

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

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

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No.	
2. Name of Operator		9. API Well No. 30 015 48767	
3a. Address		3b. Phone No. (include area code)	
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		10. Field and Pool, or Exploratory 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)	
Title		Date	
Approved by (Signature)		Name (Printed/Typed)	
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.			

(Continued on page 2)

*(Instructions on page 2)



Approval Date: 07/20/2021

Additional Operator Remarks

Location of Well

0. SHL: SWSE / 311 FSL / 1480 FEL / TWSP: 25S / RANGE: 29E / SECTION: 28 / LAT: 32.094407 / LONG: -103.985459 (TVD: 0 feet, MD: 0 feet)

PPP: SENE / 2639 FNL / 330 FEL / TWSP: 25S / RANGE: 29E / SECTION: 28 / LAT: 32.100851 / LONG: -103.981786 (TVD: 10213 feet, MD: 12513 feet)

PPP: SESE / 311 FSL / 1480 FEL / TWSP: 25S / RANGE: 29E / SECTION: 28 / LAT: 32.094463 / LONG: -103.981745 (TVD: 10202 feet, MD: 10479 feet)

BHL: NENE / 200 FNL / 330 FEL / TWSP: 25S / RANGE: 29E / SECTION: 21 / LAT: 32.122191 / LONG: -103.981923 (TVD: 10249 feet, MD: 20486 feet)

BLM Point of Contact

Name: PAMELLA HERNANDEZ

Title: LIE

Phone: (575) 234-5954

Email: PHERANDEZ@BLM.GOV

CONFIDENTIAL

DISTRICT I
1825 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

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

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

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

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-015-	Pool Code 98220	Pool Name Purple Sage; Wolfcamp (Gas)
Property Code	Property Name ADMIRAL FEDERAL COM	Well Number 701H
OGRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 2984.5'

Surface Location

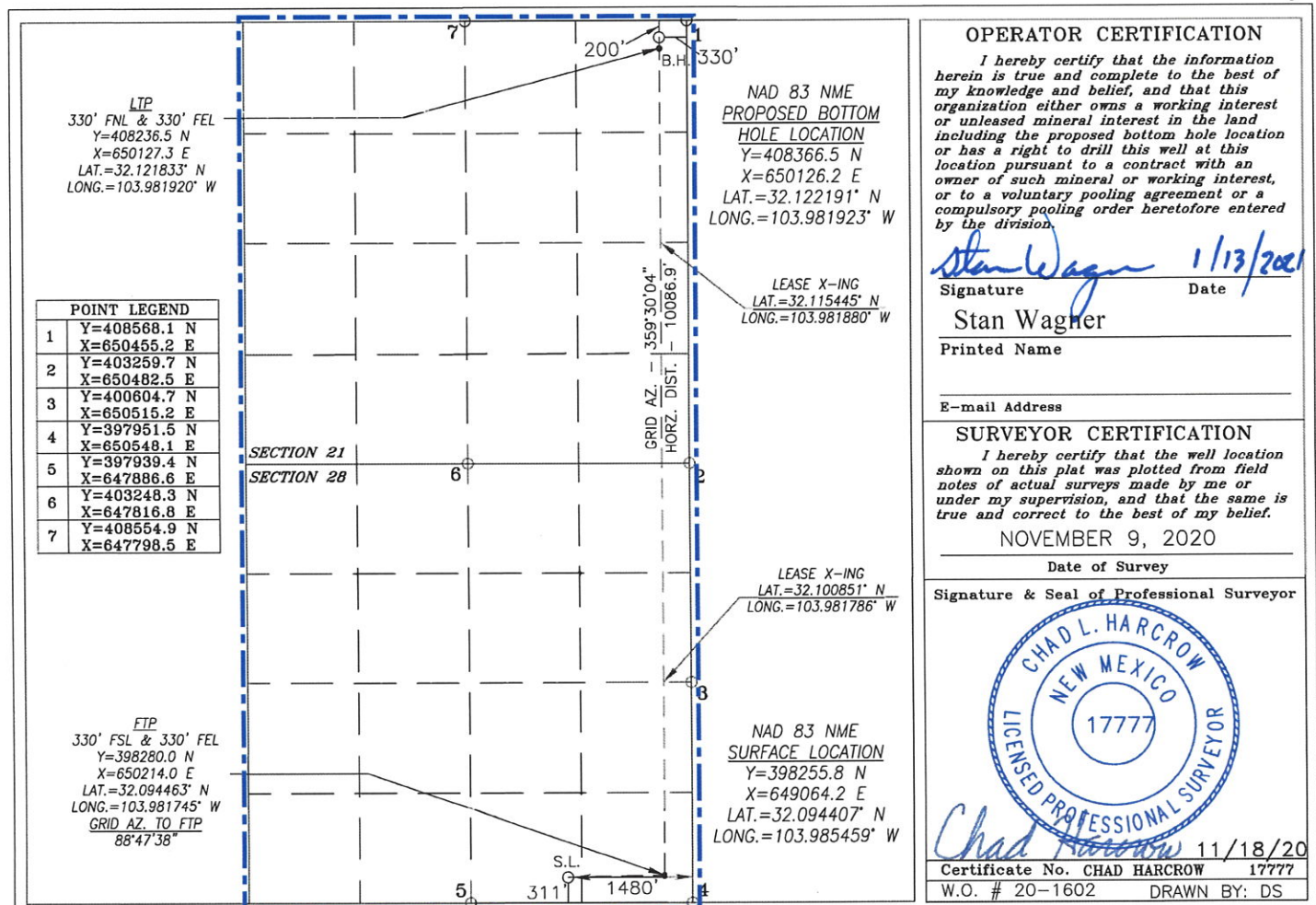
UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
0	28	25-S	29-E		311	SOUTH	1480	EAST	EDDY

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	21	25-S	29-E		200	NORTH	330	EAST	EDDY

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
1280			

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



Intent ☒ As Drilled ☐

API # 30-015		
Operator Name: COG Operating LLC	Property Name: Admiral Federal Com	Well Number 701H

Kick Off Point (KOP)

UL O	Section 28	Township 25S	Range 29E	Lot	Feet	From N/S	Feet	From E/W	County Eddy
Latitude					Longitude				NAD 83

First Take Point (FTP)

UL P	Section 28	Township 25S	Range 29E	Lot	Feet 330	From N/S South	Feet 330	From E/W East	County Eddy
Latitude 32.094463					Longitude -103.981745				NAD NAD 83

Last Take Point (LTP)

UL A	Section 21	Township 25S	Range 29E	Lot	Feet 330	From N/S North	Feet 330	From E/W East	County Eddy
Latitude 32.121833					Longitude -103.981920				NAD NAD 83

Is this well the defining well for the Horizontal Spacing Unit? ☐ NoIs this well an infill well? ☐ Yes

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

API # 30-015-		
Operator Name: COG Operating LLC	Property Name: Admiral Federal Com	Well Number 704H

KZ 06/29/2018

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

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

NATURAL GAS MANAGEMENT PLAN

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

Section 1 – Plan Description **Effective May 25, 2021**

I. Operator: COG Operating LLC

OGRID: 239137

Date: 11/30/2020

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

If Other, please describe: _____

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

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Admiral Federal Com 701H	30-015-	O-28-25S-29E	311 FSL & 1570 FEL	± 1342	± 4687	± 4046
Admiral Federal Com 704H	30-015-	N-28-25S-29E	220 FSL & 1530 FWL	± 1342	± 4687	± 4046
Admiral Federal Com 705H	30-015-	N-28-25S-29E	220 FSL & 1500 FWL	± 1342	± 4687	± 4046
Admiral Federal Com 706H	30-015-	N-28-25S-29E	220 FSL & 1470 FWL	± 1342	± 4687	± 4046
Admiral Federal Com 804H	30-015-	M-28-25S-29E	785 FSL & 860 FWL	± 780	± 8000	± 4251
Admiral Federal Com 805H	30-015-	M-28-25S-29E	785 FSL & 830 FWL	± 1283	± 8000	± 5558
Admiral Federal Com 806H	30-015-	M-28-25S-29E	785 FSL & 800 FWL	± 780	± 8000	± 4251

IV. Central Delivery Point Name: Admiral Fed Com CTB A 778 FSL & 1868 FWL 28-25S-29E [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Admiral Federal Com	Pending	± 10/1/2022	± 25 days from spud	TBD	TBD	TBD
701H, 704H, 705H, 706H, 804H, 805H, 806H						

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

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

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

Section 2 – Enhanced Plan**EFFECTIVE APRIL 1, 2022**

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

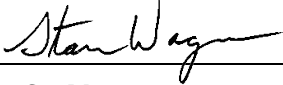
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

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

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

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

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

Signature: 
Printed Name: Stan Wagner
Title: Regulatory Advisor
E-mail Address: stan.s.wagner@conocophillips.com
Date: 07/26/2021
Phone: 432-253-9685
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

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

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

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

C. Completion Operations

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

D. Venting and flaring during production operations

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

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

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

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

F. Measurement of vented and flared natural gas.

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

VIII. Best Management Practices

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

COG Operating, LLC - Admiral Federal Com #701H

1. Geologic Formations

TVD of target	10,249' EOL	Pilot hole depth	NA
MD at TD:	20,486'	Deepest expected fresh water:	200'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	622	Water	
Top of Salt	794	Salt	
Base of Salt	2794	Salt	
Lamar	2975	Salt Water	
Bell Canyon	3019	Salt Water	
Cherry Canyon	3865	Oil/Gas	
Brushy Canyon	5145	Oil/Gas	
Bone Spring Lime	6739	Oil/Gas	
U. Avalon Shale	7053	Oil/Gas	
L. Avalon Shale	7244	Oil/Gas	
1st Bone Spring Sand	7653	Oil/Gas	
2nd Bone Spring Sand	8319	Oil/Gas	
3rd Bone Spring Sand	9580	Oil/Gas	
Wolfcamp	9939	Target Oil/Gas	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	744	10.75"	45.5	N80	BTC	7.42	1.58	30.72	32.41
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.50	1.36	2.88	2.90
8.750"	8500	9610	7.625"	29.7	HCP 110	TL-FJ	1.50	1.41	3.29	2.31
6.75"	0	9410	5.5"	23	P110	BTC	2.27	2.70	3.09	3.07
6.75"	9410	20,486	5.5"	23	P110	Talon HTQ	2.27	2.70	3.09	3.00
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.

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

COG Operating, LLC - Admiral Federal Com #701H

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

COG Operating, LLC - Admiral Federal Com #701H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft ³ / sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	260	13.5	1.75	9	12	Lead: Class C + 4% Gel
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter.	1400	11	2.8	19	48	Lead: NeoCem
	300	16.4	1.1	5	8	Tail: Class H
5.5 Prod	750	12.7	2	10.6	16	Lead: 35:65:6 H Blend
	1200	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

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

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

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
Production	8,000'	35%

COG Operating, LLC - Admiral Federal Com #701H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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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	2500 psi
			Blind Ram		3M
			Pipe Ram	x	
			Double Ram	x	
			Other*		
8 1/2"	13-5/8"	5M	5M Annular	x	2500 psi
			Blind Ram		5M
			Pipe Ram	x	
			Double Ram	x	
			Other*		

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

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

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

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

COG Operating, LLC - Admiral Federal Com #701H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.4 - 8.6	28-29	N/C
Surf csg	Int shoe	Diesel Brine Emul	8.6 - 9.4	30-40	N/C
Int shoe	Lateral TD	OBM	10.5 - 12	30-40	20

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

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

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
N	Are Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain.
N	Coring? If yes, explain.

