,642.8 | 9,370.0 | 49.4 | 38.9 | 115.88 | 4,484.7 | 419.4 | 466.8 | 380.8 | 86.02 | 5.427 | |
| 13,500.0 | 9,170.0 | 13,742.8 | 9,370.0 | 50.0 | 39.8 | 115.88 | 4,584.7 | 417.0 | 466.8 | 379.4 | 87.47 | 5.337 | |
| 13,600.0 | 9,170.0 | 13,842.8 | 9,370.0 | 50.7 | 40.6 | 115.88 | 4,684.6 | 414.7 | 466.8 | 377.9 | 88.94 | 5.249 | |
| 13,700.0 | 9,170.0 | 13,942.8 | 9,370.0 | 51.3 | 41.4 | 115.88 | 4,784.6 | 412.4 | 466.8 | 376.4 | 90.41 | 5.163 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 304H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8818-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13,800.0 | 9,170.0 | 14,042.8 | 9,370.0 | 52.0 | 42.3 | 115.88 | 4,884.6 | 410.1 | 466.8 | 374.9 | 91.89 | 5.080 | |
| 13,900.0 | 9,170.0 | 14,142.8 | 9,370.0 | 52.7 | 43.1 | 115.88 | 4,984.6 | 407.8 | 466.8 | 373.5 | 93.38 | 4.999 | |
| 13,947.0 | 9,170.0 | 14,189.8 | 9,370.0 | 53.0 | 43.5 | 115.88 | 5,031.6 | 406.7 | 466.8 | 372.8 | 94.08 | 4.962 | |
| 14,002.3 | 9,170.0 | 14,238.6 | 9,370.0 | 53.4 | 43.9 | 115.89 | 5,080.3 | 405.9 | 466.7 | 371.8 | 94.87 | 4.919 | |
| 14,014.8 | 9,170.0 | 14,249.4 | 9,370.0 | 53.4 | 44.0 | 115.89 | 5,091.2 | 405.9 | 466.7 | 371.7 | 95.05 | 4.910 | |
| 14,100.0 | 9,170.0 | 14,334.7 | 9,370.0 | 54.0 | 44.7 | 115.89 | 5,176.4 | 405.5 | 466.7 | 370.4 | 96.32 | 4.845 | |
| 14,200.0 | 9,170.0 | 14,434.7 | 9,370.0 | 54.7 | 45.6 | 115.89 | 5,276.4 | 405.2 | 466.7 | 368.9 | 97.83 | 4.771 | |
| 14,300.0 | 9,170.0 | 14,534.7 | 9,370.0 | 55.4 | 46.4 | 115.89 | 5,376.4 | 404.8 | 466.7 | 367.4 | 99.34 | 4.698 | |
| 14,400.0 | 9,170.0 | 14,634.7 | 9,370.0 | 56.1 | 47.2 | 115.89 | 5,476.4 | 404.4 | 466.7 | 365.9 | 100.86 | 4.627 | |
| 14,500.0 | 9,170.0 | 14,734.7 | 9,370.0 | 56.8 | 48.1 | 115.89 | 5,576.4 | 404.0 | 466.7 | 364.3 | 102.38 | 4.559 | |
| 14,600.0 | 9,170.0 | 14,834.7 | 9,370.0 | 57.5 | 48.9 | 115.89 | 5,676.4 | 403.7 | 466.7 | 362.8 | 103.91 | 4.492 | |
| 14,700.0 | 9,170.0 | 14,934.7 | 9,370.0 | 58.2 | 49.8 | 115.89 | 5,776.4 | 403.3 | 466.7 | 361.3 | 105.44 | 4.426 | |
| 14,800.0 | 9,170.0 | 15,034.7 | 9,370.0 | 58.9 | 50.6 | 115.89 | 5,876.4 | 402.9 | 466.7 | 359.8 | 106.98 | 4.363 | |
| 14,900.0 | 9,170.0 | 15,134.7 | 9,370.0 | 59.7 | 51.5 | 115.89 | 5,976.4 | 402.5 | 466.7 | 358.2 | 108.52 | 4.301 | |
| 15,000.0 | 9,170.0 | 15,234.7 | 9,370.0 | 60.4 | 52.3 | 115.89 | 6,076.4 | 402.2 | 466.7 | 356.7 | 110.07 | 4.241 | |
| 15,100.0 | 9,170.0 | 15,334.7 | 9,370.0 | 61.1 | 53.2 | 115.89 | 6,176.4 | 401.8 | 466.8 | 355.1 | 111.62 | 4.182 | |
| 15,200.0 | 9,170.0 | 15,434.7 | 9,370.0 | 61.8 | 54.0 | 115.89 | 6,276.4 | 401.4 | 466.8 | 353.6 | 113.17 | 4.124 | |
| 15,300.0 | 9,170.0 | 15,534.7 | 9,370.0 | 62.6 | 54.9 | 115.89 | 6,376.4 | 401.0 | 466.8 | 352.0 | 114.73 | 4.068 | |
| 15,400.0 | 9,170.0 | 15,634.7 | 9,370.0 | 63.3 | 55.7 | 115.89 | 6,476.4 | 400.6 | 466.8 | 350.5 | 116.29 | 4.014 | |
| 15,500.0 | 9,170.0 | 15,734.7 | 9,370.0 | 64.1 | 56.6 | 115.89 | 6,576.4 | 400.3 | 466.8 | 348.9 | 117.86 | 3.961 | |
| 15,600.0 | 9,170.0 | 15,834.7 | 9,370.0 | 64.8 | 57.4 | 115.89 | 6,676.4 | 399.9 | 466.8 | 347.4 | 119.42 | 3.909 | |
| 15,700.0 | 9,170.0 | 15,934.7 | 9,370.0 | 65.5 | 58.3 | 115.89 | 6,776.4 | 399.5 | 466.8 | 345.8 | 121.00 | 3.858 | |
| 15,800.0 | 9,170.0 | 16,034.7 | 9,370.0 | 66.3 | 59.1 | 115.89 | 6,876.4 | 399.1 | 466.8 | 344.2 | 122.57 | 3.808 | |
| 15,900.0 | 9,170.0 | 16,134.7 | 9,370.0 | 67.0 | 60.0 | 115.89 | 6,976.4 | 398.8 | 466.8 | 342.6 | 124.15 | 3.760 | |
| 16,000.0 | 9,170.0 | 16,234.7 | 9,370.0 | 67.8 | 60.8 | 115.89 | 7,076.4 | 398.4 | 466.8 | 341.1 | 125.73 | 3.713 | |
| 16,100.0 | 9,170.0 | 16,334.7 | 9,370.0 | 68.6 | 61.7 | 115.89 | 7,176.4 | 398.0 | 466.8 | 339.5 | 127.31 | 3.667 | |
| 16,200.0 | 9,170.0 | 16,434.7 | 9,370.0 | 69.3 | 62.5 | 115.89 | 7,276.4 | 397.6 | 466.8 | 337.9 | 128.90 | 3.622 | |
| 16,300.0 | 9,170.0 | 16,534.7 | 9,370.0 | 70.1 | 63.4 | 115.89 | 7,376.4 | 397.3 | 466.8 | 336.3 | 130.49 | 3.577 | |
| 16,400.0 | 9,170.0 | 16,634.7 | 9,370.0 | 70.8 | 64.2 | 115.89 | 7,476.4 | 396.9 | 466.8 | 334.7 | 132.08 | 3.534 | |
| 16,500.0 | 9,170.0 | 16,734.7 | 9,370.0 | 71.6 | 65.1 | 115.88 | 7,576.4 | 396.5 | 466.8 | 333.2 | 133.68 | 3.492 | |
| 16,582.9 | 9,170.0 | 16,817.6 | 9,370.0 | 72.2 | 65.8 | 115.88 | 7,659.3 | 396.2 | 466.8 | 331.8 | 135.00 | 3.458 | |
| 16,590.3 | 9,170.0 | 16,826.1 | 9,370.0 | 72.3 | 65.8 | 115.88 | 7,667.8 | 396.1 | 466.8 | 331.7 | 135.12 | 3.455 | |
| 16,600.0 | 9,170.0 | 16,835.8 | 9,370.0 | 72.4 | 65.9 | 115.88 | 7,677.5 | 396.1 | 466.8 | 331.6 | 135.28 | 3.451 | |
| 16,700.0 | 9,170.0 | 16,935.8 | 9,370.0 | 73.1 | 66.8 | 115.88 | 7,777.5 | 395.4 | 466.8 | 330.0 | 136.88 | 3.411 | |
| 16,800.0 | 9,170.0 | 17,035.8 | 9,370.0 | 73.9 | 67.6 | 115.88 | 7,877.5 | 394.8 | 466.8 | 328.4 | 138.48 | 3.371 | |
| 16,900.0 | 9,170.0 | 17,135.8 | 9,370.0 | 74.7 | 68.5 | 115.88 | 7,977.5 | 394.2 | 466.8 | 326.7 | 140.08 | 3.333 | |
| 17,000.0 | 9,170.0 | 17,235.8 | 9,370.0 | 75.5 | 69.3 | 115.89 | 8,077.5 | 393.5 | 466.8 | 325.1 | 141.69 | 3.295 | |
| 17,100.0 | 9,170.0 | 17,335.8 | 9,370.0 | 76.2 | 70.2 | 115.89 | 8,177.5 | 392.9 | 466.8 | 323.5 | 143.30 | 3.258 | |
| 17,200.0 | 9,170.0 | 17,435.8 | 9,370.0 | 77.0 | 71.1 | 115.89 | 8,277.5 | 392.2 | 466.8 | 321.9 | 144.90 | 3.222 | |
| 17,300.0 | 9,170.0 | 17,535.8 | 9,370.0 | 77.8 | 71.9 | 115.89 | 8,377.5 | 391.6 | 466.8 | 320.3 | 146.52 | 3.186 | |
| 17,400.0 | 9,170.0 | 17,635.8 | 9,370.0 | 78.6 | 72.8 | 115.89 | 8,477.5 | 390.9 | 466.8 | 318.7 | 148.13 | 3.151 | |
| 17,500.0 | 9,170.0 | 17,735.8 | 9,370.0 | 79.4 | 73.6 | 115.89 | 8,577.5 | 390.3 | 466.8 | 317.1 | 149.74 | 3.117 | |
| 17,600.0 | 9,170.0 | 17,835.8 | 9,370.0 | 80.2 | 74.5 | 115.89 | 8,677.5 | 389.7 | 466.8 | 315.4 | 151.36 | 3.084 | |
| 17,700.0 | 9,170.0 | 17,935.8 | 9,370.0 | 81.0 | 75.3 | 115.89 | 8,777.5 | 389.0 | 466.8 | 313.8 | 152.98 | 3.051 | |
| 17,800.0 | 9,170.0 | 18,035.8 | 9,370.0 | 81.7 | 76.2 | 115.89 | 8,877.5 | 388.4 | 466.8 | 312.2 | 154.60 | 3.019 | |
| 17,900.0 | 9,170.0 | 18,135.8 | 9,370.0 | 82.5 | 77.0 | 115.89 | 8,977.5 | 387.7 | 466.8 | 310.6 | 156.22 | 2.988 | |
| 18,000.0 | 9,170.0 | 18,235.8 | 9,370.0 | 83.3 | 77.9 | 115.89 | 9,077.5 | 387.1 | 466.8 | 308.9 | 157.84 | 2.957 | |
| 18,100.0 | 9,170.0 | 18,335.8 | 9,370.0 | 84.1 | 78.8 | 115.89 | 9,177.5 | 386.5 | 466.8 | 307.3 | 159.47 | 2.927 | |
| 18,200.0 | 9,170.0 | 18,435.8 | 9,370.0 | 84.9 | 79.6 | 115.89 | 9,277.5 | 385.8 | 466.8 | 305.7 | 161.09 | 2.898 | |
| 18,300.0 | 9,170.0 | 18,535.8 | 9,370.0 | 85.7 | 80.5 | 115.89 | 9,377.5 | 385.2 | 466.8 | 304.1 | 162.72 | 2.869 | |
| 18,400.0 | 9,170.0 | 18,635.8 | 9,370.0 | 86.5 | 81.3 | 115.89 | 9,477.5 | 384.5 | 466.8 | 302.4 | 164.35 | 2.840 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 304H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8818-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18,500.0 | 9,170.0 | 18,735.8 | 9,370.0 | 87.3 | 82.2 | 115.89 | 9,577.5 | 383.9 | 466.8 | 300.8 | 165.98 | 2.812 | |
| 18,600.0 | 9,170.0 | 18,835.8 | 9,370.0 | 88.1 | 83.0 | 115.89 | 9,677.5 | 383.2 | 466.8 | 299.2 | 167.61 | 2.785 | |
| 18,700.0 | 9,170.0 | 18,935.8 | 9,370.0 | 88.9 | 83.9 | 115.89 | 9,777.5 | 382.6 | 466.8 | 297.5 | 169.25 | 2.758 | |
| 18,800.0 | 9,170.0 | 19,035.8 | 9,370.0 | 89.7 | 84.8 | 115.89 | 9,877.5 | 382.0 | 466.8 | 295.9 | 170.88 | 2.732 | |
| 18,900.0 | 9,170.0 | 19,135.8 | 9,370.0 | 90.5 | 85.6 | 115.89 | 9,977.5 | 381.3 | 466.8 | 294.3 | 172.51 | 2.706 | |
| 19,000.0 | 9,170.0 | 19,235.8 | 9,370.0 | 91.3 | 86.5 | 115.89 | 10,077.5 | 380.7 | 466.8 | 292.6 | 174.15 | 2.680 | |
| 19,100.0 | 9,170.0 | 19,335.8 | 9,370.0 | 92.1 | 87.3 | 115.89 | 10,177.5 | 380.0 | 466.8 | 291.0 | 175.79 | 2.655 | |
| 19,181.4 | 9,170.0 | 19,417.2 | 9,370.0 | 92.8 | 88.0 | 115.89 | 10,258.9 | 379.5 | 466.8 | 289.6 | 177.12 | 2.635 | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 305H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8749-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -59.57 | 244.0 | -415.4 | 481.8 | | | | |
| 100.0 | 100.0 | 94.4 | 94.4 | 3.0 | 3.0 | -59.57 | 244.0 | -415.4 | 481.8 | 475.8 | 6.00 | 80.256 | |
| 200.0 | 200.0 | 194.4 | 194.4 | 3.0 | 3.0 | -59.57 | 244.0 | -415.4 | 481.8 | 475.7 | 6.04 | 79.748 | |
| 300.0 | 300.0 | 294.4 | 294.4 | 3.1 | 3.0 | -59.57 | 244.0 | -415.4 | 481.8 | 475.6 | 6.12 | 78.679 | |
| 400.0 | 400.0 | 394.4 | 394.4 | 3.2 | 3.0 | -59.57 | 244.0 | -415.4 | 481.8 | 475.5 | 6.25 | 77.131 | |
| 500.0 | 500.0 | 494.4 | 494.4 | 3.4 | 3.1 | -59.57 | 244.0 | -415.4 | 481.8 | 475.4 | 6.41 | 75.207 | |
| 600.0 | 600.0 | 594.4 | 594.4 | 3.6 | 3.1 | -59.57 | 244.0 | -415.4 | 481.8 | 475.2 | 6.60 | 73.015 | |
| 700.0 | 700.0 | 694.4 | 694.4 | 3.8 | 3.1 | -59.57 | 244.0 | -415.4 | 481.8 | 474.9 | 6.82 | 70.652 | |
| 800.0 | 800.0 | 794.4 | 794.4 | 4.0 | 3.2 | -59.57 | 244.0 | -415.4 | 481.8 | 474.7 | 7.06 | 68.204 | |
| 900.0 | 900.0 | 894.4 | 894.4 | 4.2 | 3.2 | -59.57 | 244.0 | -415.4 | 481.8 | 474.4 | 7.33 | 65.732 | |
| 1,000.0 | 1,000.0 | 994.4 | 994.4 | 4.5 | 3.2 | -59.57 | 244.0 | -415.4 | 481.8 | 474.1 | 7.61 | 63.286 | |
| 1,100.0 | 1,100.0 | 1,094.4 | 1,094.4 | 4.8 | 3.3 | -59.57 | 244.0 | -415.4 | 481.8 | 473.8 | 7.91 | 60.899 | |
| 1,200.0 | 1,200.0 | 1,194.4 | 1,194.4 | 5.1 | 3.3 | -59.57 | 244.0 | -415.4 | 481.8 | 473.5 | 8.22 | 58.592 | |
| 1,300.0 | 1,300.0 | 1,294.4 | 1,294.4 | 5.3 | 3.4 | -59.57 | 244.0 | -415.4 | 481.8 | 473.2 | 8.54 | 56.379 | |
| 1,400.0 | 1,400.0 | 1,394.4 | 1,394.4 | 5.6 | 3.5 | -59.57 | 244.0 | -415.4 | 481.8 | 472.9 | 8.88 | 54.268 | |
| 1,500.0 | 1,500.0 | 1,494.4 | 1,494.4 | 6.0 | 3.5 | -59.57 | 244.0 | -415.4 | 481.8 | 472.5 | 9.22 | 52.260 | |
| 1,600.0 | 1,600.0 | 1,594.4 | 1,594.4 | 6.3 | 3.6 | -59.57 | 244.0 | -415.4 | 481.8 | 472.2 | 9.57 | 50.355 | |
| 1,700.0 | 1,700.0 | 1,694.4 | 1,694.4 | 6.6 | 3.7 | -59.57 | 244.0 | -415.4 | 481.8 | 471.8 | 9.92 | 48.551 | |
| 1,800.0 | 1,800.0 | 1,794.4 | 1,794.4 | 6.9 | 3.8 | -59.57 | 244.0 | -415.4 | 481.8 | 471.5 | 10.28 | 46.845 | |
| 1,900.0 | 1,900.0 | 1,894.4 | 1,894.4 | 7.2 | 3.8 | -59.57 | 244.0 | -415.4 | 481.8 | 471.1 | 10.65 | 45.231 | |
| 2,000.0 | 2,000.0 | 1,994.4 | 1,994.4 | 7.6 | 3.9 | -59.57 | 244.0 | -415.4 | 481.8 | 470.7 | 11.02 | 43.706 | |
| 2,100.0 | 2,100.0 | 2,094.4 | 2,094.4 | 7.9 | 4.0 | -59.57 | 244.0 | -415.4 | 481.8 | 470.4 | 11.40 | 42.264 | |
| 2,200.0 | 2,200.0 | 2,194.4 | 2,194.4 | 8.2 | 4.1 | -59.57 | 244.0 | -415.4 | 481.8 | 470.0 | 11.78 | 40.900 | |
| 2,300.0 | 2,300.0 | 2,294.4 | 2,294.4 | 8.6 | 4.2 | -59.57 | 244.0 | -415.4 | 481.8 | 469.6 | 12.16 | 39.609 | |
| 2,400.0 | 2,400.0 | 2,394.4 | 2,394.4 | 8.9 | 4.3 | -59.57 | 244.0 | -415.4 | 481.8 | 469.2 | 12.55 | 38.386 | |
| 2,500.0 | 2,500.0 | 2,494.4 | 2,494.4 | 9.2 | 4.4 | -59.57 | 244.0 | -415.4 | 481.8 | 468.8 | 12.94 | 37.228 | |
| 2,600.0 | 2,600.0 | 2,594.4 | 2,594.4 | 9.6 | 4.5 | -59.57 | 244.0 | -415.4 | 481.8 | 468.4 | 13.33 | 36.130 | |
| 2,700.0 | 2,700.0 | 2,694.4 | 2,694.4 | 9.9 | 4.6 | -59.57 | 244.0 | -415.4 | 481.8 | 468.0 | 13.73 | 35.088 | |
| 2,800.0 | 2,800.0 | 2,794.4 | 2,794.4 | 10.3 | 4.7 | -59.57 | 244.0 | -415.4 | 481.8 | 467.6 | 14.13 | 34.098 | |
| 2,900.0 | 2,900.0 | 2,894.4 | 2,894.4 | 10.6 | 4.8 | -59.57 | 244.0 | -415.4 | 481.8 | 467.2 | 14.53 | 33.157 | |
| 3,000.0 | 3,000.0 | 2,994.4 | 2,994.4 | 10.9 | 4.9 | -59.57 | 244.0 | -415.4 | 481.8 | 466.8 | 14.93 | 32.263 | |
| 3,100.0 | 3,100.0 | 3,094.4 | 3,094.4 | 11.3 | 5.0 | -59.57 | 244.0 | -415.4 | 481.8 | 466.4 | 15.34 | 31.411 | |
| 3,200.0 | 3,200.0 | 3,194.4 | 3,194.4 | 11.6 | 5.1 | -59.57 | 244.0 | -415.4 | 481.8 | 466.0 | 15.74 | 30.599 | |
| 3,300.0 | 3,300.0 | 3,294.4 | 3,294.4 | 12.0 | 5.2 | -59.57 | 244.0 | -415.4 | 481.8 | 465.6 | 16.15 | 29.825 | |
| 3,400.0 | 3,400.0 | 3,394.4 | 3,394.4 | 12.3 | 5.3 | -59.57 | 244.0 | -415.4 | 481.8 | 465.2 | 16.56 | 29.086 | |
| 3,500.0 | 3,500.0 | 3,494.4 | 3,494.4 | 12.7 | 5.4 | -59.57 | 244.0 | -415.4 | 481.8 | 464.8 | 16.98 | 28.380 | |
| 3,600.0 | 3,600.0 | 3,594.4 | 3,594.4 | 13.0 | 5.5 | -59.57 | 244.0 | -415.4 | 481.8 | 464.4 | 17.39 | 27.705 | |
| 3,700.0 | 3,700.0 | 3,694.4 | 3,694.4 | 13.4 | 5.6 | -59.57 | 244.0 | -415.4 | 481.8 | 464.0 | 17.80 | 27.059 | |
| 3,800.0 | 3,800.0 | 3,794.4 | 3,794.4 | 13.7 | 5.8 | -59.57 | 244.0 | -415.4 | 481.8 | 463.5 | 18.22 | 26.441 | |
| 3,900.0 | 3,900.0 | 3,894.4 | 3,894.4 | 14.1 | 5.9 | -59.57 | 244.0 | -415.4 | 481.8 | 463.1 | 18.64 | 25.849 | |
| 4,000.0 | 4,000.0 | 3,994.4 | 3,994.4 | 14.4 | 6.0 | -59.57 | 244.0 | -415.4 | 481.8 | 462.7 | 19.06 | 25.281 | |
| 4,100.0 | 4,100.0 | 4,094.4 | 4,094.4 | 14.8 | 6.1 | -59.57 | 244.0 | -415.4 | 481.8 | 462.3 | 19.48 | 24.737 | |
| 4,200.0 | 4,200.0 | 4,194.4 | 4,194.4 | 15.1 | 6.2 | -59.57 | 244.0 | -415.4 | 481.8 | 461.9 | 19.90 | 24.213 | |
| 4,300.0 | 4,300.0 | 4,294.4 | 4,294.4 | 15.5 | 6.3 | -59.57 | 244.0 | -415.4 | 481.8 | 461.4 | 20.32 | 23.711 | |
| 4,400.0 | 4,400.0 | 4,394.4 | 4,394.4 | 15.8 | 6.4 | -59.57 | 244.0 | -415.4 | 481.8 | 461.0 | 20.74 | 23.228 | |
| 4,500.0 | 4,500.0 | 4,494.4 | 4,494.4 | 16.2 | 6.6 | -59.57 | 244.0 | -415.4 | 481.8 | 460.6 | 21.16 | 22.763 | |
| 4,600.0 | 4,600.0 | 4,594.4 | 4,594.4 | 16.5 | 6.7 | -59.57 | 244.0 | -415.4 | 481.8 | 460.2 | 21.59 | 22.315 | |
| 4,700.0 | 4,700.0 | 4,694.4 | 4,694.4 | 16.9 | 6.8 | -59.57 | 244.0 | -415.4 | 481.8 | 459.7 | 22.01 | 21.884 | |
| 4,800.0 | 4,800.0 | 4,794.4 | 4,794.4 | 17.2 | 6.9 | -59.57 | 244.0 | -415.4 | 481.8 | 459.3 | 22.44 | 21.468 | |
| 4,900.0 | 4,900.0 | 4,894.4 | 4,894.4 | 17.6 | 7.0 | -59.57 | 244.0 | -415.4 | 481.8 | 458.9 | 22.87 | 21.068 | |
| 5,000.0 | 5,000.0 | 4,994.4 | 4,994.4 | 17.9 | 7.2 | -59.57 | 244.0 | -415.4 | 481.8 | 458.5 | 23.29 | 20.681 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 305H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8749-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,094.4 | 5,094.4 | 18.3 | 7.3 | -59.57 | 244.0 | -415.4 | 481.8 | 458.0 | 23.72 | 20.308 | |
| 5,200.0 | 5,200.0 | 5,194.4 | 5,194.4 | 18.7 | 7.4 | -59.57 | 244.0 | -415.4 | 481.8 | 457.6 | 24.15 | 19.947 | |
| 5,300.0 | 5,300.0 | 5,294.4 | 5,294.4 | 19.0 | 7.5 | -59.57 | 244.0 | -415.4 | 481.8 | 457.2 | 24.58 | 19.599 | |
| 5,400.0 | 5,400.0 | 5,394.4 | 5,394.4 | 19.4 | 7.6 | -59.57 | 244.0 | -415.4 | 481.8 | 456.7 | 25.01 | 19.262 | |
| 5,500.0 | 5,500.0 | 5,494.4 | 5,494.4 | 19.7 | 7.8 | -59.57 | 244.0 | -415.4 | 481.8 | 456.3 | 25.44 | 18.936 | |
| 5,600.0 | 5,600.0 | 5,602.9 | 5,602.9 | 20.1 | 7.8 | -59.76 | 242.2 | -415.4 | 480.9 | 455.1 | 25.84 | 18.613 | |
| 5,700.0 | 5,700.0 | 5,711.6 | 5,711.4 | 20.4 | 7.7 | -60.39 | 236.2 | -415.5 | 478.3 | 452.1 | 26.18 | 18.270 | |
| 5,800.0 | 5,800.0 | 5,818.2 | 5,817.5 | 20.8 | 7.7 | -61.42 | 226.4 | -415.7 | 473.9 | 447.4 | 26.50 | 17.880 | |
| 5,900.0 | 5,900.0 | 5,917.6 | 5,916.4 | 21.1 | 7.7 | -62.55 | 216.0 | -415.8 | 469.1 | 442.3 | 26.84 | 17.479 | |
| 6,000.0 | 6,000.0 | 6,017.1 | 6,015.3 | 21.5 | 7.6 | -63.70 | 205.6 | -416.0 | 464.5 | 437.3 | 27.18 | 17.091 | |
| 6,100.0 | 6,100.0 | 6,116.5 | 6,114.2 | 21.8 | 7.6 | -64.87 | 195.2 | -416.2 | 460.1 | 432.6 | 27.52 | 16.717 | |
| 6,200.0 | 6,200.0 | 6,216.0 | 6,213.1 | 22.2 | 7.5 | -66.06 | 184.8 | -416.3 | 455.9 | 428.0 | 27.88 | 16.355 | |
| 6,300.0 | 6,300.0 | 6,315.4 | 6,312.0 | 22.6 | 7.5 | -67.27 | 174.4 | -416.5 | 451.9 | 423.7 | 28.23 | 16.007 | |
| 6,400.0 | 6,400.0 | 6,414.9 | 6,411.0 | 22.9 | 7.5 | -68.51 | 164.0 | -416.7 | 448.1 | 419.5 | 28.59 | 15.671 | |
| 6,500.0 | 6,500.0 | 6,514.3 | 6,509.9 | 23.3 | 7.5 | -69.76 | 153.7 | -416.8 | 444.5 | 415.5 | 28.96 | 15.348 | |
| 6,600.0 | 6,600.0 | 6,613.8 | 6,608.8 | 23.6 | 7.4 | -71.04 | 143.3 | -417.0 | 441.1 | 411.8 | 29.34 | 15.038 | |
| 6,700.0 | 6,700.0 | 6,713.2 | 6,707.7 | 24.0 | 7.4 | -72.33 | 132.9 | -417.1 | 438.0 | 408.3 | 29.71 | 14.740 | |
| 6,800.0 | 6,800.0 | 6,812.7 | 6,806.6 | 24.3 | 7.4 | -73.64 | 122.5 | -417.3 | 435.1 | 405.0 | 30.10 | 14.455 | |
| 6,900.0 | 6,900.0 | 6,912.1 | 6,905.5 | 24.7 | 7.4 | -74.97 | 112.1 | -417.5 | 432.4 | 401.9 | 30.49 | 14.182 | |
| 7,000.0 | 7,000.0 | 7,011.6 | 7,004.4 | 25.0 | 7.3 | -76.32 | 101.7 | -417.6 | 430.0 | 399.1 | 30.88 | 13.922 | |
| 7,100.0 | 7,100.0 | 7,111.0 | 7,103.3 | 25.4 | 7.3 | -77.68 | 91.3 | -417.8 | 427.7 | 396.5 | 31.28 | 13.674 | |
| 7,200.0 | 7,200.0 | 7,210.5 | 7,202.2 | 25.8 | 7.3 | -79.05 | 80.9 | -418.0 | 425.8 | 394.1 | 31.69 | 13.438 | |
| 7,300.0 | 7,300.0 | 7,309.9 | 7,301.1 | 26.1 | 7.3 | -80.43 | 70.5 | -418.1 | 424.1 | 392.0 | 32.09 | 13.213 | |
| 7,400.0 | 7,400.0 | 7,409.4 | 7,400.0 | 26.5 | 7.3 | -81.82 | 60.1 | -418.3 | 422.6 | 390.1 | 32.51 | 13.001 | |
| 7,500.0 | 7,500.0 | 7,508.8 | 7,498.9 | 26.8 | 7.3 | -83.23 | 49.7 | -418.5 | 421.4 | 388.5 | 32.92 | 12.800 | |
| 7,600.0 | 7,600.0 | 7,608.3 | 7,597.8 | 27.2 | 7.3 | -84.63 | 39.3 | -418.6 | 420.5 | 387.1 | 33.34 | 12.610 | |
| 7,700.0 | 7,700.0 | 7,707.7 | 7,696.7 | 27.5 | 7.3 | -86.05 | 28.9 | -418.8 | 419.8 | 386.0 | 33.77 | 12.432 | |
| 7,800.0 | 7,800.0 | 7,807.2 | 7,795.7 | 27.9 | 7.3 | -87.47 | 18.5 | -418.9 | 419.4 | 385.2 | 34.19 | 12.265 | |
| 7,900.0 | 7,900.0 | 7,906.7 | 7,894.6 | 28.2 | 7.3 | -88.89 | 8.1 | -419.1 | 419.2 | 384.6 | 34.62 | 12.108 | |
| 7,914.9 | 7,914.9 | 7,921.4 | 7,909.3 | 28.3 | 7.3 | -89.10 | 6.6 | -419.1 | 419.2 | 384.5 | 34.68 | 12.086 CC | |
| 8,000.0 | 8,000.0 | 8,006.1 | 7,993.5 | 28.6 | 7.3 | -90.31 | -2.3 | -419.3 | 419.3 | 384.2 | 35.05 | 11.962 | |
| 8,100.0 | 8,100.0 | 8,105.6 | 8,092.4 | 29.0 | 7.3 | -91.73 | -12.7 | -419.4 | 419.6 | 384.1 | 35.48 | 11.826 | |
| 8,200.0 | 8,200.0 | 8,205.0 | 8,191.3 | 29.3 | 7.3 | -93.14 | -23.1 | -419.6 | 420.2 | 384.3 | 35.92 | 11.700 | |
| 8,300.0 | 8,300.0 | 8,304.5 | 8,290.2 | 29.7 | 7.3 | -94.56 | -33.4 | -419.8 | 421.1 | 384.8 | 36.35 | 11.584 | |
| 8,400.0 | 8,400.0 | 8,403.9 | 8,389.1 | 30.0 | 7.3 | -95.96 | -43.8 | -419.9 | 422.2 | 385.4 | 36.79 | 11.477 | |
| 8,500.0 | 8,500.0 | 8,503.4 | 8,488.0 | 30.4 | 7.3 | -97.36 | -54.2 | -420.1 | 423.6 | 386.4 | 37.23 | 11.380 | |
| 8,597.0 | 8,597.0 | 8,599.8 | 8,583.9 | 30.7 | 7.3 | -98.70 | -64.3 | -420.2 | 425.2 | 387.6 | 37.65 | 11.294 | |
| 8,600.0 | 8,600.0 | 8,602.8 | 8,586.9 | 30.7 | 7.3 | -99.94 | -64.6 | -420.2 | 425.3 | 387.6 | 37.66 | 11.291 | |
| 8,650.0 | 8,649.9 | 8,652.2 | 8,636.0 | 30.9 | 7.4 | -100.80 | -69.8 | -420.3 | 426.6 | 388.7 | 37.88 | 11.262 | |
| 8,700.0 | 8,699.4 | 8,700.8 | 8,684.3 | 31.1 | 7.4 | -102.09 | -74.9 | -420.4 | 429.0 | 390.9 | 38.10 | 11.262 | |
| 8,750.0 | 8,748.2 | 8,748.1 | 8,731.4 | 31.3 | 7.4 | -103.70 | -79.8 | -420.5 | 432.8 | 394.5 | 38.31 | 11.298 | |
| 8,800.0 | 8,795.8 | 8,806.6 | 8,789.8 | 31.4 | 7.6 | -105.91 | -83.0 | -420.5 | 437.7 | 399.1 | 38.51 | 11.366 | |
| 8,850.0 | 8,841.9 | 8,868.1 | 8,851.2 | 31.6 | 7.6 | -108.03 | -80.0 | -420.5 | 442.9 | 404.2 | 38.72 | 11.438 | |
| 8,900.0 | 8,886.1 | 8,932.5 | 8,914.7 | 31.7 | 7.6 | -110.03 | -69.8 | -420.2 | 448.4 | 409.4 | 38.96 | 11.509 | |
| 8,950.0 | 8,928.1 | 9,000.0 | 8,979.6 | 31.9 | 7.6 | -111.88 | -51.5 | -419.9 | 453.9 | 414.7 | 39.22 | 11.574 | |