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

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

Condition	Specify what type and where?
BH Pressure at deepest TVD	6400 psi at 10249' TVD
Abnormal Temperature	NO 160 Deg. F.

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

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

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H ₂ S is present
Y	H ₂ S Plan attached

8. Other Facets of Operation

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

x	H ₂ S Plan.
x	BOP & Choke Schematics.
x	Directional Plan
x	5M Annular Variance

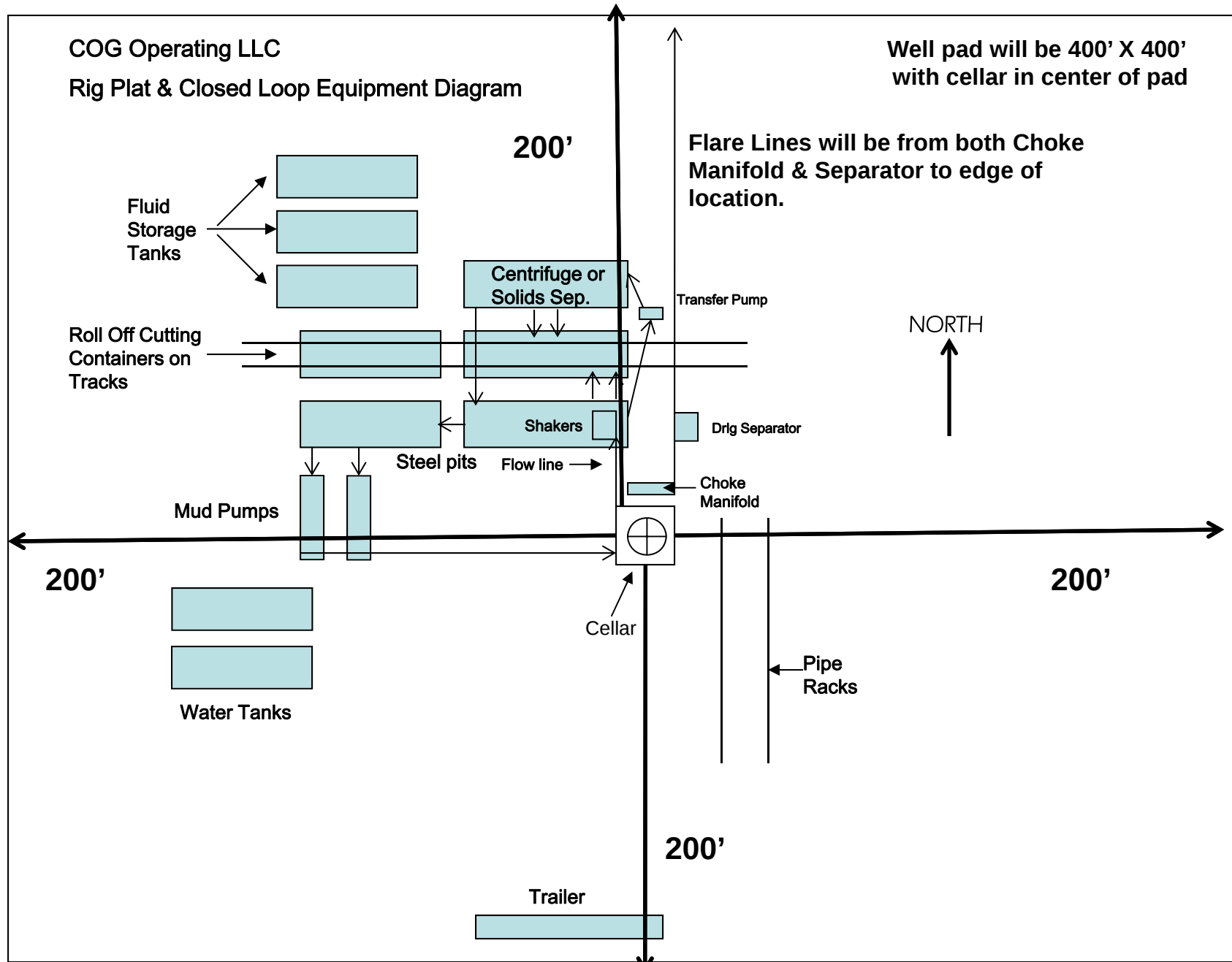


Exhibit 1

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

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-E)

ADMIRAL FEDERAL PROJECT (ATLAS 2529)

ADMIRAL FEDERAL COM #701H

OWB

PWP1

Anticollision Report

14 December, 2020

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference	PWP1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 2,000.0 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program		Date	12/14/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	9,767.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
9,767.0	20,485.8	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
ADMIRAL FEDERAL PROJECT (ATLAS 2529)						
ADMIRAL FED COM #2H - LATERAL 01 - AWP-LAT 01	302.8	305.8	512.8	506.8	85.190	CC, ES
ADMIRAL FED COM #2H - LATERAL 01 - AWP-LAT 01	20,400.0	20,131.0	1,656.8	1,399.8	6.446	SF
ADMIRAL FED COM #2H - OWB-PILOT HOLE - AWP-P	302.8	305.8	512.8	506.8	85.190	CC, ES
ADMIRAL FED COM #2H - OWB-PILOT HOLE - AWP-P	9,767.4	9,740.6	1,036.0	1,016.8	54.013	SF
ADMIRAL FEDERAL COM #801H - OWB - PWP1	2,745.1	2,748.0	29.6	22.5	4.179	CC, ES
ADMIRAL FEDERAL COM #801H - OWB - PWP1	2,790.0	2,793.1	29.7	22.6	4.168	SF
ADMIRAL FEDERAL COM #802H - OWB - PWP1	2,500.0	2,500.7	60.0	53.1	8.698	CC, ES
ADMIRAL FEDERAL COM #802H - OWB - PWP1	20,486.2	21,123.0	1,199.8	1,026.5	6.924	SF
ADMIRAL FEDERAL COM #803H - OWB - PWP1	2,416.3	2,417.4	90.0	83.2	13.155	CC
ADMIRAL FEDERAL COM #803H - OWB - PWP1	2,500.0	2,500.0	90.0	83.1	13.048	ES, SF
ADMIRAL FEDERAL COM 504H - OWB - AWP	6,603.7	6,586.9	60.1	36.1	2.506	CC, ES, SF
ADMIRAL FEDERAL COM 504H - ST01 - ST01	6,603.7	6,586.9	60.1	36.1	2.506	CC, ES, SF
ADMIRAL FEDERAL COM 504H - ST02 - ST02	6,603.7	6,586.9	60.1	36.1	2.506	CC, ES, SF
ADMIRAL FEDERAL COM 505H - OWB - AWP	8,281.1	8,239.2	347.5	309.2	9.072	CC
ADMIRAL FEDERAL COM 505H - OWB - AWP	8,300.0	8,256.4	347.5	309.2	9.053	ES
ADMIRAL FEDERAL COM 505H - OWB - AWP	8,500.0	8,461.0	353.5	314.1	8.973	SF
ADMIRAL FEDERAL COM 505H - ST01 - ST01	8,281.1	8,239.2	347.5	309.2	9.072	CC
ADMIRAL FEDERAL COM 505H - ST01 - ST01	8,300.0	8,256.4	347.5	309.2	9.053	ES
ADMIRAL FEDERAL COM 505H - ST01 - ST01	8,500.0	8,461.0	353.5	314.1	8.973	SF

Offset Design												Offset Site Error:	0.0 usft
ADMIRAL FEDERAL PROJECT (ATLAS 2529) - ADMIRAL FED COM #2H - LATERAL 01 - AWP-LAT 0												Offset Well Error:	3.0 usft
Survey Program: 100- VES GyroFlex, 9732-MWD													
Reference	Offset	Semi Major Axis		Distance		Minimum		Separation		Warning			
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	3.1	3.1	3.0	3.0	-103.90	-123.4	-498.6	513.6				
100.0	100.0	104.8	104.8	3.0	3.0	-103.89	-123.2	-498.4	513.5	507.5	6.00	85.566	
200.0	200.0	205.0	205.0	3.0	3.0	-103.88	-123.0	-498.1	513.1	507.1	6.01	85.393	
300.0	300.0	303.1	303.1	3.0	3.0	-103.85	-122.8	-497.9	512.8	506.8	6.02	85.192	
302.8	302.8	305.8	305.8	3.0	3.0	-103.85	-122.7	-497.9	512.8	506.8	6.02	85.190	CC, ES
400.0	400.0	400.0	400.0	3.0	3.0	-103.83	-122.7	-498.4	513.3	507.3	6.03	85.193	
500.0	500.0	503.1	503.1	3.1	3.0	-103.83	-122.8	-498.9	513.8	507.7	6.04	85.113	

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

Concho Resources LLC

Anticollision Report

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Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design		ADMIRAL FEDERAL PROJECT (ATLAS 2529) - ADMIRAL FED COM #2H - LATERAL 01 - AWP-LAT 0										Offset Site Error:		0.0 usft	
Survey Program:		100- VES GyroFlex, 9732-MWD										Offset Well Error:		3.0 usft	
Reference		Offset		Semi Major Axis			Distance							Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor			
17,600.0	10,236.0	17,402.1	10,272.7		64.5	124.0	-91.21	7,234.5	-518.9	1,596.1	1,407.7	188.41	8.472		
17,700.0	10,236.5	17,501.6	10,271.8		65.4	125.6	-91.16	7,334.1	-518.5	1,595.1	1,404.3	190.88	8.357		
17,800.0	10,236.9	17,629.4	10,270.0		66.2	127.7	-91.07	7,461.8	-516.8	1,593.3	1,399.6	193.75	8.224		
17,900.0	10,237.4	17,693.4	10,269.1		67.1	128.7	-91.03	7,525.8	-516.1	1,591.7	1,395.9	195.72	8.132		
17,918.6	10,237.4	17,705.5	10,269.1		67.2	128.9	-91.03	7,537.9	-516.1	1,591.6	1,395.5	196.08	8.117		
18,000.0	10,237.8	17,776.7	10,268.9		67.9	130.1	-91.01	7,609.0	-516.7	1,591.8	1,393.9	197.93	8.042		
18,100.0	10,238.3	17,850.5	10,268.5		68.7	131.3	-90.98	7,682.9	-517.7	1,592.8	1,392.8	199.96	7.966		
18,200.0	10,238.7	17,911.0	10,269.0		69.6	132.3	-90.99	7,743.3	-520.2	1,596.2	1,394.6	201.64	7.916		
18,300.0	10,239.2	18,006.0	10,269.6		70.4	133.9	-91.00	7,838.2	-524.8	1,600.6	1,396.6	204.04	7.845		
18,400.0	10,239.6	18,101.0	10,271.0		71.3	135.5	-91.03	7,933.0	-530.0	1,605.7	1,399.2	206.42	7.778		
18,500.0	10,240.1	18,210.8	10,273.9		72.1	137.3	-91.11	8,042.6	-536.4	1,611.1	1,401.9	209.14	7.703		
18,600.0	10,240.5	18,331.8	10,274.2		73.0	139.3	-91.10	8,163.5	-541.6	1,614.9	1,402.8	212.09	7.614		
18,700.0	10,241.0	18,424.3	10,272.8		73.8	140.8	-91.03	8,255.9	-545.1	1,618.1	1,403.6	214.43	7.546		
18,800.0	10,241.4	18,511.0	10,271.3		74.7	142.2	-90.96	8,342.5	-549.4	1,622.5	1,405.8	216.64	7.489		
18,900.0	10,241.9	18,625.2	10,270.1		75.5	144.1	-90.90	8,456.6	-554.6	1,626.4	1,407.0	219.45	7.411		
19,000.0	10,242.3	18,731.3	10,269.8		76.4	145.9	-90.87	8,562.6	-558.8	1,629.9	1,407.8	222.08	7.339		
19,100.0	10,242.8	18,831.2	10,270.2		77.2	147.5	-90.87	8,662.4	-562.5	1,633.1	1,408.6	224.57	7.272		
19,200.0	10,243.2	18,934.5	10,271.3		78.1	149.2	-90.89	8,765.6	-566.4	1,636.4	1,409.2	227.14	7.204		
19,300.0	10,243.7	19,078.7	10,272.3		78.9	151.6	-90.90	8,909.8	-570.1	1,638.6	1,408.2	230.45	7.110		
19,400.0	10,244.1	19,219.1	10,270.5		79.8	153.9	-90.81	9,050.1	-568.7	1,636.8	1,403.3	233.54	7.009		
19,500.0	10,244.6	19,303.6	10,271.1		80.6	155.3	-90.82	9,134.6	-567.7	1,635.1	1,399.3	235.82	6.934		
19,578.1	10,244.9	19,363.1	10,272.4		81.3	156.2	-90.86	9,194.1	-567.6	1,634.6	1,397.2	237.48	6.883		
19,600.0	10,245.0	19,378.8	10,272.8		81.5	156.5	-90.87	9,209.9	-567.7	1,634.7	1,396.8	237.92	6.871		
19,700.0	10,245.5	19,455.5	10,274.8		82.3	157.8	-90.93	9,286.4	-569.0	1,635.9	1,395.9	240.01	6.816		
19,800.0	10,245.9	19,547.6	10,277.3		83.2	159.3	-91.00	9,378.5	-571.4	1,638.0	1,395.6	242.35	6.759		
19,900.0	10,246.4	19,644.7	10,280.0		84.0	160.9	-91.08	9,475.6	-574.0	1,640.2	1,395.5	244.79	6.701		
20,000.0	10,246.8	19,728.3	10,282.0		84.9	162.3	-91.13	9,559.0	-576.9	1,643.2	1,396.3	246.95	6.654		
20,100.0	10,247.3	19,818.7	10,284.3		85.7	163.7	-91.20	9,649.4	-580.7	1,647.0	1,397.8	249.25	6.608		
20,200.0	10,247.7	19,928.6	10,287.5		86.6	165.6	-91.29	9,759.1	-585.3	1,650.8	1,398.8	251.96	6.552		
20,300.0	10,248.2	20,037.1	10,290.0		87.5	167.3	-91.35	9,867.5	-589.2	1,653.9	1,399.3	254.64	6.495		
20,400.0	10,248.6	20,131.0	10,291.0		88.3	168.9	-91.37	9,961.4	-592.4	1,656.8	1,399.8	257.01	6.446 SF		
20,486.2	10,249.0	20,131.0	10,291.0		88.9	168.9	-91.37	9,961.4	-592.4	1,661.8	1,405.0	256.82	6.471		