| 9,000.0 | 8,967.6 | 9,070.5 | 9,044.7 | 32.0 | 7.7 | -113.54 | -24.4 | -419.4 | 459.1 | 419.7 | 39.48 | 11.631 | |
| 9,050.0 | 9,004.3 | 9,144.0 | 9,108.4 | 32.2 | 7.7 | -114.98 | 12.2 | -418.7 | 463.9 | 424.2 | 39.73 | 11.677 | |
| 9,100.0 | 9,037.8 | 9,220.2 | 9,168.9 | 32.3 | 7.8 | -116.16 | 58.3 | -417.8 | 467.9 | 428.0 | 39.95 | 11.712 | |
| 9,150.0 | 9,068.1 | 9,298.6 | 9,224.3 | 32.4 | 7.9 | -117.03 | 113.8 | -416.7 | 471.1 | 430.9 | 40.15 | 11.733 | |
| 9,200.0 | 9,094.7 | 9,378.8 | 9,272.5 | 32.5 | 8.0 | -117.57 | 177.7 | -415.5 | 473.1 | 432.7 | 40.32 | 11.733 | |
| 9,250.0 | 9,117.5 | 9,459.8 | 9,311.7 | 32.6 | 8.1 | -117.76 | 248.5 | -414.2 | 473.9 | 433.4 | 40.48 | 11.707 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 305H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8749-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,300.0 | 9,136.4 | 9,540.9 | 9,340.6 | 32.7 | 8.2 | -117.58 | 324.2 | -412.8 | 473.4 | 432.8 | 40.66 | 11.645 | |
| 9,350.0 | 9,151.2 | 9,621.2 | 9,358.3 | 32.7 | 8.3 | -117.06 | 402.5 | -411.3 | 471.7 | 430.9 | 40.87 | 11.542 | |
| 9,400.0 | 9,161.8 | 9,699.9 | 9,365.0 | 32.8 | 8.6 | -116.19 | 480.8 | -409.9 | 468.9 | 427.8 | 41.14 | 11.399 | |
| 9,450.0 | 9,168.0 | 9,752.8 | 9,365.0 | 32.9 | 8.8 | -115.69 | 533.7 | -408.9 | 466.3 | 424.9 | 41.40 | 11.263 | |
| 9,494.1 | 9,170.0 | 9,796.9 | 9,365.0 | 32.9 | 9.0 | -115.54 | 577.8 | -408.1 | 465.6 | 424.0 | 41.61 | 11.188 | |
| 9,497.0 | 9,170.0 | 9,799.7 | 9,365.0 | 32.9 | 9.0 | -115.53 | 580.6 | -408.0 | 465.6 | 424.0 | 41.63 | 11.184 | |
| 9,504.0 | 9,170.0 | 9,806.7 | 9,365.0 | 32.9 | 9.1 | -115.53 | 587.6 | -407.9 | 465.6 | 423.9 | 41.66 | 11.175 | |
| 9,600.0 | 9,170.0 | 9,902.7 | 9,365.0 | 33.0 | 9.6 | -115.53 | 683.6 | -406.1 | 465.6 | 423.4 | 42.16 | 11.043 | |
| 9,700.0 | 9,170.0 | 10,002.7 | 9,365.0 | 33.1 | 10.2 | -115.53 | 783.6 | -404.3 | 465.6 | 422.8 | 42.75 | 10.892 | |
| 9,800.0 | 9,170.0 | 10,102.7 | 9,365.0 | 33.3 | 10.8 | -115.53 | 883.6 | -402.4 | 465.6 | 422.2 | 43.40 | 10.729 | |
| 9,900.0 | 9,170.0 | 10,202.7 | 9,365.0 | 33.4 | 11.4 | -115.53 | 983.6 | -400.6 | 465.6 | 421.5 | 44.10 | 10.556 | |
| 10,000.0 | 9,170.0 | 10,302.7 | 9,365.0 | 33.6 | 12.1 | -115.53 | 1,083.5 | -398.7 | 465.6 | 420.7 | 44.87 | 10.377 | |
| 10,100.0 | 9,170.0 | 10,402.7 | 9,365.0 | 33.8 | 12.8 | -115.53 | 1,183.5 | -396.9 | 465.5 | 419.9 | 45.68 | 10.192 | |
| 10,200.0 | 9,170.0 | 10,502.7 | 9,365.0 | 34.0 | 13.5 | -115.53 | 1,283.5 | -395.0 | 465.5 | 419.0 | 46.54 | 10.004 | |
| 10,300.0 | 9,170.0 | 10,602.7 | 9,365.0 | 34.3 | 14.2 | -115.53 | 1,383.5 | -393.1 | 465.5 | 418.1 | 47.44 | 9.814 | |
| 10,400.0 | 9,170.0 | 10,702.7 | 9,365.0 | 34.6 | 14.9 | -115.53 | 1,483.5 | -391.3 | 465.5 | 417.2 | 48.38 | 9.623 | |
| 10,500.0 | 9,170.0 | 10,802.7 | 9,365.0 | 34.8 | 15.7 | -115.53 | 1,583.5 | -389.4 | 465.5 | 416.2 | 49.35 | 9.433 | |
| 10,600.0 | 9,170.0 | 10,902.7 | 9,365.0 | 35.1 | 16.5 | -115.53 | 1,683.4 | -387.6 | 465.5 | 415.2 | 50.36 | 9.243 | |
| 10,700.0 | 9,170.0 | 11,002.7 | 9,365.0 | 35.5 | 17.2 | -115.53 | 1,783.4 | -385.7 | 465.5 | 414.1 | 51.41 | 9.056 | |
| 10,800.0 | 9,170.0 | 11,102.7 | 9,365.0 | 35.8 | 18.0 | -115.53 | 1,883.4 | -383.9 | 465.5 | 413.0 | 52.48 | 8.870 | |
| 10,900.0 | 9,170.0 | 11,202.7 | 9,365.0 | 36.2 | 18.8 | -115.53 | 1,983.4 | -382.0 | 465.5 | 411.9 | 53.58 | 8.688 | |
| 11,000.0 | 9,170.0 | 11,302.7 | 9,365.0 | 36.5 | 19.6 | -115.53 | 2,083.4 | -380.2 | 465.5 | 410.8 | 54.70 | 8.509 | |
| 11,100.0 | 9,170.0 | 11,402.7 | 9,365.0 | 36.9 | 20.4 | -115.53 | 2,183.4 | -378.3 | 465.5 | 409.6 | 55.85 | 8.334 | |
| 11,200.0 | 9,170.0 | 11,502.7 | 9,365.0 | 37.3 | 21.2 | -115.53 | 2,283.3 | -376.4 | 465.5 | 408.4 | 57.03 | 8.162 | |
| 11,272.1 | 9,170.0 | 11,574.8 | 9,365.0 | 37.6 | 21.8 | -115.53 | 2,355.4 | -375.1 | 465.5 | 407.6 | 57.89 | 8.041 | |
| 11,304.9 | 9,170.0 | 11,600.0 | 9,365.0 | 37.8 | 22.0 | -115.52 | 2,380.6 | -374.7 | 465.6 | 407.4 | 58.22 | 7.998 | |
| 11,400.0 | 9,170.0 | 11,686.4 | 9,365.0 | 38.2 | 22.7 | -115.48 | 2,467.0 | -375.2 | 466.3 | 407.0 | 59.29 | 7.864 | |
| 11,424.2 | 9,170.0 | 11,709.5 | 9,365.0 | 38.3 | 22.9 | -115.48 | 2,490.1 | -375.7 | 466.3 | 406.8 | 59.58 | 7.827 | |
| 11,500.0 | 9,170.0 | 11,785.3 | 9,365.0 | 38.6 | 23.5 | -115.48 | 2,565.9 | -377.4 | 466.3 | 405.8 | 60.52 | 7.705 | |
| 11,600.0 | 9,170.0 | 11,885.3 | 9,365.0 | 39.1 | 24.3 | -115.48 | 2,665.9 | -379.7 | 466.3 | 404.5 | 61.78 | 7.547 | |
| 11,700.0 | 9,170.0 | 11,985.3 | 9,365.0 | 39.6 | 25.2 | -115.48 | 2,765.9 | -382.0 | 466.3 | 403.2 | 63.06 | 7.394 | |
| 11,800.0 | 9,170.0 | 12,085.3 | 9,365.0 | 40.1 | 26.0 | -115.48 | 2,865.8 | -384.3 | 466.2 | 401.9 | 64.35 | 7.245 | |
| 11,900.0 | 9,170.0 | 12,185.3 | 9,365.0 | 40.6 | 26.8 | -115.49 | 2,965.8 | -386.6 | 466.2 | 400.5 | 65.67 | 7.100 | |
| 12,000.0 | 9,170.0 | 12,285.3 | 9,365.0 | 41.1 | 27.6 | -115.49 | 3,065.8 | -388.8 | 466.2 | 399.2 | 66.99 | 6.959 | |
| 12,100.0 | 9,170.0 | 12,385.3 | 9,365.0 | 41.6 | 28.5 | -115.49 | 3,165.7 | -391.1 | 466.1 | 397.8 | 68.33 | 6.822 | |
| 12,200.0 | 9,170.0 | 12,485.3 | 9,365.0 | 42.2 | 29.3 | -115.49 | 3,265.7 | -393.4 | 466.1 | 396.4 | 69.68 | 6.689 | |
| 12,300.0 | 9,170.0 | 12,585.3 | 9,365.0 | 42.7 | 30.2 | -115.49 | 3,365.7 | -395.7 | 466.1 | 395.0 | 71.05 | 6.560 | |
| 12,400.0 | 9,170.0 | 12,685.3 | 9,365.0 | 43.3 | 31.0 | -115.50 | 3,465.7 | -397.9 | 466.0 | 393.6 | 72.43 | 6.434 | |
| 12,500.0 | 9,170.0 | 12,785.3 | 9,365.0 | 43.8 | 31.8 | -115.50 | 3,565.6 | -400.2 | 466.0 | 392.2 | 73.82 | 6.313 | |
| 12,600.0 | 9,170.0 | 12,885.3 | 9,365.0 | 44.4 | 32.7 | -115.50 | 3,665.6 | -402.5 | 466.0 | 390.8 | 75.22 | 6.195 | |
| 12,700.0 | 9,170.0 | 12,985.3 | 9,365.0 | 45.0 | 33.5 | -115.50 | 3,765.6 | -404.8 | 465.9 | 389.3 | 76.64 | 6.080 | |
| 12,800.0 | 9,170.0 | 13,085.3 | 9,365.0 | 45.6 | 34.4 | -115.50 | 3,865.6 | -407.1 | 465.9 | 387.9 | 78.06 | 5.969 | |
| 12,900.0 | 9,170.0 | 13,185.3 | 9,365.0 | 46.2 | 35.2 | -115.50 | 3,965.5 | -409.3 | 465.9 | 386.4 | 79.49 | 5.861 | |
| 13,000.0 | 9,170.0 | 13,285.3 | 9,365.0 | 46.8 | 36.1 | -115.51 | 4,065.5 | -411.6 | 465.8 | 384.9 | 80.93 | 5.756 | |
| 13,100.0 | 9,170.0 | 13,385.3 | 9,365.0 | 47.4 | 36.9 | -115.51 | 4,165.5 | -413.9 | 465.8 | 383.4 | 82.38 | 5.654 | |
| 13,200.0 | 9,170.0 | 13,485.3 | 9,365.0 | 48.1 | 37.8 | -115.51 | 4,265.5 | -416.2 | 465.8 | 381.9 | 83.84 | 5.555 | |
| 13,300.0 | 9,170.0 | 13,585.3 | 9,365.0 | 48.7 | 38.6 | -115.51 | 4,365.4 | -418.4 | 465.7 | 380.4 | 85.31 | 5.460 | |
| 13,400.0 | 9,170.0 | 13,685.3 | 9,365.0 | 49.4 | 39.4 | -115.51 | 4,465.4 | -420.7 | 465.7 | 378.9 | 86.78 | 5.366 | |
| 13,500.0 | 9,170.0 | 13,785.3 | 9,365.0 | 50.0 | 40.3 | -115.52 | 4,565.4 | -423.0 | 465.7 | 377.4 | 88.27 | 5.276 | |
| 13,600.0 | 9,170.0 | 13,885.3 | 9,365.0 | 50.7 | 41.2 | -115.52 | 4,665.4 | -425.3 | 465.7 | 375.9 | 89.76 | 5.188 | |
| 13,700.0 | 9,170.0 | 13,985.3 | 9,365.0 | 51.3 | 42.0 | -115.52 | 4,765.3 | -427.6 | 465.6 | 374.4 | 91.25 | 5.103 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 305H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8749-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13,800.0 | 9,170.0 | 14,085.3 | 9,365.0 | 52.0 | 42.9 | -115.52 | 4,865.3 | -429.8 | 465.6 | 372.8 | 92.76 | 5.020 | |
| 13,900.0 | 9,170.0 | 14,185.3 | 9,365.0 | 52.7 | 43.7 | -115.52 | 4,965.3 | -432.1 | 465.6 | 371.3 | 94.26 | 4.939 | |
| 13,947.0 | 9,170.0 | 14,232.4 | 9,365.0 | 53.0 | 44.1 | -115.52 | 5,012.3 | -433.2 | 465.5 | 370.6 | 94.97 | 4.902 | |
| 13,948.1 | 9,170.0 | 14,233.4 | 9,365.0 | 53.0 | 44.1 | -115.52 | 5,013.3 | -433.2 | 465.5 | 370.6 | 94.99 | 4.901 | |
| 14,002.3 | 9,170.0 | 14,296.1 | 9,365.0 | 53.4 | 44.6 | -115.52 | 5,076.0 | -434.1 | 465.6 | 369.7 | 95.91 | 4.854 | |
| 14,036.4 | 9,170.0 | 14,329.7 | 9,365.0 | 53.6 | 44.9 | -115.52 | 5,109.7 | -434.2 | 465.6 | 369.1 | 96.42 | 4.829 | |
| 14,100.0 | 9,170.0 | 14,393.3 | 9,365.0 | 54.0 | 45.5 | -115.52 | 5,173.2 | -434.4 | 465.6 | 368.2 | 97.38 | 4.781 | |
| 14,200.0 | 9,170.0 | 14,493.3 | 9,365.0 | 54.7 | 46.3 | -115.52 | 5,273.2 | -434.8 | 465.6 | 366.6 | 98.91 | 4.707 | |
| 14,300.0 | 9,170.0 | 14,593.3 | 9,365.0 | 55.4 | 47.2 | -115.52 | 5,373.2 | -435.2 | 465.6 | 365.1 | 100.43 | 4.635 | |
| 14,400.0 | 9,170.0 | 14,693.3 | 9,365.0 | 56.1 | 48.0 | -115.52 | 5,473.2 | -435.6 | 465.5 | 363.6 | 101.97 | 4.566 | |
| 14,500.0 | 9,170.0 | 14,793.3 | 9,365.0 | 56.8 | 48.9 | -115.52 | 5,573.2 | -435.9 | 465.5 | 362.0 | 103.51 | 4.498 | |
| 14,600.0 | 9,170.0 | 14,893.3 | 9,365.0 | 57.5 | 49.7 | -115.52 | 5,673.2 | -436.3 | 465.5 | 360.5 | 105.05 | 4.432 | |
| 14,700.0 | 9,170.0 | 14,993.3 | 9,365.0 | 58.2 | 50.6 | -115.52 | 5,773.2 | -436.7 | 465.5 | 358.9 | 106.60 | 4.367 | |
| 14,800.0 | 9,170.0 | 15,093.3 | 9,365.0 | 58.9 | 51.5 | -115.53 | 5,873.2 | -437.1 | 465.5 | 357.4 | 108.15 | 4.305 | |
| 14,900.0 | 9,170.0 | 15,193.3 | 9,365.0 | 59.7 | 52.3 | -115.53 | 5,973.2 | -437.4 | 465.5 | 355.8 | 109.70 | 4.244 | |
| 15,000.0 | 9,170.0 | 15,293.3 | 9,365.0 | 60.4 | 53.2 | -115.53 | 6,073.2 | -437.8 | 465.5 | 354.3 | 111.26 | 4.184 | |
| 15,100.0 | 9,170.0 | 15,393.3 | 9,365.0 | 61.1 | 54.0 | -115.53 | 6,173.2 | -438.2 | 465.5 | 352.7 | 112.83 | 4.126 | |
| 15,200.0 | 9,170.0 | 15,493.3 | 9,365.0 | 61.8 | 54.9 | -115.53 | 6,273.2 | -438.6 | 465.5 | 351.1 | 114.39 | 4.069 | |
| 15,300.0 | 9,170.0 | 15,593.3 | 9,365.0 | 62.6 | 55.7 | -115.53 | 6,373.2 | -439.0 | 465.5 | 349.5 | 115.96 | 4.014 | |
| 15,400.0 | 9,170.0 | 15,693.3 | 9,365.0 | 63.3 | 56.6 | -115.53 | 6,473.2 | -439.3 | 465.5 | 348.0 | 117.54 | 3.960 | |
| 15,500.0 | 9,170.0 | 15,793.3 | 9,365.0 | 64.1 | 57.4 | -115.53 | 6,573.2 | -439.7 | 465.5 | 346.4 | 119.11 | 3.908 | |
| 15,600.0 | 9,170.0 | 15,893.3 | 9,365.0 | 64.8 | 58.3 | -115.53 | 6,673.2 | -440.1 | 465.5 | 344.8 | 120.69 | 3.857 | |
| 15,700.0 | 9,170.0 | 15,993.3 | 9,365.0 | 65.5 | 59.2 | -115.53 | 6,773.2 | -440.5 | 465.5 | 343.2 | 122.28 | 3.807 | |
| 15,800.0 | 9,170.0 | 16,093.3 | 9,365.0 | 66.3 | 60.0 | -115.53 | 6,873.2 | -440.8 | 465.5 | 341.6 | 123.86 | 3.758 | |
| 15,900.0 | 9,170.0 | 16,193.3 | 9,365.0 | 67.0 | 60.9 | -115.53 | 6,973.2 | -441.2 | 465.5 | 340.0 | 125.45 | 3.710 | |
| 16,000.0 | 9,170.0 | 16,293.3 | 9,365.0 | 67.8 | 61.7 | -115.53 | 7,073.2 | -441.6 | 465.5 | 338.4 | 127.04 | 3.664 | |
| 16,100.0 | 9,170.0 | 16,393.3 | 9,365.0 | 68.6 | 62.6 | -115.53 | 7,173.2 | -442.0 | 465.5 | 336.8 | 128.64 | 3.618 | |
| 16,200.0 | 9,170.0 | 16,493.3 | 9,365.0 | 69.3 | 63.4 | -115.53 | 7,273.2 | -442.4 | 465.5 | 335.2 | 130.23 | 3.574 | |
| 16,300.0 | 9,170.0 | 16,593.3 | 9,365.0 | 70.1 | 64.3 | -115.53 | 7,373.2 | -442.7 | 465.5 | 333.6 | 131.83 | 3.531 | |
| 16,400.0 | 9,170.0 | 16,693.3 | 9,365.0 | 70.8 | 65.2 | -115.53 | 7,473.2 | -443.1 | 465.5 | 332.0 | 133.43 | 3.488 | |
| 16,500.0 | 9,170.0 | 16,793.3 | 9,365.0 | 71.6 | 66.0 | -115.53 | 7,573.2 | -443.5 | 465.4 | 330.4 | 135.04 | 3.447 | |
| 16,577.9 | 9,170.0 | 16,871.2 | 9,365.0 | 72.2 | 66.7 | -115.53 | 7,651.1 | -443.8 | 465.4 | 329.2 | 136.29 | 3.415 | |
| 16,582.9 | 9,170.0 | 16,876.0 | 9,365.0 | 72.2 | 66.7 | -115.53 | 7,655.9 | -443.8 | 465.4 | 329.1 | 136.37 | 3.413 | |
| 16,590.3 | 9,170.0 | 16,882.5 | 9,365.0 | 72.3 | 66.8 | -115.53 | 7,662.4 | -443.8 | 465.4 | 329.0 | 136.48 | 3.410 | |
| 16,600.0 | 9,170.0 | 16,892.2 | 9,365.0 | 72.4 | 66.9 | -115.53 | 7,672.1 | -443.9 | 465.4 | 328.8 | 136.63 | 3.407 | |
| 16,700.0 | 9,170.0 | 16,992.2 | 9,365.0 | 73.1 | 67.7 | -115.53 | 7,772.1 | -444.5 | 465.4 | 327.2 | 138.24 | 3.367 | |
| 16,800.0 | 9,170.0 | 17,092.2 | 9,365.0 | 73.9 | 68.6 | -115.53 | 7,872.1 | -445.2 | 465.5 | 325.6 | 139.85 | 3.328 | |
| 16,900.0 | 9,170.0 | 17,192.2 | 9,365.0 | 74.7 | 69.4 | -115.53 | 7,972.1 | -445.8 | 465.5 | 324.0 | 141.46 | 3.290 | |
| 17,000.0 | 9,170.0 | 17,292.2 | 9,365.0 | 75.5 | 70.3 | -115.53 | 8,072.1 | -446.5 | 465.5 | 322.4 | 143.08 | 3.253 | |
| 17,100.0 | 9,170.0 | 17,392.2 | 9,365.0 | 76.2 | 71.2 | -115.53 | 8,172.1 | -447.1 | 465.5 | 320.8 | 144.70 | 3.217 | |
| 17,200.0 | 9,170.0 | 17,492.2 | 9,365.0 | 77.0 | 72.0 | -115.53 | 8,272.1 | -447.7 | 465.5 | 319.1 | 146.31 | 3.181 | |
| 17,300.0 | 9,170.0 | 17,592.2 | 9,365.0 | 77.8 | 72.9 | -115.53 | 8,372.1 | -448.4 | 465.5 | 317.5 | 147.93 | 3.146 | |
| 17,400.0 | 9,170.0 | 17,692.2 | 9,365.0 | 78.6 | 73.7 | -115.53 | 8,472.1 | -449.0 | 465.5 | 315.9 | 149.56 | 3.112 | |
| 17,500.0 | 9,170.0 | 17,792.2 | 9,365.0 | 79.4 | 74.6 | -115.53 | 8,572.1 | -449.7 | 465.5 | 314.3 | 151.18 | 3.079 | |
| 17,600.0 | 9,170.0 | 17,892.2 | 9,365.0 | 80.2 | 75.5 | -115.53 | 8,672.1 | -450.3 | 465.5 | 312.6 | 152.80 | 3.046 | |
| 17,700.0 | 9,170.0 | 17,992.2 | 9,365.0 | 81.0 | 76.3 | -115.53 | 8,772.1 | -450.9 | 465.5 | 311.0 | 154.43 | 3.014 | |
| 17,800.0 | 9,170.0 | 18,092.2 | 9,365.0 | 81.7 | 77.2 | -115.53 | 8,872.1 | -451.6 | 465.5 | 309.4 | 156.06 | 2.983 | |
| 17,900.0 | 9,170.0 | 18,192.2 | 9,365.0 | 82.5 | 78.0 | -115.53 | 8,972.1 | -452.2 | 465.5 | 307.8 | 157.69 | 2.952 | |
| 18,000.0 | 9,170.0 | 18,292.2 | 9,365.0 | 83.3 | 78.9 | -115.53 | 9,072.1 | -452.9 | 465.5 | 306.1 | 159.32 | 2.922 | |
| 18,100.0 | 9,170.0 | 18,392.2 | 9,365.0 | 84.1 | 79.8 | -115.53 | 9,172.1 | -453.5 | 465.5 | 304.5 | 160.95 | 2.892 | |
| 18,200.0 | 9,170.0 | 18,492.2 | 9,365.0 | 84.9 | 80.6 | -115.53 | 9,272.1 | -454.1 | 465.5 | 302.9 | 162.59 | 2.863 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 305H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8749-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 18,300.0 | 9,170.0 | 18,592.2 | 9,365.0 | 85.7 | 81.5 | -115.53 | 9,372.1 | -454.8 | 465.5 | 301.2 | 164.22 | 2.834 | |
| 18,400.0 | 9,170.0 | 18,692.2 | 9,365.0 | 86.5 | 82.3 | -115.53 | 9,472.1 | -455.4 | 465.5 | 299.6 | 165.86 | 2.806 | |
| 18,500.0 | 9,170.0 | 18,792.2 | 9,365.0 | 87.3 | 83.2 | -115.53 | 9,572.1 | -456.0 | 465.5 | 298.0 | 167.50 | 2.779 | |
| 18,600.0 | 9,170.0 | 18,892.2 | 9,365.0 | 88.1 | 84.1 | -115.53 | 9,672.1 | -456.7 | 465.5 | 296.3 | 169.13 | 2.752 | |
| 18,700.0 | 9,170.0 | 18,992.2 | 9,365.0 | 88.9 | 84.9 | -115.53 | 9,772.1 | -457.3 | 465.5 | 294.7 | 170.77 | 2.726 | |
| 18,800.0 | 9,170.0 | 19,092.2 | 9,365.0 | 89.7 | 85.8 | -115.53 | 9,872.1 | -458.0 | 465.5 | 293.0 | 172.42 | 2.700 | |
| 18,900.0 | 9,170.0 | 19,192.2 | 9,365.0 | 90.5 | 86.6 | -115.53 | 9,972.1 | -458.6 | 465.5 | 291.4 | 174.06 | 2.674 | |
| 19,000.0 | 9,170.0 | 19,292.2 | 9,365.0 | 91.3 | 87.5 | -115.53 | 10,072.1 | -459.2 | 465.5 | 289.8 | 175.70 | 2.649 | |
| 19,100.0 | 9,170.0 | 19,392.2 | 9,365.0 | 92.1 | 88.4 | -115.53 | 10,172.1 | -459.9 | 465.5 | 288.1 | 177.35 | 2.625 | |
| 19,108.6 | 9,170.0 | 19,400.9 | 9,365.0 | 92.2 | 88.4 | -115.53 | 10,180.7 | -459.9 | 465.5 | 288.0 | 177.49 | 2.622 | |
| 19,181.4 | 9,170.0 | 19,472.5 | 9,365.0 | 92.8 | 89.1 | -115.53 | 10,252.4 | -460.4 | 465.5 | 286.8 | 178.67 | 2.605 | ES, SF |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 306H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8814-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -61.33 | 243.5 | -445.4 | 507.7 | | | | |
| 100.0 | 100.0 | 93.7 | 93.7 | 3.0 | 3.0 | -61.33 | 243.5 | -445.4 | 507.6 | 501.6 | 6.00 | 84.564 | |
| 200.0 | 200.0 | 193.7 | 193.7 | 3.0 | 3.0 | -61.33 | 243.5 | -445.4 | 507.6 | 501.6 | 6.04 | 84.029 | |
| 300.0 | 300.0 | 293.7 | 293.7 | 3.1 | 3.0 | -61.33 | 243.5 | -445.4 | 507.6 | 501.5 | 6.12 | 82.906 | |
| 400.0 | 400.0 | 393.7 | 393.7 | 3.2 | 3.0 | -61.33 | 243.5 | -445.4 | 507.6 | 501.4 | 6.25 | 81.279 | |
| 500.0 | 500.0 | 493.7 | 493.7 | 3.4 | 3.1 | -61.33 | 243.5 | -445.4 | 507.6 | 501.2 | 6.40 | 79.257 | |
| 600.0 | 600.0 | 593.7 | 593.7 | 3.6 | 3.1 | -61.33 | 243.5 | -445.4 | 507.6 | 501.0 | 6.60 | 76.952 | |
| 700.0 | 700.0 | 693.7 | 693.7 | 3.8 | 3.1 | -61.33 | 243.5 | -445.4 | 507.6 | 500.8 | 6.82 | 74.469 | |
| 800.0 | 800.0 | 793.7 | 793.7 | 4.0 | 3.2 | -61.33 | 243.5 | -445.4 | 507.6 | 500.6 | 7.06 | 71.894 | |
| 900.0 | 900.0 | 893.7 | 893.7 | 4.2 | 3.2 | -61.33 | 243.5 | -445.4 | 507.6 | 500.3 | 7.33 | 69.296 | |
| 1,000.0 | 1,000.0 | 993.7 | 993.7 | 4.5 | 3.2 | -61.33 | 243.5 | -445.4 | 507.6 | 500.0 | 7.61 | 66.724 | |
| 1,100.0 | 1,100.0 | 1,093.7 | 1,093.7 | 4.8 | 3.3 | -61.33 | 243.5 | -445.4 | 507.6 | 499.7 | 7.91 | 64.214 | |
| 1,200.0 | 1,200.0 | 1,193.7 | 1,193.7 | 5.1 | 3.3 | -61.33 | 243.5 | -445.4 | 507.6 | 499.4 | 8.22 | 61.788 | |
| 1,300.0 | 1,300.0 | 1,293.7 | 1,293.7 | 5.3 | 3.4 | -61.33 | 243.5 | -445.4 | 507.6 | 499.1 | 8.54 | 59.461 | |
| 1,400.0 | 1,400.0 | 1,393.7 | 1,393.7 | 5.6 | 3.5 | -61.33 | 243.5 | -445.4 | 507.6 | 498.7 | 8.87 | 57.240 | |
| 1,500.0 | 1,500.0 | 1,493.7 | 1,493.7 | 6.0 | 3.5 | -61.33 | 243.5 | -445.4 | 507.6 | 498.4 | 9.21 | 55.128 | |
| 1,600.0 | 1,600.0 | 1,593.7 | 1,593.7 | 6.3 | 3.6 | -61.33 | 243.5 | -445.4 | 507.6 | 498.1 | 9.56 | 53.124 | |
| 1,700.0 | 1,700.0 | 1,693.7 | 1,693.7 | 6.6 | 3.7 | -61.33 | 243.5 | -445.4 | 507.6 | 497.7 | 9.91 | 51.226 | |
| 1,800.0 | 1,800.0 | 1,793.7 | 1,793.7 | 6.9 | 3.8 | -61.33 | 243.5 | -445.4 | 507.6 | 497.3 | 10.27 | 49.431 | |
| 1,900.0 | 1,900.0 | 1,893.7 | 1,893.7 | 7.2 | 3.8 | -61.33 | 243.5 | -445.4 | 507.6 | 497.0 | 10.63 | 47.733 | |
| 2,000.0 | 2,000.0 | 1,993.7 | 1,993.7 | 7.6 | 3.9 | -61.33 | 243.5 | -445.4 | 507.6 | 496.6 | 11.00 | 46.127 | |
| 2,100.0 | 2,100.0 | 2,093.7 | 2,093.7 | 7.9 | 4.0 | -61.33 | 243.5 | -445.4 | 507.6 | 496.2 | 11.38 | 44.609 | |
| 2,200.0 | 2,200.0 | 2,193.7 | 2,193.7 | 8.2 | 4.1 | -61.33 | 243.5 | -445.4 | 507.6 | 495.9 | 11.76 | 43.173 | |
| 2,300.0 | 2,300.0 | 2,293.7 | 2,293.7 | 8.6 | 4.2 | -61.33 | 243.5 | -445.4 | 507.6 | 495.5 | 12.14 | 41.814 | |
| 2,400.0 | 2,400.0 | 2,393.7 | 2,393.7 | 8.9 | 4.3 | -61.33 | 243.5 | -445.4 | 507.6 | 495.1 | 12.53 | 40.527 | |
| 2,500.0 | 2,500.0 | 2,493.7 | 2,493.7 | 9.2 | 4.4 | -61.33 | 243.5 | -445.4 | 507.6 | 494.7 | 12.91 | 39.307 | CC, ES |
| 2,600.0 | 2,600.0 | 2,584.8 | 2,584.8 | 9.6 | 4.4 | -61.45 | 243.0 | -446.5 | 508.4 | 495.1 | 13.30 | 38.236 | |
| 2,700.0 | 2,700.0 | 2,675.1 | 2,675.0 | 9.9 | 4.4 | -61.82 | 241.2 | -450.2 | 511.1 | 497.5 | 13.68 | 37.365 | |
| 2,800.0 | 2,800.0 | 2,765.0 | 2,764.7 | 10.3 | 4.4 | -62.43 | 238.3 | -456.5 | 515.8 | 501.7 | 14.06 | 36.693 | |
| 2,900.0 | 2,900.0 | 2,860.7 | 2,859.8 | 10.6 | 4.5 | -63.29 | 234.2 | -465.4 | 522.1 | 507.6 | 14.44 | 36.158 | |
| 3,000.0 | 3,000.0 | 2,960.1 | 2,958.7 | 10.9 | 4.5 | -64.17 | 229.8 | -474.8 | 528.6 | 513.8 | 14.83 | 35.647 | |
| 3,100.0 | 3,100.0 | 3,059.6 | 3,057.6 | 11.3 | 4.5 | -65.04 | 225.4 | -484.2 | 535.3 | 520.1 | 15.22 | 35.163 | |
| 3,200.0 | 3,200.0 | 3,159.0 | 3,156.5 | 11.6 | 4.5 | -65.88 | 221.0 | -493.6 | 542.1 | 526.5 | 15.62 | 34.704 | |
| 3,300.0 | 3,300.0 | 3,258.5 | 3,255.4 | 12.0 | 4.5 | -66.70 | 216.6 | -503.1 | 549.0 | 533.0 | 16.02 | 34.269 | |
| 3,400.0 | 3,400.0 | 3,357.9 | 3,354.3 | 12.3 | 4.6 | -67.51 | 212.2 | -512.5 | 556.1 | 539.7 | 16.43 | 33.855 | |
| 3,500.0 | 3,500.0 | 3,457.4 | 3,453.2 | 12.7 | 4.6 | -68.29 | 207.8 | -521.9 | 563.2 | 546.4 | 16.83 | 33.462 | |