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

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Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 100- VES GyroFlex												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,700.0	4,689.7	4,716.9	4,714.2	5.4	4.5	153.52	-138.0	-418.2	616.9	607.4	9.50	64.938	
4,800.0	4,789.2	4,816.8	4,814.0	5.5	4.6	153.86	-138.4	-414.7	622.5	612.8	9.66	64.429	
4,900.0	4,888.7	4,917.0	4,914.2	5.5	4.6	154.18	-139.0	-411.1	628.1	618.2	9.83	63.900	
5,000.0	4,988.2	5,017.8	5,014.9	5.6	4.7	154.50	-139.6	-407.3	633.5	623.5	10.00	63.338	
5,100.0	5,087.7	5,116.4	5,113.4	5.7	4.8	154.79	-140.3	-403.6	639.0	628.8	10.18	62.784	
5,200.0	5,187.2	5,214.9	5,211.9	5.8	4.9	155.06	-141.2	-400.1	644.7	634.3	10.36	62.246	
5,300.0	5,286.7	5,314.1	5,311.0	5.9	5.0	155.33	-142.1	-396.7	650.5	640.0	10.54	61.713	
5,400.0	5,386.1	5,412.1	5,408.9	6.0	5.1	155.60	-142.9	-393.6	656.6	645.9	10.73	61.200	
5,500.0	5,485.6	5,510.6	5,507.4	6.1	5.2	155.86	-143.8	-390.6	662.9	652.0	10.92	60.705	
5,600.0	5,585.1	5,608.1	5,604.9	6.2	5.3	156.11	-144.7	-388.0	669.5	658.4	11.11	60.240	
5,700.0	5,684.6	5,706.7	5,703.4	6.3	5.4	156.38	-145.5	-385.5	676.3	665.0	11.31	59.790	
5,800.0	5,784.1	5,805.6	5,802.3	6.4	5.5	156.67	-146.0	-383.2	683.3	671.8	11.52	59.342	
5,900.0	5,883.6	5,900.4	5,897.1	6.5	5.6	156.99	-145.8	-381.5	690.8	679.0	11.72	58.946	
6,000.0	5,983.1	6,001.1	5,997.8	6.6	5.7	157.35	-145.3	-379.9	698.5	686.6	11.93	58.563	
6,100.0	6,082.6	6,100.5	6,097.1	6.7	5.8	157.70	-144.8	-378.2	706.2	694.0	12.14	58.177	
6,200.0	6,182.0	6,203.0	6,199.6	6.8	5.9	158.04	-144.4	-376.4	713.7	701.3	12.35	57.768	
6,300.0	6,281.5	6,300.0	6,296.6	6.9	6.0	158.35	-144.2	-374.6	721.3	708.7	12.57	57.374	
6,400.0	6,381.0	6,397.3	6,393.9	7.0	6.1	158.66	-143.9	-373.2	729.2	716.5	12.79	57.013	
6,500.0	6,480.5	6,496.0	6,492.6	7.1	6.2	158.96	-143.6	-371.9	737.4	724.4	13.01	56.667	
6,600.0	6,580.0	6,594.5	6,591.1	7.2	6.3	159.25	-143.4	-370.8	745.7	732.4	13.24	56.330	
6,700.0	6,679.5	6,695.6	6,692.1	7.3	6.5	159.53	-143.4	-369.6	754.0	740.5	13.47	55.991	
6,800.0	6,779.0	6,790.8	6,787.4	7.4	6.6	159.76	-143.7	-368.6	762.4	748.8	13.69	55.706	
6,900.0	6,878.5	6,891.6	6,888.2	7.5	6.7	159.97	-144.3	-367.9	771.2	757.3	13.90	55.473	
7,000.0	6,978.0	6,990.4	6,987.0	7.6	6.8	160.17	-145.1	-367.1	779.9	765.7	14.12	55.245	
7,100.0	7,077.4	7,091.4	7,088.0	7.7	6.9	160.33	-146.4	-366.2	788.5	774.2	14.32	55.061	
7,200.0	7,176.9	7,195.5	7,192.0	7.8	7.0	160.41	-148.7	-365.0	796.8	782.3	14.52	54.879	
7,300.0	7,276.4	7,291.6	7,288.1	7.9	7.1	160.44	-151.7	-363.8	805.0	790.3	14.72	54.709	
7,400.0	7,375.9	7,385.6	7,382.0	8.0	7.2	160.45	-154.7	-363.1	813.8	798.9	14.90	54.617	
7,500.0	7,475.4	7,484.3	7,480.7	8.1	7.2	160.51	-157.3	-362.9	823.1	808.0	15.08	54.591	
7,600.0	7,574.9	7,584.3	7,580.7	8.3	7.3	160.63	-158.9	-362.6	832.3	817.1	15.26	54.554	
7,700.0	7,674.4	7,684.5	7,680.8	8.4	7.4	160.74	-160.6	-362.2	841.5	826.1	15.44	54.505	
7,800.0	7,773.9	7,785.8	7,782.1	8.5	7.5	160.84	-162.6	-361.8	850.5	834.9	15.62	54.436	
7,900.0	7,873.3	7,883.9	7,880.2	8.6	7.6	160.94	-164.3	-361.3	859.5	843.7	15.82	54.347	
8,000.0	7,972.8	7,980.0	7,976.3	8.7	7.7	161.06	-165.7	-361.0	868.8	852.8	16.00	54.311	
8,100.0	8,072.3	8,076.8	8,073.1	8.8	7.7	161.24	-166.1	-361.2	878.5	862.4	16.15	54.396	
8,200.0	8,171.8	8,177.1	8,173.4	9.0	7.8	161.43	-166.4	-361.4	888.3	872.1	16.28	54.570	
8,300.0	8,271.3	8,276.8	8,273.1	9.1	7.8	161.62	-166.7	-361.6	898.1	881.6	16.42	54.699	
8,400.0	8,370.8	8,378.3	8,374.5	9.2	7.9	161.78	-167.4	-361.6	907.7	891.1	16.58	54.762	
8,500.0	8,470.3	8,481.1	8,477.4	9.3	8.0	161.90	-168.7	-361.4	917.1	900.3	16.76	54.726	
8,600.0	8,569.8	8,581.6	8,577.8	9.4	8.1	162.02	-169.9	-360.9	926.2	909.2	16.96	54.619	
8,700.0	8,669.2	8,680.0	8,676.3	9.5	8.2	162.12	-171.3	-360.5	935.3	918.1	17.16	54.518	
8,800.0	8,768.7	8,777.1	8,773.4	9.7	8.3	162.21	-173.0	-360.3	944.6	927.2	17.35	54.454	
8,900.0	8,868.2	8,876.0	8,872.3	9.8	8.4	162.29	-174.6	-360.2	954.1	936.6	17.53	54.425	
9,000.0	8,967.7	8,978.1	8,974.3	9.9	8.5	162.42	-175.6	-360.1	963.5	945.8	17.72	54.385	
9,100.0	9,067.2	9,081.6	9,077.8	10.0	8.7	162.55	-176.7	-359.5	972.6	954.7	17.92	54.263	
9,200.0	9,166.7	9,175.6	9,171.9	10.1	8.8	162.66	-177.6	-359.0	981.7	963.5	18.14	54.121	
9,300.0	9,266.2	9,272.5	9,268.8	10.3	8.9	162.77	-178.7	-359.1	991.3	973.0	18.33	54.091	
9,400.0	9,365.7	9,372.7	9,368.9	10.4	9.0	162.88	-179.7	-359.1	1,001.0	982.5	18.50	54.101	
9,500.0	9,465.2	9,472.5	9,468.7	10.5	9.1	162.98	-180.9	-359.2	1,010.6	991.9	18.68	54.095	
9,600.0	9,564.6	9,571.8	9,568.0	10.6	9.2	163.08	-182.2	-359.2	1,020.2	1,001.4	18.86	54.085	
9,700.0	9,664.1	9,674.6	9,670.8	10.8	9.3	163.18	-183.4	-359.1	1,029.8	1,010.7	19.05	54.065	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design ADMIRAL FEDERAL PROJECT (ATLAS 2529) - ADMIRAL FED COM #2H - OWB-PILOT HOLE - AWP													Offset Site Error:	0.0 usft
Survey Program: 100- VES GyroFlex													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,767.4	9,731.2	9,740.6	9,736.8	10.8	9.4	163.24		-184.2	-358.9	1,036.0	1,016.8	19.18	54.013 SF	
9,775.0	9,738.7	9,747.8	9,743.9	10.8	9.4	172.14		-184.3	-358.9	1,036.8	1,017.6	19.19	54.033	
9,800.0	9,763.6	9,771.3	9,767.5	10.8	9.4	-163.37		-184.5	-358.9	1,039.5	1,020.3	19.21	54.111	
9,825.0	9,788.3	9,794.8	9,790.9	10.8	9.4	-147.86		-184.7	-358.9	1,042.7	1,023.4	19.23	54.210	
9,850.0	9,812.9	9,820.3	9,816.5	10.9	9.5	-138.41		-184.8	-358.9	1,046.3	1,027.0	19.25	54.345	
9,875.0	9,837.3	9,846.3	9,842.5	10.9	9.5	-132.32		-185.0	-358.9	1,050.3	1,031.0	19.27	54.502	
9,900.0	9,861.3	9,872.0	9,868.2	10.9	9.5	-128.13		-185.2	-358.8	1,054.7	1,035.4	19.29	54.679	
9,925.0	9,885.0	9,897.3	9,893.5	10.9	9.6	-125.10		-185.4	-358.7	1,059.5	1,040.2	19.31	54.876	
9,950.0	9,908.3	9,920.3	9,916.4	10.9	9.6	-122.76		-185.6	-358.6	1,064.7	1,045.4	19.33	55.072	
9,975.0	9,931.1	9,942.5	9,938.7	10.9	9.6	-120.91		-185.7	-358.5	1,070.4	1,051.0	19.36	55.290	
10,000.0	9,953.3	9,964.2	9,960.4	10.9	9.7	-119.37		-185.9	-358.4	1,076.5	1,057.1	19.39	55.531	
10,025.0	9,974.9	9,985.3	9,981.5	11.0	9.7	-118.07		-186.1	-358.4	1,083.2	1,063.7	19.41	55.798	
10,050.0	9,995.8	10,005.9	10,002.1	11.0	9.7	-116.92		-186.2	-358.3	1,090.3	1,070.8	19.44	56.092	
10,075.0	10,016.0	10,026.4	10,022.5	11.0	9.7	-115.90		-186.4	-358.2	1,097.9	1,078.4	19.46	56.417	
10,100.0	10,035.4	10,046.0	10,042.2	11.0	9.8	-114.93		-186.6	-358.2	1,106.0	1,086.5	19.48	56.768	
10,125.0	10,054.0	10,064.8	10,060.9	11.1	9.8	-114.00		-186.8	-358.1	1,114.7	1,095.2	19.51	57.144	
10,150.0	10,071.7	10,082.6	10,078.8	11.1	9.8	-113.08		-186.9	-358.0	1,123.8	1,104.3	19.53	57.546	
10,175.0	10,088.4	10,099.5	10,095.7	11.1	9.8	-112.14		-187.1	-358.0	1,133.5	1,114.0	19.55	57.973	
10,200.0	10,104.2	10,117.1	10,113.2	11.1	9.9	-111.22		-187.3	-357.9	1,143.7	1,124.1	19.58	58.426	
10,225.0	10,118.9	10,133.6	10,129.8	11.2	9.9	-110.26		-187.4	-357.8	1,154.4	1,134.8	19.60	58.902	
10,250.0	10,132.6	10,149.1	10,145.3	11.2	9.9	-109.23		-187.4	-357.6	1,165.7	1,146.0	19.62	59.403	
10,275.0	10,145.1	10,163.4	10,159.6	11.2	9.9	-108.12		-187.4	-357.5	1,177.4	1,157.7	19.65	59.927	
10,300.0	10,156.5	10,176.6	10,172.7	11.3	9.9	-106.91		-187.4	-357.4	1,189.6	1,169.9	19.67	60.476	
10,325.0	10,166.8	10,188.5	10,184.6	11.3	9.9	-105.60		-187.4	-357.2	1,202.3	1,182.6	19.69	61.048	
10,350.0	10,175.8	10,199.1	10,195.3	11.4	9.9	-104.17		-187.4	-357.1	1,215.5	1,195.8	19.72	61.643	
10,375.0	10,183.6	10,206.8	10,202.9	11.4	9.9	-102.52		-187.4	-357.0	1,229.1	1,209.4	19.74	62.254	
10,400.0	10,190.2	10,213.1	10,209.3	11.4	10.0	-100.74		-187.3	-356.9	1,243.2	1,223.4	19.77	62.889	
10,425.0	10,195.5	10,218.3	10,214.5	11.5	10.0	-98.83		-187.3	-356.8	1,257.7	1,237.9	19.79	63.547	
10,450.0	10,199.5	10,222.3	10,218.4	11.5	10.0	-96.79		-187.3	-356.8	1,272.5	1,252.7	19.81	64.227	
10,475.0	10,202.3	10,225.1	10,221.2	11.6	10.0	-94.62		-187.3	-356.8	1,287.7	1,267.8	19.83	64.927	
10,500.0	10,203.7	10,226.6	10,222.8	11.6	10.0	-92.34		-187.2	-356.8	1,303.1	1,283.2	19.85	65.647	
10,513.0	10,204.0	10,227.0	10,223.1	11.6	10.0	-91.12		-187.2	-356.7	1,311.2	1,291.3	19.86	66.028	
10,600.0	10,204.3	10,228.2	10,224.3	11.8	10.0	-91.15		-187.2	-356.7	1,366.4	1,346.5	19.92	68.595	
10,700.0	10,204.8	10,229.5	10,225.6	12.1	10.0	-91.18		-187.2	-356.7	1,431.4	1,411.4	20.00	71.572	
10,800.0	10,205.3	10,230.8	10,227.0	12.4	10.0	-91.20		-187.2	-356.7	1,497.7	1,477.6	20.09	74.566	
10,900.0	10,205.7	10,232.1	10,228.2	12.9	10.0	-91.22		-187.2	-356.7	1,565.1	1,544.9	20.18	77.568	
11,000.0	10,206.2	10,233.4	10,229.5	13.3	10.0	-91.23		-187.2	-356.7	1,633.4	1,613.1	20.27	80.570	
11,100.0	10,206.6	10,234.6	10,230.8	13.8	10.0	-91.24		-187.2	-356.7	1,702.3	1,682.0	20.37	83.566	
11,200.0	10,207.1	10,235.9	10,232.0	14.4	10.0	-91.25		-187.2	-356.7	1,771.9	1,751.4	20.47	86.550	
11,300.0	10,207.6	10,237.1	10,233.2	14.9	10.0	-91.25		-187.2	-356.6	1,841.8	1,821.2	20.57	89.516	
11,400.0	10,208.0	10,238.3	10,234.4	15.5	10.0	-91.25		-187.2	-356.6	1,912.0	1,891.3	20.68	92.460	
11,500.0	10,208.5	10,239.4	10,235.6	16.1	10.0	-91.24		-187.2	-356.6	1,982.3	1,961.6	20.78	95.376	