| 3,600.0 | 3,600.0 | 3,556.8 | 3,552.1 | 13.0 | 4.6 | -69.05 | 203.4 | -531.3 | 570.5 | 553.2 | 17.24 | 33.089 | |
| 3,700.0 | 3,700.0 | 3,656.3 | 3,651.0 | 13.4 | 4.7 | -69.79 | 199.0 | -540.7 | 577.8 | 560.1 | 17.65 | 32.733 | |
| 3,800.0 | 3,800.0 | 3,755.7 | 3,749.9 | 13.7 | 4.7 | -70.52 | 194.6 | -550.2 | 585.2 | 567.2 | 18.07 | 32.395 | |
| 3,900.0 | 3,900.0 | 3,855.2 | 3,848.8 | 14.1 | 4.8 | -71.22 | 190.3 | -559.6 | 592.7 | 574.3 | 18.48 | 32.072 | |
| 4,000.0 | 4,000.0 | 3,954.6 | 3,947.8 | 14.4 | 4.8 | -71.91 | 185.9 | -569.0 | 600.4 | 581.5 | 18.90 | 31.764 | |
| 4,100.0 | 4,100.0 | 4,054.1 | 4,046.7 | 14.8 | 4.9 | -72.58 | 181.5 | -578.4 | 608.0 | 588.7 | 19.32 | 31.471 | |
| 4,200.0 | 4,200.0 | 4,153.5 | 4,145.6 | 15.1 | 4.9 | -73.24 | 177.1 | -587.8 | 615.8 | 596.1 | 19.74 | 31.190 | |
| 4,300.0 | 4,300.0 | 4,253.0 | 4,244.5 | 15.5 | 5.0 | -73.87 | 172.7 | -597.3 | 623.7 | 603.5 | 20.17 | 30.922 | |
| 4,400.0 | 4,400.0 | 4,352.4 | 4,343.4 | 15.8 | 5.1 | -74.50 | 168.3 | -606.7 | 631.6 | 611.0 | 20.60 | 30.666 | |
| 4,500.0 | 4,500.0 | 4,451.9 | 4,442.3 | 16.2 | 5.1 | -75.10 | 163.9 | -616.1 | 639.6 | 618.6 | 21.03 | 30.420 | |
| 4,600.0 | 4,600.0 | 4,551.3 | 4,541.2 | 16.5 | 5.2 | -75.70 | 159.5 | -625.5 | 647.7 | 626.2 | 21.46 | 30.185 | |
| 4,700.0 | 4,700.0 | 4,650.8 | 4,640.1 | 16.9 | 5.3 | -76.27 | 155.1 | -635.0 | 655.8 | 633.9 | 21.89 | 29.960 | |
| 4,800.0 | 4,800.0 | 4,750.2 | 4,739.0 | 17.2 | 5.3 | -76.84 | 150.7 | -644.4 | 664.0 | 641.7 | 22.32 | 29.745 | |
| 4,900.0 | 4,900.0 | 4,849.7 | 4,837.9 | 17.6 | 5.4 | -77.39 | 146.3 | -653.8 | 672.3 | 649.5 | 22.76 | 29.538 | |
| 5,000.0 | 5,000.0 | 4,949.1 | 4,936.8 | 17.9 | 5.5 | -77.92 | 141.9 | -663.2 | 680.6 | 657.4 | 23.20 | 29.339 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 306H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 8814-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,048.6 | 5,035.7 | 18.3 | 5.6 | -78.44 | 137.5 | -672.6 | 689.0 | 665.4 | 23.64 | 29.148 | |
| 5,200.0 | 5,200.0 | 5,148.1 | 5,134.6 | 18.7 | 5.7 | -78.95 | 133.1 | -682.1 | 697.4 | 673.4 | 24.08 | 28.965 | |
| 5,300.0 | 5,300.0 | 5,247.5 | 5,233.5 | 19.0 | 5.8 | -79.45 | 128.7 | -691.5 | 705.9 | 681.4 | 24.52 | 28.789 | |
| 5,400.0 | 5,400.0 | 5,347.0 | 5,332.5 | 19.4 | 5.8 | -79.94 | 124.4 | -700.9 | 714.5 | 689.5 | 24.97 | 28.619 | |
| 5,500.0 | 5,500.0 | 5,446.4 | 5,431.4 | 19.7 | 5.9 | -80.41 | 120.0 | -710.3 | 723.1 | 697.7 | 25.41 | 28.456 | |
| 5,600.0 | 5,600.0 | 5,545.9 | 5,530.3 | 20.1 | 6.0 | -80.88 | 115.6 | -719.8 | 731.7 | 705.9 | 25.86 | 28.299 | |
| 5,700.0 | 5,700.0 | 5,645.3 | 5,629.2 | 20.4 | 6.1 | -81.33 | 111.2 | -729.2 | 740.4 | 714.1 | 26.30 | 28.148 | |
| 5,800.0 | 5,800.0 | 5,744.8 | 5,728.1 | 20.8 | 6.2 | -81.77 | 106.8 | -738.6 | 749.2 | 722.4 | 26.75 | 28.002 | |
| 5,900.0 | 5,900.0 | 5,844.2 | 5,827.0 | 21.1 | 6.3 | -82.21 | 102.4 | -748.0 | 757.9 | 730.7 | 27.20 | 27.862 | |
| 6,000.0 | 6,000.0 | 5,943.7 | 5,925.9 | 21.5 | 6.4 | -82.63 | 98.0 | -757.4 | 766.8 | 739.1 | 27.65 | 27.726 | |
| 6,100.0 | 6,100.0 | 6,043.1 | 6,024.8 | 21.8 | 6.5 | -83.04 | 93.6 | -766.9 | 775.6 | 747.5 | 28.11 | 27.595 | |
| 6,200.0 | 6,200.0 | 6,142.6 | 6,123.7 | 22.2 | 6.6 | -83.44 | 89.2 | -776.3 | 784.5 | 756.0 | 28.56 | 27.469 | |
| 6,300.0 | 6,300.0 | 6,242.0 | 6,222.6 | 22.6 | 6.7 | -83.84 | 84.8 | -785.7 | 793.5 | 764.4 | 29.01 | 27.347 | |
| 6,400.0 | 6,400.0 | 6,341.5 | 6,321.5 | 22.9 | 6.8 | -84.22 | 80.4 | -795.1 | 802.4 | 773.0 | 29.47 | 27.230 | |
| 6,500.0 | 6,500.0 | 6,440.9 | 6,420.4 | 23.3 | 6.9 | -84.60 | 76.0 | -804.5 | 811.4 | 781.5 | 29.93 | 27.116 | |
| 6,600.0 | 6,600.0 | 6,540.4 | 6,519.3 | 23.6 | 7.0 | -84.97 | 71.6 | -814.0 | 820.5 | 790.1 | 30.38 | 27.006 | |
| 6,700.0 | 6,700.0 | 6,639.8 | 6,618.3 | 24.0 | 7.1 | -85.33 | 67.2 | -823.4 | 829.6 | 798.7 | 30.84 | 26.899 | |
| 6,800.0 | 6,800.0 | 6,739.3 | 6,717.2 | 24.3 | 7.2 | -85.68 | 62.8 | -832.8 | 838.7 | 807.4 | 31.30 | 26.796 | |
| 6,900.0 | 6,900.0 | 6,838.7 | 6,816.1 | 24.7 | 7.3 | -86.03 | 58.5 | -842.2 | 847.8 | 816.1 | 31.76 | 26.696 | |
| 7,000.0 | 7,000.0 | 6,938.2 | 6,915.0 | 25.0 | 7.4 | -86.37 | 54.1 | -851.7 | 857.0 | 824.8 | 32.22 | 26.599 | |
| 7,100.0 | 7,100.0 | 7,037.6 | 7,013.9 | 25.4 | 7.5 | -86.70 | 49.7 | -861.1 | 866.2 | 833.5 | 32.68 | 26.506 | |
| 7,200.0 | 7,200.0 | 7,137.1 | 7,112.8 | 25.8 | 7.6 | -87.02 | 45.3 | -870.5 | 875.4 | 842.3 | 33.14 | 26.415 | |
| 7,300.0 | 7,300.0 | 7,236.5 | 7,211.7 | 26.1 | 7.8 | -87.34 | 40.9 | -879.9 | 884.7 | 851.1 | 33.60 | 26.327 | |
| 7,400.0 | 7,400.0 | 7,336.0 | 7,310.6 | 26.5 | 7.9 | -87.65 | 36.5 | -889.3 | 894.0 | 859.9 | 34.07 | 26.242 | |
| 7,500.0 | 7,500.0 | 7,435.5 | 7,409.5 | 26.8 | 8.0 | -87.95 | 32.1 | -898.8 | 903.3 | 868.7 | 34.53 | 26.159 | |
| 7,600.0 | 7,600.0 | 7,534.9 | 7,508.4 | 27.2 | 8.1 | -88.25 | 27.7 | -908.2 | 912.6 | 877.6 | 34.99 | 26.079 | |
| 7,700.0 | 7,700.0 | 7,634.4 | 7,607.3 | 27.5 | 8.2 | -88.55 | 23.3 | -917.6 | 922.0 | 886.5 | 35.46 | 26.001 | |
| 7,800.0 | 7,800.0 | 7,733.8 | 7,706.2 | 27.9 | 8.3 | -88.83 | 18.9 | -927.0 | 931.3 | 895.4 | 35.92 | 25.925 | |
| 7,900.0 | 7,900.0 | 7,833.3 | 7,805.1 | 28.2 | 8.4 | -89.11 | 14.5 | -936.4 | 940.7 | 904.3 | 36.39 | 25.852 | |
| 8,000.0 | 8,000.0 | 7,932.7 | 7,904.0 | 28.6 | 8.5 | -89.39 | 10.1 | -945.9 | 950.2 | 913.3 | 36.86 | 25.780 | |
| 8,100.0 | 8,100.0 | 8,032.2 | 8,003.0 | 29.0 | 8.7 | -89.66 | 5.7 | -955.3 | 959.6 | 922.3 | 37.32 | 25.711 | |
| 8,200.0 | 8,200.0 | 8,131.6 | 8,101.9 | 29.3 | 8.8 | -89.92 | 1.3 | -964.7 | 969.1 | 931.3 | 37.79 | 25.643 | |
| 8,300.0 | 8,300.0 | 8,231.1 | 8,200.8 | 29.7 | 8.9 | -90.18 | -3.1 | -974.1 | 978.6 | 940.3 | 38.26 | 25.577 | |
| 8,400.0 | 8,400.0 | 8,330.5 | 8,299.7 | 30.0 | 9.0 | -90.43 | -7.4 | -983.6 | 988.1 | 949.3 | 38.73 | 25.513 | |
| 8,500.0 | 8,500.0 | 8,430.0 | 8,398.6 | 30.4 | 9.1 | -90.68 | -11.8 | -993.0 | 997.6 | 958.4 | 39.20 | 25.451 SF | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 504H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 10080-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -90.84 | -3.9 | -265.1 | 265.1 | | | | |
| 100.0 | 100.0 | 97.1 | 97.1 | 3.0 | 3.0 | -90.84 | -3.9 | -265.1 | 265.1 | 259.1 | 6.00 | 44.168 | |
| 200.0 | 200.0 | 197.1 | 197.1 | 3.0 | 3.0 | -90.84 | -3.9 | -265.1 | 265.1 | 259.1 | 6.04 | 43.894 | |
| 300.0 | 300.0 | 297.1 | 297.1 | 3.1 | 3.0 | -90.84 | -3.9 | -265.1 | 265.1 | 259.0 | 6.12 | 43.319 | |
| 400.0 | 400.0 | 397.1 | 397.1 | 3.2 | 3.0 | -90.84 | -3.9 | -265.1 | 265.1 | 258.9 | 6.24 | 42.486 | |
| 500.0 | 500.0 | 497.1 | 497.1 | 3.4 | 3.1 | -90.84 | -3.9 | -265.1 | 265.1 | 258.7 | 6.40 | 41.451 | |
| 600.0 | 600.0 | 597.1 | 597.1 | 3.6 | 3.1 | -90.84 | -3.9 | -265.1 | 265.1 | 258.5 | 6.58 | 40.271 | |
| 700.0 | 700.0 | 697.1 | 697.1 | 3.8 | 3.1 | -90.84 | -3.9 | -265.1 | 265.1 | 258.3 | 6.80 | 39.000 | |
| 800.0 | 800.0 | 797.1 | 797.1 | 4.0 | 3.2 | -90.84 | -3.9 | -265.1 | 265.1 | 258.1 | 7.04 | 37.682 | |
| 900.0 | 900.0 | 897.1 | 897.1 | 4.2 | 3.2 | -90.84 | -3.9 | -265.1 | 265.1 | 257.8 | 7.29 | 36.351 | |
| 1,000.0 | 1,000.0 | 997.1 | 997.1 | 4.5 | 3.2 | -90.84 | -3.9 | -265.1 | 265.1 | 257.6 | 7.57 | 35.033 | |
| 1,100.0 | 1,100.0 | 1,097.1 | 1,097.1 | 4.8 | 3.3 | -90.84 | -3.9 | -265.1 | 265.1 | 257.3 | 7.86 | 33.746 | |
| 1,200.0 | 1,200.0 | 1,197.1 | 1,197.1 | 5.1 | 3.4 | -90.84 | -3.9 | -265.1 | 265.1 | 257.0 | 8.16 | 32.501 | |
| 1,300.0 | 1,300.0 | 1,297.1 | 1,297.1 | 5.3 | 3.4 | -90.84 | -3.9 | -265.1 | 265.1 | 256.7 | 8.47 | 31.307 | |
| 1,400.0 | 1,400.0 | 1,397.1 | 1,397.1 | 5.6 | 3.5 | -90.84 | -3.9 | -265.1 | 265.1 | 256.3 | 8.79 | 30.166 | |
| 1,500.0 | 1,500.0 | 1,497.1 | 1,497.1 | 6.0 | 3.5 | -90.84 | -3.9 | -265.1 | 265.1 | 256.0 | 9.12 | 29.080 | |
| 1,600.0 | 1,600.0 | 1,597.1 | 1,597.1 | 6.3 | 3.6 | -90.84 | -3.9 | -265.1 | 265.1 | 255.7 | 9.45 | 28.049 | |
| 1,700.0 | 1,700.0 | 1,697.1 | 1,697.1 | 6.6 | 3.7 | -90.84 | -3.9 | -265.1 | 265.1 | 255.3 | 9.79 | 27.072 | |
| 1,800.0 | 1,800.0 | 1,797.1 | 1,797.1 | 6.9 | 3.8 | -90.84 | -3.9 | -265.1 | 265.1 | 255.0 | 10.14 | 26.147 | |
| 1,900.0 | 1,900.0 | 1,897.1 | 1,897.1 | 7.2 | 3.9 | -90.84 | -3.9 | -265.1 | 265.1 | 254.6 | 10.49 | 25.272 | |
| 2,000.0 | 2,000.0 | 1,997.1 | 1,997.1 | 7.6 | 3.9 | -90.84 | -3.9 | -265.1 | 265.1 | 254.3 | 10.85 | 24.443 | |
| 2,100.0 | 2,100.0 | 2,097.1 | 2,097.1 | 7.9 | 4.0 | -90.84 | -3.9 | -265.1 | 265.1 | 253.9 | 11.21 | 23.659 | |
| 2,200.0 | 2,200.0 | 2,197.1 | 2,197.1 | 8.2 | 4.1 | -90.84 | -3.9 | -265.1 | 265.1 | 253.6 | 11.57 | 22.916 | |
| 2,300.0 | 2,300.0 | 2,297.1 | 2,297.1 | 8.6 | 4.2 | -90.84 | -3.9 | -265.1 | 265.1 | 253.2 | 11.94 | 22.213 | |
| 2,400.0 | 2,400.0 | 2,397.1 | 2,397.1 | 8.9 | 4.3 | -90.84 | -3.9 | -265.1 | 265.1 | 252.8 | 12.31 | 21.546 | |
| 2,500.0 | 2,500.0 | 2,497.1 | 2,497.1 | 9.2 | 4.4 | -90.84 | -3.9 | -265.1 | 265.1 | 252.5 | 12.68 | 20.914 | |
| 2,600.0 | 2,600.0 | 2,606.4 | 2,606.4 | 9.6 | 4.4 | -90.97 | -4.5 | -263.2 | 263.4 | 250.4 | 13.05 | 20.183 | |
| 2,700.0 | 2,700.0 | 2,715.8 | 2,715.6 | 9.9 | 4.5 | -91.39 | -6.2 | -257.3 | 258.1 | 244.6 | 13.42 | 19.229 | |
| 2,800.0 | 2,800.0 | 2,818.3 | 2,817.7 | 10.3 | 4.5 | -92.01 | -8.7 | -249.0 | 250.0 | 236.2 | 13.80 | 18.109 | |
| 2,900.0 | 2,900.0 | 2,917.9 | 2,917.0 | 10.6 | 4.5 | -92.67 | -11.2 | -240.6 | 241.7 | 227.5 | 14.20 | 17.023 | |
| 3,000.0 | 3,000.0 | 3,017.6 | 3,016.2 | 10.9 | 4.5 | -93.38 | -13.7 | -232.3 | 233.5 | 218.9 | 14.60 | 15.992 | |
| 3,100.0 | 3,100.0 | 3,117.2 | 3,115.5 | 11.3 | 4.5 | -94.14 | -16.2 | -224.0 | 225.3 | 210.3 | 15.01 | 15.012 | |
| 3,200.0 | 3,200.0 | 3,216.8 | 3,214.7 | 11.6 | 4.6 | -94.96 | -18.7 | -215.7 | 217.2 | 201.8 | 15.43 | 14.081 | |
| 3,300.0 | 3,300.0 | 3,316.4 | 3,313.9 | 12.0 | 4.6 | -95.84 | -21.2 | -207.4 | 209.1 | 193.3 | 15.85 | 13.197 | |
| 3,400.0 | 3,400.0 | 3,416.0 | 3,413.2 | 12.3 | 4.7 | -96.79 | -23.7 | -199.1 | 201.1 | 184.8 | 16.27 | 12.357 | |
| 3,500.0 | 3,500.0 | 3,515.7 | 3,512.4 | 12.7 | 4.7 | -97.82 | -26.2 | -190.7 | 193.1 | 176.4 | 16.71 | 11.560 | |
| 3,600.0 | 3,600.0 | 3,615.3 | 3,611.7 | 13.0 | 4.7 | -98.94 | -28.7 | -182.4 | 185.2 | 168.1 | 17.15 | 10.804 | |
| 3,700.0 | 3,700.0 | 3,714.9 | 3,710.9 | 13.4 | 4.8 | -100.16 | -31.2 | -174.1 | 177.4 | 159.8 | 17.59 | 10.087 | |
| 3,800.0 | 3,800.0 | 3,814.5 | 3,810.1 | 13.7 | 4.8 | -101.49 | -33.7 | -165.8 | 169.7 | 151.6 | 18.04 | 9.407 | |
| 3,900.0 | 3,900.0 | 3,914.1 | 3,909.4 | 14.1 | 4.9 | -102.94 | -36.2 | -157.5 | 162.0 | 143.6 | 18.49 | 8.763 | |
| 4,000.0 | 4,000.0 | 4,013.8 | 4,008.6 | 14.4 | 5.0 | -104.54 | -38.7 | -149.2 | 154.5 | 135.6 | 18.95 | 8.154 | |
| 4,100.0 | 4,100.0 | 4,113.4 | 4,107.9 | 14.8 | 5.0 | -106.30 | -41.2 | -140.8 | 147.1 | 127.7 | 19.41 | 7.579 | |
| 4,200.0 | 4,200.0 | 4,213.0 | 4,207.1 | 15.1 | 5.1 | -108.24 | -43.7 | -132.5 | 139.9 | 120.0 | 19.88 | 7.036 | |
| 4,300.0 | 4,300.0 | 4,312.6 | 4,306.3 | 15.5 | 5.2 | -110.39 | -46.2 | -124.2 | 132.8 | 112.5 | 20.35 | 6.527 | |
| 4,400.0 | 4,400.0 | 4,412.2 | 4,405.6 | 15.8 | 5.2 | -112.78 | -48.7 | -115.9 | 126.0 | 105.2 | 20.83 | 6.049 | |
| 4,500.0 | 4,500.0 | 4,511.9 | 4,504.8 | 16.2 | 5.3 | -115.43 | -51.2 | -107.6 | 119.4 | 98.1 | 21.30 | 5.604 | |
| 4,600.0 | 4,600.0 | 4,611.5 | 4,604.1 | 16.5 | 5.4 | -118.39 | -53.7 | -99.3 | 113.1 | 91.3 | 21.78 | 5.192 | |
| 4,700.0 | 4,700.0 | 4,711.1 | 4,703.3 | 16.9 | 5.4 | -121.69 | -56.1 | -90.9 | 107.1 | 84.8 | 22.25 | 4.812 | |
| 4,800.0 | 4,800.0 | 4,810.7 | 4,802.5 | 17.2 | 5.5 | -125.36 | -58.6 | -82.6 | 101.5 | 78.8 | 22.71 | 4.467 | |
| 4,900.0 | 4,900.0 | 4,910.3 | 4,901.8 | 17.6 | 5.6 | -129.44 | -61.1 | -74.3 | 96.3 | 73.2 | 23.17 | 4.158 | |
| 5,000.0 | 5,000.0 | 5,009.9 | 5,001.0 | 17.9 | 5.7 | -133.95 | -63.6 | -66.0 | 91.8 | 68.1 | 23.61 | 3.886 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 504H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 10080-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,109.6 | 5,100.3 | 18.3 | 5.8 | -138.90 | -66.1 | -57.7 | 87.8 | 63.8 | 24.04 | 3.653 | |
| 5,200.0 | 5,200.0 | 5,209.2 | 5,199.5 | 18.7 | 5.9 | -144.27 | -68.6 | -49.4 | 84.6 | 60.1 | 24.44 | 3.461 | |
| 5,300.0 | 5,300.0 | 5,308.8 | 5,298.8 | 19.0 | 5.9 | -150.01 | -71.1 | -41.0 | 82.1 | 57.3 | 24.81 | 3.311 | |
| 5,400.0 | 5,400.0 | 5,408.4 | 5,398.0 | 19.4 | 6.0 | -156.03 | -73.6 | -32.7 | 80.6 | 55.4 | 25.15 | 3.204 | |
| 5,500.0 | 5,500.0 | 5,508.0 | 5,497.2 | 19.7 | 6.1 | -162.21 | -76.1 | -24.4 | 79.9 | 54.5 | 25.46 | 3.140 | |
| 5,517.5 | 5,517.5 | 5,525.5 | 5,514.6 | 19.8 | 6.1 | -163.30 | -76.5 | -23.0 | 79.9 | 54.4 | 25.51 | 3.133 | CC, ES |
| 5,600.0 | 5,600.0 | 5,607.7 | 5,596.5 | 20.1 | 6.2 | -168.42 | -78.6 | -16.1 | 80.2 | 54.5 | 25.75 | 3.116 | SF |
| 5,700.0 | 5,700.0 | 5,707.3 | 5,695.7 | 20.4 | 6.3 | -174.52 | -81.1 | -7.8 | 81.5 | 55.4 | 26.04 | 3.129 | |
| 5,800.0 | 5,800.0 | 5,806.9 | 5,795.0 | 20.8 | 6.4 | 179.64 | -83.6 | 0.5 | 83.6 | 57.3 | 26.33 | 3.176 | |
| 5,900.0 | 5,900.0 | 5,906.5 | 5,894.2 | 21.1 | 6.5 | 174.13 | -86.1 | 8.8 | 86.6 | 60.0 | 26.63 | 3.252 | |
| 6,000.0 | 6,000.0 | 6,006.1 | 5,993.4 | 21.5 | 6.6 | 169.03 | -88.6 | 17.2 | 90.3 | 63.4 | 26.95 | 3.351 | |
| 6,100.0 | 6,100.0 | 6,105.8 | 6,092.7 | 21.8 | 6.7 | 164.37 | -91.1 | 25.5 | 94.7 | 67.4 | 27.29 | 3.469 | |
| 6,200.0 | 6,200.0 | 6,205.4 | 6,191.9 | 22.2 | 6.8 | 160.14 | -93.6 | 33.8 | 99.6 | 72.0 | 27.66 | 3.601 | |
| 6,300.0 | 6,300.0 | 6,305.0 | 6,291.2 | 22.6 | 6.9 | 156.33 | -96.1 | 42.1 | 105.1 | 77.0 | 28.06 | 3.744 | |
| 6,400.0 | 6,400.0 | 6,404.6 | 6,390.4 | 22.9 | 7.0 | 152.90 | -98.6 | 50.4 | 110.9 | 82.4 | 28.47 | 3.896 | |
| 6,500.0 | 6,500.0 | 6,504.2 | 6,489.6 | 23.3 | 7.1 | 149.83 | -101.1 | 58.7 | 117.1 | 88.2 | 28.90 | 4.053 | |
| 6,600.0 | 6,600.0 | 6,603.9 | 6,588.9 | 23.6 | 7.2 | 147.07 | -103.6 | 67.1 | 123.6 | 94.3 | 29.34 | 4.214 | |
| 6,700.0 | 6,700.0 | 6,703.5 | 6,688.1 | 24.0 | 7.3 | 144.60 | -106.0 | 75.4 | 130.4 | 100.6 | 29.80 | 4.377 | |
| 6,800.0 | 6,800.0 | 6,803.1 | 6,787.4 | 24.3 | 7.4 | 142.37 | -108.5 | 83.7 | 137.4 | 107.2 | 30.26 | 4.541 | |
| 6,900.0 | 6,900.0 | 6,902.7 | 6,886.6 | 24.7 | 7.5 | 140.35 | -111.0 | 92.0 | 144.6 | 113.9 | 30.73 | 4.706 | |
| 7,000.0 | 7,000.0 | 7,002.3 | 6,985.8 | 25.0 | 7.6 | 138.53 | -113.5 | 100.3 | 151.9 | 120.7 | 31.20 | 4.870 | |
| 7,100.0 | 7,100.0 | 7,102.0 | 7,085.1 | 25.4 | 7.7 | 136.88 | -116.0 | 108.6 | 159.4 | 127.7 | 31.67 | 5.033 | |
| 7,200.0 | 7,200.0 | 7,201.6 | 7,184.3 | 25.8 | 7.8 | 135.38 | -118.5 | 117.0 | 167.0 | 134.9 | 32.15 | 5.194 | |
| 7,300.0 | 7,300.0 | 7,301.2 | 7,283.6 | 26.1 | 7.9 | 134.01 | -121.0 | 125.3 | 174.7 | 142.1 | 32.63 | 5.354 | |
| 7,400.0 | 7,400.0 | 7,400.8 | 7,382.8 | 26.5 | 8.1 | 132.76 | -123.5 | 133.6 | 182.5 | 149.4 | 33.11 | 5.511 | |
| 7,500.0 | 7,500.0 | 7,500.4 | 7,482.0 | 26.8 | 8.2 | 131.60 | -126.0 | 141.9 | 190.4 | 156.8 | 33.60 | 5.666 | |
| 7,600.0 | 7,600.0 | 7,600.1 | 7,581.3 | 27.2 | 8.3 | 130.54 | -128.5 | 150.2 | 198.3 | 164.2 | 34.08 | 5.819 | |
| 7,700.0 | 7,700.0 | 7,699.7 | 7,680.5 | 27.5 | 8.4 | 129.57 | -131.0 | 158.5 | 206.3 | 171.8 | 34.57 | 5.969 | |
| 7,800.0 | 7,800.0 | 7,799.3 | 7,779.8 | 27.9 | 8.5 | 128.66 | -133.5 | 166.9 | 214.4 | 179.3 | 35.05 | 6.117 | |
| 7,900.0 | 7,900.0 | 7,898.9 | 7,879.0 | 28.2 | 8.6 | 127.82 | -136.0 | 175.2 | 222.5 | 187.0 | 35.53 | 6.261 | |
| 8,000.0 | 8,000.0 | 7,998.5 | 7,978.2 | 28.6 | 8.7 | 127.04 | -138.5 | 183.5 | 230.7 | 194.6 | 36.02 | 6.404 | |
| 8,100.0 | 8,100.0 | 8,098.2 | 8,077.5 | 29.0 | 8.8 | 126.32 | -141.0 | 191.8 | 238.8 | 202.3 | 36.50 | 6.543 | |
| 8,200.0 | 8,200.0 | 8,197.8 | 8,176.7 | 29.3 | 9.0 | 125.64 | -143.5 | 200.1 | 247.1 | 210.1 | 36.99 | 6.680 | |
| 8,300.0 | 8,300.0 | 8,297.4 | 8,276.0 | 29.7 | 9.1 | 125.00 | -146.0 | 208.4 | 255.3 | 217.9 | 37.47 | 6.814 | |
| 8,400.0 | 8,400.0 | 8,397.0 | 8,375.2 | 30.0 | 9.2 | 124.41 | -148.5 | 216.8 | 263.6 | 225.7 | 37.96 | 6.945 | |
| 8,500.0 | 8,500.0 | 8,496.6 | 8,474.4 | 30.4 | 9.3 | 123.85 | -151.0 | 225.1 | 272.0 | 233.5 | 38.44 | 7.074 | |
| 8,597.0 | 8,597.0 | 8,593.3 | 8,570.7 | 30.7 | 9.4 | 123.34 | -153.4 | 233.1 | 280.0 | 241.1 | 38.92 | 7.196 | |
| 8,600.0 | 8,600.0 | 8,596.2 | 8,573.7 | 30.7 | 9.4 | 122.10 | -153.5 | 233.4 | 280.3 | 241.4 | 38.93 | 7.200 | |
| 8,650.0 | 8,649.9 | 8,645.9 | 8,623.2 | 30.9 | 9.5 | 121.81 | -154.7 | 237.5 | 285.8 | 246.6 | 39.16 | 7.298 | |
| 8,700.0 | 8,699.4 | 8,695.1 | 8,672.2 | 31.1 | 9.5 | 122.02 | -155.9 | 241.6 | 293.5 | 254.2 | 39.36 | 7.458 | |
| 8,750.0 | 8,748.2 | 8,743.4 | 8,720.3 | 31.3 | 9.6 | 122.66 | -157.1 | 245.7 | 303.7 | 264.2 | 39.54 | 7.682 | |
| 8,800.0 | 8,795.8 | 8,790.5 | 8,767.2 | 31.4 | 9.6 | 123.60 | -158.3 | 249.6 | 316.5 | 276.8 | 39.69 | 7.974 | |
| 8,850.0 | 8,841.9 | 8,835.9 | 8,812.4 | 31.6 | 9.7 | 124.69 | -159.5 | 253.4 | 332.1 | 292.3 | 39.83 | 8.338 | |
| 8,900.0 | 8,886.1 | 8,879.4 | 8,855.8 | 31.7 | 9.7 | 125.79 | -160.5 | 257.0 | 350.7 | 310.8 | 39.95 | 8.779 | |
| 8,950.0 | 8,928.1 | 8,920.6 | 8,896.8 | 31.9 | 9.8 | 126.75 | -161.6 | 260.5 | 372.5 | 332.4 | 40.06 | 9.299 | |
| 9,000.0 | 8,967.6 | 8,959.3 | 8,935.3 | 32.0 | 9.8 | 127.44 | -162.5 | 263.7 | 397.5 | 357.3 | 40.15 | 9.900 | |
| 9,050.0 | 9,004.3 | 8,995.0 | 8,970.9 | 32.2 | 9.9 | 127.73 | -163.4 | 266.7 | 425.8 | 385.5 | 40.24 | 10.581 | |
| 9,100.0 | 9,037.8 | 9,027.6 | 9,003.4 | 32.3 | 9.9 | 127.49 | -164.3 | 269.4 | 457.2 | 416.9 | 40.31 | 11.341 | |
| 9,150.0 | 9,068.1 | 9,056.8 | 9,032.5 | 32.4 | 10.0 | 126.58 | -165.0 | 271.8 | 491.6 | 451.2 | 40.38 | 12.173 | |
| 9,200.0 | 9,094.7 | 9,082.3 | 9,057.9 | 32.5 | 10.0 | 124.83 | -165.6 | 274.0 | 528.8 | 488.3 | 40.45 | 13.074 | |
| 9,250.0 | 9,117.5 | 9,104.0 | 9,079.6 | 32.6 | 10.0 | 122.01 | -166.2 | 275.8 | 568.4 | 527.9 | 40.50 | 14.037 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 504H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 10080-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,300.0 | 9,136.4 | 9,121.8 | 9,097.2 | 32.7 | 10.0 | 117.81 | -166.6 | 277.3 | 610.2 | 569.7 | 40.54 | 15.053 | |
| 9,350.0 | 9,151.2 | 9,135.4 | 9,110.8 | 32.7 | 10.0 | 111.86 | -167.0 | 278.4 | 653.7 | 613.2 | 40.57 | 16.114 | |
| 9,400.0 | 9,161.8 | 9,144.8 | 9,120.1 | 32.8 | 10.1 | 103.77 | -167.2 | 279.2 | 698.6 | 658.0 | 40.59 | 17.212 | |
| 9,450.0 | 9,168.0 | 9,149.9 | 9,125.2 | 32.9 | 10.1 | 93.34 | -167.3 | 279.6 | 744.5 | 703.9 | 40.60 | 18.336 | |
| 9,497.0 | 9,170.0 | 9,150.7 | 9,126.0 | 32.9 | 10.1 | 81.75 | -167.3 | 279.7 | 788.2 | 747.5 | 40.61 | 19.409 | |
| 9,504.0 | 9,170.0 | 9,150.5 | 9,125.9 | 32.9 | 10.1 | 81.67 | -167.3 | 279.7 | 794.7 | 754.1 | 40.61 | 19.570 | |
| 9,600.0 | 9,170.0 | 9,148.3 | 9,123.6 | 33.0 | 10.1 | 81.22 | -167.3 | 279.5 | 885.0 | 844.4 | 40.62 | 21.789 | |
| 9,700.0 | 9,170.0 | 9,145.9 | 9,121.3 | 33.1 | 10.1 | 80.75 | -167.2 | 279.3 | 980.2 | 939.6 | 40.63 | 24.124 | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 505H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 9864-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -90.83 | -4.3 | -295.1 | 295.2 | | | | |
| 100.0 | 100.0 | 94.4 | 94.4 | 3.0 | 3.0 | -90.83 | -4.3 | -295.1 | 295.1 | 289.1 | 6.00 | 49.166 | |
| 200.0 | 200.0 | 194.4 | 194.4 | 3.0 | 3.0 | -90.83 | -4.3 | -295.1 | 295.1 | 289.1 | 6.04 | 48.862 | |
| 300.0 | 300.0 | 294.4 | 294.4 | 3.1 | 3.0 | -90.83 | -4.3 | -295.1 | 295.1 | 289.0 | 6.12 | 48.222 | |
| 400.0 | 400.0 | 394.4 | 394.4 | 3.2 | 3.0 | -90.83 | -4.3 | -295.1 | 295.1 | 288.9 | 6.24 | 47.295 | |
| 500.0 | 500.0 | 494.4 | 494.4 | 3.4 | 3.1 | -90.83 | -4.3 | -295.1 | 295.1 | 288.7 | 6.40 | 46.143 | |
| 600.0 | 600.0 | 594.4 | 594.4 | 3.6 | 3.1 | -90.83 | -4.3 | -295.1 | 295.1 | 288.5 | 6.58 | 44.830 | |
| 700.0 | 700.0 | 694.4 | 694.4 | 3.8 | 3.1 | -90.83 | -4.3 | -295.1 | 295.1 | 288.3 | 6.80 | 43.415 | |
| 800.0 | 800.0 | 794.4 | 794.4 | 4.0 | 3.2 | -90.83 | -4.3 | -295.1 | 295.1 | 288.1 | 7.04 | 41.948 | |
| 900.0 | 900.0 | 894.4 | 894.4 | 4.2 | 3.2 | -90.83 | -4.3 | -295.1 | 295.1 | 287.8 | 7.29 | 40.466 | |
| 1,000.0 | 1,000.0 | 994.4 | 994.4 | 4.5 | 3.2 | -90.83 | -4.3 | -295.1 | 295.1 | 287.6 | 7.57 | 38.999 | |
| 1,100.0 | 1,100.0 | 1,094.4 | 1,094.4 | 4.8 | 3.3 | -90.83 | -4.3 | -295.1 | 295.1 | 287.3 | 7.86 | 37.566 | |
| 1,200.0 | 1,200.0 | 1,194.4 | 1,194.4 | 5.1 | 3.3 | -90.83 | -4.3 | -295.1 | 295.1 | 287.0 | 8.16 | 36.181 | |
| 1,300.0 | 1,300.0 | 1,294.4 | 1,294.4 | 5.3 | 3.4 | -90.83 | -4.3 | -295.1 | 295.1 | 286.7 | 8.47 | 34.851 | |
| 1,400.0 | 1,400.0 | 1,394.4 | 1,394.4 | 5.6 | 3.5 | -90.83 | -4.3 | -295.1 | 295.1 | 286.3 | 8.79 | 33.581 | |
| 1,500.0 | 1,500.0 | 1,494.4 | 1,494.4 | 6.0 | 3.5 | -90.83 | -4.3 | -295.1 | 295.1 | 286.0 | 9.12 | 32.373 | |
| 1,600.0 | 1,600.0 | 1,594.4 | 1,594.4 | 6.3 | 3.6 | -90.83 | -4.3 | -295.1 | 295.1 | 285.7 | 9.45 | 31.225 | |
| 1,700.0 | 1,700.0 | 1,694.4 | 1,694.4 | 6.6 | 3.7 | -90.83 | -4.3 | -295.1 | 295.1 | 285.3 | 9.79 | 30.138 | |
| 1,800.0 | 1,800.0 | 1,794.4 | 1,794.4 | 6.9 | 3.8 | -90.83 | -4.3 | -295.1 | 295.1 | 285.0 | 10.14 | 29.108 | |
| 1,900.0 | 1,900.0 | 1,894.4 | 1,894.4 | 7.2 | 3.8 | -90.83 | -4.3 | -295.1 | 295.1 | 284.6 | 10.49 | 28.133 | |
| 2,000.0 | 2,000.0 | 1,994.4 | 1,994.4 | 7.6 | 3.9 | -90.83 | -4.3 | -295.1 | 295.1 | 284.3 | 10.85 | 27.211 | |
| 2,100.0 | 2,100.0 | 2,094.4 | 2,094.4 | 7.9 | 4.0 | -90.83 | -4.3 | -295.1 | 295.1 | 283.9 | 11.21 | 26.338 | |
| 2,200.0 | 2,200.0 | 2,194.4 | 2,194.4 | 8.2 | 4.1 | -90.83 | -4.3 | -295.1 | 295.1 | 283.6 | 11.57 | 25.511 | |
| 2,300.0 | 2,300.0 | 2,294.4 | 2,294.4 | 8.6 | 4.2 | -90.83 | -4.3 | -295.1 | 295.1 | 283.2 | 11.93 | 24.728 | |
| 2,400.0 | 2,400.0 | 2,394.4 | 2,394.4 | 8.9 | 4.3 | -90.83 | -4.3 | -295.1 | 295.1 | 282.8 | 12.30 | 23.986 | |
| 2,500.0 | 2,500.0 | 2,494.4 | 2,494.4 | 9.2 | 4.4 | -90.83 | -4.3 | -295.1 | 295.1 | 282.5 | 12.68 | 23.282 | CC |
| 2,600.0 | 2,600.0 | 2,592.2 | 2,592.2 | 9.6 | 4.4 | -91.12 | -5.8 | -295.4 | 295.5 | 282.4 | 13.05 | 22.642 | ES |
| 2,700.0 | 2,700.0 | 2,689.7 | 2,689.6 | 9.9 | 4.4 | -92.02 | -10.4 | -296.4 | 296.7 | 283.2 | 13.43 | 22.097 | |
| 2,800.0 | 2,800.0 | 2,789.5 | 2,789.1 | 10.3 | 4.4 | -93.24 | -16.9 | -297.8 | 298.3 | 284.5 | 13.80 | 21.612 | |
| 2,900.0 | 2,900.0 | 2,889.3 | 2,888.7 | 10.6 | 4.3 | -94.45 | -23.3 | -299.2 | 300.2 | 286.0 | 14.19 | 21.159 | |
| 3,000.0 | 3,000.0 | 2,989.1 | 2,988.3 | 10.9 | 4.3 | -95.64 | -29.7 | -300.6 | 302.1 | 287.6 | 14.57 | 20.736 | |
| 3,100.0 | 3,100.0 | 3,088.9 | 3,087.8 | 11.3 | 4.3 | -96.82 | -36.1 | -302.0 | 304.2 | 289.3 | 14.96 | 20.341 | |
| 3,200.0 | 3,200.0 | 3,188.6 | 3,187.4 | 11.6 | 4.3 | -97.98 | -42.5 | -303.4 | 306.4 | 291.1 | 15.34 | 19.972 | |
| 3,300.0 | 3,300.0 | 3,288.4 | 3,287.0 | 12.0 | 4.3 | -99.12 | -49.0 | -304.8 | 308.8 | 293.1 | 15.73 | 19.627 | |
| 3,400.0 | 3,400.0 | 3,388.2 | 3,386.5 | 12.3 | 4.2 | -100.25 | -55.4 | -306.2 | 311.2 | 295.1 | 16.12 | 19.305 | |
| 3,500.0 | 3,500.0 | 3,488.0 | 3,486.1 | 12.7 | 4.2 | -101.36 | -61.8 | -307.6 | 313.8 | 297.3 | 16.51 | 19.003 | |
| 3,600.0 | 3,600.0 | 3,587.8 | 3,585.7 | 13.0 | 4.2 | -102.45 | -68.2 | -309.0 | 316.5 | 299.6 | 16.91 | 18.720 | |
| 3,700.0 | 3,700.0 | 3,687.5 | 3,685.2 | 13.4 | 4.2 | -103.52 | -74.6 | -310.4 | 319.3 | 302.0 | 17.30 | 18.456 | |
| 3,800.0 | 3,800.0 | 3,787.3 | 3,784.8 | 13.7 | 4.3 | -104.57 | -81.1 | -311.8 | 322.3 | 304.6 | 17.70 | 18.208 | |
| 3,900.0 | 3,900.0 | 3,887.1 | 3,884.4 | 14.1 | 4.3 | -105.61 | -87.5 | -313.1 | 325.3 | 307.2 | 18.10 | 17.975 | |
| 4,000.0 | 4,000.0 | 3,986.9 | 3,983.9 | 14.4 | 4.3 | -106.62 | -93.9 | -314.5 | 328.4 | 309.9 | 18.50 | 17.757 | |
| 4,100.0 | 4,100.0 | 4,086.7 | 4,083.5 | 14.8 | 4.3 | -107.61 | -100.3 | -315.9 | 331.7 | 312.8 | 18.90 | 17.552 | |
| 4,200.0 | 4,200.0 | 4,186.5 | 4,183.1 | 15.1 | 4.3 | -108.59 | -106.7 | -317.3 | 335.0 | 315.7 | 19.30 | 17.359 | |
| 4,300.0 | 4,300.0 | 4,286.2 | 4,282.6 | 15.5 | 4.3 | -109.55 | -113.1 | -318.7 | 338.4 | 318.7 | 19.70 | 17.178 | |
| 4,400.0 | 4,400.0 | 4,386.0 | 4,382.2 | 15.8 | 4.4 | -110.48 | -119.6 | -320.1 | 341.9 | 321.8 | 20.10 | 17.008 | |
| 4,500.0 | 4,500.0 | 4,485.8 | 4,481.8 | 16.2 | 4.4 | -111.40 | -126.0 | -321.5 | 345.5 | 325.0 | 20.51 | 16.847 | |
| 4,600.0 | 4,600.0 | 4,585.6 | 4,581.3 | 16.5 | 4.5 | -112.30 | -132.4 | -322.9 | 349.2 | 328.3 | 20.92 | 16.695 | |
| 4,700.0 | 4,700.0 | 4,685.4 | 4,680.9 | 16.9 | 4.5 | -113.18 | -138.8 | -324.3 | 353.0 | 331.7 | 21.33 | 16.552 | |
| 4,800.0 | 4,800.0 | 4,785.2 | 4,780.5 | 17.2 | 4.6 | -114.04 | -145.2 | -325.7 | 356.9 | 335.1 | 21.74 | 16.417 | |
| 4,900.0 | 4,900.0 | 4,884.9 | 4,880.0 | 17.6 | 4.6 | -114.88 | -151.7 | -327.1 | 360.8 | 338.7 | 22.15 | 16.290 | |
| 5,000.0 | 5,000.0 | 4,984.7 | 4,979.6 | 17.9 | 4.7 | -115.70 | -158.1 | -328.5 | 364.8 | 342.3 | 22.56 | 16.169 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 505H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 9864-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,084.5 | 5,079.2 | 18.3 | 4.7 | -116.51 | -164.5 | -329.9 | 368.9 | 345.9 | 22.98 | 16.055 | |
| 5,200.0 | 5,200.0 | 5,184.3 | 5,178.7 | 18.7 | 4.8 | -117.29 | -170.9 | -331.3 | 373.1 | 349.7 | 23.40 | 15.947 | |
| 5,300.0 | 5,300.0 | 5,284.1 | 5,278.3 | 19.0 | 4.9 | -118.06 | -177.3 | -332.6 | 377.3 | 353.5 | 23.81 | 15.844 | |
| 5,400.0 | 5,400.0 | 5,383.9 | 5,377.9 | 19.4 | 4.9 | -118.82 | -183.8 | -334.0 | 381.6 | 357.4 | 24.23 | 15.747 | |
| 5,500.0 | 5,500.0 | 5,483.6 | 5,477.4 | 19.7 | 5.0 | -119.55 | -190.2 | -335.4 | 386.0 | 361.3 | 24.66 | 15.654 | |
| 5,600.0 | 5,600.0 | 5,583.4 | 5,577.0 | 20.1 | 5.1 | -120.27 | -196.6 | -336.8 | 390.4 | 365.3 | 25.08 | 15.567 | |
| 5,700.0 | 5,700.0 | 5,691.0 | 5,684.4 | 20.4 | 5.1 | -120.90 | -202.4 | -338.1 | 394.1 | 368.6 | 25.52 | 15.445 | |
| 5,800.0 | 5,800.0 | 5,801.0 | 5,794.4 | 20.8 | 5.2 | -121.11 | -204.3 | -338.5 | 395.4 | 369.4 | 25.95 | 15.239 | |
| 5,900.0 | 5,900.0 | 5,901.0 | 5,894.4 | 21.1 | 5.2 | -121.11 | -204.3 | -338.5 | 395.4 | 369.0 | 26.34 | 15.008 | |
| 6,000.0 | 6,000.0 | 6,001.0 | 5,994.4 | 21.5 | 5.3 | -121.11 | -204.3 | -338.5 | 395.4 | 368.6 | 26.75 | 14.783 | |
| 6,100.0 | 6,100.0 | 6,101.0 | 6,094.4 | 21.8 | 5.4 | -121.11 | -204.3 | -338.5 | 395.4 | 368.2 | 27.15 | 14.564 | |
| 6,200.0 | 6,200.0 | 6,201.0 | 6,194.4 | 22.2 | 5.4 | -121.11 | -204.3 | -338.5 | 395.4 | 367.8 | 27.55 | 14.351 | |
| 6,300.0 | 6,300.0 | 6,301.0 | 6,294.4 | 22.6 | 5.5 | -121.11 | -204.3 | -338.5 | 395.4 | 367.4 | 27.96 | 14.143 | |
| 6,400.0 | 6,400.0 | 6,401.0 | 6,394.4 | 22.9 | 5.5 | -121.11 | -204.3 | -338.5 | 395.4 | 367.0 | 28.36 | 13.941 | |
| 6,500.0 | 6,500.0 | 6,501.0 | 6,494.4 | 23.3 | 5.6 | -121.11 | -204.3 | -338.5 | 395.4 | 366.6 | 28.77 | 13.744 | |
| 6,600.0 | 6,600.0 | 6,601.0 | 6,594.4 | 23.6 | 5.6 | -121.11 | -204.3 | -338.5 | 395.4 | 366.2 | 29.18 | 13.552 | |
| 6,700.0 | 6,700.0 | 6,701.0 | 6,694.4 | 24.0 | 5.7 | -121.11 | -204.3 | -338.5 | 395.4 | 365.8 | 29.58 | 13.364 | |
| 6,800.0 | 6,800.0 | 6,801.0 | 6,794.4 | 24.3 | 5.8 | -121.11 | -204.3 | -338.5 | 395.4 | 365.4 | 29.99 | 13.182 | |
| 6,900.0 | 6,900.0 | 6,901.0 | 6,894.4 | 24.7 | 5.8 | -121.11 | -204.3 | -338.5 | 395.4 | 365.0 | 30.40 | 13.004 | |
| 7,000.0 | 7,000.0 | 7,001.0 | 6,994.4 | 25.0 | 5.9 | -121.11 | -204.3 | -338.5 | 395.4 | 364.6 | 30.82 | 12.830 | |
| 7,100.0 | 7,100.0 | 7,101.0 | 7,094.4 | 25.4 | 6.0 | -121.11 | -204.3 | -338.5 | 395.4 | 364.1 | 31.23 | 12.660 | |
| 7,200.0 | 7,200.0 | 7,201.0 | 7,194.4 | 25.8 | 6.0 | -121.11 | -204.3 | -338.5 | 395.4 | 363.7 | 31.64 | 12.495 | |
| 7,300.0 | 7,300.0 | 7,301.0 | 7,294.4 | 26.1 | 6.1 | -121.11 | -204.3 | -338.5 | 395.4 | 363.3 | 32.06 | 12.333 | |
| 7,400.0 | 7,400.0 | 7,401.0 | 7,394.4 | 26.5 | 6.2 | -121.11 | -204.3 | -338.5 | 395.4 | 362.9 | 32.47 | 12.175 | |
| 7,500.0 | 7,500.0 | 7,501.0 | 7,494.4 | 26.8 | 6.3 | -121.11 | -204.3 | -338.5 | 395.4 | 362.5 | 32.89 | 12.021 | |
| 7,600.0 | 7,600.0 | 7,601.0 | 7,594.4 | 27.2 | 6.3 | -121.11 | -204.3 | -338.5 | 395.4 | 362.1 | 33.31 | 11.871 | |
| 7,700.0 | 7,700.0 | 7,701.0 | 7,694.4 | 27.5 | 6.4 | -121.11 | -204.3 | -338.5 | 395.4 | 361.6 | 33.72 | 11.724 | |
| 7,800.0 | 7,800.0 | 7,801.0 | 7,794.4 | 27.9 | 6.5 | -121.11 | -204.3 | -338.5 | 395.4 | 361.2 | 34.14 | 11.580 | |
| 7,900.0 | 7,900.0 | 7,901.0 | 7,894.4 | 28.2 | 6.6 | -121.11 | -204.3 | -338.5 | 395.4 | 360.8 | 34.56 | 11.439 | |
| 8,000.0 | 8,000.0 | 8,001.0 | 7,994.4 | 28.6 | 6.7 | -121.11 | -204.3 | -338.5 | 395.4 | 360.4 | 34.98 | 11.302 | |
| 8,100.0 | 8,100.0 | 8,101.0 | 8,094.4 | 29.0 | 6.8 | -121.11 | -204.3 | -338.5 | 395.4 | 360.0 | 35.40 | 11.168 | |
| 8,200.0 | 8,200.0 | 8,201.0 | 8,194.4 | 29.3 | 6.9 | -121.11 | -204.3 | -338.5 | 395.4 | 359.5 | 35.83 | 11.036 | |
| 8,300.0 | 8,300.0 | 8,301.0 | 8,294.4 | 29.7 | 7.0 | -121.11 | -204.3 | -338.5 | 395.4 | 359.1 | 36.25 | 10.908 | |
| 8,400.0 | 8,400.0 | 8,401.0 | 8,394.4 | 30.0 | 7.0 | -121.11 | -204.3 | -338.5 | 395.4 | 358.7 | 36.67 | 10.782 | |
| 8,500.0 | 8,500.0 | 8,501.0 | 8,494.4 | 30.4 | 7.1 | -121.11 | -204.3 | -338.5 | 395.4 | 358.3 | 37.09 | 10.659 | |
| 8,597.0 | 8,597.0 | 8,598.0 | 8,591.4 | 30.7 | 7.2 | -121.11 | -204.3 | -338.5 | 395.4 | 357.9 | 37.51 | 10.542 | |
| 8,600.0 | 8,600.0 | 8,601.0 | 8,594.4 | 30.7 | 7.2 | -122.31 | -204.3 | -338.5 | 395.4 | 357.9 | 37.52 | 10.538 | |
| 8,650.0 | 8,649.9 | 8,650.9 | 8,644.3 | 30.9 | 7.3 | -122.50 | -204.3 | -338.5 | 396.7 | 359.0 | 37.73 | 10.514 SF | |
| 8,700.0 | 8,699.4 | 8,700.5 | 8,693.8 | 31.1 | 7.3 | -123.00 | -204.3 | -338.5 | 400.4 | 362.4 | 37.94 | 10.552 | |
| 8,750.0 | 8,748.2 | 8,749.2 | 8,742.6 | 31.3 | 7.4 | -123.77 | -204.3 | -338.5 | 406.6 | 368.4 | 38.15 | 10.657 | |
| 8,800.0 | 8,795.8 | 8,796.8 | 8,790.2 | 31.4 | 7.4 | -124.73 | -204.3 | -338.5 | 415.5 | 377.1 | 38.36 | 10.830 | |
| 8,850.0 | 8,841.9 | 8,842.9 | 8,836.3 | 31.6 | 7.5 | -125.77 | -204.3 | -338.5 | 427.3 | 388.7 | 38.57 | 11.079 | |
| 8,900.0 | 8,886.1 | 8,887.1 | 8,880.5 | 31.7 | 7.5 | -126.81 | -204.3 | -338.5 | 442.2 | 403.4 | 38.77 | 11.406 | |
| 8,950.0 | 8,928.1 | 8,929.1 | 8,922.5 | 31.9 | 7.6 | -127.72 | -204.3 | -338.5 | 460.4 | 421.4 | 38.96 | 11.816 | |
| 9,000.0 | 8,967.6 | 8,968.6 | 8,962.0 | 32.0 | 7.6 | -128.41 | -204.3 | -338.5 | 482.0 | 442.8 | 39.15 | 12.311 | |
| 9,050.0 | 9,004.3 | 9,005.3 | 8,998.7 | 32.2 | 7.6 | -128.75 | -204.3 | -338.5 | 507.0 | 467.7 | 39.32 | 12.894 | |
| 9,100.0 | 9,037.8 | 9,038.8 | 9,032.2 | 32.3 | 7.7 | -128.65 | -204.3 | -338.5 | 535.4 | 495.9 | 39.48 | 13.561 | |
| 9,150.0 | 9,068.1 | 9,069.1 | 9,062.5 | 32.4 | 7.7 | -127.97 | -204.3 | -338.5 | 567.0 | 527.4 | 39.62 | 14.311 | |
| 9,200.0 | 9,094.7 | 9,095.7 | 9,089.1 | 32.5 | 7.7 | -126.58 | -204.3 | -338.5 | 601.7 | 562.0 | 39.75 | 15.139 | |
| 9,250.0 | 9,117.5 | 9,118.5 | 9,111.9 | 32.6 | 7.8 | -124.27 | -204.3 | -338.5 | 639.2 | 599.3 | 39.85 | 16.038 | |
| 9,300.0 | 9,136.4 | 9,137.4 | 9,130.8 | 32.7 | 7.8 | -120.81 | -204.3 | -338.5 | 679.1 | 639.1 | 39.94 | 17.001 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 505H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 9864-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,350.0 | 9,151.2 | 9,152.2 | 9,145.6 | 32.7 | 7.8 | -115.88 | -204.3 | -338.5 | 721.0 | 681.0 | 40.01 | 18.019 | |
| 9,400.0 | 9,161.8 | 9,162.8 | 9,156.2 | 32.8 | 7.8 | -109.13 | -204.3 | -338.5 | 764.6 | 724.6 | 40.07 | 19.084 | |
| 9,450.0 | 9,168.0 | 9,169.0 | 9,162.4 | 32.9 | 7.8 | -100.25 | -204.3 | -338.5 | 809.5 | 769.4 | 40.10 | 20.186 | |
| 9,497.0 | 9,170.0 | 9,171.0 | 9,164.4 | 32.9 | 7.8 | -90.00 | -204.3 | -338.5 | 852.5 | 812.4 | 40.13 | 21.245 | |
| 9,504.0 | 9,170.0 | 9,171.0 | 9,164.4 | 32.9 | 7.8 | -90.00 | -204.3 | -338.5 | 859.0 | 818.8 | 40.13 | 21.405 | |
| 9,600.0 | 9,170.0 | 9,171.0 | 9,164.4 | 33.0 | 7.8 | -90.00 | -204.3 | -338.5 | 948.0 | 907.9 | 40.16 | 23.604 | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 506H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 10038-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -90.83 | -4.7 | -325.1 | 325.2 | | | | |
| 100.0 | 100.0 | 95.0 | 95.0 | 3.0 | 3.0 | -90.83 | -4.7 | -325.1 | 325.1 | 319.1 | 6.00 | 54.165 | |
| 200.0 | 200.0 | 195.0 | 195.0 | 3.0 | 3.0 | -90.83 | -4.7 | -325.1 | 325.1 | 319.1 | 6.04 | 53.829 | |
| 300.0 | 300.0 | 295.0 | 295.0 | 3.1 | 3.0 | -90.83 | -4.7 | -325.1 | 325.1 | 319.0 | 6.12 | 53.124 | |
| 400.0 | 400.0 | 395.0 | 395.0 | 3.2 | 3.0 | -90.83 | -4.7 | -325.1 | 325.1 | 318.9 | 6.24 | 52.103 | |
| 500.0 | 500.0 | 495.0 | 495.0 | 3.4 | 3.1 | -90.83 | -4.7 | -325.1 | 325.1 | 318.7 | 6.40 | 50.834 | |
| 600.0 | 600.0 | 595.0 | 595.0 | 3.6 | 3.1 | -90.83 | -4.7 | -325.1 | 325.1 | 318.6 | 6.58 | 49.387 | |
| 700.0 | 700.0 | 695.0 | 695.0 | 3.8 | 3.1 | -90.83 | -4.7 | -325.1 | 325.1 | 318.3 | 6.80 | 47.828 | |
| 800.0 | 800.0 | 795.0 | 795.0 | 4.0 | 3.2 | -90.83 | -4.7 | -325.1 | 325.1 | 318.1 | 7.04 | 46.212 | |
| 900.0 | 900.0 | 895.0 | 895.0 | 4.2 | 3.2 | -90.83 | -4.7 | -325.1 | 325.1 | 317.8 | 7.29 | 44.580 | |
| 1,000.0 | 1,000.0 | 995.0 | 995.0 | 4.5 | 3.2 | -90.83 | -4.7 | -325.1 | 325.1 | 317.6 | 7.57 | 42.963 | |
| 1,100.0 | 1,100.0 | 1,095.0 | 1,095.0 | 4.8 | 3.3 | -90.83 | -4.7 | -325.1 | 325.1 | 317.3 | 7.86 | 41.385 | |
| 1,200.0 | 1,200.0 | 1,195.0 | 1,195.0 | 5.1 | 3.3 | -90.83 | -4.7 | -325.1 | 325.1 | 317.0 | 8.16 | 39.859 | |
| 1,300.0 | 1,300.0 | 1,295.0 | 1,295.0 | 5.3 | 3.4 | -90.83 | -4.7 | -325.1 | 325.1 | 316.7 | 8.47 | 38.394 | |
| 1,400.0 | 1,400.0 | 1,395.0 | 1,395.0 | 5.6 | 3.5 | -90.83 | -4.7 | -325.1 | 325.1 | 316.3 | 8.79 | 36.995 | |
| 1,500.0 | 1,500.0 | 1,495.0 | 1,495.0 | 6.0 | 3.5 | -90.83 | -4.7 | -325.1 | 325.1 | 316.0 | 9.12 | 35.663 | |
| 1,600.0 | 1,600.0 | 1,595.0 | 1,595.0 | 6.3 | 3.6 | -90.83 | -4.7 | -325.1 | 325.1 | 315.7 | 9.45 | 34.399 | |
| 1,700.0 | 1,700.0 | 1,695.0 | 1,695.0 | 6.6 | 3.7 | -90.83 | -4.7 | -325.1 | 325.1 | 315.3 | 9.79 | 33.201 | |
| 1,800.0 | 1,800.0 | 1,795.0 | 1,795.0 | 6.9 | 3.8 | -90.83 | -4.7 | -325.1 | 325.1 | 315.0 | 10.14 | 32.067 | |
| 1,900.0 | 1,900.0 | 1,895.0 | 1,895.0 | 7.2 | 3.8 | -90.83 | -4.7 | -325.1 | 325.1 | 314.6 | 10.49 | 30.993 | |
| 2,000.0 | 2,000.0 | 1,995.0 | 1,995.0 | 7.6 | 3.9 | -90.83 | -4.7 | -325.1 | 325.1 | 314.3 | 10.85 | 29.977 | |
| 2,100.0 | 2,100.0 | 2,095.0 | 2,095.0 | 7.9 | 4.0 | -90.83 | -4.7 | -325.1 | 325.1 | 313.9 | 11.21 | 29.015 | |
| 2,200.0 | 2,200.0 | 2,195.0 | 2,195.0 | 8.2 | 4.1 | -90.83 | -4.7 | -325.1 | 325.1 | 313.6 | 11.57 | 28.104 | |
| 2,300.0 | 2,300.0 | 2,295.0 | 2,295.0 | 8.6 | 4.2 | -90.83 | -4.7 | -325.1 | 325.1 | 313.2 | 11.94 | 27.242 | |
| 2,400.0 | 2,400.0 | 2,395.0 | 2,395.0 | 8.9 | 4.3 | -90.83 | -4.7 | -325.1 | 325.1 | 312.8 | 12.30 | 26.424 | |
| 2,500.0 | 2,500.0 | 2,495.0 | 2,495.0 | 9.2 | 4.4 | -90.83 | -4.7 | -325.1 | 325.1 | 312.5 | 12.68 | 25.648 | |
| 2,600.0 | 2,600.0 | 2,595.0 | 2,595.0 | 9.6 | 4.5 | -90.83 | -4.7 | -325.1 | 325.1 | 312.1 | 13.05 | 24.912 | |
| 2,700.0 | 2,700.0 | 2,695.0 | 2,695.0 | 9.9 | 4.6 | -90.83 | -4.7 | -325.1 | 325.1 | 311.7 | 13.43 | 24.213 | |
| 2,800.0 | 2,800.0 | 2,795.0 | 2,795.0 | 10.3 | 4.7 | -90.83 | -4.7 | -325.1 | 325.1 | 311.3 | 13.81 | 23.548 | |
| 2,900.0 | 2,900.0 | 2,895.0 | 2,895.0 | 10.6 | 4.8 | -90.83 | -4.7 | -325.1 | 325.1 | 310.9 | 14.19 | 22.915 | |
| 3,000.0 | 3,000.0 | 2,995.0 | 2,995.0 | 10.9 | 4.9 | -90.83 | -4.7 | -325.1 | 325.1 | 310.6 | 14.57 | 22.313 | |
| 3,100.0 | 3,100.0 | 3,095.0 | 3,095.0 | 11.3 | 5.0 | -90.83 | -4.7 | -325.1 | 325.1 | 310.2 | 14.96 | 21.738 | |
| 3,200.0 | 3,200.0 | 3,195.0 | 3,195.0 | 11.6 | 5.1 | -90.83 | -4.7 | -325.1 | 325.1 | 309.8 | 15.34 | 21.190 | |
| 3,300.0 | 3,300.0 | 3,295.0 | 3,295.0 | 12.0 | 5.2 | -90.83 | -4.7 | -325.1 | 325.1 | 309.4 | 15.73 | 20.667 | |
| 3,400.0 | 3,400.0 | 3,395.0 | 3,395.0 | 12.3 | 5.3 | -90.83 | -4.7 | -325.1 | 325.1 | 309.0 | 16.12 | 20.168 | |
| 3,500.0 | 3,500.0 | 3,495.0 | 3,495.0 | 12.7 | 5.4 | -90.83 | -4.7 | -325.1 | 325.1 | 308.6 | 16.51 | 19.690 | |
| 3,600.0 | 3,600.0 | 3,595.0 | 3,595.0 | 13.0 | 5.5 | -90.83 | -4.7 | -325.1 | 325.1 | 308.2 | 16.91 | 19.233 | |
| 3,700.0 | 3,700.0 | 3,695.0 | 3,695.0 | 13.4 | 5.6 | -90.83 | -4.7 | -325.1 | 325.1 | 307.8 | 17.30 | 18.795 | |
| 3,800.0 | 3,800.0 | 3,795.0 | 3,795.0 | 13.7 | 5.8 | -90.83 | -4.7 | -325.1 | 325.1 | 307.4 | 17.69 | 18.376 | |
| 3,900.0 | 3,900.0 | 3,895.0 | 3,895.0 | 14.1 | 5.9 | -90.83 | -4.7 | -325.1 | 325.1 | 307.0 | 18.09 | 17.973 | |
| 4,000.0 | 4,000.0 | 3,995.0 | 3,995.0 | 14.4 | 6.0 | -90.83 | -4.7 | -325.1 | 325.1 | 306.6 | 18.49 | 17.587 | |
| 4,100.0 | 4,100.0 | 4,095.0 | 4,095.0 | 14.8 | 6.1 | -90.83 | -4.7 | -325.1 | 325.1 | 306.2 | 18.89 | 17.216 | |
| 4,200.0 | 4,200.0 | 4,195.0 | 4,195.0 | 15.1 | 6.2 | -90.83 | -4.7 | -325.1 | 325.1 | 305.8 | 19.28 | 16.860 | |
| 4,300.0 | 4,300.0 | 4,295.0 | 4,295.0 | 15.5 | 6.3 | -90.83 | -4.7 | -325.1 | 325.1 | 305.4 | 19.69 | 16.517 | |
| 4,400.0 | 4,400.0 | 4,395.0 | 4,395.0 | 15.8 | 6.4 | -90.83 | -4.7 | -325.1 | 325.1 | 305.0 | 20.09 | 16.187 | |
| 4,500.0 | 4,500.0 | 4,495.0 | 4,495.0 | 16.2 | 6.6 | -90.83 | -4.7 | -325.1 | 325.1 | 304.6 | 20.49 | 15.869 | |
| 4,600.0 | 4,600.0 | 4,595.0 | 4,595.0 | 16.5 | 6.7 | -90.83 | -4.7 | -325.1 | 325.1 | 304.2 | 20.89 | 15.563 | |
| 4,700.0 | 4,700.0 | 4,695.0 | 4,695.0 | 16.9 | 6.8 | -90.83 | -4.7 | -325.1 | 325.1 | 303.8 | 21.29 | 15.268 | |
| 4,800.0 | 4,800.0 | 4,795.0 | 4,795.0 | 17.2 | 6.9 | -90.83 | -4.7 | -325.1 | 325.1 | 303.4 | 21.70 | 14.984 | |
| 4,900.0 | 4,900.0 | 4,895.0 | 4,895.0 | 17.6 | 7.0 | -90.83 | -4.7 | -325.1 | 325.1 | 303.0 | 22.10 | 14.709 | |
| 5,000.0 | 5,000.0 | 4,995.0 | 4,995.0 | 17.9 | 7.2 | -90.83 | -4.7 | -325.1 | 325.1 | 302.6 | 22.51 | 14.444 | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 506H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 10038-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,095.0 | 5,095.0 | 18.3 | 7.3 | -90.83 | -4.7 | -325.1 | 325.1 | 302.2 | 22.92 | 14.188 | |
| 5,200.0 | 5,200.0 | 5,195.0 | 5,195.0 | 18.7 | 7.4 | -90.83 | -4.7 | -325.1 | 325.1 | 301.8 | 23.32 | 13.940 | |
| 5,300.0 | 5,300.0 | 5,295.0 | 5,295.0 | 19.0 | 7.5 | -90.83 | -4.7 | -325.1 | 325.1 | 301.4 | 23.73 | 13.701 | |
| 5,400.0 | 5,400.0 | 5,395.0 | 5,395.0 | 19.4 | 7.6 | -90.83 | -4.7 | -325.1 | 325.1 | 301.0 | 24.14 | 13.469 | |