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

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 10581-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.4	0.4	3.0	3.0	-90.38	-0.2	-30.0	30.0				
100.0	100.0	100.4	100.4	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.00	5.000	
200.0	200.0	200.4	200.4	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.00	4.998	
300.0	300.0	300.4	300.4	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.01	4.992	
400.0	400.0	400.4	400.4	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.02	4.985	
500.0	500.0	500.4	500.4	3.1	3.1	-90.38	-0.2	-30.0	30.0	24.0	6.03	4.974	
600.0	600.0	600.4	600.4	3.1	3.1	-90.38	-0.2	-30.0	30.0	24.0	6.05	4.961	
700.0	700.0	700.4	700.4	3.1	3.1	-90.38	-0.2	-30.0	30.0	23.9	6.07	4.946	
800.0	800.0	800.4	800.4	3.2	3.2	-90.38	-0.2	-30.0	30.0	23.9	6.09	4.928	
900.0	900.0	900.4	900.4	3.2	3.2	-90.38	-0.2	-30.0	30.0	23.9	6.11	4.908	
1,000.0	1,000.0	1,000.4	1,000.4	3.2	3.2	-90.38	-0.2	-30.0	30.0	23.9	6.14	4.885	
1,100.0	1,100.0	1,100.4	1,100.4	3.3	3.3	-90.38	-0.2	-30.0	30.0	23.8	6.17	4.860	
1,200.0	1,200.0	1,200.4	1,200.4	3.4	3.4	-90.38	-0.2	-30.0	30.0	23.8	6.21	4.834	
1,300.0	1,300.0	1,300.4	1,300.4	3.4	3.4	-90.38	-0.2	-30.0	30.0	23.8	6.24	4.805	
1,400.0	1,400.0	1,400.4	1,400.4	3.5	3.5	-90.38	-0.2	-30.0	30.0	23.7	6.28	4.774	
1,500.0	1,500.0	1,500.4	1,500.4	3.5	3.5	-90.38	-0.2	-30.0	30.0	23.7	6.33	4.742	
1,600.0	1,600.0	1,600.4	1,600.4	3.6	3.6	-90.38	-0.2	-30.0	30.0	23.6	6.37	4.708	
1,700.0	1,700.0	1,700.4	1,700.4	3.7	3.7	-90.38	-0.2	-30.0	30.0	23.6	6.42	4.672	
1,800.0	1,800.0	1,800.4	1,800.4	3.8	3.8	-90.38	-0.2	-30.0	30.0	23.5	6.47	4.635	
1,900.0	1,900.0	1,900.4	1,900.4	3.9	3.9	-90.38	-0.2	-30.0	30.0	23.5	6.53	4.597	
2,000.0	2,000.0	2,000.4	2,000.4	3.9	3.9	-90.38	-0.2	-30.0	30.0	23.4	6.58	4.558	
2,100.0	2,100.0	2,100.4	2,100.4	4.0	4.0	-90.38	-0.2	-30.0	30.0	23.4	6.64	4.518	
2,200.0	2,200.0	2,200.4	2,200.4	4.1	4.1	-90.38	-0.2	-30.0	30.0	23.3	6.70	4.477	
2,300.0	2,300.0	2,300.4	2,300.4	4.2	4.2	-90.38	-0.2	-30.0	30.0	23.2	6.76	4.435	
2,400.0	2,400.0	2,400.4	2,400.4	4.3	4.3	-90.38	-0.2	-30.0	30.0	23.2	6.83	4.392	
2,500.0	2,500.0	2,500.4	2,500.4	4.4	4.4	-90.38	-0.2	-30.0	30.0	23.1	6.90	4.349	
2,600.0	2,600.0	2,601.5	2,601.4	4.4	4.5	160.81	0.0	-28.2	29.9	22.9	6.97	4.288	
2,700.0	2,699.8	2,702.5	2,702.3	4.5	4.5	165.40	0.5	-22.9	29.6	22.6	7.04	4.210	
2,745.1	2,744.8	2,748.0	2,747.7	4.5	4.5	168.50	0.9	-19.3	29.6	22.5	7.08	4.179 CC, ES	
2,790.0	2,789.5	2,793.1	2,792.6	4.5	4.5	172.13	1.3	-15.2	29.7	22.6	7.14	4.168 SF	
2,800.0	2,799.5	2,803.1	2,802.5	4.5	4.5	172.96	1.4	-14.2	29.8	22.7	7.15	4.175	
2,900.0	2,898.9	2,903.0	2,902.0	4.5	4.6	-179.10	2.3	-4.8	31.2	23.9	7.30	4.274	
3,000.0	2,998.4	3,002.9	3,001.4	4.5	4.6	-171.94	3.2	4.6	33.1	25.6	7.48	4.430	
3,100.0	3,097.9	3,102.8	3,100.9	4.5	4.7	-165.65	4.2	14.0	35.5	27.8	7.65	4.636	
3,200.0	3,197.4	3,202.7	3,200.3	4.6	4.7	-160.20	5.1	23.5	38.2	30.4	7.83	4.885	
3,300.0	3,296.9	3,302.6	3,299.8	4.6	4.8	-155.51	6.1	32.9	41.3	33.3	7.99	5.167	
3,400.0	3,396.4	3,402.5	3,399.2	4.6	4.9	-151.49	7.0	42.3	44.5	36.4	8.13	5.476	
3,500.0	3,495.9	3,502.4	3,498.7	4.7	4.9	-148.04	7.9	51.7	48.0	39.7	8.27	5.803	
3,600.0	3,595.4	3,602.3	3,598.1	4.7	5.0	-145.05	8.9	61.1	51.6	43.2	8.40	6.143	
3,700.0	3,694.8	3,702.2	3,697.6	4.7	5.1	-142.47	9.8	70.6	55.4	46.8	8.53	6.491	
3,800.0	3,794.3	3,802.1	3,797.0	4.8	5.1	-140.22	10.7	80.0	59.2	50.6	8.65	6.845	
3,900.0	3,893.8	3,902.0	3,896.5	4.9	5.2	-138.24	11.7	89.4	63.1	54.3	8.77	7.200	
4,000.0	3,993.3	4,001.9	3,995.9	4.9	5.3	-136.49	12.6	98.8	67.1	58.2	8.88	7.555	
4,100.0	4,092.8	4,101.8	4,095.4	5.0	5.4	-134.95	13.6	108.3	71.1	62.1	9.00	7.908	
4,200.0	4,192.3	4,201.7	4,194.8	5.0	5.4	-133.56	14.5	117.7	75.2	66.1	9.11	8.257	
4,300.0	4,291.8	4,301.6	4,294.3	5.1	5.5	-132.33	15.4	127.1	79.3	70.1	9.22	8.602	
4,400.0	4,391.3	4,401.5	4,393.8	5.2	5.6	-131.21	16.4	136.5	83.5	74.2	9.34	8.940	
4,500.0	4,490.8	4,501.4	4,493.2	5.2	5.7	-130.20	17.3	145.9	87.7	78.2	9.46	9.272	
4,600.0	4,590.2	4,601.3	4,592.7	5.3	5.8	-129.28	18.2	155.4	91.9	82.3	9.57	9.597	
4,700.0	4,689.7	4,701.2	4,692.1	5.4	5.9	-128.45	19.2	164.8	96.1	86.4	9.70	9.915	
4,800.0	4,789.2	4,801.1	4,791.6	5.5	6.0	-127.68	20.1	174.2	100.4	90.6	9.82	10.224	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 10581-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference				Offset				Semi Major Axis				Distance	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,900.0	4,888.7	4,901.0	4,891.0	5.5	6.0	-126.98	21.0	183.6	104.6	94.7	9.94	10.525	
5,000.0	4,988.2	5,000.9	4,990.5	5.6	6.1	-126.33	22.0	193.1	108.9	98.9	10.07	10.817	
5,100.0	5,087.7	5,100.8	5,089.9	5.7	6.2	-125.73	22.9	202.5	113.2	103.0	10.20	11.101	
5,200.0	5,187.2	5,200.7	5,189.4	5.8	6.3	-125.18	23.9	211.9	117.5	107.2	10.33	11.376	
5,300.0	5,286.7	5,300.6	5,288.8	5.9	6.4	-124.66	24.8	221.3	121.8	111.4	10.46	11.642	
5,400.0	5,386.1	5,400.5	5,388.3	6.0	6.5	-124.18	25.7	230.7	126.2	115.6	10.60	11.900	
5,500.0	5,485.6	5,500.4	5,487.7	6.1	6.6	-123.73	26.7	240.2	130.5	119.8	10.74	12.149	
5,600.0	5,585.1	5,600.3	5,587.2	6.2	6.7	-123.31	27.6	249.6	134.8	123.9	10.88	12.389	
5,700.0	5,684.6	5,700.2	5,686.6	6.3	6.8	-122.92	28.5	259.0	139.2	128.2	11.03	12.621	
5,800.0	5,784.1	5,800.1	5,786.1	6.4	6.9	-122.55	29.5	268.4	143.5	132.4	11.18	12.844	
5,900.0	5,883.6	5,900.0	5,885.5	6.5	7.0	-122.20	30.4	277.8	147.9	136.6	11.33	13.059	
6,000.0	5,983.1	5,999.9	5,985.0	6.6	7.1	-121.87	31.4	287.3	152.3	140.8	11.48	13.266	
6,100.0	6,082.6	6,099.8	6,084.4	6.7	7.3	-121.56	32.3	296.7	156.6	145.0	11.63	13.464	
6,200.0	6,182.0	6,199.7	6,183.9	6.8	7.4	-121.27	33.2	306.1	161.0	149.2	11.79	13.655	
6,300.0	6,281.5	6,299.6	6,283.3	6.9	7.5	-120.99	34.2	315.5	165.4	153.4	11.95	13.839	
6,400.0	6,381.0	6,399.5	6,382.8	7.0	7.6	-120.73	35.1	325.0	169.8	157.6	12.11	14.015	
6,500.0	6,480.5	6,499.4	6,482.2	7.1	7.7	-120.48	36.0	334.4	174.1	161.9	12.28	14.183	