| 5,500.0 | 5,500.0 | 5,495.0 | 5,495.0 | 19.7 | 7.8 | -90.83 | -4.7 | -325.1 | 325.1 | 300.6 | 24.55 | 13.245 | CC, ES |
| 5,600.0 | 5,600.0 | 5,585.3 | 5,585.3 | 20.1 | 7.8 | -90.84 | -4.8 | -326.4 | 326.5 | 301.6 | 24.95 | 13.090 | |
| 5,700.0 | 5,700.0 | 5,674.9 | 5,674.8 | 20.4 | 7.9 | -90.89 | -5.1 | -330.4 | 331.1 | 305.7 | 25.34 | 13.066 | SF |
| 5,800.0 | 5,800.0 | 5,765.6 | 5,765.3 | 20.8 | 7.9 | -90.96 | -5.6 | -337.3 | 338.7 | 313.0 | 25.72 | 13.166 | |
| 5,900.0 | 5,900.0 | 5,865.2 | 5,864.5 | 21.1 | 7.9 | -91.05 | -6.3 | -346.1 | 347.5 | 321.3 | 26.14 | 13.294 | |
| 6,000.0 | 6,000.0 | 5,964.9 | 5,963.7 | 21.5 | 8.0 | -91.13 | -7.0 | -354.8 | 356.3 | 329.7 | 26.55 | 13.418 | |
| 6,100.0 | 6,100.0 | 6,064.5 | 6,062.9 | 21.8 | 8.0 | -91.21 | -7.7 | -363.6 | 365.0 | 338.1 | 26.97 | 13.536 | |
| 6,200.0 | 6,200.0 | 6,164.1 | 6,162.2 | 22.2 | 8.0 | -91.29 | -8.4 | -372.3 | 373.8 | 346.4 | 27.39 | 13.650 | |
| 6,300.0 | 6,300.0 | 6,263.7 | 6,261.4 | 22.6 | 8.1 | -91.36 | -9.0 | -381.0 | 382.6 | 354.8 | 27.81 | 13.759 | |
| 6,400.0 | 6,400.0 | 6,363.3 | 6,360.6 | 22.9 | 8.1 | -91.43 | -9.7 | -389.8 | 391.4 | 363.2 | 28.23 | 13.864 | |
| 6,500.0 | 6,500.0 | 6,462.9 | 6,459.8 | 23.3 | 8.2 | -91.49 | -10.4 | -398.5 | 400.2 | 371.5 | 28.66 | 13.965 | |
| 6,600.0 | 6,600.0 | 6,562.5 | 6,559.1 | 23.6 | 8.2 | -91.56 | -11.1 | -407.2 | 409.0 | 379.9 | 29.08 | 14.062 | |
| 6,700.0 | 6,700.0 | 6,662.1 | 6,658.3 | 24.0 | 8.3 | -91.62 | -11.7 | -416.0 | 417.8 | 388.3 | 29.51 | 14.155 | |
| 6,800.0 | 6,800.0 | 6,761.8 | 6,757.5 | 24.3 | 8.3 | -91.68 | -12.4 | -424.7 | 426.6 | 396.6 | 29.94 | 14.245 | |
| 6,900.0 | 6,900.0 | 6,861.4 | 6,856.7 | 24.7 | 8.4 | -91.73 | -13.1 | -433.5 | 435.3 | 405.0 | 30.38 | 14.331 | |
| 7,000.0 | 7,000.0 | 6,961.0 | 6,956.0 | 25.0 | 8.4 | -91.78 | -13.8 | -442.2 | 444.1 | 413.3 | 30.81 | 14.415 | |
| 7,100.0 | 7,100.0 | 7,060.6 | 7,055.2 | 25.4 | 8.5 | -91.84 | -14.5 | -450.9 | 452.9 | 421.7 | 31.25 | 14.495 | |
| 7,200.0 | 7,200.0 | 7,160.2 | 7,154.4 | 25.8 | 8.5 | -91.89 | -15.1 | -459.7 | 461.7 | 430.0 | 31.68 | 14.572 | |
| 7,300.0 | 7,300.0 | 7,259.8 | 7,253.6 | 26.1 | 8.6 | -91.93 | -15.8 | -468.4 | 470.5 | 438.4 | 32.12 | 14.647 | |
| 7,400.0 | 7,400.0 | 7,359.4 | 7,352.9 | 26.5 | 8.7 | -91.98 | -16.5 | -477.2 | 479.3 | 446.7 | 32.56 | 14.718 | |
| 7,500.0 | 7,500.0 | 7,459.0 | 7,452.1 | 26.8 | 8.7 | -92.02 | -17.2 | -485.9 | 488.1 | 455.1 | 33.01 | 14.788 | |
| 7,600.0 | 7,600.0 | 7,558.6 | 7,551.3 | 27.2 | 8.8 | -92.07 | -17.8 | -494.6 | 496.9 | 463.4 | 33.45 | 14.854 | |
| 7,700.0 | 7,700.0 | 7,658.3 | 7,650.5 | 27.5 | 8.9 | -92.11 | -18.5 | -503.4 | 505.7 | 471.8 | 33.89 | 14.919 | |
| 7,800.0 | 7,800.0 | 7,757.9 | 7,749.8 | 27.9 | 8.9 | -92.15 | -19.2 | -512.1 | 514.5 | 480.1 | 34.34 | 14.981 | |
| 7,900.0 | 7,900.0 | 7,857.5 | 7,849.0 | 28.2 | 9.0 | -92.19 | -19.9 | -520.8 | 523.3 | 488.5 | 34.79 | 15.041 | |
| 8,000.0 | 8,000.0 | 7,957.1 | 7,948.2 | 28.6 | 9.1 | -92.22 | -20.6 | -529.6 | 532.0 | 496.8 | 35.24 | 15.100 | |
| 8,100.0 | 8,100.0 | 8,056.7 | 8,047.4 | 29.0 | 9.1 | -92.26 | -21.2 | -538.3 | 540.8 | 505.2 | 35.69 | 15.156 | |
| 8,200.0 | 8,200.0 | 8,156.3 | 8,146.7 | 29.3 | 9.2 | -92.29 | -21.9 | -547.1 | 549.6 | 513.5 | 36.14 | 15.210 | |
| 8,300.0 | 8,300.0 | 8,255.9 | 8,245.9 | 29.7 | 9.3 | -92.33 | -22.6 | -555.8 | 558.4 | 521.8 | 36.59 | 15.263 | |
| 8,400.0 | 8,400.0 | 8,355.5 | 8,345.1 | 30.0 | 9.4 | -92.36 | -23.3 | -564.5 | 567.2 | 530.2 | 37.04 | 15.314 | |
| 8,500.0 | 8,500.0 | 8,455.2 | 8,444.4 | 30.4 | 9.5 | -92.39 | -23.9 | -573.3 | 576.0 | 538.5 | 37.49 | 15.363 | |
| 8,597.0 | 8,597.0 | 8,551.8 | 8,540.6 | 30.7 | 9.5 | -92.42 | -24.6 | -581.8 | 584.5 | 546.6 | 37.93 | 15.409 | |
| 8,600.0 | 8,600.0 | 8,554.8 | 8,543.6 | 30.7 | 9.5 | -93.60 | -24.6 | -582.0 | 584.8 | 546.9 | 37.95 | 15.411 | |
| 8,650.0 | 8,649.9 | 8,604.5 | 8,593.1 | 30.9 | 9.6 | -93.39 | -25.0 | -586.4 | 589.4 | 551.2 | 38.16 | 15.442 | |
| 8,700.0 | 8,699.4 | 8,653.8 | 8,642.2 | 31.1 | 9.6 | -93.57 | -25.3 | -590.7 | 594.2 | 555.8 | 38.36 | 15.490 | |
| 8,750.0 | 8,748.2 | 8,702.2 | 8,690.4 | 31.3 | 9.7 | -94.08 | -25.6 | -594.9 | 599.5 | 560.9 | 38.53 | 15.557 | |
| 8,800.0 | 8,795.8 | 8,749.5 | 8,737.5 | 31.4 | 9.7 | -94.87 | -25.9 | -599.1 | 605.3 | 566.6 | 38.69 | 15.647 | |
| 8,850.0 | 8,841.9 | 8,795.2 | 8,783.1 | 31.6 | 9.7 | -95.86 | -26.3 | -603.1 | 612.1 | 573.2 | 38.82 | 15.766 | |
| 8,900.0 | 8,886.1 | 8,839.1 | 8,826.8 | 31.7 | 9.8 | -96.97 | -26.5 | -607.0 | 619.9 | 581.0 | 38.94 | 15.922 | |
| 8,950.0 | 8,928.1 | 8,880.7 | 8,868.2 | 31.9 | 9.8 | -98.08 | -26.8 | -610.6 | 629.3 | 590.3 | 39.04 | 16.121 | |
| 9,000.0 | 8,967.6 | 8,919.8 | 8,907.1 | 32.0 | 9.8 | -99.11 | -27.1 | -614.0 | 640.5 | 601.3 | 39.12 | 16.370 | |
| 9,050.0 | 9,004.3 | 8,956.0 | 8,943.2 | 32.2 | 9.9 | -99.94 | -27.3 | -617.2 | 653.8 | 614.6 | 39.20 | 16.676 | |
| 9,100.0 | 9,037.8 | 8,989.1 | 8,976.2 | 32.3 | 9.9 | -100.48 | -27.6 | -620.1 | 669.4 | 630.1 | 39.28 | 17.043 | |
| 9,150.0 | 9,068.1 | 9,018.9 | 9,005.9 | 32.4 | 9.9 | -100.63 | -27.8 | -622.7 | 687.7 | 648.3 | 39.35 | 17.474 | |
| 9,200.0 | 9,094.7 | 9,045.0 | 9,031.9 | 32.5 | 10.0 | -100.30 | -27.9 | -625.0 | 708.6 | 669.1 | 39.43 | 17.971 | |
| 9,250.0 | 9,117.5 | 9,067.4 | 9,054.2 | 32.6 | 10.0 | -99.40 | -28.1 | -627.0 | 732.2 | 692.7 | 39.50 | 18.534 | |
| 9,300.0 | 9,136.4 | 9,085.8 | 9,072.6 | 32.7 | 10.0 | -97.85 | -28.2 | -628.6 | 758.4 | 718.8 | 39.58 | 19.160 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 506H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 10038-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,350.0 | 9,151.2 | 9,100.1 | 9,086.8 | 32.7 | 10.0 | -95.59 | -28.3 | -629.9 | 787.0 | 747.3 | 39.66 | 19.845 | |
| 9,400.0 | 9,161.8 | 9,110.2 | 9,096.9 | 32.8 | 10.0 | -92.57 | -28.4 | -630.7 | 817.8 | 778.1 | 39.73 | 20.583 | |
| 9,450.0 | 9,168.0 | 9,116.1 | 9,102.7 | 32.9 | 10.0 | -88.76 | -28.4 | -631.3 | 850.5 | 810.7 | 39.81 | 21.368 | |
| 9,497.0 | 9,170.0 | 9,117.6 | 9,104.2 | 32.9 | 10.0 | -84.50 | -28.4 | -631.4 | 882.7 | 842.8 | 39.87 | 22.140 | |
| 9,504.0 | 9,170.0 | 9,117.5 | 9,104.1 | 32.9 | 10.0 | -84.51 | -28.4 | -631.4 | 887.6 | 847.7 | 39.88 | 22.257 | |
| 9,600.0 | 9,170.0 | 9,116.7 | 9,103.3 | 33.0 | 10.0 | -84.43 | -28.4 | -631.3 | 957.1 | 917.1 | 40.02 | 23.916 | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 706H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 11669-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -90.83 | -8.1 | -560.3 | 560.4 | | | | |
| 100.0 | 100.0 | 93.1 | 93.1 | 3.0 | 3.0 | -90.83 | -8.1 | -560.3 | 560.4 | 554.4 | 6.00 | 93.351 | |
| 200.0 | 200.0 | 193.1 | 193.1 | 3.0 | 3.0 | -90.83 | -8.1 | -560.3 | 560.4 | 554.3 | 6.04 | 92.773 | |
| 300.0 | 300.0 | 293.1 | 293.1 | 3.1 | 3.0 | -90.83 | -8.1 | -560.3 | 560.4 | 554.2 | 6.12 | 91.558 | |
| 400.0 | 400.0 | 393.1 | 393.1 | 3.2 | 3.0 | -90.83 | -8.1 | -560.3 | 560.4 | 554.1 | 6.24 | 89.799 | |
| 500.0 | 500.0 | 493.1 | 493.1 | 3.4 | 3.1 | -90.83 | -8.1 | -560.3 | 560.4 | 554.0 | 6.40 | 87.612 | |
| 600.0 | 600.0 | 593.1 | 593.1 | 3.6 | 3.1 | -90.83 | -8.1 | -560.3 | 560.4 | 553.8 | 6.58 | 85.119 | |
| 700.0 | 700.0 | 693.1 | 693.1 | 3.8 | 3.1 | -90.83 | -8.1 | -560.3 | 560.4 | 553.6 | 6.80 | 82.433 | |
| 800.0 | 800.0 | 793.1 | 793.1 | 4.0 | 3.1 | -90.83 | -8.1 | -560.3 | 560.4 | 553.3 | 7.04 | 79.647 | |
| 900.0 | 900.0 | 893.1 | 893.1 | 4.2 | 3.2 | -90.83 | -8.1 | -560.3 | 560.4 | 553.1 | 7.29 | 76.834 | |
| 1,000.0 | 1,000.0 | 993.1 | 993.1 | 4.5 | 3.2 | -90.83 | -8.1 | -560.3 | 560.4 | 552.8 | 7.57 | 74.049 | |
| 1,100.0 | 1,100.0 | 1,093.1 | 1,093.1 | 4.8 | 3.3 | -90.83 | -8.1 | -560.3 | 560.4 | 552.5 | 7.86 | 71.329 | |
| 1,200.0 | 1,200.0 | 1,193.1 | 1,193.1 | 5.1 | 3.3 | -90.83 | -8.1 | -560.3 | 560.4 | 552.2 | 8.16 | 68.698 | |
| 1,300.0 | 1,300.0 | 1,293.1 | 1,293.1 | 5.3 | 3.4 | -90.83 | -8.1 | -560.3 | 560.4 | 551.9 | 8.47 | 66.174 | |
| 1,400.0 | 1,400.0 | 1,393.1 | 1,393.1 | 5.6 | 3.5 | -90.83 | -8.1 | -560.3 | 560.4 | 551.6 | 8.79 | 63.762 | |
| 1,500.0 | 1,500.0 | 1,493.1 | 1,493.1 | 6.0 | 3.5 | -90.83 | -8.1 | -560.3 | 560.4 | 551.2 | 9.12 | 61.467 | |
| 1,600.0 | 1,600.0 | 1,593.1 | 1,593.1 | 6.3 | 3.6 | -90.83 | -8.1 | -560.3 | 560.4 | 550.9 | 9.45 | 59.289 | |
| 1,700.0 | 1,700.0 | 1,693.1 | 1,693.1 | 6.6 | 3.7 | -90.83 | -8.1 | -560.3 | 560.4 | 550.6 | 9.79 | 57.224 | |
| 1,800.0 | 1,800.0 | 1,793.1 | 1,793.1 | 6.9 | 3.8 | -90.83 | -8.1 | -560.3 | 560.4 | 550.2 | 10.14 | 55.269 | |
| 1,900.0 | 1,900.0 | 1,893.1 | 1,893.1 | 7.2 | 3.8 | -90.83 | -8.1 | -560.3 | 560.4 | 549.9 | 10.49 | 53.418 | |
| 2,000.0 | 2,000.0 | 1,993.1 | 1,993.1 | 7.6 | 3.9 | -90.83 | -8.1 | -560.3 | 560.4 | 549.5 | 10.85 | 51.667 | |
| 2,100.0 | 2,100.0 | 2,093.1 | 2,093.1 | 7.9 | 4.0 | -90.83 | -8.1 | -560.3 | 560.4 | 549.2 | 11.21 | 50.009 | |
| 2,200.0 | 2,200.0 | 2,193.1 | 2,193.1 | 8.2 | 4.1 | -90.83 | -8.1 | -560.3 | 560.4 | 548.8 | 11.57 | 48.439 | |
| 2,300.0 | 2,300.0 | 2,293.1 | 2,293.1 | 8.6 | 4.2 | -90.83 | -8.1 | -560.3 | 560.4 | 548.4 | 11.93 | 46.953 | |
| 2,400.0 | 2,400.0 | 2,393.1 | 2,393.1 | 8.9 | 4.3 | -90.83 | -8.1 | -560.3 | 560.4 | 548.1 | 12.30 | 45.543 | |
| 2,500.0 | 2,500.0 | 2,493.1 | 2,493.1 | 9.2 | 4.4 | -90.83 | -8.1 | -560.3 | 560.4 | 547.7 | 12.68 | 44.206 | |
| 2,600.0 | 2,600.0 | 2,614.5 | 2,614.5 | 9.6 | 4.4 | -90.89 | -8.7 | -558.1 | 558.6 | 545.5 | 13.05 | 42.792 | |
| 2,700.0 | 2,700.0 | 2,728.5 | 2,728.3 | 9.9 | 4.5 | -91.09 | -10.5 | -551.8 | 553.0 | 539.6 | 13.43 | 41.176 | |
| 2,800.0 | 2,800.0 | 2,828.3 | 2,827.8 | 10.3 | 4.5 | -91.29 | -12.2 | -545.4 | 546.6 | 532.8 | 13.82 | 39.559 | |
| 2,900.0 | 2,900.0 | 2,928.1 | 2,927.4 | 10.6 | 4.5 | -91.49 | -14.0 | -539.0 | 540.3 | 526.1 | 14.21 | 38.018 | |
| 3,000.0 | 3,000.0 | 3,027.8 | 3,027.0 | 10.9 | 4.5 | -91.70 | -15.8 | -532.6 | 533.9 | 519.3 | 14.61 | 36.547 | |
| 3,100.0 | 3,100.0 | 3,127.6 | 3,126.5 | 11.3 | 4.6 | -91.91 | -17.6 | -526.2 | 527.6 | 512.6 | 15.01 | 35.143 | |
| 3,200.0 | 3,200.0 | 3,227.4 | 3,226.1 | 11.6 | 4.6 | -92.13 | -19.3 | -519.9 | 521.3 | 505.9 | 15.42 | 33.803 | |
| 3,300.0 | 3,300.0 | 3,327.2 | 3,325.6 | 12.0 | 4.6 | -92.36 | -21.1 | -513.5 | 515.0 | 499.1 | 15.83 | 32.524 | |
| 3,400.0 | 3,400.0 | 3,427.0 | 3,425.2 | 12.3 | 4.7 | -92.59 | -22.9 | -507.1 | 508.6 | 492.4 | 16.25 | 31.303 | |
| 3,500.0 | 3,500.0 | 3,526.7 | 3,524.7 | 12.7 | 4.7 | -92.82 | -24.7 | -500.7 | 502.3 | 485.7 | 16.67 | 30.136 | |
| 3,600.0 | 3,600.0 | 3,626.5 | 3,624.3 | 13.0 | 4.8 | -93.06 | -26.4 | -494.3 | 496.0 | 478.9 | 17.09 | 29.021 | |
| 3,700.0 | 3,700.0 | 3,726.3 | 3,723.9 | 13.4 | 4.8 | -93.31 | -28.2 | -488.0 | 489.8 | 472.2 | 17.52 | 27.954 | |
| 3,800.0 | 3,800.0 | 3,826.1 | 3,823.4 | 13.7 | 4.9 | -93.56 | -30.0 | -481.6 | 483.5 | 465.5 | 17.95 | 26.935 | |
| 3,900.0 | 3,900.0 | 3,925.9 | 3,923.0 | 14.1 | 4.9 | -93.82 | -31.8 | -475.2 | 477.2 | 458.8 | 18.38 | 25.959 | |
| 4,000.0 | 4,000.0 | 4,025.6 | 4,022.5 | 14.4 | 5.0 | -94.09 | -33.5 | -468.8 | 470.9 | 452.1 | 18.82 | 25.025 | |
| 4,100.0 | 4,100.0 | 4,125.4 | 4,122.1 | 14.8 | 5.0 | -94.37 | -35.3 | -462.4 | 464.7 | 445.4 | 19.26 | 24.130 | |
| 4,200.0 | 4,200.0 | 4,225.2 | 4,221.7 | 15.1 | 5.1 | -94.65 | -37.1 | -456.1 | 458.5 | 438.8 | 19.70 | 23.273 | |
| 4,300.0 | 4,300.0 | 4,325.0 | 4,321.2 | 15.5 | 5.2 | -94.94 | -38.9 | -449.7 | 452.2 | 432.1 | 20.14 | 22.451 | |
| 4,400.0 | 4,400.0 | 4,424.7 | 4,420.8 | 15.8 | 5.2 | -95.24 | -40.6 | -443.3 | 446.0 | 425.4 | 20.59 | 21.664 | |
| 4,500.0 | 4,500.0 | 4,524.5 | 4,520.3 | 16.2 | 5.3 | -95.55 | -42.4 | -436.9 | 439.8 | 418.8 | 21.04 | 20.908 | |
| 4,600.0 | 4,600.0 | 4,624.3 | 4,619.9 | 16.5 | 5.4 | -95.86 | -44.2 | -430.5 | 433.6 | 412.1 | 21.49 | 20.182 | |
| 4,700.0 | 4,700.0 | 4,724.1 | 4,719.5 | 16.9 | 5.5 | -96.19 | -46.0 | -424.2 | 427.5 | 405.5 | 21.94 | 19.485 | |
| 4,800.0 | 4,800.0 | 4,823.9 | 4,819.0 | 17.2 | 5.5 | -96.52 | -47.7 | -417.8 | 421.3 | 398.9 | 22.39 | 18.815 | |
| 4,900.0 | 4,900.0 | 4,923.6 | 4,918.6 | 17.6 | 5.6 | -96.86 | -49.5 | -411.4 | 415.2 | 392.3 | 22.85 | 18.172 | |
| 5,000.0 | 5,000.0 | 5,023.4 | 5,018.1 | 17.9 | 5.7 | -97.22 | -51.3 | -405.0 | 409.0 | 385.7 | 23.30 | 17.553 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 706H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 11669-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,123.2 | 5,117.7 | 18.3 | 5.8 | -97.58 | -53.1 | -398.6 | 402.9 | 379.2 | 23.76 | 16.957 | |
| 5,200.0 | 5,200.0 | 5,223.0 | 5,217.3 | 18.7 | 5.9 | -97.96 | -54.8 | -392.3 | 396.8 | 372.6 | 24.22 | 16.384 | |
| 5,300.0 | 5,300.0 | 5,322.8 | 5,316.8 | 19.0 | 5.9 | -98.35 | -56.6 | -385.9 | 390.7 | 366.1 | 24.68 | 15.832 | |
| 5,400.0 | 5,400.0 | 5,422.5 | 5,416.4 | 19.4 | 6.0 | -98.75 | -58.4 | -379.5 | 384.7 | 359.5 | 25.14 | 15.300 | |
| 5,500.0 | 5,500.0 | 5,522.3 | 5,515.9 | 19.7 | 6.1 | -99.16 | -60.2 | -373.1 | 378.6 | 353.0 | 25.60 | 14.788 | |
| 5,600.0 | 5,600.0 | 5,622.1 | 5,615.5 | 20.1 | 6.2 | -99.59 | -61.9 | -366.7 | 372.6 | 346.5 | 26.07 | 14.294 | |
| 5,700.0 | 5,700.0 | 5,721.9 | 5,715.1 | 20.4 | 6.3 | -100.03 | -63.7 | -360.4 | 366.6 | 340.1 | 26.53 | 13.818 | |
| 5,800.0 | 5,800.0 | 5,821.7 | 5,814.6 | 20.8 | 6.4 | -100.48 | -65.5 | -354.0 | 360.6 | 333.6 | 27.00 | 13.359 | |
| 5,900.0 | 5,900.0 | 5,921.4 | 5,914.2 | 21.1 | 6.5 | -100.95 | -67.3 | -347.6 | 354.7 | 327.2 | 27.46 | 12.915 | |
| 6,000.0 | 6,000.0 | 6,021.2 | 6,013.7 | 21.5 | 6.6 | -101.44 | -69.0 | -341.2 | 348.7 | 320.8 | 27.93 | 12.488 | |
| 6,100.0 | 6,100.0 | 6,121.0 | 6,113.3 | 21.8 | 6.7 | -101.94 | -70.8 | -334.8 | 342.8 | 314.4 | 28.39 | 12.074 | |
| 6,200.0 | 6,200.0 | 6,220.8 | 6,212.9 | 22.2 | 6.8 | -102.46 | -72.6 | -328.5 | 337.0 | 308.1 | 28.86 | 11.675 | |
| 6,300.0 | 6,300.0 | 6,320.6 | 6,312.4 | 22.6 | 6.9 | -103.00 | -74.4 | -322.1 | 331.1 | 301.8 | 29.33 | 11.290 | |
| 6,400.0 | 6,400.0 | 6,420.3 | 6,412.0 | 22.9 | 7.0 | -103.56 | -76.1 | -315.7 | 325.3 | 295.5 | 29.80 | 10.917 | |
| 6,500.0 | 6,500.0 | 6,520.1 | 6,511.5 | 23.3 | 7.1 | -104.14 | -77.9 | -309.3 | 319.5 | 289.2 | 30.26 | 10.557 | |
| 6,600.0 | 6,600.0 | 6,619.9 | 6,611.1 | 23.6 | 7.2 | -104.74 | -79.7 | -302.9 | 313.8 | 283.0 | 30.73 | 10.210 | |
| 6,700.0 | 6,700.0 | 6,719.7 | 6,710.7 | 24.0 | 7.3 | -105.36 | -81.5 | -296.6 | 308.0 | 276.8 | 31.20 | 9.873 | |
| 6,800.0 | 6,800.0 | 6,819.5 | 6,810.2 | 24.3 | 7.4 | -106.01 | -83.2 | -290.2 | 302.4 | 270.7 | 31.67 | 9.548 | |
| 6,900.0 | 6,900.0 | 6,919.2 | 6,909.8 | 24.7 | 7.5 | -106.68 | -85.0 | -283.8 | 296.7 | 264.6 | 32.14 | 9.234 | |
| 7,000.0 | 7,000.0 | 7,019.0 | 7,009.3 | 25.0 | 7.6 | -107.37 | -86.8 | -277.4 | 291.1 | 258.5 | 32.60 | 8.930 | |
| 7,100.0 | 7,100.0 | 7,118.8 | 7,108.9 | 25.4 | 7.7 | -108.10 | -88.6 | -271.0 | 285.6 | 252.5 | 33.07 | 8.636 | |
| 7,200.0 | 7,200.0 | 7,218.6 | 7,208.4 | 25.8 | 7.8 | -108.85 | -90.3 | -264.7 | 280.1 | 246.5 | 33.54 | 8.352 | |
| 7,300.0 | 7,300.0 | 7,318.4 | 7,308.0 | 26.1 | 7.9 | -109.63 | -92.1 | -258.3 | 274.6 | 240.6 | 34.00 | 8.077 | |
| 7,400.0 | 7,400.0 | 7,418.1 | 7,407.6 | 26.5 | 8.0 | -110.44 | -93.9 | -251.9 | 269.2 | 234.7 | 34.46 | 7.811 | |
| 7,500.0 | 7,500.0 | 7,517.9 | 7,507.1 | 26.8 | 8.1 | -111.29 | -95.7 | -245.5 | 263.9 | 228.9 | 34.93 | 7.555 | |
| 7,600.0 | 7,600.0 | 7,617.7 | 7,606.7 | 27.2 | 8.3 | -112.17 | -97.4 | -239.1 | 258.6 | 223.2 | 35.39 | 7.307 | |
| 7,700.0 | 7,700.0 | 7,717.5 | 7,706.2 | 27.5 | 8.4 | -113.09 | -99.2 | -232.8 | 253.4 | 217.5 | 35.85 | 7.067 | |
| 7,800.0 | 7,800.0 | 7,817.3 | 7,805.8 | 27.9 | 8.5 | -114.04 | -101.0 | -226.4 | 248.2 | 211.9 | 36.31 | 6.836 | |
| 7,900.0 | 7,900.0 | 7,917.0 | 7,905.4 | 28.2 | 8.6 | -115.04 | -102.8 | -220.0 | 243.1 | 206.4 | 36.77 | 6.613 | |
| 8,000.0 | 8,000.0 | 8,016.8 | 8,004.9 | 28.6 | 8.7 | -116.08 | -104.5 | -213.6 | 238.1 | 200.9 | 37.22 | 6.397 | |
| 8,100.0 | 8,100.0 | 8,116.6 | 8,104.5 | 29.0 | 8.8 | -117.16 | -106.3 | -207.2 | 233.2 | 195.5 | 37.67 | 6.190 | |
| 8,200.0 | 8,200.0 | 8,216.4 | 8,204.0 | 29.3 | 8.9 | -118.29 | -108.1 | -200.9 | 228.4 | 190.2 | 38.12 | 5.990 | |
| 8,300.0 | 8,300.0 | 8,316.1 | 8,303.6 | 29.7 | 9.0 | -119.46 | -109.9 | -194.5 | 223.6 | 185.0 | 38.57 | 5.797 | |
| 8,400.0 | 8,400.0 | 8,415.9 | 8,403.2 | 30.0 | 9.2 | -120.69 | -111.6 | -188.1 | 219.0 | 179.9 | 39.01 | 5.612 | |
| 8,500.0 | 8,500.0 | 8,515.7 | 8,502.7 | 30.4 | 9.3 | -121.97 | -113.4 | -181.7 | 214.4 | 175.0 | 39.45 | 5.434 | |
| 8,597.0 | 8,597.0 | 8,612.5 | 8,599.3 | 30.7 | 9.4 | -123.26 | -115.1 | -175.5 | 210.1 | 170.2 | 39.88 | 5.269 | |
| 8,600.0 | 8,600.0 | 8,615.5 | 8,602.3 | 30.7 | 9.4 | -124.52 | -115.2 | -175.3 | 210.0 | 170.1 | 39.89 | 5.264 | |
| 8,639.5 | 8,639.4 | 8,654.8 | 8,641.5 | 30.9 | 9.4 | -125.47 | -115.9 | -172.8 | 209.2 | 169.1 | 40.05 | 5.222 | CC, ES |
| 8,650.0 | 8,649.9 | 8,665.3 | 8,651.9 | 30.9 | 9.4 | -125.81 | -116.1 | -172.1 | 209.2 | 169.1 | 40.10 | 5.219 | SF |
| 8,700.0 | 8,699.4 | 8,714.6 | 8,701.1 | 31.1 | 9.5 | -127.80 | -117.0 | -169.0 | 211.2 | 171.0 | 40.27 | 5.245 | |
| 8,750.0 | 8,748.2 | 8,763.0 | 8,749.5 | 31.3 | 9.5 | -130.33 | -117.8 | -165.9 | 216.3 | 175.9 | 40.42 | 5.353 | |
| 8,800.0 | 8,795.8 | 8,810.3 | 8,796.6 | 31.4 | 9.6 | -133.19 | -118.7 | -162.9 | 225.0 | 184.5 | 40.53 | 5.551 | |
| 8,850.0 | 8,841.9 | 8,855.9 | 8,842.2 | 31.6 | 9.7 | -136.13 | -119.5 | -160.0 | 237.5 | 196.9 | 40.61 | 5.849 | |
| 8,900.0 | 8,886.1 | 8,899.6 | 8,885.8 | 31.7 | 9.7 | -138.95 | -120.2 | -157.2 | 254.3 | 213.6 | 40.67 | 6.253 | |
| 8,950.0 | 8,928.1 | 8,941.1 | 8,927.2 | 31.9 | 9.8 | -141.47 | -121.0 | -154.5 | 275.3 | 234.6 | 40.70 | 6.765 | |
| 9,000.0 | 8,967.6 | 8,980.0 | 8,966.0 | 32.0 | 9.8 | -143.56 | -121.7 | -152.0 | 300.6 | 259.9 | 40.72 | 7.382 | |
| 9,050.0 | 9,004.3 | 9,016.1 | 9,002.0 | 32.2 | 9.8 | -145.12 | -122.3 | -149.7 | 330.0 | 289.3 | 40.74 | 8.100 | |
| 9,100.0 | 9,037.8 | 9,049.0 | 9,034.8 | 32.3 | 9.9 | -146.08 | -122.9 | -147.6 | 363.2 | 322.4 | 40.75 | 8.911 | |
| 9,150.0 | 9,068.1 | 9,078.5 | 9,064.2 | 32.4 | 9.9 | -146.35 | -123.4 | -145.7 | 399.7 | 359.0 | 40.76 | 9.806 | |
| 9,200.0 | 9,094.7 | 9,104.3 | 9,090.0 | 32.5 | 9.9 | -145.79 | -123.9 | -144.1 | 439.4 | 398.6 | 40.77 | 10.776 | |
| 9,250.0 | 9,117.5 | 9,126.4 | 9,112.1 | 32.6 | 10.0 | -144.16 | -124.3 | -142.7 | 481.6 | 440.8 | 40.77 | 11.811 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 706H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 11669-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,300.0 | 9,136.4 | 9,144.5 | 9,130.1 | 32.7 | 10.0 | -141.02 | -124.6 | -141.5 | 526.0 | 485.2 | 40.77 | 12.901 | |
| 9,350.0 | 9,151.2 | 9,158.4 | 9,144.0 | 32.7 | 10.0 | -135.56 | -124.8 | -140.6 | 572.2 | 531.4 | 40.76 | 14.037 | |
| 9,400.0 | 9,161.8 | 9,168.2 | 9,153.8 | 32.8 | 10.0 | -126.26 | -125.0 | -140.0 | 619.8 | 579.0 | 40.75 | 15.208 | |
| 9,450.0 | 9,168.0 | 9,173.6 | 9,159.2 | 32.9 | 10.0 | -110.66 | -125.1 | -139.6 | 668.2 | 627.5 | 40.73 | 16.404 | |
| 9,497.0 | 9,170.0 | 9,174.8 | 9,160.3 | 32.9 | 10.0 | -88.86 | -125.1 | -139.6 | 714.2 | 673.5 | 40.71 | 17.543 | |
| 9,504.0 | 9,170.0 | 9,174.7 | 9,160.2 | 32.9 | 10.0 | -88.83 | -125.1 | -139.6 | 721.1 | 680.4 | 40.71 | 17.713 | |
| 9,600.0 | 9,170.0 | 9,173.1 | 9,158.6 | 33.0 | 10.0 | -88.18 | -125.1 | -139.7 | 815.5 | 774.9 | 40.67 | 20.051 | |
| 9,700.0 | 9,170.0 | 9,171.4 | 9,157.0 | 33.1 | 10.0 | -87.50 | -125.1 | -139.8 | 914.2 | 873.6 | 40.65 | 22.493 | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 707H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 11535-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -90.83 | -8.6 | -590.3 | 590.4 | | | | |
| 100.0 | 100.0 | 91.3 | 91.3 | 3.0 | 3.0 | -90.83 | -8.6 | -590.3 | 590.4 | 584.4 | 6.00 | 98.349 | |
| 200.0 | 200.0 | 191.3 | 191.3 | 3.0 | 3.0 | -90.83 | -8.6 | -590.3 | 590.4 | 584.3 | 6.04 | 97.741 | |
| 300.0 | 300.0 | 291.3 | 291.3 | 3.1 | 3.0 | -90.83 | -8.6 | -590.3 | 590.4 | 584.2 | 6.12 | 96.461 | |
| 400.0 | 400.0 | 391.3 | 391.3 | 3.2 | 3.0 | -90.83 | -8.6 | -590.3 | 590.4 | 584.1 | 6.24 | 94.608 | |
| 500.0 | 500.0 | 491.3 | 491.3 | 3.4 | 3.1 | -90.83 | -8.6 | -590.3 | 590.4 | 584.0 | 6.40 | 92.305 | |
| 600.0 | 600.0 | 591.3 | 591.3 | 3.6 | 3.1 | -90.83 | -8.6 | -590.3 | 590.4 | 583.8 | 6.58 | 89.679 | |
| 700.0 | 700.0 | 691.3 | 691.3 | 3.8 | 3.1 | -90.83 | -8.6 | -590.3 | 590.4 | 583.6 | 6.80 | 86.849 | |
| 800.0 | 800.0 | 791.3 | 791.3 | 4.0 | 3.1 | -90.83 | -8.6 | -590.3 | 590.4 | 583.3 | 7.04 | 83.914 | |
| 900.0 | 900.0 | 891.3 | 891.3 | 4.2 | 3.2 | -90.83 | -8.6 | -590.3 | 590.4 | 583.1 | 7.29 | 80.951 | |
| 1,000.0 | 1,000.0 | 991.3 | 991.3 | 4.5 | 3.2 | -90.83 | -8.6 | -590.3 | 590.4 | 582.8 | 7.57 | 78.016 | |
| 1,100.0 | 1,100.0 | 1,091.3 | 1,091.3 | 4.8 | 3.3 | -90.83 | -8.6 | -590.3 | 590.4 | 582.5 | 7.86 | 75.151 | |
| 1,200.0 | 1,200.0 | 1,191.3 | 1,191.3 | 5.1 | 3.3 | -90.83 | -8.6 | -590.3 | 590.4 | 582.2 | 8.16 | 72.380 | |
| 1,300.0 | 1,300.0 | 1,291.3 | 1,291.3 | 5.3 | 3.4 | -90.83 | -8.6 | -590.3 | 590.4 | 581.9 | 8.47 | 69.720 | |
| 1,400.0 | 1,400.0 | 1,391.3 | 1,391.3 | 5.6 | 3.5 | -90.83 | -8.6 | -590.3 | 590.4 | 581.6 | 8.79 | 67.179 | |
| 1,500.0 | 1,500.0 | 1,491.3 | 1,491.3 | 6.0 | 3.5 | -90.83 | -8.6 | -590.3 | 590.4 | 581.2 | 9.12 | 64.761 | |
| 1,600.0 | 1,600.0 | 1,591.3 | 1,591.3 | 6.3 | 3.6 | -90.83 | -8.6 | -590.3 | 590.4 | 580.9 | 9.45 | 62.466 | |
| 1,700.0 | 1,700.0 | 1,691.3 | 1,691.3 | 6.6 | 3.7 | -90.83 | -8.6 | -590.3 | 590.4 | 580.6 | 9.79 | 60.291 | |
| 1,800.0 | 1,800.0 | 1,791.3 | 1,791.3 | 6.9 | 3.8 | -90.83 | -8.6 | -590.3 | 590.4 | 580.2 | 10.14 | 58.231 | |
| 1,900.0 | 1,900.0 | 1,891.3 | 1,891.3 | 7.2 | 3.8 | -90.83 | -8.6 | -590.3 | 590.4 | 579.9 | 10.49 | 56.281 | |
| 2,000.0 | 2,000.0 | 1,991.3 | 1,991.3 | 7.6 | 3.9 | -90.83 | -8.6 | -590.3 | 590.4 | 579.5 | 10.85 | 54.436 | |
| 2,100.0 | 2,100.0 | 2,091.3 | 2,091.3 | 7.9 | 4.0 | -90.83 | -8.6 | -590.3 | 590.4 | 579.2 | 11.20 | 52.689 | |
| 2,200.0 | 2,200.0 | 2,191.3 | 2,191.3 | 8.2 | 4.1 | -90.83 | -8.6 | -590.3 | 590.4 | 578.8 | 11.57 | 51.035 | |
| 2,300.0 | 2,300.0 | 2,291.3 | 2,291.3 | 8.6 | 4.2 | -90.83 | -8.6 | -590.3 | 590.4 | 578.4 | 11.93 | 49.469 | |
| 2,400.0 | 2,400.0 | 2,391.3 | 2,391.3 | 8.9 | 4.3 | -90.83 | -8.6 | -590.3 | 590.4 | 578.1 | 12.30 | 47.984 | |
| 2,500.0 | 2,500.0 | 2,491.3 | 2,491.3 | 9.2 | 4.4 | -90.83 | -8.6 | -590.3 | 590.4 | 577.7 | 12.68 | 46.576 | |
| 2,600.0 | 2,600.0 | 2,591.3 | 2,591.3 | 9.6 | 4.5 | -90.83 | -8.6 | -590.3 | 590.4 | 577.3 | 13.05 | 45.239 | |
| 2,700.0 | 2,700.0 | 2,691.3 | 2,691.3 | 9.9 | 4.6 | -90.83 | -8.6 | -590.3 | 590.4 | 576.9 | 13.43 | 43.969 | |
| 2,800.0 | 2,800.0 | 2,791.3 | 2,791.3 | 10.3 | 4.7 | -90.83 | -8.6 | -590.3 | 590.4 | 576.6 | 13.81 | 42.761 | |
| 2,900.0 | 2,900.0 | 2,891.3 | 2,891.3 | 10.6 | 4.8 | -90.83 | -8.6 | -590.3 | 590.4 | 576.2 | 14.19 | 41.612 | |
| 3,000.0 | 3,000.0 | 2,991.3 | 2,991.3 | 10.9 | 4.9 | -90.83 | -8.6 | -590.3 | 590.4 | 575.8 | 14.57 | 40.518 | CC |
| 3,100.0 | 3,100.0 | 3,090.7 | 3,090.7 | 11.3 | 4.9 | -90.97 | -10.0 | -590.3 | 590.4 | 575.5 | 14.96 | 39.479 | |
| 3,200.0 | 3,200.0 | 3,189.8 | 3,189.6 | 11.6 | 4.9 | -91.44 | -14.9 | -590.4 | 590.6 | 575.3 | 15.34 | 38.496 | |
| 3,300.0 | 3,300.0 | 3,289.2 | 3,288.7 | 12.0 | 4.9 | -92.18 | -22.5 | -590.5 | 591.0 | 575.2 | 15.73 | 37.568 | ES |
| 3,400.0 | 3,400.0 | 3,388.8 | 3,388.1 | 12.3 | 4.8 | -92.93 | -30.3 | -590.7 | 591.5 | 575.3 | 16.12 | 36.687 | |
| 3,500.0 | 3,500.0 | 3,488.5 | 3,487.5 | 12.7 | 4.8 | -93.69 | -38.1 | -590.8 | 592.1 | 575.5 | 16.51 | 35.850 | |
| 3,600.0 | 3,600.0 | 3,588.2 | 3,586.9 | 13.0 | 4.8 | -94.44 | -45.9 | -591.0 | 592.7 | 575.8 | 16.91 | 35.055 | |
| 3,700.0 | 3,700.0 | 3,687.9 | 3,686.3 | 13.4 | 4.7 | -95.20 | -53.7 | -591.1 | 593.5 | 576.2 | 17.31 | 34.299 | |
| 3,800.0 | 3,800.0 | 3,787.6 | 3,785.6 | 13.7 | 4.7 | -95.94 | -61.6 | -591.2 | 594.4 | 576.7 | 17.70 | 33.579 | |
| 3,900.0 | 3,900.0 | 3,887.3 | 3,885.0 | 14.1 | 4.7 | -96.69 | -69.4 | -591.4 | 595.4 | 577.3 | 18.10 | 32.894 | |
| 4,000.0 | 4,000.0 | 3,987.0 | 3,984.4 | 14.4 | 4.7 | -97.44 | -77.2 | -591.5 | 596.6 | 578.1 | 18.50 | 32.242 | |
| 4,100.0 | 4,100.0 | 4,086.7 | 4,083.8 | 14.8 | 4.7 | -98.18 | -85.0 | -591.6 | 597.8 | 578.9 | 18.90 | 31.621 | |
| 4,200.0 | 4,200.0 | 4,186.4 | 4,183.2 | 15.1 | 4.7 | -98.92 | -92.8 | -591.8 | 599.1 | 579.8 | 19.31 | 31.029 | |
| 4,300.0 | 4,300.0 | 4,286.1 | 4,282.6 | 15.5 | 4.7 | -99.65 | -100.7 | -591.9 | 600.5 | 580.8 | 19.71 | 30.464 | |
| 4,400.0 | 4,400.0 | 4,385.8 | 4,382.0 | 15.8 | 4.7 | -100.38 | -108.5 | -592.0 | 602.0 | 581.9 | 20.12 | 29.926 | |
| 4,500.0 | 4,500.0 | 4,485.5 | 4,481.3 | 16.2 | 4.7 | -101.11 | -116.3 | -592.2 | 603.6 | 583.1 | 20.52 | 29.411 | |
| 4,600.0 | 4,600.0 | 4,585.1 | 4,580.7 | 16.5 | 4.7 | -101.84 | -124.1 | -592.3 | 605.3 | 584.3 | 20.93 | 28.921 | |
| 4,700.0 | 4,700.0 | 4,684.8 | 4,680.1 | 16.9 | 4.7 | -102.56 | -131.9 | -592.5 | 607.1 | 585.7 | 21.34 | 28.452 | |
| 4,800.0 | 4,800.0 | 4,784.5 | 4,779.5 | 17.2 | 4.7 | -103.27 | -139.8 | -592.6 | 609.0 | 587.2 | 21.75 | 28.004 | |
| 4,900.0 | 4,900.0 | 4,884.2 | 4,878.9 | 17.6 | 4.7 | -103.98 | -147.6 | -592.7 | 610.9 | 588.8 | 22.16 | 27.575 | |
| 5,000.0 | 5,000.0 | 4,983.9 | 4,978.3 | 17.9 | 4.8 | -104.69 | -155.4 | -592.9 | 613.0 | 590.5 | 22.57 | 27.165 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 707H - O — **Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 11535-MWD+IFR1+FDIR — **Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,083.6 | 5,077.6 | 18.3 | 4.8 | -105.39 | -163.2 | -593.0 | 615.2 | 592.2 | 22.98 | 26.773 | |
| 5,200.0 | 5,200.0 | 5,183.3 | 5,177.0 | 18.7 | 4.8 | -106.09 | -171.1 | -593.1 | 617.5 | 594.1 | 23.39 | 26.398 | |
| 5,300.0 | 5,300.0 | 5,283.0 | 5,276.4 | 19.0 | 4.8 | -106.78 | -178.9 | -593.3 | 619.8 | 596.0 | 23.80 | 26.038 | |
| 5,400.0 | 5,400.0 | 5,382.7 | 5,375.8 | 19.4 | 4.9 | -107.46 | -186.7 | -593.4 | 622.3 | 598.1 | 24.22 | 25.693 | |
| 5,500.0 | 5,500.0 | 5,482.4 | 5,475.2 | 19.7 | 4.9 | -108.14 | -194.5 | -593.5 | 624.8 | 600.2 | 24.64 | 25.363 | |
| 5,600.0 | 5,600.0 | 5,582.1 | 5,574.6 | 20.1 | 5.0 | -108.82 | -202.3 | -593.7 | 627.4 | 602.4 | 25.05 | 25.046 | |
| 5,700.0 | 5,700.0 | 5,698.8 | 5,691.3 | 20.4 | 5.1 | -108.93 | -203.6 | -593.7 | 627.6 | 602.2 | 25.48 | 24.634 | |
| 5,800.0 | 5,800.0 | 5,798.8 | 5,791.3 | 20.8 | 5.1 | -108.93 | -203.6 | -593.7 | 627.6 | 601.8 | 25.89 | 24.243 | |
| 5,900.0 | 5,900.0 | 5,898.8 | 5,891.3 | 21.1 | 5.2 | -108.93 | -203.6 | -593.7 | 627.6 | 601.3 | 26.30 | 23.864 | |
| 6,000.0 | 6,000.0 | 5,998.8 | 5,991.3 | 21.5 | 5.2 | -108.93 | -203.6 | -593.7 | 627.6 | 600.9 | 26.71 | 23.496 | |
| 6,100.0 | 6,100.0 | 6,098.8 | 6,091.3 | 21.8 | 5.3 | -108.93 | -203.6 | -593.7 | 627.6 | 600.5 | 27.12 | 23.139 | |
| 6,200.0 | 6,200.0 | 6,198.8 | 6,191.3 | 22.2 | 5.4 | -108.93 | -203.6 | -593.7 | 627.6 | 600.1 | 27.54 | 22.792 | |
| 6,300.0 | 6,300.0 | 6,298.8 | 6,291.3 | 22.6 | 5.5 | -108.93 | -203.6 | -593.7 | 627.6 | 599.7 | 27.95 | 22.454 | |
| 6,400.0 | 6,400.0 | 6,398.8 | 6,391.3 | 22.9 | 5.6 | -108.93 | -203.6 | -593.7 | 627.6 | 599.3 | 28.37 | 22.126 | |
| 6,500.0 | 6,500.0 | 6,498.8 | 6,491.3 | 23.3 | 5.7 | -108.93 | -203.6 | -593.7 | 627.6 | 598.9 | 28.78 | 21.807 | |
| 6,600.0 | 6,600.0 | 6,598.8 | 6,591.3 | 23.6 | 5.7 | -108.93 | -203.6 | -593.7 | 627.6 | 598.4 | 29.20 | 21.497 | |
| 6,700.0 | 6,700.0 | 6,698.8 | 6,691.3 | 24.0 | 5.8 | -108.93 | -203.6 | -593.7 | 627.6 | 598.0 | 29.61 | 21.194 | |
| 6,800.0 | 6,800.0 | 6,798.8 | 6,791.3 | 24.3 | 5.9 | -108.93 | -203.6 | -593.7 | 627.6 | 597.6 | 30.03 | 20.900 | |
| 6,900.0 | 6,900.0 | 6,898.8 | 6,891.3 | 24.7 | 6.0 | -108.93 | -203.6 | -593.7 | 627.6 | 597.2 | 30.45 | 20.614 | |
| 7,000.0 | 7,000.0 | 6,998.8 | 6,991.3 | 25.0 | 6.1 | -108.93 | -203.6 | -593.7 | 627.6 | 596.8 | 30.87 | 20.335 | |
| 7,100.0 | 7,100.0 | 7,098.8 | 7,091.3 | 25.4 | 6.2 | -108.93 | -203.6 | -593.7 | 627.6 | 596.4 | 31.28 | 20.063 | |
| 7,200.0 | 7,200.0 | 7,198.8 | 7,191.3 | 25.8 | 6.3 | -108.93 | -203.6 | -593.7 | 627.6 | 595.9 | 31.70 | 19.798 | |
| 7,300.0 | 7,300.0 | 7,298.8 | 7,291.3 | 26.1 | 6.4 | -108.93 | -203.6 | -593.7 | 627.6 | 595.5 | 32.12 | 19.540 | |
| 7,400.0 | 7,400.0 | 7,398.8 | 7,391.3 | 26.5 | 6.5 | -108.93 | -203.6 | -593.7 | 627.6 | 595.1 | 32.54 | 19.288 | |
| 7,500.0 | 7,500.0 | 7,498.8 | 7,491.3 | 26.8 | 6.6 | -108.93 | -203.6 | -593.7 | 627.6 | 594.7 | 32.96 | 19.042 | |
| 7,600.0 | 7,600.0 | 7,598.8 | 7,591.3 | 27.2 | 6.7 | -108.93 | -203.6 | -593.7 | 627.6 | 594.3 | 33.38 | 18.802 | |
| 7,700.0 | 7,700.0 | 7,698.8 | 7,691.3 | 27.5 | 6.8 | -108.93 | -203.6 | -593.7 | 627.6 | 593.8 | 33.80 | 18.568 | |
| 7,800.0 | 7,800.0 | 7,798.8 | 7,791.3 | 27.9 | 6.9 | -108.93 | -203.6 | -593.7 | 627.6 | 593.4 | 34.22 | 18.340 | |
| 7,900.0 | 7,900.0 | 7,898.8 | 7,891.3 | 28.2 | 7.0 | -108.93 | -203.6 | -593.7 | 627.6 | 593.0 | 34.64 | 18.117 | |
| 8,000.0 | 8,000.0 | 7,998.8 | 7,991.3 | 28.6 | 7.1 | -108.93 | -203.6 | -593.7 | 627.6 | 592.6 | 35.07 | 17.899 | |
| 8,100.0 | 8,100.0 | 8,098.8 | 8,091.3 | 29.0 | 7.2 | -108.93 | -203.6 | -593.7 | 627.6 | 592.2 | 35.49 | 17.686 | |
| 8,200.0 | 8,200.0 | 8,198.8 | 8,191.3 | 29.3 | 7.3 | -108.93 | -203.6 | -593.7 | 627.6 | 591.7 | 35.91 | 17.478 | |
| 8,300.0 | 8,300.0 | 8,298.8 | 8,291.3 | 29.7 | 7.4 | -108.93 | -203.6 | -593.7 | 627.6 | 591.3 | 36.33 | 17.274 | |
| 8,400.0 | 8,400.0 | 8,398.8 | 8,391.3 | 30.0 | 7.6 | -108.93 | -203.6 | -593.7 | 627.6 | 590.9 | 36.76 | 17.076 | |
| 8,500.0 | 8,500.0 | 8,498.8 | 8,491.3 | 30.4 | 7.7 | -108.93 | -203.6 | -593.7 | 627.6 | 590.5 | 37.18 | 16.881 | |
| 8,597.0 | 8,597.0 | 8,595.8 | 8,588.3 | 30.7 | 7.8 | -108.93 | -203.6 | -593.7 | 627.6 | 590.0 | 37.59 | 16.696 | |
| 8,600.0 | 8,600.0 | 8,598.8 | 8,591.3 | 30.7 | 7.8 | -110.13 | -203.6 | -593.7 | 627.6 | 590.0 | 37.60 | 16.691 | |
| 8,650.0 | 8,649.9 | 8,648.8 | 8,641.2 | 30.9 | 7.8 | -110.26 | -203.6 | -593.7 | 628.5 | 590.7 | 37.82 | 16.619 | |
| 8,700.0 | 8,699.4 | 8,698.3 | 8,690.7 | 31.1 | 7.9 | -110.61 | -203.6 | -593.7 | 630.9 | 592.8 | 38.03 | 16.588 | SF |
| 8,750.0 | 8,748.2 | 8,747.0 | 8,739.5 | 31.3 | 7.9 | -111.14 | -203.6 | -593.7 | 634.9 | 596.7 | 38.25 | 16.600 | |
| 8,800.0 | 8,795.8 | 8,794.6 | 8,787.1 | 31.4 | 8.0 | -111.82 | -203.6 | -593.7 | 640.8 | 602.3 | 38.46 | 16.659 | |
| 8,850.0 | 8,841.9 | 8,840.7 | 8,833.2 | 31.6 | 8.0 | -112.57 | -203.6 | -593.7 | 648.6 | 609.9 | 38.68 | 16.769 | |
| 8,900.0 | 8,886.1 | 8,884.9 | 8,877.4 | 31.7 | 8.1 | -113.32 | -203.6 | -593.7 | 658.7 | 619.8 | 38.89 | 16.936 | |
| 8,950.0 | 8,928.1 | 8,926.9 | 8,919.4 | 31.9 | 8.1 | -113.99 | -203.6 | -593.7 | 671.2 | 632.1 | 39.10 | 17.166 | |
| 9,000.0 | 8,967.6 | 8,966.4 | 8,958.9 | 32.0 | 8.2 | -114.49 | -203.6 | -593.7 | 686.4 | 647.1 | 39.31 | 17.464 | |
| 9,050.0 | 9,004.3 | 9,003.1 | 8,995.6 | 32.2 | 8.2 | -114.73 | -203.6 | -593.7 | 704.4 | 664.9 | 39.50 | 17.833 | |
| 9,100.0 | 9,037.8 | 9,036.7 | 9,029.1 | 32.3 | 8.3 | -114.63 | -203.6 | -593.7 | 725.4 | 685.7 | 39.69 | 18.277 | |
| 9,150.0 | 9,068.1 | 9,066.9 | 9,059.4 | 32.4 | 8.3 | -114.09 | -203.6 | -593.7 | 749.3 | 709.4 | 39.86 | 18.797 | |
| 9,200.0 | 9,094.7 | 9,093.5 | 9,086.0 | 32.5 | 8.3 | -113.01 | -203.6 | -593.7 | 776.1 | 736.1 | 40.02 | 19.392 | |
| 9,250.0 | 9,117.5 | 9,116.4 | 9,108.8 | 32.6 | 8.4 | -111.29 | -203.6 | -593.7 | 805.8 | 765.6 | 40.17 | 20.061 | |
| 9,300.0 | 9,136.4 | 9,135.3 | 9,127.7 | 32.7 | 8.4 | -108.82 | -203.6 | -593.7 | 838.0 | 797.7 | 40.29 | 20.799 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 707H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-Standard Keeper 104, 11535-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9,350.0 | 9,151.2 | 9,150.0 | 9,142.5 | 32.7 | 8.4 | -105.49 | -203.6 | -593.7 | 872.6 | 832.2 | 40.40 | 21.602 | |
| 9,400.0 | 9,161.8 | 9,160.6 | 9,153.1 | 32.8 | 8.4 | -101.20 | -203.6 | -593.7 | 909.2 | 868.8 | 40.48 | 22.460 | |
| 9,450.0 | 9,168.0 | 9,166.9 | 9,159.3 | 32.9 | 8.4 | -95.89 | -203.6 | -593.7 | 947.5 | 907.0 | 40.55 | 23.367 | |
| 9,497.0 | 9,170.0 | 9,168.8 | 9,161.3 | 32.9 | 8.4 | -90.00 | -203.6 | -593.7 | 984.7 | 944.1 | 40.60 | 24.255 | |
| 9,504.0 | 9,170.0 | 9,168.8 | 9,161.3 | 32.9 | 8.4 | -90.00 | -203.6 | -593.7 | 990.4 | 949.8 | 40.61 | 24.390 | |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 708H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 3.0 | -90.84 | -9.1 | -620.3 | 620.4 | | | | |
| 100.0 | 100.0 | 91.3 | 91.3 | 3.0 | 3.0 | -90.84 | -9.1 | -620.3 | 620.4 | 614.4 | 6.00 | 103.312 | |
| 200.0 | 200.0 | 191.3 | 191.3 | 3.0 | 3.0 | -90.84 | -9.1 | -620.3 | 620.4 | 614.3 | 6.07 | 102.156 | |
| 300.0 | 300.0 | 291.3 | 291.3 | 3.1 | 3.1 | -90.84 | -9.1 | -620.3 | 620.4 | 614.1 | 6.22 | 99.677 | |
| 400.0 | 400.0 | 391.3 | 391.3 | 3.2 | 3.2 | -90.84 | -9.1 | -620.3 | 620.4 | 613.9 | 6.45 | 96.160 | |
| 500.0 | 500.0 | 491.3 | 491.3 | 3.4 | 3.4 | -90.84 | -9.1 | -620.3 | 620.4 | 613.6 | 6.75 | 91.935 | |
| 600.0 | 600.0 | 591.3 | 591.3 | 3.6 | 3.5 | -90.84 | -9.1 | -620.3 | 620.4 | 613.3 | 7.10 | 87.320 | |
| 700.0 | 700.0 | 691.3 | 691.3 | 3.8 | 3.7 | -90.84 | -9.1 | -620.3 | 620.4 | 612.9 | 7.51 | 82.574 | |
| 800.0 | 800.0 | 791.3 | 791.3 | 4.0 | 4.0 | -90.84 | -9.1 | -620.3 | 620.4 | 612.4 | 7.96 | 77.887 | |
| 900.0 | 900.0 | 891.3 | 891.3 | 4.2 | 4.2 | -90.84 | -9.1 | -620.3 | 620.4 | 611.9 | 8.45 | 73.384 | |
| 1,000.0 | 1,000.0 | 991.3 | 991.3 | 4.5 | 4.5 | -90.84 | -9.1 | -620.3 | 620.4 | 611.4 | 8.97 | 69.135 | |
| 1,100.0 | 1,100.0 | 1,091.3 | 1,091.3 | 4.8 | 4.7 | -90.84 | -9.1 | -620.3 | 620.4 | 610.8 | 9.52 | 65.175 | |
| 1,200.0 | 1,200.0 | 1,191.3 | 1,191.3 | 5.1 | 5.0 | -90.84 | -9.1 | -620.3 | 620.4 | 610.3 | 10.09 | 61.513 | |
| 1,300.0 | 1,300.0 | 1,291.3 | 1,291.3 | 5.3 | 5.3 | -90.84 | -9.1 | -620.3 | 620.4 | 609.7 | 10.67 | 58.142 | |
| 1,400.0 | 1,400.0 | 1,391.3 | 1,391.3 | 5.6 | 5.6 | -90.84 | -9.1 | -620.3 | 620.4 | 609.1 | 11.27 | 55.046 | |
| 1,500.0 | 1,500.0 | 1,491.3 | 1,491.3 | 6.0 | 5.9 | -90.84 | -9.1 | -620.3 | 620.4 | 608.5 | 11.88 | 52.206 | |
| 1,600.0 | 1,600.0 | 1,591.3 | 1,591.3 | 6.3 | 6.2 | -90.84 | -9.1 | -620.3 | 620.4 | 607.9 | 12.51 | 49.601 | |
| 1,700.0 | 1,700.0 | 1,691.3 | 1,691.3 | 6.6 | 6.6 | -90.84 | -9.1 | -620.3 | 620.4 | 607.2 | 13.14 | 47.210 | |
| 1,800.0 | 1,800.0 | 1,791.3 | 1,791.3 | 6.9 | 6.9 | -90.84 | -9.1 | -620.3 | 620.4 | 606.6 | 13.78 | 45.012 | |
| 1,900.0 | 1,900.0 | 1,891.3 | 1,891.3 | 7.2 | 7.2 | -90.84 | -9.1 | -620.3 | 620.4 | 605.9 | 14.43 | 42.988 | |
| 2,000.0 | 2,000.0 | 1,991.3 | 1,991.3 | 7.6 | 7.5 | -90.84 | -9.1 | -620.3 | 620.4 | 605.3 | 15.09 | 41.122 | |
| 2,100.0 | 2,100.0 | 2,091.3 | 2,091.3 | 7.9 | 7.9 | -90.84 | -9.1 | -620.3 | 620.4 | 604.6 | 15.75 | 39.397 | |
| 2,200.0 | 2,200.0 | 2,191.3 | 2,191.3 | 8.2 | 8.2 | -90.84 | -9.1 | -620.3 | 620.4 | 604.0 | 16.41 | 37.800 | |
| 2,300.0 | 2,300.0 | 2,291.3 | 2,291.3 | 8.6 | 8.5 | -90.84 | -9.1 | -620.3 | 620.4 | 603.3 | 17.08 | 36.319 | |
| 2,400.0 | 2,400.0 | 2,391.3 | 2,391.3 | 8.9 | 8.9 | -90.84 | -9.1 | -620.3 | 620.4 | 602.6 | 17.75 | 34.942 | |
| 2,500.0 | 2,500.0 | 2,491.3 | 2,491.3 | 9.2 | 9.2 | -90.84 | -9.1 | -620.3 | 620.4 | 601.9 | 18.43 | 33.660 | CC, ES |
| 2,600.0 | 2,600.0 | 2,575.5 | 2,575.5 | 9.6 | 9.5 | -90.87 | -9.4 | -621.3 | 621.5 | 602.5 | 19.04 | 32.639 | |
| 2,700.0 | 2,700.0 | 2,658.1 | 2,658.1 | 9.9 | 9.7 | -90.95 | -10.3 | -624.5 | 625.5 | 605.8 | 19.63 | 31.860 | |
| 2,800.0 | 2,800.0 | 2,749.3 | 2,749.0 | 10.3 | 10.0 | -91.10 | -12.1 | -630.3 | 631.8 | 611.6 | 20.25 | 31.198 | |
| 2,900.0 | 2,900.0 | 2,849.0 | 2,848.5 | 10.6 | 10.4 | -91.26 | -14.0 | -636.9 | 638.5 | 617.6 | 20.92 | 30.527 | |
| 3,000.0 | 3,000.0 | 2,948.8 | 2,948.0 | 10.9 | 10.7 | -91.42 | -16.0 | -643.6 | 645.2 | 623.6 | 21.58 | 29.892 | |
| 3,100.0 | 3,100.0 | 3,048.6 | 3,047.5 | 11.3 | 11.0 | -91.58 | -18.0 | -650.2 | 651.9 | 629.7 | 22.26 | 29.291 | |
| 3,200.0 | 3,200.0 | 3,148.3 | 3,147.1 | 11.6 | 11.4 | -91.74 | -19.9 | -656.8 | 658.6 | 635.7 | 22.93 | 28.722 | |
| 3,300.0 | 3,300.0 | 3,248.1 | 3,246.6 | 12.0 | 11.7 | -91.89 | -21.9 | -663.5 | 665.3 | 641.7 | 23.61 | 28.183 | |
| 3,400.0 | 3,400.0 | 3,347.8 | 3,346.1 | 12.3 | 12.0 | -92.04 | -23.9 | -670.1 | 672.1 | 647.8 | 24.29 | 27.671 | |
| 3,500.0 | 3,500.0 | 3,447.6 | 3,445.6 | 12.7 | 12.4 | -92.19 | -25.8 | -676.8 | 678.8 | 653.8 | 24.97 | 27.185 | |
| 3,600.0 | 3,600.0 | 3,547.3 | 3,545.1 | 13.0 | 12.7 | -92.33 | -27.8 | -683.4 | 685.5 | 659.9 | 25.65 | 26.722 | |
| 3,700.0 | 3,700.0 | 3,647.1 | 3,644.7 | 13.4 | 13.0 | -92.47 | -29.8 | -690.1 | 692.3 | 665.9 | 26.34 | 26.282 | |
| 3,800.0 | 3,800.0 | 3,746.9 | 3,744.2 | 13.7 | 13.4 | -92.61 | -31.7 | -696.7 | 699.0 | 672.0 | 27.03 | 25.863 | |
| 3,900.0 | 3,900.0 | 3,846.6 | 3,843.7 | 14.1 | 13.7 | -92.74 | -33.7 | -703.3 | 705.8 | 678.0 | 27.72 | 25.463 | |
| 4,000.0 | 4,000.0 | 3,946.4 | 3,943.2 | 14.4 | 14.1 | -92.88 | -35.7 | -710.0 | 712.5 | 684.1 | 28.41 | 25.082 | |
| 4,100.0 | 4,100.0 | 4,046.1 | 4,042.7 | 14.8 | 14.4 | -93.01 | -37.7 | -716.6 | 719.3 | 690.2 | 29.10 | 24.717 | |
| 4,200.0 | 4,200.0 | 4,145.9 | 4,142.2 | 15.1 | 14.7 | -93.14 | -39.6 | -723.3 | 726.0 | 696.2 | 29.79 | 24.369 | |
| 4,300.0 | 4,300.0 | 4,245.7 | 4,241.8 | 15.5 | 15.1 | -93.26 | -41.6 | -729.9 | 732.8 | 702.3 | 30.49 | 24.035 | |
| 4,400.0 | 4,400.0 | 4,345.4 | 4,341.3 | 15.8 | 15.4 | -93.38 | -43.6 | -736.6 | 739.5 | 708.3 | 31.18 | 23.716 | |
| 4,500.0 | 4,500.0 | 4,445.2 | 4,440.8 | 16.2 | 15.8 | -93.51 | -45.5 | -743.2 | 746.3 | 714.4 | 31.88 | 23.410 | |
| 4,600.0 | 4,600.0 | 4,544.9 | 4,540.3 | 16.5 | 16.1 | -93.62 | -47.5 | -749.8 | 753.1 | 720.5 | 32.58 | 23.116 | |
| 4,700.0 | 4,700.0 | 4,644.7 | 4,639.8 | 16.9 | 16.5 | -93.74 | -49.5 | -756.5 | 759.8 | 726.6 | 33.28 | 22.835 | |
| 4,800.0 | 4,800.0 | 4,744.4 | 4,739.3 | 17.2 | 16.8 | -93.86 | -51.4 | -763.1 | 766.6 | 732.6 | 33.98 | 22.564 | |
| 4,900.0 | 4,900.0 | 4,844.2 | 4,838.9 | 17.6 | 17.2 | -93.97 | -53.4 | -769.8 | 773.4 | 738.7 | 34.68 | 22.304 | |
| 5,000.0 | 5,000.0 | 4,944.0 | 4,938.4 | 17.9 | 17.5 | -94.08 | -55.4 | -776.4 | 780.2 | 744.8 | 35.38 | 22.053 | |