6,600.0	6,580.0	6,599.3	6,581.7	7.2	7.8	-120.24	37.0	343.8	178.5	166.1	12.45	14.345	
6,700.0	6,679.5	6,699.2	6,681.1	7.3	7.9	-120.01	37.9	353.2	182.9	170.3	12.62	14.500	
6,800.0	6,779.0	6,799.1	6,780.6	7.4	8.0	-119.80	38.9	362.6	187.3	174.5	12.79	14.648	
6,900.0	6,878.5	6,899.0	6,880.0	7.5	8.1	-119.59	39.8	372.1	191.7	178.7	12.96	14.790	
7,000.0	6,978.0	6,998.9	6,979.5	7.6	8.2	-119.39	40.7	381.5	196.1	183.0	13.14	14.925	
7,100.0	7,077.4	7,098.8	7,078.9	7.7	8.4	-119.21	41.7	390.9	200.5	187.2	13.32	15.054	
7,200.0	7,176.9	7,198.7	7,178.4	7.8	8.5	-119.03	42.6	400.3	204.9	191.4	13.50	15.177	
7,300.0	7,276.4	7,298.6	7,277.8	7.9	8.6	-118.85	43.5	409.8	209.3	195.6	13.68	15.295	
7,400.0	7,375.9	7,398.5	7,377.3	8.0	8.7	-118.69	44.5	419.2	213.7	199.8	13.87	15.407	
7,500.0	7,475.4	7,498.4	7,476.7	8.1	8.8	-118.53	45.4	428.6	218.1	204.1	14.06	15.514	
7,600.0	7,574.9	7,598.3	7,576.2	8.3	8.9	-118.38	46.4	438.0	222.5	208.3	14.25	15.616	
7,700.0	7,674.4	7,698.2	7,675.6	8.4	9.0	-118.23	47.3	447.4	226.9	212.5	14.44	15.713	
7,800.0	7,773.9	7,798.1	7,775.1	8.5	9.2	-118.09	48.2	456.9	231.4	216.7	14.64	15.805	
7,900.0	7,873.3	7,898.0	7,874.5	8.6	9.3	-117.96	49.2	466.3	235.8	220.9	14.84	15.892	
8,000.0	7,972.8	7,997.9	7,974.0	8.7	9.4	-117.82	50.1	475.7	240.2	225.1	15.03	15.975	
8,100.0	8,072.3	8,097.8	8,073.5	8.8	9.5	-117.70	51.0	485.1	244.6	229.4	15.24	16.053	
8,200.0	8,171.8	8,197.7	8,172.9	9.0	9.6	-117.58	52.0	494.6	249.0	233.6	15.44	16.128	
8,300.0	8,271.3	8,297.6	8,272.4	9.1	9.7	-117.46	52.9	504.0	253.4	237.8	15.65	16.198	
8,400.0	8,370.8	8,397.5	8,371.8	9.2	9.9	-117.35	53.9	513.4	257.9	242.0	15.85	16.265	
8,500.0	8,470.3	8,497.4	8,471.3	9.3	10.0	-117.24	54.8	522.8	262.3	246.2	16.06	16.328	
8,600.0	8,569.8	8,597.3	8,570.7	9.4	10.1	-117.13	55.7	532.2	266.7	250.4	16.27	16.387	
8,700.0	8,669.2	8,697.2	8,670.2	9.5	10.2	-117.03	56.7	541.7	271.1	254.6	16.49	16.443	
8,800.0	8,768.7	8,797.1	8,769.6	9.7	10.3	-116.93	57.6	551.1	275.5	258.8	16.70	16.496	
8,900.0	8,868.2	8,897.0	8,869.1	9.8	10.5	-116.84	58.5	560.5	280.0	263.0	16.92	16.546	
9,000.0	8,967.7	8,996.9	8,968.5	9.9	10.6	-116.74	59.5	569.9	284.4	267.2	17.14	16.592	
9,100.0	9,067.2	9,096.8	9,068.0	10.0	10.7	-116.65	60.4	579.3	288.8	271.4	17.36	16.636	
9,200.0	9,166.7	9,196.7	9,167.4	10.1	10.8	-116.57	61.3	588.8	293.2	275.7	17.58	16.676	
9,300.0	9,266.2	9,296.6	9,266.9	10.3	11.0	-116.48	62.3	598.2	297.7	279.9	17.81	16.714	
9,400.0	9,365.7	9,396.5	9,366.3	10.4	11.1	-116.40	63.2	607.6	302.1	284.1	18.04	16.750	
9,500.0	9,465.2	9,496.4	9,465.8	10.5	11.2	-116.32	64.2	617.0	306.5	288.3	18.26	16.783	
9,600.0	9,564.6	9,596.3	9,565.2	10.6	11.3	-116.24	65.1	626.5	310.9	292.4	18.49	16.813	
9,700.0	9,664.1	9,696.3	9,664.7	10.8	11.4	-116.17	66.0	635.9	315.4	296.6	18.73	16.841	
9,767.4	9,731.2	9,763.6	9,731.7	10.8	11.5	-116.12	66.7	642.2	318.4	299.5	18.86	16.883	
9,775.0	9,738.7	9,771.2	9,739.3	10.8	11.5	-107.29	66.7	642.9	318.6	299.8	18.87	16.891	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 10581-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
17,600.0	10,236.0	18,105.7	11,039.5	64.5	62.1	179.99	7,225.6	1,077.0	803.1	681.2	121.91	6.587	
17,700.0	10,236.5	18,205.7	11,039.3	65.4	62.9	179.99	7,325.6	1,076.5	802.5	679.1	123.38	6.504	
17,800.0	10,236.9	18,305.7	11,039.2	66.2	63.7	179.99	7,425.6	1,076.0	801.8	677.0	124.86	6.422	
17,900.0	10,237.4	18,405.7	11,039.0	67.1	64.6	179.99	7,525.6	1,075.5	801.2	674.9	126.34	6.342	
18,000.0	10,237.8	18,505.7	11,038.8	67.9	65.4	179.99	7,625.6	1,075.0	800.6	672.8	127.82	6.264	
18,100.0	10,238.3	18,605.7	11,038.7	68.7	66.3	179.99	7,725.6	1,074.5	800.0	670.7	129.31	6.187	
18,200.0	10,238.7	18,705.6	11,038.5	69.6	67.1	179.99	7,825.6	1,073.9	799.4	668.6	130.79	6.112	
18,300.0	10,239.2	18,805.6	11,038.4	70.4	68.0	179.99	7,925.6	1,073.4	798.8	666.5	132.28	6.039	
18,400.0	10,239.6	18,905.6	11,038.2	71.3	68.8	179.99	8,025.6	1,072.9	798.2	664.4	133.77	5.967	
18,500.0	10,240.1	19,005.6	11,038.1	72.1	69.7	179.99	8,125.6	1,072.4	797.6	662.4	135.26	5.897	
18,600.0	10,240.5	19,105.6	11,037.9	73.0	70.5	179.99	8,225.6	1,071.9	797.0	660.3	136.75	5.828	
18,700.0	10,241.0	19,205.6	11,037.8	73.8	71.4	179.99	8,325.6	1,071.4	796.4	658.2	138.25	5.761	
18,800.0	10,241.4	19,305.6	11,037.6	74.7	72.2	179.99	8,425.6	1,070.9	795.8	656.1	139.75	5.695	
18,900.0	10,241.9	19,405.6	11,037.5	75.5	73.1	179.99	8,525.6	1,070.4	795.2	653.9	141.24	5.630	
19,000.0	10,242.3	19,505.6	11,037.3	76.4	73.9	179.99	8,625.6	1,069.9	794.6	651.8	142.74	5.567	
19,100.0	10,242.8	19,605.6	11,037.1	77.2	74.8	179.99	8,725.6	1,069.4	794.0	649.7	144.25	5.504	
19,200.0	10,243.2	19,705.6	11,037.0	78.1	75.6	179.99	8,825.6	1,068.8	793.4	647.6	145.75	5.443	
19,300.0	10,243.7	19,805.6	11,036.8	78.9	76.4	179.99	8,925.6	1,068.3	792.8	645.5	147.25	5.384	
19,400.0	10,244.1	19,905.6	11,036.7	79.8	77.3	179.99	9,025.6	1,067.8	792.2	643.4	148.76	5.325	
19,500.0	10,244.6	20,005.6	11,036.5	80.6	78.1	180.00	9,125.6	1,067.3	791.6	641.3	150.26	5.268	
19,600.0	10,245.0	20,105.6	11,036.4	81.5	79.0	180.00	9,225.6	1,066.8	791.0	639.2	151.77	5.211	
19,700.0	10,245.5	20,205.6	11,036.2	82.3	79.8	180.00	9,325.6	1,066.3	790.4	637.1	153.28	5.156	
19,800.0	10,245.9	20,305.6	11,036.1	83.2	80.7	180.00	9,425.6	1,065.8	789.7	635.0	154.79	5.102	
19,900.0	10,246.4	20,405.6	11,035.9	84.0	81.5	180.00	9,525.6	1,065.3	789.1	632.8	156.30	5.049	
20,000.0	10,246.8	20,505.6	11,035.7	84.9	82.4	180.00	9,625.6	1,064.8	788.5	630.7	157.82	4.997	
20,100.0	10,247.3	20,605.6	11,035.6	85.7	83.2	180.00	9,725.6	1,064.3	787.9	628.6	159.33	4.945	
20,200.0	10,247.7	20,705.6	11,035.4	86.6	84.1	180.00	9,825.6	1,063.8	787.3	626.5	160.85	4.895	
20,300.0	10,248.2	20,805.6	11,035.3	87.5	85.0	180.00	9,925.6	1,063.2	786.7	624.4	162.36	4.846	
20,400.0	10,248.6	20,905.6	11,035.1	88.3	85.8	180.00	10,025.6	1,062.7	786.1	622.3	163.86	4.798	
20,486.2	10,249.0	20,990.6	11,035.0	88.9	86.3	180.00	10,110.5	1,062.3	785.6	621.1	164.49	4.776	