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

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **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** GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) - GIN AND TECTONIC FED COM 708H - O

**Offset Site Error:** 3.0 usft

**Survey Program:** 0-MWD+IFR1+FDIR

**Offset Well Error:** 3.0 usft

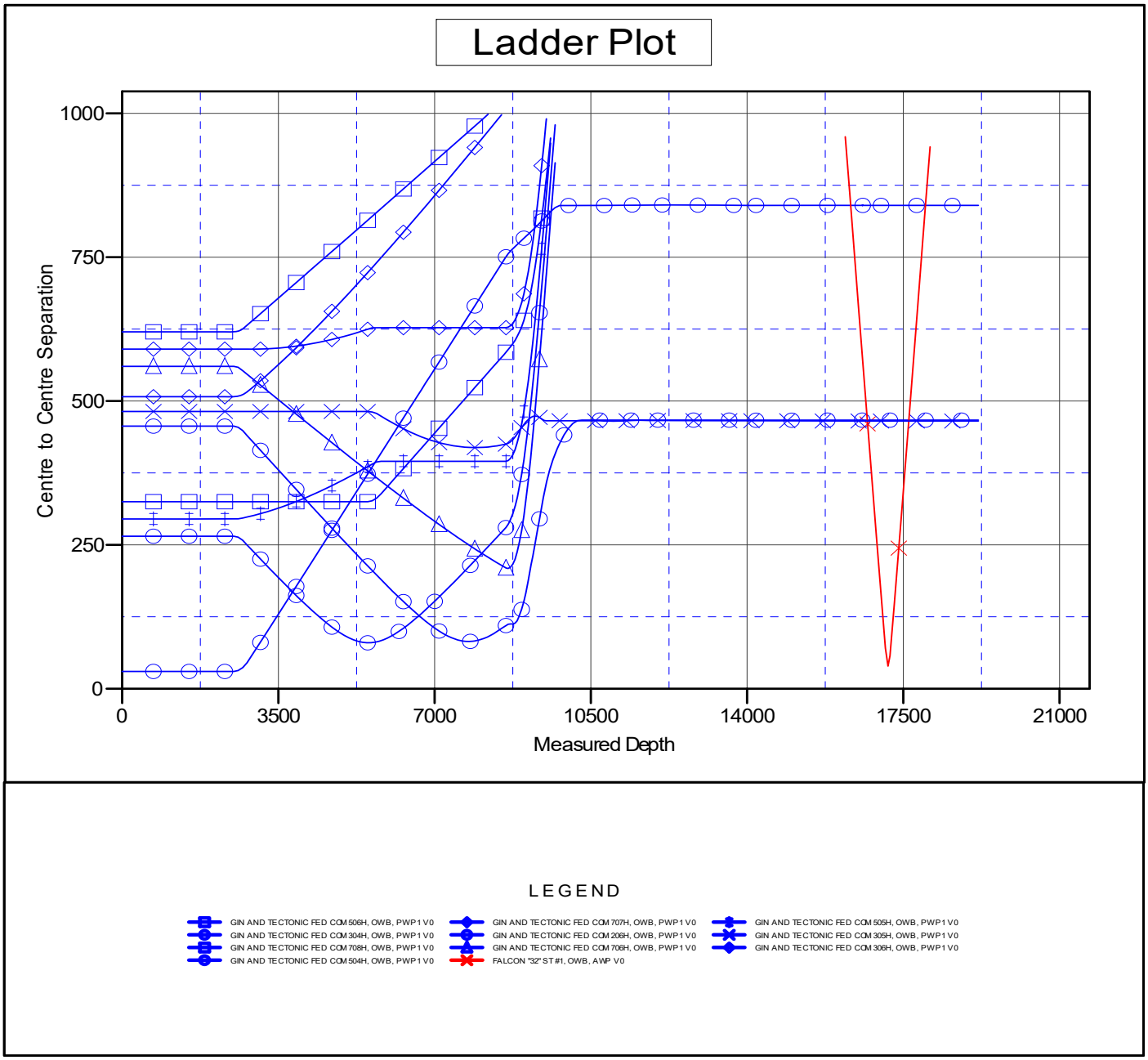
| Reference Measured Depth (usft) | Reference Vertical Depth (usft) | Offset Measured Depth (usft) | Offset Vertical Depth (usft) | Semi Major Axis Reference (usft) | Semi Major Axis Offset (usft) | Highside Toolface (°) | Offset Wellbore Centre +N/-S (usft) | Offset Wellbore Centre +E/-W (usft) | Distance Between Centres (usft) | Distance Between Ellipses (usft) | Minimum Separation (usft) | Separation Factor | Warning |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 5,100.0 | 5,100.0 | 5,043.7 | 5,037.9 | 18.3 | 17.9 | -94.19 | -57.3 | -783.0 | 787.0 | 750.9 | 36.08 | 21.812 | |
| 5,200.0 | 5,200.0 | 5,143.5 | 5,137.4 | 18.7 | 18.2 | -94.30 | -59.3 | -789.7 | 793.7 | 757.0 | 36.78 | 21.580 | |
| 5,300.0 | 5,300.0 | 5,243.2 | 5,236.9 | 19.0 | 18.6 | -94.40 | -61.3 | -796.3 | 800.5 | 763.1 | 37.48 | 21.357 | |
| 5,400.0 | 5,400.0 | 5,343.0 | 5,336.5 | 19.4 | 18.9 | -94.50 | -63.3 | -803.0 | 807.3 | 769.1 | 38.19 | 21.141 | |
| 5,500.0 | 5,500.0 | 5,442.8 | 5,436.0 | 19.7 | 19.3 | -94.61 | -65.2 | -809.6 | 814.1 | 775.2 | 38.89 | 20.933 | |
| 5,600.0 | 5,600.0 | 5,542.5 | 5,535.5 | 20.1 | 19.6 | -94.71 | -67.2 | -816.3 | 820.9 | 781.3 | 39.60 | 20.732 | |
| 5,700.0 | 5,700.0 | 5,642.3 | 5,635.0 | 20.4 | 20.0 | -94.80 | -69.2 | -822.9 | 827.7 | 787.4 | 40.30 | 20.538 | |
| 5,800.0 | 5,800.0 | 5,742.0 | 5,734.5 | 20.8 | 20.3 | -94.90 | -71.1 | -829.5 | 834.5 | 793.5 | 41.01 | 20.350 | |
| 5,900.0 | 5,900.0 | 5,841.8 | 5,834.0 | 21.1 | 20.7 | -95.00 | -73.1 | -836.2 | 841.3 | 799.6 | 41.71 | 20.169 | |
| 6,000.0 | 6,000.0 | 5,941.5 | 5,933.6 | 21.5 | 21.0 | -95.09 | -75.1 | -842.8 | 848.1 | 805.7 | 42.42 | 19.993 | |
| 6,100.0 | 6,100.0 | 6,041.3 | 6,033.1 | 21.8 | 21.4 | -95.18 | -77.0 | -849.5 | 854.9 | 811.8 | 43.13 | 19.823 | |
| 6,200.0 | 6,200.0 | 6,141.1 | 6,132.6 | 22.2 | 21.7 | -95.27 | -79.0 | -856.1 | 861.8 | 817.9 | 43.84 | 19.659 | |
| 6,300.0 | 6,300.0 | 6,240.8 | 6,232.1 | 22.6 | 22.1 | -95.36 | -81.0 | -862.8 | 868.6 | 824.0 | 44.54 | 19.499 | |
| 6,400.0 | 6,400.0 | 6,340.6 | 6,331.6 | 22.9 | 22.4 | -95.45 | -82.9 | -869.4 | 875.4 | 830.1 | 45.25 | 19.345 | |
| 6,500.0 | 6,500.0 | 6,440.3 | 6,431.1 | 23.3 | 22.8 | -95.54 | -84.9 | -876.0 | 882.2 | 836.2 | 45.96 | 19.195 | |
| 6,600.0 | 6,600.0 | 6,540.1 | 6,530.7 | 23.6 | 23.2 | -95.62 | -86.9 | -882.7 | 889.0 | 842.4 | 46.67 | 19.049 | |
| 6,700.0 | 6,700.0 | 6,639.9 | 6,630.2 | 24.0 | 23.5 | -95.71 | -88.8 | -889.3 | 895.8 | 848.5 | 47.38 | 18.908 | |
| 6,800.0 | 6,800.0 | 6,739.6 | 6,729.7 | 24.3 | 23.9 | -95.79 | -90.8 | -896.0 | 902.7 | 854.6 | 48.09 | 18.771 | |
| 6,900.0 | 6,900.0 | 6,839.4 | 6,829.2 | 24.7 | 24.2 | -95.87 | -92.8 | -902.6 | 909.5 | 860.7 | 48.80 | 18.638 | |
| 7,000.0 | 7,000.0 | 6,939.1 | 6,928.7 | 25.0 | 24.6 | -95.95 | -94.8 | -909.3 | 916.3 | 866.8 | 49.51 | 18.509 | |
| 7,100.0 | 7,100.0 | 7,038.9 | 7,028.3 | 25.4 | 24.9 | -96.03 | -96.7 | -915.9 | 923.1 | 872.9 | 50.22 | 18.383 | |
| 7,200.0 | 7,200.0 | 7,138.7 | 7,127.8 | 25.8 | 25.3 | -96.11 | -98.7 | -922.5 | 930.0 | 879.0 | 50.93 | 18.260 | |
| 7,300.0 | 7,300.0 | 7,238.4 | 7,227.3 | 26.1 | 25.6 | -96.18 | -100.7 | -929.2 | 936.8 | 885.2 | 51.64 | 18.141 | |
| 7,400.0 | 7,400.0 | 7,338.2 | 7,326.8 | 26.5 | 26.0 | -96.26 | -102.6 | -935.8 | 943.6 | 891.3 | 52.35 | 18.025 | |
| 7,500.0 | 7,500.0 | 7,437.9 | 7,426.3 | 26.8 | 26.4 | -96.33 | -104.6 | -942.5 | 950.5 | 897.4 | 53.06 | 17.913 | |
| 7,600.0 | 7,600.0 | 7,537.7 | 7,525.8 | 27.2 | 26.7 | -96.41 | -106.6 | -949.1 | 957.3 | 903.5 | 53.77 | 17.803 | |
| 7,700.0 | 7,700.0 | 7,637.4 | 7,625.4 | 27.5 | 27.1 | -96.48 | -108.5 | -955.8 | 964.2 | 909.7 | 54.49 | 17.696 | |
| 7,800.0 | 7,800.0 | 7,737.2 | 7,724.9 | 27.9 | 27.4 | -96.55 | -110.5 | -962.4 | 971.0 | 915.8 | 55.20 | 17.591 | |
| 7,900.0 | 7,900.0 | 7,837.0 | 7,824.4 | 28.2 | 27.8 | -96.62 | -112.5 | -969.0 | 977.8 | 921.9 | 55.91 | 17.490 | |
| 8,000.0 | 8,000.0 | 7,936.7 | 7,923.9 | 28.6 | 28.1 | -96.69 | -114.4 | -975.7 | 984.7 | 928.1 | 56.62 | 17.390 | |
| 8,100.0 | 8,100.0 | 8,036.5 | 8,023.4 | 29.0 | 28.5 | -96.76 | -116.4 | -982.3 | 991.5 | 934.2 | 57.33 | 17.294 | |
| 8,200.0 | 8,200.0 | 8,136.2 | 8,122.9 | 29.3 | 28.9 | -96.83 | -118.4 | -989.0 | 998.4 | 940.3 | 58.05 | 17.199 | SF |

# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 3.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | edm |
| **Reference Design:** | PWP1 | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to KB=30' @ 3623.0usft (Scandrill Ques Coordinates are relative to: GIN AND TECTONIC FED COM 205H
Offset Depths are relative to Offset Datum Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Central Meridian is 104° 20' 0.000 W Grid Convergence at Surface is: 0.34°



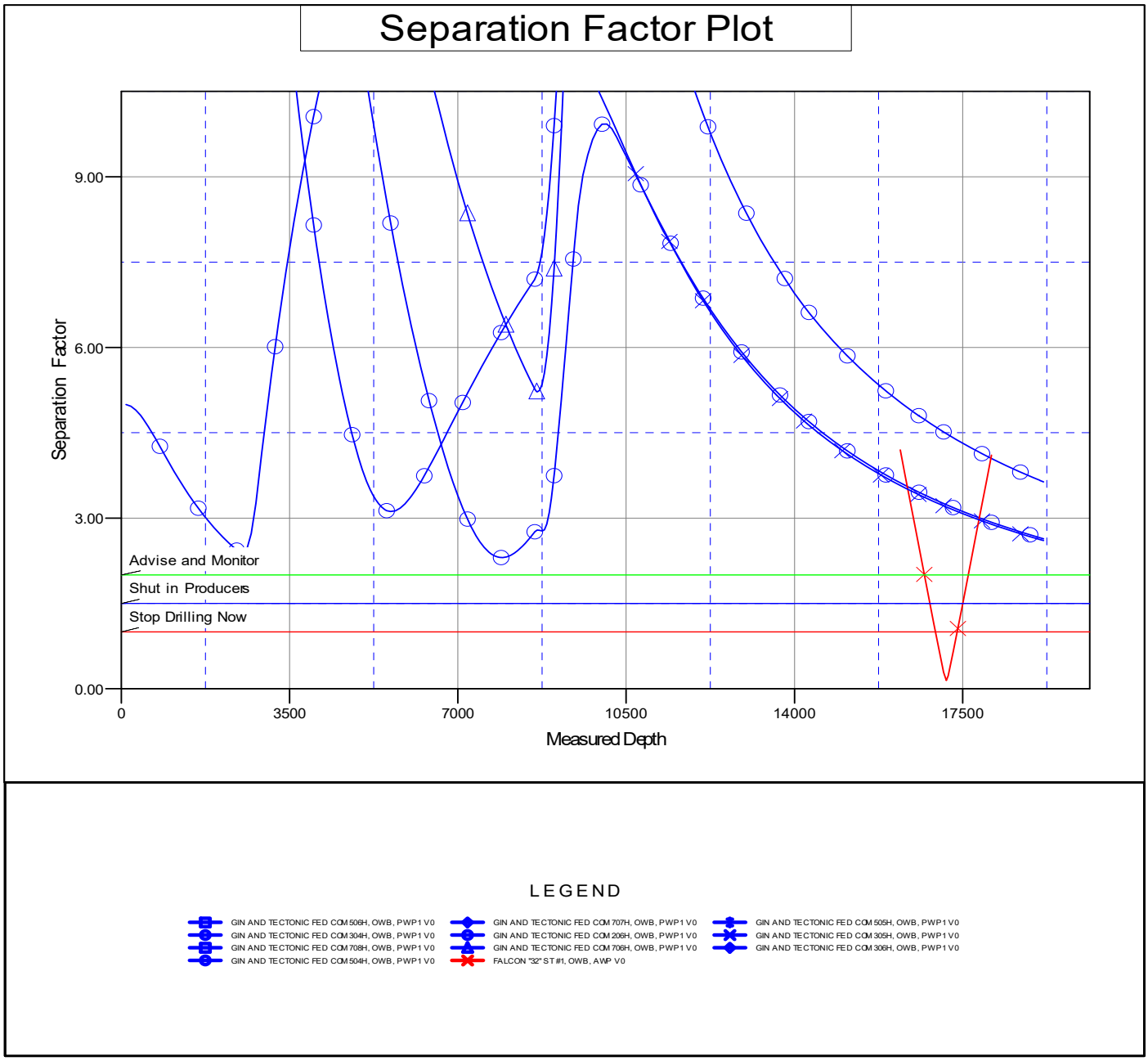
# Concho Resources LLC

## Anticollision Report

| | | | |
|---|---|---|---|
| **Company:** | DELAWARE BASIN EAST | **Local Co-ordinate Reference:** | Well GIN AND TECTONIC FED COM 205H |
| **Project:** | BULLDOG PROSPECT (NM-E) | **TVD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Reference Site:** | GIN & TECTONIC FEDERAL PROJECT (BULLDOG 2332) | **MD Reference:** | KB=30' @ 3623.0usft (Scandrill Quest) |
| **Site Error:** | 3.0 usft | **North Reference:** | Grid |
| **Reference Well:** | GIN AND TECTONIC FED COM 205H | **Survey Calculation Method:** | Minimum Curvature |
| **Well Error:** | 3.0 usft | **Output errors are at** | 2.00 sigma |
| **Reference Wellbore** | OWB | **Database:** | edm |
| **Reference Design:** | PWP1 | **Offset TVD Reference:** | Offset Datum |

Reference Depths are relative to KB=30' @ 3623.0usft (Scandrill Ques
Offset Depths are relative to Offset Datum
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: GIN AND TECTONIC FED COM 205H
Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30
Grid Convergence at Surface is: 0.34°



**PECOS DISTRICT**
**SURFACE USE**
**CONDITIONS OF APPROVAL**

| | |
|---|---|
| OPERATOR'S NAME: | COG Operating LLC |
| LEASE NO.: | Lease Number NMNM120906 |
| COUNTY: | Eddy |

**Wells:**

**Well Pad 1**

Gin & Tectonic Federal Com 701H
Surface Hole Location: 220' FSL & 970' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 330' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 702H
Surface Hole Location: 220' FSL & 1000' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1000' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 703H
Surface Hole Location: 220' FSL & 1030' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1650' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 501H
Surface Hole Location: 220' FSL & 1265' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 330' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 502H
Surface Hole Location: 220' FSL & 1295' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1254' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com503H
Surface Hole Location: 220' FSL & 1325' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 2178' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 301H
Surface Hole Location: 220' FSL & 1560' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 750' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 302H
Surface Hole Location: 220' FSL & 1590' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1590' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 303H
Surface Hole Location: 220' FSL & 1620' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 2430' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 201H
Surface Hole Location: 470' FSL & 1140' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 330' FEL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 202H
Surface Hole Location: 470' FSL & 1170' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1170' FEL, Section 32, T. 23 S, R 32 E.




**Approval Date: 12/04/2020**

Gin & Tectonic Federal Com 203H
Surface Hole Location: 470' FSL & 1200' FEL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 2010' FEL, Section 32, T. 23 S, R 32 E.

**Well Pad 2**
Gin & Tectonic Federal Com 704H
Surface Hole Location: 300' FSL & 2625' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 2320' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 705H
Surface Hole Location: 300' FSL & 2620' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 2310' FWL, Section 32, T. 23 S, R 32 E.

**Well Pad 3**
Gin & Tectonic Federal Com 708H
Surface Hole Location: 250' FSL & 970' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 330' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 707H
Surface Hole Location: 250' FSL & 1000' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1000' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 706H
Surface Hole Location: 250' FSL & 1030' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1650' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 506H
Surface Hole Location: 250' FSL & 1265' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 330' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 505H
Surface Hole Location: 250' FSL & 1295' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1254' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 504H
Surface Hole Location: 250' FSL & 1325' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 2178' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 306H
Surface Hole Location: 500' FSL & 1140' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 330' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 305H
Surface Hole Location: 500' FSL & 1170' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1170' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 304H
Surface Hole Location: 500' FSL & 1200' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 2010' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 206H
Surface Hole Location: 250' FSL & 1560' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 750' FWL, Section 32, T. 23 S, R 32 E.




**Approval Date: 12/04/2020**

Gin & Tectonic Federal Com 205H
Surface Hole Location: 250' FSL & 1590' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 1590' FWL, Section 32, T. 23 S, R 32 E.

Gin & Tectonic Federal Com 204H
Surface Hole Location: 250' FSL & 1620' FWL, Section 5, T. 24 S., R. 32 E.
Bottom Hole Location: 50' FNL & 2430' FWL, Section 32, T. 23 S, R 32 E.

**TABLE OF CONTENTS**

Standard Conditions of Approval (COA) apply to this APD. If any deviations to these standards exist or special COAs are required, the section with the deviation or requirement will be checked below.






**Approval Date: 12/04/2020**

## I. GENERAL PROVISIONS

The approval of the Application For Permit To Drill (APD) is in compliance with all applicable laws and regulations: 43 Code of Federal Regulations 3160, the lease terms, Onshore Oil and Gas Orders, Notices To Lessees, New Mexico Oil Conservation Division (NMOCD) Rules, National Historical Preservation Act As Amended, and instructions and orders of the Authorized Officer. Any request for a variance shall be submitted to the Authorized Officer on Form 3160-5, Sundry Notices and Report on Wells.

## II. PERMIT EXPIRATION

If the permit terminates prior to drilling and drilling cannot be commenced within 60 days after expiration, an operator is required to submit Form 3160-5, Sundry Notices and Reports on Wells, requesting surface reclamation requirements for any surface disturbance. However, if the operator will be able to initiate drilling within 60 days after the expiration of the permit, the operator must have set the conductor pipe in order to allow for an extension of 60 days beyond the expiration date of the APD. (Filing of a Sundry Notice is required for this 60 day extension.)

## III. ARCHAEOLOGICAL, PALEONTOLOGY & HISTORICAL SITES

Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See information below discussing NAGPRA.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

## IV. NOXIOUS WEEDS

The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes the roads, pads, associated pipeline corridor, and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

**SPECIAL REQUIREMENT(S)**

**Watershed:**
The entire well pad(s) will be bermed to prevent oil, salt, and other chemical contaminants from leaving the well pad. The compacted berm shall be constructed at a minimum of 12 inches with impermeable mineral material (e.g. caliche). Topsoil shall not be used to construct the berm. No water flow from the uphill side(s) of the pad shall be allowed to enter the well pad. The integrity of the berm shall be maintained around the surfaced pad throughout the life of the well and around the downsized pad after interim reclamation has been completed. Any water erosion that may occur due to the construction of the well pad during the life of the well will be quickly corrected and proper measures will be taken to prevent future erosion. Stockpiling of topsoil is required. The topsoil shall be stockpiled in an appropriate location to prevent loss of soil due to water or wind erosion and not used for berming or erosion control. If fluid collects within the bermed area, the fluid must be vacuumed into a safe container and disposed of properly at a state approved facility.

**TANK BATTERY:**
Tank battery locations will be lined and bermed. A 20 mil permanent liner will be installed with a 4 oz. felt backing to prevent tears or punctures. Tank battery berms must be large enough to contain 1 ½ times the content of the largest tank or 24 hour production, whichever is greater. Automatic shut off, check valves, or similar systems will be installed for tanks to minimize the effects of catastrophic line failures used in production or drilling.

**BURIED/SURFACE LINE(S):**
When crossing ephemeral drainages the pipeline(s) will be buried to a minimum depth of 48 inches from the top of pipe to ground level. Erosion control methods such as gabions and/or rock aprons should be placed on both up and downstream sides of the pipeline crossing. In addition, curled (weed free) wood/straw fiber wattles/logs and/or silt fences should be placed on the downstream side for sediment control during construction and maintained until soils and vegetation have stabilized. Water bars should be placed within the ROW to divert and dissipate surface runoff. A pipeline access road is not permitted to cross these ephemeral drainages. Traffic should be diverted to a preexisting route. Additional seeding may be required in floodplains and drainages to restore energy dissipating vegetation.

Prior to pipeline installation/construction a leak detection plan will be developed. The method(s) could incorporate gauges to detect pressure drops, situating valves and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present.

The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.

**ELECTRIC LINE(S):**
Any water erosion that may occur due to the construction of overhead electric line and during the life of the power line will be quickly corrected and proper measures will be taken to prevent future erosion. A power pole should not be placed in drainages, playas, wetlands, riparian areas, or floodplains and must span across the features at a distance away that would not promote further erosion.

**Lesser Prairie Chicken:**
**Timing Limitation Stipulation/Condition of Approval for Lesser Prairie-Chicken:**
Oil and gas activities including 3-D geophysical exploration, and drilling will not be allowed in lesser prairie-chicken habitat during the period from March 1st through June 15th annually. During that period, other activities that produce noise or involve human activity, such as the maintenance of oil and gas facilities, geophysical exploration other than 3-D operations, and pipeline, road, and well pad construction, will be allowed except between 3:00 am and 9:00 am. The 3:00 am to 9:00 am restriction will not apply to normal, around-the-clock operations, such as venting, flaring, or pumping, which do not require a human presence during this period. Additionally, no new drilling will be allowed within up to 200 meters of leks known at the time of permitting. Normal vehicle use on existing roads will not be restricted. Exhaust noise from pump jack engines must be muffled or otherwise controlled so as not to exceed 75 db measured at 30 ft. from the source of the noise.

**Timing Limitation Exceptions:**
The Carlsbad Field Office will publish an annual map of where the LPC timing and noise stipulations and conditions of approval (Limitations) will apply for the identified year (between March 1 and June 15) based on the latest survey information. The LPC Timing Area map will identify areas which are Habitat Areas (HA), Isolated Population Area (IPA), and Primary Population Area (PPA). The LPC Timing Area map will also have an area in red crosshatch. The red crosshatch area is the only area where an operator is required to submit a request for exception to the LPC Limitations. If an operator is operating outside the red crosshatch area, the LPC Limitations do not apply for that year and an exception to LPC Limitations is not required.

Ground-level Abandoned Well Marker to avoid raptor perching:
Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well. For more installation details, contact the Carlsbad Field Office at 575-234-5972.

**VRM IV:**

Above-ground structures including meter housing that are not subject to safety requirements are painted a flat non-reflective paint color, Shale Green from the BLM Standard Environmental Color Chart (CC-001: June 2008).

Short-term mitigation measures include painting all above-ground structures that are not subject to safety requirements (including meter housing) Shale Green, which is a flat non-reflective paint color listed in the BLM Standard Environmental Color Chart (CC-001: June 2013). Long-term mitigation measures include the removal of wells and associated infrastructure following abandonment (end of cost-effective production). Previously impacted areas will be reclaimed by removing structures and caliche pads, returning disturbed areas to natural grade, and revegetating with an approved BLM seed mixture; thereby eliminating visual impacts.

## V. CONSTRUCTION

### A. NOTIFICATION

The BLM shall administer compliance and monitor construction of the access road and well pad. Notify the Carlsbad Field Office at (575) 234-5909 at least 3 working days prior to commencing construction of the access road and/or well pad.

When construction operations are being conducted on this well, the operator shall have the approved APD and Conditions of Approval (COA) on the well site and they shall be made available upon request by the Authorized Officer.

### B. TOPSOIL

The operator shall strip the top portion of the soil (root zone) from the entire well pad area and stockpile the topsoil along the edge of the well pad as depicted in the APD. The root zone is typically six (6) inches in depth. All the stockpiled topsoil will be redistributed over the interim reclamation areas. Topsoil shall not be used for berming the pad or facilities. For final reclamation, the topsoil shall be spread over the entire pad area for seeding preparation.

Other subsoil (below six inches) stockpiles must be completely segregated from the topsoil stockpile. Large rocks or subsoil clods (not evident in the surrounding terrain) must be buried within the approved area for interim and final reclamation.

### C. CLOSED LOOP SYSTEM

Tanks are required for drilling operations: No Pits.

The operator shall properly dispose of drilling contents at an authorized disposal site.

### D. FEDERAL MINERAL MATERIALS PIT

Payment shall be made to the BLM prior to removal of any federal mineral materials. Call the Carlsbad Field Office at (575) 234-5972 .

### E. WELL PAD SURFACING

Surfacing of the well pad is not required.

If the operator elects to surface the well pad, the surfacing material may be required to be removed at the time of reclamation. The well pad shall be constructed in a manner which creates the smallest possible surface disturbance, consistent with safety and operational needs.