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

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 10573-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.7	0.7	3.0	3.0	-90.29	-0.3	-60.0	60.0				
100.0	100.0	100.7	100.7	3.0	3.0	-90.29	-0.3	-60.0	60.0	54.0	6.00	10.000	
200.0	200.0	200.7	200.7	3.0	3.0	-90.29	-0.3	-60.0	60.0	54.0	6.00	9.995	
300.0	300.0	300.7	300.7	3.0	3.0	-90.29	-0.3	-60.0	60.0	54.0	6.01	9.985	
400.0	400.0	400.7	400.7	3.0	3.0	-90.29	-0.3	-60.0	60.0	54.0	6.02	9.969	
500.0	500.0	500.7	500.7	3.1	3.1	-90.29	-0.3	-60.0	60.0	54.0	6.03	9.949	
600.0	600.0	600.7	600.7	3.1	3.1	-90.29	-0.3	-60.0	60.0	54.0	6.05	9.923	
700.0	700.0	700.7	700.7	3.1	3.1	-90.29	-0.3	-60.0	60.0	53.9	6.07	9.892	
800.0	800.0	800.7	800.7	3.2	3.2	-90.29	-0.3	-60.0	60.0	53.9	6.09	9.856	
900.0	900.0	900.7	900.7	3.2	3.2	-90.29	-0.3	-60.0	60.0	53.9	6.11	9.815	
1,000.0	1,000.0	1,000.7	1,000.7	3.2	3.2	-90.29	-0.3	-60.0	60.0	53.9	6.14	9.770	
1,100.0	1,100.0	1,100.7	1,100.7	3.3	3.3	-90.29	-0.3	-60.0	60.0	53.8	6.17	9.721	
1,200.0	1,200.0	1,200.7	1,200.7	3.4	3.4	-90.29	-0.3	-60.0	60.0	53.8	6.21	9.667	
1,300.0	1,300.0	1,300.7	1,300.7	3.4	3.4	-90.29	-0.3	-60.0	60.0	53.8	6.24	9.609	
1,400.0	1,400.0	1,400.7	1,400.7	3.5	3.5	-90.29	-0.3	-60.0	60.0	53.7	6.28	9.548	
1,500.0	1,500.0	1,500.7	1,500.7	3.5	3.5	-90.29	-0.3	-60.0	60.0	53.7	6.33	9.483	
1,600.0	1,600.0	1,600.7	1,600.7	3.6	3.6	-90.29	-0.3	-60.0	60.0	53.6	6.37	9.415	
1,700.0	1,700.0	1,700.7	1,700.7	3.7	3.7	-90.29	-0.3	-60.0	60.0	53.6	6.42	9.344	
1,800.0	1,800.0	1,800.7	1,800.7	3.8	3.8	-90.29	-0.3	-60.0	60.0	53.5	6.47	9.271	
1,900.0	1,900.0	1,900.7	1,900.7	3.9	3.9	-90.29	-0.3	-60.0	60.0	53.5	6.53	9.194	
2,000.0	2,000.0	2,000.7	2,000.7	3.9	3.9	-90.29	-0.3	-60.0	60.0	53.4	6.58	9.116	
2,100.0	2,100.0	2,100.7	2,100.7	4.0	4.0	-90.29	-0.3	-60.0	60.0	53.4	6.64	9.036	
2,200.0	2,200.0	2,200.7	2,200.7	4.1	4.1	-90.29	-0.3	-60.0	60.0	53.3	6.70	8.953	
2,300.0	2,300.0	2,300.7	2,300.7	4.2	4.2	-90.29	-0.3	-60.0	60.0	53.2	6.76	8.869	
2,400.0	2,400.0	2,400.7	2,400.7	4.3	4.3	-90.29	-0.3	-60.0	60.0	53.2	6.83	8.784	
2,500.0	2,500.0	2,500.7	2,500.7	4.4	4.4	-90.29	-0.3	-60.0	60.0	53.1	6.90	8.698 CC, ES	
2,600.0	2,600.0	2,600.7	2,600.7	4.4	4.5	159.95	-0.3	-60.0	61.6	54.7	6.97	8.845	
2,700.0	2,699.8	2,700.5	2,700.5	4.5	4.6	161.46	-0.3	-60.0	66.6	59.5	7.04	9.454	
2,790.0	2,789.5	2,790.2	2,790.2	4.5	4.7	163.32	-0.3	-60.0	73.9	66.8	7.11	10.391	
2,800.0	2,799.5	2,800.2	2,800.2	4.5	4.7	163.54	-0.3	-60.0	74.9	67.8	7.12	10.515	
2,900.0	2,898.9	2,899.6	2,899.6	4.5	4.8	165.48	-0.3	-60.0	84.6	77.4	7.21	11.744	
3,000.0	2,998.4	2,999.1	2,999.1	4.5	4.9	167.01	-0.3	-60.0	94.4	87.1	7.29	12.948	
3,100.0	3,097.9	3,098.6	3,098.6	4.5	5.0	168.26	-0.3	-60.0	104.3	96.9	7.39	14.123	
3,200.0	3,197.4	3,198.1	3,198.1	4.6	5.1	169.29	-0.3	-60.0	114.2	106.7	7.48	15.268	
3,300.0	3,296.9	3,297.6	3,297.6	4.6	5.2	170.16	-0.3	-60.0	124.2	116.6	7.58	16.380	
3,400.0	3,396.4	3,397.1	3,397.1	4.6	5.3	170.90	-0.3	-60.0	134.1	126.5	7.68	17.459	
3,500.0	3,495.9	3,496.6	3,496.6	4.7	5.4	171.53	-0.3	-60.0	144.1	136.3	7.79	18.504	
3,600.0	3,595.4	3,596.1	3,596.1	4.7	5.5	172.08	-0.3	-60.0	154.1	146.2	7.90	19.514	
3,700.0	3,694.8	3,695.5	3,695.5	4.7	5.7	172.57	-0.3	-60.0	164.2	156.1	8.01	20.489	
3,800.0	3,794.3	3,795.0	3,795.0	4.8	5.8	173.00	-0.3	-60.0	174.2	166.1	8.13	21.429	
3,900.0	3,893.8	3,894.5	3,894.5	4.9	5.9	173.38	-0.3	-60.0	184.2	176.0	8.25	22.335	
4,000.0	3,993.3	3,994.0	3,994.0	4.9	6.0	173.73	-0.3	-60.0	194.3	185.9	8.37	23.206	
4,100.0	4,092.8	4,093.5	4,093.5	5.0	6.1	174.04	-0.3	-60.0	204.3	195.8	8.50	24.044	
4,200.0	4,192.3	4,193.0	4,193.0	5.0	6.2	174.32	-0.3	-60.0	214.4	205.7	8.63	24.849	
4,300.0	4,291.8	4,292.5	4,292.5	5.1	6.3	174.57	-0.3	-60.0	224.4	215.7	8.76	25.623	
4,400.0	4,391.3	4,392.0	4,392.0	5.2	6.4	174.81	-0.3	-60.0	234.5	225.6	8.89	26.365	
4,500.0	4,490.8	4,491.5	4,491.5	5.2	6.6	175.02	-0.3	-60.0	244.6	235.5	9.03	27.077	
4,600.0	4,590.2	4,590.9	4,590.9	5.3	6.7	175.22	-0.3	-60.0	254.6	245.5	9.17	27.759	
4,700.0	4,689.7	4,690.4	4,690.4	5.4	6.8	175.40	-0.3	-60.0	264.7	255.4	9.32	28.414	
4,800.0	4,789.2	4,789.9	4,789.9	5.5	6.9	175.57	-0.3	-60.0	274.8	265.3	9.46	29.041	
4,900.0	4,888.7	4,889.4	4,889.4	5.5	7.0	175.73	-0.3	-60.0	284.8	275.2	9.61	29.643	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 10573-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference				Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,988.2	4,988.9	4,988.9	5.6	7.2	175.87	-0.3	-60.0	294.9	285.2	9.76	30.219	
5,100.0	5,087.7	5,088.4	5,088.4	5.7	7.3	176.01	-0.3	-60.0	305.0	295.1	9.91	30.771	
5,200.0	5,187.2	5,187.9	5,187.9	5.8	7.4	176.14	-0.3	-60.0	315.1	305.0	10.07	31.300	
5,300.0	5,286.7	5,287.4	5,287.4	5.9	7.5	176.26	-0.3	-60.0	325.2	315.0	10.22	31.807	
5,400.0	5,386.1	5,386.8	5,386.8	6.0	7.6	176.37	-0.3	-60.0	335.3	324.9	10.38	32.293	
5,500.0	5,485.6	5,486.3	5,486.3	6.1	7.8	176.48	-0.3	-60.0	345.3	334.8	10.54	32.759	
5,600.0	5,585.1	5,597.3	5,597.3	6.2	7.8	176.51	-1.2	-58.6	354.0	343.4	10.68	33.148	
5,700.0	5,684.6	5,707.5	5,707.3	6.3	7.8	176.34	-4.5	-53.9	359.1	348.3	10.80	33.240	
5,800.0	5,784.1	5,807.4	5,807.0	6.4	7.8	176.13	-8.1	-48.6	363.1	352.2	10.92	33.237	
5,900.0	5,883.6	5,907.3	5,906.7	6.5	7.8	175.93	-11.8	-43.3	367.1	356.0	11.05	33.219	
6,000.0	5,983.1	6,007.2	6,006.4	6.6	7.8	175.73	-15.4	-38.0	371.1	359.9	11.18	33.186	
6,100.0	6,082.6	6,107.1	6,106.1	6.7	7.8	175.53	-19.0	-32.7	375.1	363.8	11.32	33.141	
6,200.0	6,182.0	6,207.0	6,205.8	6.8	7.8	175.34	-22.6	-27.4	379.1	367.6	11.46	33.083	
6,300.0	6,281.5	6,306.9	6,305.5	6.9	7.8	175.16	-26.3	-22.1	383.1	371.5	11.60	33.014	
6,400.0	6,381.0	6,406.8	6,405.2	7.0	7.8	174.97	-29.9	-16.8	387.1	375.3	11.75	32.935	
6,500.0	6,480.5	6,506.8	6,504.9	7.1	7.8	174.79	-33.5	-11.5	391.1	379.2	11.91	32.846	
6,600.0	6,580.0	6,606.7	6,604.6	7.2	7.8	174.62	-37.2	-6.2	395.1	383.0	12.06	32.749	
6,700.0	6,679.5	6,706.6	6,704.3	7.3	7.8	174.45	-40.8	-0.9	399.1	386.9	12.23	32.645	
6,800.0	6,779.0	6,806.5	6,804.0	7.4	7.8	174.28	-44.4	4.4	403.2	390.8	12.39	32.534	
6,900.0	6,878.5	6,906.4	6,903.8	7.5	7.9	174.11	-48.1	9.6	407.2	394.6	12.56	32.417	
7,000.0	6,978.0	7,006.3	7,003.5	7.6	7.9	173.95	-51.7	14.9	411.2	398.5	12.73	32.294	
7,100.0	7,077.4	7,106.2	7,103.2	7.7	7.9	173.79	-55.3	20.2	415.2	402.3	12.91	32.167	
7,200.0	7,176.9	7,206.1	7,202.9	7.8	7.9	173.64	-58.9	25.5	419.3	406.2	13.09	32.036	
7,300.0	7,276.4	7,306.1	7,302.6	7.9	7.9	173.49	-62.6	30.8	423.3	410.0	13.27	31.902	
7,400.0	7,375.9	7,406.0	7,402.3	8.0	8.0	173.34	-66.2	36.1	427.3	413.9	13.45	31.765	
7,500.0	7,475.4	7,505.9	7,502.0	8.1	8.0	173.19	-69.8	41.4	431.4	417.8	13.64	31.625	
7,600.0	7,574.9	7,605.8	7,601.7	8.3	8.0	173.05	-73.5	46.7	435.4	421.6	13.83	31.483	
7,700.0	7,674.4	7,705.7	7,701.4	8.4	8.1	172.90	-77.1	52.0	439.5	425.5	14.02	31.340	
7,800.0	7,773.9	7,805.6	7,801.1	8.5	8.1	172.77	-80.7	57.3	443.5	429.3	14.22	31.195	
7,900.0	7,873.3	7,905.5	7,900.8	8.6	8.1	172.63	-84.4	62.6	447.6	433.2	14.42	31.050	
8,000.0	7,972.8	8,005.4	8,000.5	8.7	8.2	172.50	-88.0	67.9	451.6	437.0	14.61	30.904	
8,100.0	8,072.3	8,105.4	8,100.2	8.8	8.2	172.36	-91.6	73.2	455.7	440.9	14.82	30.758	
8,200.0	8,171.8	8,205.3	8,199.9	9.0	8.3	172.23	-95.3	78.5	459.8	444.7	15.02	30.612	
8,300.0	8,271.3	8,305.2	8,299.6	9.1	8.3	172.11	-98.9	83.8	463.8	448.6	15.22	30.467	
8,400.0	8,370.8	8,405.1	8,399.3	9.2	8.4	171.98	-102.5	89.1	467.9	452.5	15.43	30.322	
8,500.0	8,470.3	8,505.0	8,499.0	9.3	8.4	171.86	-106.1	94.4	472.0	456.3	15.64	30.177	
8,600.0	8,569.8	8,604.9	8,598.7	9.4	8.5	171.74	-109.8	99.7	476.0	460.2	15.85	30.033	
8,700.0	8,669.2	8,704.8	8,698.5	9.5	8.5	171.62	-113.4	104.9	480.1	464.0	16.06	29.891	
8,800.0	8,768.7	8,804.7	8,798.2	9.7	8.6	171.51	-117.0	110.2	484.2	467.9	16.28	29.749	