### F. EXCLOSURE FENCING (CELLARS & PITS)

**Exclosure Fencing**
The operator will install and maintain exclosure fencing for all open well cellars to prevent access to public, livestock, and large forms of wildlife before and after drilling operations until the pit is free of fluids and the operator initiates backfilling. (For examples of exclosure fencing design, refer to BLM's Oil and Gas Gold Book, Exclosure Fence Illustrations, Figure 1, Page 18.)

## G. ON LEASE ACCESS ROADS

**Road Width**
The access road shall have a driving surface that creates the smallest possible surface disturbance and does not exceed fourteen (14) feet in width. The maximum width of surface disturbance, when constructing the access road, shall not exceed twenty-five (25) feet.

**Surfacing**
Surfacing material is not required on the new access road driving surface. If the operator elects to surface the new access road or pad, the surfacing material may be required to be removed at the time of reclamation.

Where possible, no improvements should be made on the unsurfaced access road other than to remove vegetation as necessary, road irregularities, safety issues, or to fill low areas that may sustain standing water.

The Authorized Officer reserves the right to require surfacing of any portion of the access road at any time deemed necessary. Surfacing may be required in the event the road deteriorates, erodes, road traffic increases, or it is determined to be beneficial for future field development. The surfacing depth and type of material will be determined at the time of notification.

**Crowning**
Crowning shall be done on the access road driving surface. The road crown shall have a grade of approximately 2% (i.e., a 1" crown on a 14' wide road). The road shall conform to Figure 1; cross section and plans for typical road construction.

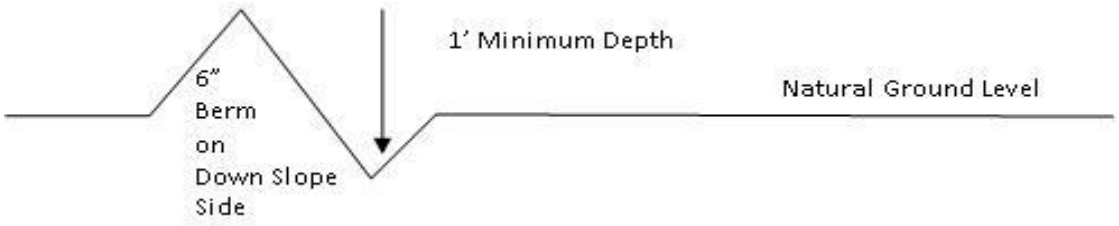
**Ditching**
Ditching shall be required on both sides of the road.

**Turnouts**
Vehicle turnouts shall be constructed on the road. Turnouts shall be intervisible with interval spacing distance less than 1000 feet. Turnouts shall conform to Figure 1; cross section and plans for typical road construction.

**Drainage**
Drainage control systems shall be constructed on the entire length of road (e.g. ditches, sidehill outsloping and insloping, lead-off ditches, culvert installation, and low water crossings).

A typical lead-off ditch has a minimum depth of 1 foot below and a berm of 6 inches above natural ground level. The berm shall be on the down-slope side of the lead-off ditch.

**Cross Section of a Typical Lead-off Ditch**







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All lead-off ditches shall be graded to drain water with a 1 percent minimum to 3 percent maximum ditch slope. The spacing interval are variable for lead-off ditches and shall be determined according to the formula for spacing intervals of lead-off ditches, but may be amended depending upon existing soil types and centerline road slope (in %);

**Formula for Spacing Interval of Lead-off Ditches**

Example - On a 4% road slope that is 400 feet long, the water flow shall drain water into a lead-off ditch. Spacing interval shall be determined by the following formula:

$$\text{400 foot road with 4\% road slope: } \frac{400'}{4\%} + 100' = 200' \text{ lead-off ditch interval}$$

**Cattle guards**
An appropriately sized cattle guard sufficient to carry out the project shall be installed and maintained at fence/road crossings. Any existing cattle guards on the access road route shall be repaired or replaced if they are damaged or have deteriorated beyond practical use. The operator shall be responsible for the condition of the existing cattle guards that are in place and are utilized during lease operations.

**Fence Requirement**
Where entry is granted across a fence line, the fence shall be braced and tied off on both sides of the passageway prior to cutting. The operator shall notify the private surface landowner or the grazing allotment holder prior to crossing any fences.

**Public Access**
Public access on this road shall not be restricted by the operator without specific written approval granted by the Authorized Officer.




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**Construction Steps**

1. Salvage topsoil
2. Construct road
3. Redistribute topsoil
4. Revegetate slopes

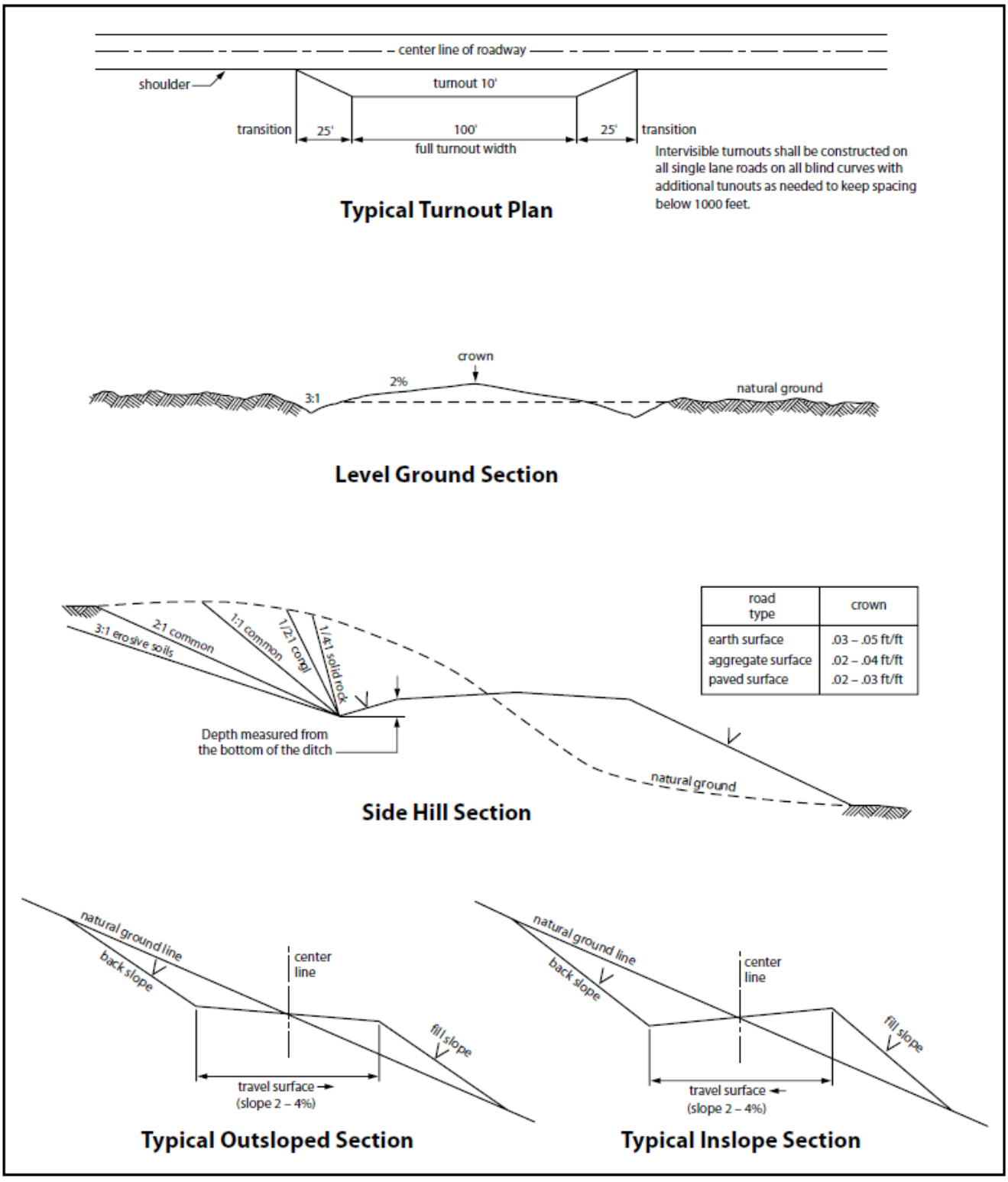


Figure 1. Cross-sections and plans for typical road sections representative of BLM resource or FS local and higher-class roads.





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## VI. PRODUCTION (POST DRILLING)

### A. WELL STRUCTURES & FACILITIES

**Placement of Production Facilities**
Production facilities should be placed on the well pad to allow for maximum interim recontouring and revegetation of the well location.

**Exclosure Netting (Open-top Tanks)**
Immediately following active drilling or completion operations, the operator will take actions necessary to prevent wildlife and livestock access, including avian wildlife, to all open-topped tanks that contain or have the potential to contain salinity sufficient to cause harm to wildlife or livestock, hydrocarbons, or Resource Conservation and Recovery Act of 1976-exempt hazardous substances. At a minimum, the operator will net, screen, or cover open-topped tanks to exclude wildlife and livestock and prevent mortality. If the operator uses netting, the operator will cover and secure the open portion of the tank to prevent wildlife entry. The operator will net, screen, or cover the tanks until the operator removes the tanks from the location or the tanks no longer contain substances that could be harmful to wildlife or livestock. Use a maximum netting mesh size of 1½ inches. The netting must not be in contact with fluids and must not have holes or gaps.

**Chemical and Fuel Secondary Containment and Exclosure Screening**
The operator will prevent all hazardous, poisonous, flammable, and toxic substances from coming into contact with soil and water. At a minimum, the operator will install and maintain an impervious secondary containment system for any tank or barrel containing hazardous, poisonous, flammable, or toxic substances sufficient to contain the contents of the tank or barrel and any drips, leaks, and anticipated precipitation. The operator will dispose of fluids within the containment system that do not meet applicable state or U. S. Environmental Protection Agency livestock water standards in accordance with state law; the operator must not drain the fluids to the soil or ground. The operator will design, construct, and maintain all secondary containment systems to prevent wildlife and livestock exposure to harmful substances. At a minimum, the operator will install effective wildlife and livestock exclosure systems such as fencing, netting, expanded metal mesh, lids, and grate covers. Use a maximum netting mesh size of 1½ inches.

**Open-Vent Exhaust Stack Exclosures**
The operator will construct, modify, equip, and maintain all open-vent exhaust stacks on production equipment to prevent birds and bats from entering, and to discourage perching, roosting, and nesting. (*Recommended exclosure structures on open-vent exhaust stacks are in the shape of a cone*.) Production equipment includes, but may not be limited to, tanks, heater-treaters, separators, dehydrators, flare stacks, in-line units, and compressor mufflers.

**Containment Structures**
Proposed production facilities such as storage tanks and other vessels will have a secondary containment structure that is constructed to hold the capacity of 1.5 times the largest tank, plus freeboard to account for precipitation, unless more stringent protective requirements are deemed necessary.

**Painting Requirement**
All above-ground structures including meter housing that are not subject to safety requirements shall be painted a flat non-reflective paint color, **Shale Green** from the BLM Standard Environmental Color Chart (CC-001: June 2008).

**B. PIPELINES**

- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, passages, or voids are intersected by trenching, and no pipe will be laid in the trench at that point until clearance has been issued by the Authorized Officer.
- If a void is encountered alignments may be rerouted to avoid the karst feature and lessen; the potential of subsidence or collapse of karst features, buildup of toxic or combustible gas, or other possible impacts to cave and karst resources from the buried pipeline.
- Special restoration stipulations or realignment may be required at such intersections, if any.
- A leak detection plan **will be submitted to the BLM Carlsbad Field Office for approval** prior to pipeline installation. The method could incorporate gauges to detect pressure drops, situating values and lines so they can be visually inspected periodically or installing electronic sensors to alarm when a leak is present. The leak detection plan will incorporate an automatic shut off system that will be installed for proposed pipelines to minimize the effects of an undesirable event.
- Regular monitoring is required to quickly identify leaks for their immediate and proper treatment.
- All spills or leaks will be reported to the BLM immediately for their immediate and proper treatment.

BURIED PIPELINE STIPULATIONS

A copy of the application (Grant, APD, or Sundry Notice) and attachments, including conditions of approval, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The Holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The Holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C.

9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C.6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. If, during any phase of the construction, operation, maintenance, or termination of the pipeline, any oil or other pollutant should be discharged from the pipeline system, impacting Federal lands, the control and total removal, disposal, and cleaning up of such oil or other pollutant, wherever found, shall be the responsibility of holder, regardless of fault. Upon failure of holder to control, dispose of, or clean up such discharge on or affecting Federal lands, or to repair all damages resulting therefrom, on the Federal lands, the Authorized Officer may take such measures as he deems necessary to control and clean up the discharge and restore the area, including where appropriate, the aquatic environment and fish and wildlife habitats, at the full expense of the holder. Such action by the Authorized Officer shall not relieve holder of any responsibility as provided herein.

5. All construction and maintenance activity will be confined to the authorized right-of-way.

6. The pipeline will be buried with a minimum cover of **36** inches between the top of the pipe and ground level.

7. The maximum allowable disturbance for construction in this right-of-way will be **30** feet:

- Blading of vegetation within the right-of-way will be allowed: maximum width of blading operations will not exceed **20** feet. The trench is included in this area. (*Blading is defined as the complete removal of brush and ground vegetation*.)

- Clearing of brush species within the right-of-way will be allowed: maximum width of clearing operations will not exceed **30** feet. The trench and bladed area are included in this area. (*Clearing is defined as the removal of brush while leaving ground vegetation (grasses, weeds, etc.) intact. Clearing is best accomplished by holding the blade 4 to 6 inches above the ground surface.*)

- The remaining area of the right-of-way (if any) shall only be disturbed by compressing the vegetation. (*Compressing can be caused by vehicle tires, placement of equipment, etc.*)

8. The holder shall stockpile an adequate amount of topsoil where blading is allowed. The topsoil to be stripped is approximately ___6___ inches in depth. The topsoil will be segregated from other spoil piles from trench construction. The topsoil will be evenly distributed over the bladed area for the preparation of seeding.

9. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting of the fence. No permanent gates will be allowed unless approved by the Authorized Officer.





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10. Vegetation, soil, and rocks left as a result of construction or maintenance activity will be randomly scattered on this right-of-way and will not be left in rows, piles, or berms, unless otherwise approved by the Authorized Officer. The entire right-of-way shall be recontoured to match the surrounding landscape. The backfilled soil shall be compacted and a 6 inch berm will be left over the ditch line to allow for settling back to grade.

11. In those areas where erosion control structures are required to stabilize soil conditions, the holder will install such structures as are suitable for the specific soil conditions being encountered and which are in accordance with sound resource management practices.

12. The holder will reseed all disturbed areas. Seeding will be done according to the attached seeding requirements, using the following seed mix.

| | |
|---|---|
| ( ) seed mixture 1 | ( ) seed mixture 3 |
| ( X ) seed mixture 2 | ( ) seed mixture 4 |
| ( ) seed mixture 2/LPC | ( ) Aplomado Falcon Mixture |

13. All above-ground structures not subject to safety requirements shall be painted by the holder to blend with the natural color of the landscape. The paint used shall be color which simulates "Standard Environmental Colors" – **Shale Green**, Munsell Soil Color No. 5Y 4/2.

14. The pipeline will be identified by signs at the point of origin and completion of the right-of-way and at all road crossings. At a minimum, signs will state the holder's name, BLM serial number, and the product being transported. All signs and information thereon will be posted in a permanent, conspicuous manner, and will be maintained in a legible condition for the life of the pipeline.

15. The holder shall not use the pipeline route as a road for purposes other than routine maintenance as determined necessary by the Authorized Officer in consultation with the holder before maintenance begins. The holder will take whatever steps are necessary to ensure that the pipeline route is not used as a roadway. As determined necessary during the life of the pipeline, the Authorized Officer may ask the holder to construct temporary deterrence structures.

16. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 17 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

17. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

18. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

19. The operator shall be held responsible if noxious weeds become established within the areas of operations. Weed control shall be required on the disturbed land where noxious weeds exist, which includes associated roads, pipeline corridor and adjacent land affected by the establishment of weeds due to this action. The operator shall consult with the Authorized Officer for acceptable weed control methods, which include following EPA and BLM requirements and policies.

20. Escape Ramps - The operator will construct and maintain pipeline/utility trenches [that are not otherwise fenced, screened, or netted] to prevent livestock, wildlife, and humans from becoming entrapped. At a minimum, the operator will construct and maintain escape ramps, ladders, or other methods of avian and terrestrial wildlife escape in the trenches according to the following criteria:

a. Any trench left open for eight (8) hours or less is not required to have escape ramps; however, before the trench is backfilled, the contractor/operator shall inspect the trench for wildlife, remove all trapped wildlife, and release them at least 100 yards from the trench.

b. For trenches left open for eight (8) hours or more, earthen escape ramps (built at no more than a 30 degree slope and spaced no more than 500 feet apart) shall be placed in the trench.

**C. ELECTRIC LINES**

- Smaller powerlines will be routed around sinkholes and other karst features to avoid or lessen the possibility of encountering near surface voids and to minimize changes to runoff or possible leaks and spills from entering karst systems. Larger powerlines will adjust their pole spacing to avoid cave and karst features.
- The BLM, Carlsbad Field Office, will be informed immediately if any subsurface drainage channels, cave passages, or voids are penetrated during construction.
- No further construction will be done until clearance has been issued by the Authorized Officer.
- Special restoration stipulations or realignment may be required.

STANDARD STIPULATIONS FOR OVERHEAD ELECTRIC DISTRIBUTION LINES

**A copy of the grant and attachments, including stipulations, survey plat and/or map, will be on location during construction. BLM personnel may request to you a copy of your permit during construction to ensure compliance with all stipulations.**

Holder agrees to comply with the following stipulations to the satisfaction of the Authorized Officer:

1. The holder shall indemnify the United States against any liability for damage to life or property arising from the occupancy or use of public lands under this grant.

2. The holder shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder shall comply with the Toxic Substances Control Act of 1976 as amended, 15 USC 2601 et seq. (1982) with regards to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation, and Liability Act, section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the authorized officer concurrent with the filing of the reports to the involved Federal agency or State government.

3. The holder agrees to indemnify the United States against any liability arising from the release of any hazardous substance or hazardous waste (as these terms are defined in the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. 9601, et seq. or the Resource Conservation and Recovery Act, 42 U.S.C. 6901, et seq.) on the Right-of-Way (unless the release or threatened release is wholly unrelated to the Right-of-Way holder's activity on the Right-of-Way), or resulting from the activity of the Right-of-Way holder on the Right-of-Way. This agreement applies without regard to whether a release is caused by the holder, its agent, or unrelated third parties.

4. There will be no clearing or blading of the right-of-way unless otherwise agreed to in writing by the Authorized Officer.

5. Power lines shall be constructed and designed in accordance to standards outlined in

"Suggested Practices for Avian Protection on Power lines: The State of the Art in 2006" Edison Electric Institute, APLIC, and the California Energy Commission 2006 . The holder shall assume the burden and expense of proving that pole designs not shown in the above publication deter raptor perching, roosting, and nesting. Such proof shall be provided by a raptor expert approved by the Authorized Officer. The BLM reserves the right to require modification or additions to all powerline structures placed on this right-of-way, should they be necessary to ensure the safety of large perching birds. Such modifications and/or additions shall be made by the holder without liability or expense to the United States.

Raptor deterrence will consist of but not limited to the following: triangle perch discouragers shall be placed on each side of the cross arms and a nonconductive perching deterrence shall be placed on all vertical poles that extend past the cross arms.

6. The holder shall minimize disturbance to existing fences and other improvements on public lands. The holder is required to promptly repair improvements to at least their former state. Functional use of these improvements will be maintained at all times. The holder will contact the owner of any improvements prior to disturbing them. When necessary to pass through a fence line, the fence shall be braced on both sides of the passageway prior to cutting the fence. No permanent gates will be allowed unless approved by the Authorized Officer.

7. The BLM serial number assigned to this authorization shall be posted in a permanent, conspicuous manner where the power line crosses roads and at all serviced facilities. Numbers will be at least two inches high and will be affixed to the pole nearest the road crossing and at the facilities served.

8. Upon cancellation, relinquishment, or expiration of this grant, the holder shall comply with those abandonment procedures as prescribed by the Authorized Officer.

9. All surface structures (poles, lines, transformers, etc.) shall be removed within 180 days of abandonment, relinquishment, or termination of use of the serviced facility or facilities or within 180 days of abandonment, relinquishment, cancellation, or expiration of this grant, whichever comes first. This will not apply where the power line extends service to an active, adjoining facility or facilities.

10. Any cultural resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

OR

If the entire project is covered under the Permian Basin Programmatic Agreement (cultural resources only):

The proponent has contributed funds commensurate to the undertaking into an account for offsite mitigation. Participation in the PA serves as mitigation for the effects of this project on cultural resources. If any human skeletal remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered at any time during construction, all construction activities shall halt and the BLM will be notified as soon as possible within 24 hours. Work shall not resume until a Notice to Proceed is issued by the BLM. See Stipulation 11 for more information.

If the proposed project is split between a Class III inventory and a Permian Basin Programmatic

Agreement contribution, the portion of the project covered under Class III inventory should default to the first paragraph stipulations.

11. The holder is hereby obligated to comply with procedures established in the Native American Graves Protection and Repatriation Act (NAGPRA) to protect such cultural items as human remains, associated funerary objects, sacred objects, and objects of cultural patrimony discovered inadvertently during the course of project implementation. In the event that any of the cultural items listed above are discovered during the course of project work, the proponent shall immediately halt the disturbance and contact the BLM within 24 hours for instructions. The proponent or initiator of any project shall be held responsible for protecting, evaluating, reporting, excavating, treating, and disposing of these cultural items according to the procedures established by the BLM in consultation with Indian Tribes."

12. Any paleontological resource (historic or prehistoric site or object) discovered by the holder, or any person working on the holder's behalf, on public or Federal land shall be immediately reported to the Authorized Officer. The holder shall suspend all operations in the immediate area of such discovery until written authorization to proceed is issued by the Authorized Officer. An evaluation of the discovery will be made by the Authorized Officer to determine appropriate actions to prevent the loss of significant cultural or scientific values. The holder will be responsible for the cost of evaluation and any decision as to the proper mitigation measures will be made by the Authorized Officer after consulting with the holder.

13. Special Stipulations:
For reclamation remove poles, lines, transformer, etc. and dispose of properly.
Fill in any holes from the poles removed.

## VII. INTERIM RECLAMATION

During the life of the development, all disturbed areas not needed for active support of production operations should undergo interim reclamation in order to minimize the environmental impacts of development on other resources and uses.

Within six (6) months of well completion, operators should work with BLM surface management specialists (Jim Amos: 575-234-5909) to devise the best strategies to reduce the size of the location. Interim reclamation should allow for remedial well operations, as well as safe and efficient removal of oil and gas.

During reclamation, the removal of caliche is important to increasing the success of revegetating the site. Removed caliche that is free of contaminants may be used for road repairs, fire walls or for building other roads and locations. In order to operate the well or complete workover operations, it may be necessary to drive, park and operate on restored interim vegetation within the previously disturbed area. Disturbing revegetated areas for production or workover operations will be allowed. If there is significant disturbance and loss of vegetation, the area will need to be revegetated. Communicate with the appropriate BLM office for any exceptions/exemptions if needed.

All disturbed areas after they have been satisfactorily prepared need to be reseeded with the seed mixture provided below.

Upon completion of interim reclamation, the operator shall submit a Sundry Notices and Reports on Wells, Subsequent Report of Reclamation (Form 3160-5).

## VIII. FINAL ABANDONMENT & RECLAMATION

At final abandonment, well locations, production facilities, and access roads must undergo "final" reclamation so that the character and productivity of the land are restored.

Earthwork for final reclamation must be completed within six (6) months of well plugging. All pads, pits, facility locations and roads must be reclaimed to a satisfactory revegetated, safe, and stable condition, unless an agreement is made with the landowner or BLM to keep the road and/or pad intact.

After all disturbed areas have been satisfactorily prepared, these areas need to be revegetated with the seed mixture provided below. Seeding should be accomplished by drilling on the contour whenever practical or by other approved methods. Seeding may need to be repeated until revegetation is successful, as determined by the BLM.

Operators shall contact a BLM surface protection specialist prior to surface abandonment operations for site specific objectives (Jim Amos: 575-234-5909).

Ground-level Abandoned Well Marker to avoid raptor perching: Upon the plugging and subsequent abandonment of the well, the well marker will be installed at ground level on a plate containing the pertinent information for the plugged well.

**Seed Mixture 2, for Sandy Sites**

The holder shall seed all disturbed areas with the seed mixture listed below. The seed mixture shall be planted in the amounts specified in pounds of pure live seed (PLS)* per acre. There shall be no primary or secondary noxious weeds in the seed mixture. Seed will be tested and the viability testing of seed will be done in accordance with State law (s) and within nine (9) months prior to purchase. Commercial seed will be either certified or registered seed. The seed container will be tagged in accordance with State law(s) and available for inspection by the authorized officer.

Seed will be planted using a drill equipped with a depth regulator to ensure proper depth of planting where drilling is possible. The seed mixture will be evenly and uniformly planted over the disturbed area (smaller/heavier seeds have a tendency to drop the bottom of the drill and are planted first). The holder shall take appropriate measures to ensure this does not occur. Where drilling is not possible, seed will be broadcast and the area shall be raked or chained to cover the seed. When broadcasting the seed, the pounds per acre are to be doubled. The seeding will be repeated until a satisfactory stand is established as determined by the authorized officer. Evaluation of growth will not be made before completion of at least one full growing season after seeding.

Species to be planted in pounds of pure live seed* per acre:

| Species | lb/acre |
|---|---|
| Sand dropseed (Sporobolus cryptandrus) | 1.0 |
| Sand love grass (Eragrostis trichodes) | 1.0 |
| Plains bristlegrass (Setaria macrostachya) | 2.0 |

*Pounds of pure live seed:

Pounds of seed **x** percent purity **x** percent germination = pounds pure live seed





**Approval Date: 12/04/2020**

# PECOS DISTRICT
# DRILLING CONDITIONS OF APPROVAL

| | |
|---|---|
| **OPERATOR'S NAME:** | **COG Operating, LLC** |
| **LEASE NO.:** | **NMNM-120906** |
| **WELL NAME & NO.:** | **Gin and Tectonic Federal Com 708H** |
| **SURFACE HOLE FOOTAGE:** | **0250' FSL & 0970' FWL** |
| **BOTTOM HOLE FOOTAGE** | **0050' FNL & 0330' FWL Sec. 32, T.23 S., R.32 E.** |
| **LOCATION:** | **Section 05, T.24 S., R.32 E., NMPM** |
| **COUNTY:** | **Lea County, New Mexico** |

COA

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

**Possible water flows in the Delaware and Bone Spring Lime.**
**Possible lost circulation in the Salado, Castile, Delaware, and Bone Spring Lime.**

## 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.





**Approval Date: 12/04/2020**

## B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **1010** 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.

3. The minimum required fill of cement behind the **5-1/2** inch production casing is:

    - Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

## C. PRESSURE CONTROL

1. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M)** psi.

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

## D. SPECIAL REQUIREMENT (S)

**Communitization Agreement**

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

# GENERAL REQUIREMENTS

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

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

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

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

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

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

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

A. CASING

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

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

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

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

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

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

B. PRESSURE CONTROL

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

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

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

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

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

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




**Approval Date: 12/04/2020**

c. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

d. The results of the test shall be reported to the appropriate BLM office.

e. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.

f. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.

g. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

**JAM 11102020**

**COG OPERATING LLC**
**HYDROGEN SULFIDE DRILLING OPERATIONS PLAN**

## 1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

## 2. $H_2S$ SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

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

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

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

g. Communication:
Company vehicles equipped with cellular telephone.

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

# W A R N I N G

**YOU ARE ENTERING AN $H_2S$ AREA**
**AUTHORIZED PERSONNEL ONLY**

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

COG OPERATING LLC

1-575-748-6940

# EMERGENCY CALL LIST

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

# EMERGENCY RESPONSE NUMBERS

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

COG Operating LLC

Rig Plat & Closed Loop Equipment Diagram

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

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

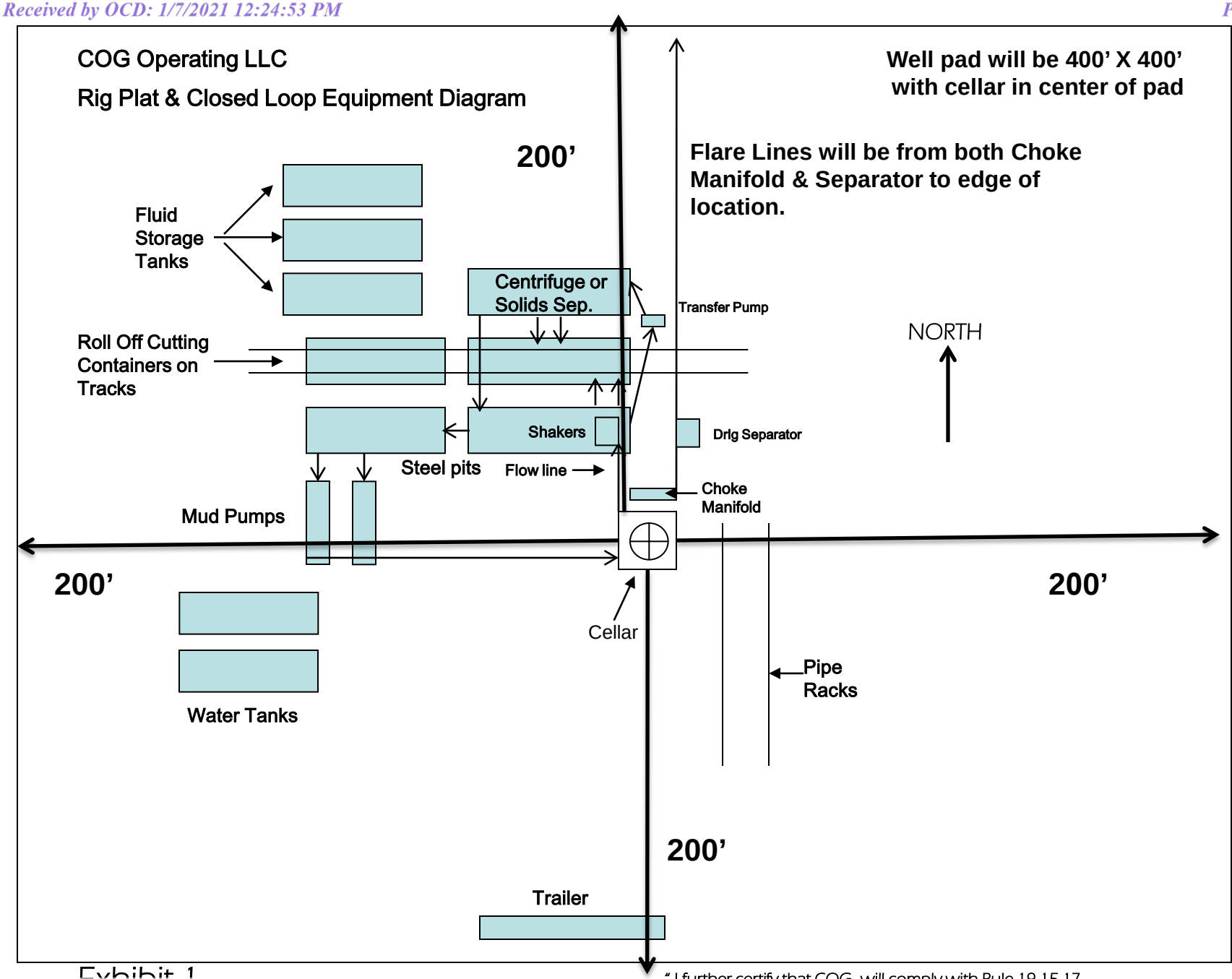


Exhibit 1

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

Intent ☐ As Drilled ☐

| API # | | |
|---|---|---|
| Operator Name: | Property Name: | Well Number |

Kick Off Point (KOP)

| UL | Section | Township | Range | Lot | Feet | From N/S | Feet | From E/W | County |
|---|---|---|---|---|---|---|---|---|---|
| Latitude | | | | | Longitude | | | | NAD |

First Take Point (FTP)

| UL | Section | Township | Range | Lot | Feet | From N/S | Feet | From E/W | County |
|---|---|---|---|---|---|---|---|---|---|
| Latitude | | | | | Longitude | | | | NAD |

Last Take Point (LTP)

| UL | Section | Township | Range | Lot | Feet | From N/S | Feet | From E/W | County |
|---|---|---|---|---|---|---|---|---|---|
| Latitude | | | | | Longitude | | | | NAD |

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

Is this well an infill well? ☐

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

| API # | | |
|---|---|---|
| Operator Name: | Property Name: | Well Number |

KZ 06/29/2018

**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 14167

## CONDITIONS OF APPROVAL

| Operator: | OGRID: | Action Number: | Action Type: |
|---|---|---|---|
| COG OPERATING LLC 600 W Illinois Ave Midland, TX79701 | 229137 | 14167 | FORM 3160-3 |

| OCD Reviewer | Condition |
|---|---|
| pkautz | Will require a File As Drilled C-102 and a Directional Survey with the C-104 |
| pkautz | Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string |