8,900.0	8,868.2	8,904.6	8,897.9	9.8	8.6	171.39	-120.7	115.5	488.3	471.8	16.49	29.609	
9,000.0	8,967.7	9,004.6	8,997.6	9.9	8.7	171.28	-124.3	120.8	492.3	475.6	16.71	29.470	
9,100.0	9,067.2	9,104.5	9,097.3	10.0	8.7	171.17	-127.9	126.1	496.4	479.5	16.92	29.332	
9,200.0	9,166.7	9,204.4	9,197.0	10.1	8.8	171.06	-131.6	131.4	500.5	483.4	17.14	29.196	
9,300.0	9,266.2	9,304.3	9,296.7	10.3	8.9	170.95	-135.2	136.7	504.6	487.2	17.36	29.061	
9,400.0	9,365.7	9,404.2	9,396.4	10.4	8.9	170.85	-138.8	142.0	508.7	491.1	17.58	28.928	
9,500.0	9,465.2	9,504.1	9,496.1	10.5	9.0	170.74	-142.5	147.3	512.7	494.9	17.81	28.797	
9,600.0	9,564.6	9,604.0	9,595.8	10.6	9.1	170.64	-146.1	152.6	516.8	498.8	18.03	28.667	
9,700.0	9,664.1	9,703.9	9,695.5	10.8	9.2	170.54	-149.7	157.9	520.9	502.7	18.25	28.539	
9,767.4	9,731.2	9,771.3	9,762.7	10.8	9.2	170.47	-152.2	161.5	523.7	505.3	18.38	28.486	
9,775.0	9,738.7	9,778.9	9,770.3	10.8	9.2	170.31	-152.4	161.9	524.0	505.6	18.39	28.490	
9,800.0	9,763.6	9,803.8	9,795.2	10.8	9.2	-156.47	-153.3	163.2	525.3	506.8	18.43	28.504	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design ADMIRAL FEDERAL PROJECT (ATLAS 2529) - ADMIRAL FEDERAL COM #802H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 10573-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,800.0	10,236.9	18,437.6	11,019.2	66.2	65.8	-130.23	7,420.9	152.0	1,210.1	1,080.4	129.68	9.331	
17,900.0	10,237.4	18,537.6	11,019.0	67.1	66.6	-130.21	7,520.9	151.5	1,209.7	1,078.4	131.30	9.213	
18,000.0	10,237.8	18,637.6	11,018.8	67.9	67.5	-130.19	7,620.9	151.0	1,209.3	1,076.4	132.92	9.098	
18,100.0	10,238.3	18,737.6	11,018.7	68.7	68.3	-130.16	7,720.9	150.5	1,208.9	1,074.4	134.55	8.985	
18,200.0	10,238.7	18,837.6	11,018.5	69.6	69.2	-130.14	7,820.9	149.9	1,208.5	1,072.4	136.17	8.875	
18,300.0	10,239.2	18,937.6	11,018.4	70.4	70.0	-130.12	7,920.9	149.4	1,208.1	1,070.3	137.80	8.768	
18,400.0	10,239.6	19,037.6	11,018.2	71.3	70.9	-130.10	8,020.9	148.9	1,207.8	1,068.3	139.42	8.662	
18,500.0	10,240.1	19,137.6	11,018.1	72.1	71.7	-130.08	8,120.9	148.4	1,207.4	1,066.3	141.05	8.560	
18,600.0	10,240.5	19,237.6	11,017.9	73.0	72.6	-130.05	8,220.9	147.9	1,207.0	1,064.3	142.68	8.459	
18,700.0	10,241.0	19,337.6	11,017.8	73.8	73.4	-130.03	8,320.9	147.4	1,206.6	1,062.3	144.31	8.361	
18,800.0	10,241.4	19,437.6	11,017.6	74.7	74.3	-130.01	8,420.9	146.9	1,206.2	1,060.3	145.94	8.265	
18,900.0	10,241.9	19,537.6	11,017.5	75.5	75.1	-129.99	8,520.9	146.4	1,205.8	1,058.3	147.57	8.171	
19,000.0	10,242.3	19,637.6	11,017.3	76.4	76.0	-129.96	8,620.9	145.9	1,205.5	1,056.3	149.21	8.079	
19,100.0	10,242.8	19,737.6	11,017.1	77.2	76.9	-129.94	8,720.9	145.4	1,205.1	1,054.2	150.84	7.989	
19,200.0	10,243.2	19,837.6	11,017.0	78.1	77.7	-129.92	8,820.9	144.9	1,204.7	1,052.2	152.47	7.901	
19,300.0	10,243.7	19,937.6	11,016.8	78.9	78.6	-129.90	8,920.8	144.3	1,204.3	1,050.2	154.11	7.815	
19,400.0	10,244.1	20,037.6	11,016.7	79.8	79.4	-129.88	9,020.8	143.8	1,203.9	1,048.2	155.74	7.730	
19,500.0	10,244.6	20,137.6	11,016.5	80.6	80.3	-129.85	9,120.8	143.3	1,203.5	1,046.2	157.38	7.647	
19,600.0	10,245.0	20,237.6	11,016.4	81.5	81.1	-129.83	9,220.8	142.8	1,203.2	1,044.1	159.02	7.566	
19,700.0	10,245.5	20,337.6	11,016.2	82.3	82.0	-129.81	9,320.8	142.3	1,202.8	1,042.1	160.66	7.487	
19,800.0	10,245.9	20,437.6	11,016.1	83.2	82.8	-129.79	9,420.8	141.8	1,202.4	1,040.1	162.29	7.409	
19,900.0	10,246.4	20,537.6	11,015.9	84.0	83.7	-129.76	9,520.8	141.3	1,202.0	1,038.1	163.93	7.332	
20,000.0	10,246.8	20,637.6	11,015.8	84.9	84.6	-129.74	9,620.8	140.8	1,201.6	1,036.1	165.57	7.257	
20,100.0	10,247.3	20,737.6	11,015.6	85.7	85.4	-129.72	9,720.8	140.3	1,201.3	1,034.0	167.22	7.184	
20,200.0	10,247.7	20,837.6	11,015.4	86.6	86.3	-129.70	9,820.8	139.8	1,200.9	1,032.0	168.86	7.112	
20,300.0	10,248.2	20,937.6	11,015.3	87.5	87.1	-129.67	9,920.8	139.2	1,200.5	1,030.0	170.50	7.041	
20,400.0	10,248.6	21,037.6	11,015.1	88.3	88.0	-129.65	10,020.8	138.7	1,200.1	1,028.0	172.14	6.972	
20,486.2	10,249.0	21,123.0	11,015.0	88.9	88.7	-129.63	10,106.3	138.3	1,199.8	1,026.5	173.29	6.924 SF	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design ADMIRAL FEDERAL PROJECT (ATLAS 2529) - ADMIRAL FEDERAL COM #803H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 10606-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	1.1	1.1	3.0	3.0	-90.19	-0.3	-90.0	90.0				
100.0	100.0	101.1	101.1	3.0	3.0	-90.19	-0.3	-90.0	90.0	84.0	6.00	14.999	
200.0	200.0	201.1	201.1	3.0	3.0	-90.19	-0.3	-90.0	90.0	84.0	6.00	14.992	
300.0	300.0	301.1	301.1	3.0	3.0	-90.19	-0.3	-90.0	90.0	84.0	6.01	14.977	
400.0	400.0	401.1	401.1	3.0	3.0	-90.19	-0.3	-90.0	90.0	84.0	6.02	14.954	
500.0	500.0	501.1	501.1	3.1	3.1	-90.19	-0.3	-90.0	90.0	84.0	6.03	14.923	
600.0	600.0	601.1	601.1	3.1	3.1	-90.19	-0.3	-90.0	90.0	84.0	6.05	14.884	
700.0	700.0	701.1	701.1	3.1	3.1	-90.19	-0.3	-90.0	90.0	83.9	6.07	14.837	
800.0	800.0	801.1	801.1	3.2	3.2	-90.19	-0.3	-90.0	90.0	83.9	6.09	14.784	
900.0	900.0	901.1	901.1	3.2	3.2	-90.19	-0.3	-90.0	90.0	83.9	6.11	14.723	
1,000.0	1,000.0	1,001.1	1,001.1	3.2	3.2	-90.19	-0.3	-90.0	90.0	83.9	6.14	14.655	
1,100.0	1,100.0	1,101.1	1,101.1	3.3	3.3	-90.19	-0.3	-90.0	90.0	83.8	6.17	14.581	
1,200.0	1,200.0	1,201.1	1,201.1	3.4	3.4	-90.19	-0.3	-90.0	90.0	83.8	6.21	14.500	
1,300.0	1,300.0	1,301.1	1,301.1	3.4	3.4	-90.19	-0.3	-90.0	90.0	83.8	6.24	14.414	
1,400.0	1,400.0	1,401.1	1,401.1	3.5	3.5	-90.19	-0.3	-90.0	90.0	83.7	6.28	14.322	
1,500.0	1,500.0	1,501.1	1,501.1	3.5	3.5	-90.19	-0.3	-90.0	90.0	83.7	6.33	14.225	
1,600.0	1,600.0	1,601.1	1,601.1	3.6	3.6	-90.19	-0.3	-90.0	90.0	83.6	6.37	14.123	
1,700.0	1,700.0	1,701.1	1,701.1	3.7	3.7	-90.19	-0.3	-90.0	90.0	83.6	6.42	14.016	
1,800.0	1,800.0	1,801.1	1,801.1	3.8	3.8	-90.19	-0.3	-90.0	90.0	83.5	6.47	13.906	
1,900.0	1,900.0	1,901.1	1,901.1	3.9	3.9	-90.19	-0.3	-90.0	90.0	83.5	6.53	13.791	
2,000.0	2,000.0	2,001.1	2,001.1	3.9	3.9	-90.19	-0.3	-90.0	90.0	83.4	6.58	13.674	
2,100.0	2,100.0	2,101.1	2,101.1	4.0	4.0	-90.19	-0.3	-90.0	90.0	83.4	6.64	13.553	
2,200.0	2,200.0	2,201.1	2,201.1	4.1	4.1	-90.19	-0.3	-90.0	90.0	83.3	6.70	13.430	
2,300.0	2,300.0	2,301.1	2,301.1	4.2	4.2	-90.19	-0.3	-90.0	90.0	83.2	6.77	13.304	
2,400.0	2,400.0	2,401.1	2,401.1	4.3	4.3	-90.19	-0.3	-90.0	90.0	83.2	6.83	13.176	
2,416.3	2,416.3	2,417.4	2,417.4	4.3	4.3	-90.19	-0.3	-90.0	90.0	83.2	6.84	13.155 CC	
2,500.0	2,500.0	2,500.0	2,500.0	4.4	4.4	-90.19	-0.3	-90.0	90.0	83.1	6.90	13.048 ES, SF	
2,600.0	2,600.0	2,598.0	2,598.0	4.4	4.4	159.53	-0.8	-91.6	93.3	86.3	6.97	13.390	
2,700.0	2,699.8	2,694.4	2,694.3	4.5	4.5	159.65	-2.2	-96.3	103.1	96.0	7.04	14.636	
2,790.0	2,789.5	2,782.7	2,782.3	4.5	4.5	159.91	-4.1	-102.5	116.6	109.5	7.12	16.380	
2,800.0	2,799.5	2,792.6	2,792.1	4.5	4.5	159.97	-4.4	-103.2	118.2	111.1	7.13	16.591	
2,900.0	2,898.9	2,891.2	2,890.5	4.5	4.5	160.48	-6.5	-110.3	134.8	127.6	7.22	18.671	
3,000.0	2,998.4	2,989.8	2,988.8	4.5	4.5	160.89	-8.7	-117.3	151.4	144.1	7.32	20.678	
3,100.0	3,097.9	3,088.4	3,087.2	4.5	4.5	161.21	-10.8	-124.3	168.0	160.5	7.43	22.610	
3,200.0	3,197.4	3,187.0	3,185.5	4.6	4.6	161.48	-13.0	-131.4	184.6	177.0	7.54	24.466	
3,300.0	3,296.9	3,285.6	3,283.8	4.6	4.6	161.70	-15.1	-138.4	201.1	193.5	7.66	26.245	
3,400.0	3,396.4	3,384.2	3,382.2	4.6	4.6	161.89	-17.3	-145.4	217.7	209.9	7.79	27.948	
3,500.0	3,495.9	3,482.8	3,480.5	4.7	4.7	162.05	-19.5	-152.5	234.3	226.4	7.92	29.575	
3,600.0	3,595.4	3,581.5	3,578.8	4.7	4.7	162.19	-21.6	-159.5	250.9	242.9	8.06	31.128	
3,700.0	3,694.8	3,680.1	3,677.2	4.7	4.8	162.32	-23.8	-166.5	267.5	259.3	8.20	32.608	
3,800.0	3,794.3	3,778.7	3,775.5	4.8	4.8	162.42	-25.9	-173.6	284.1	275.8	8.35	34.016	
3,900.0	3,893.8	3,877.3	3,873.8	4.9	4.9	162.52	-28.1	-180.6	300.7	292.2	8.51	35.357	
4,000.0	3,993.3	3,975.9	3,972.2	4.9	4.9	162.61	-30.3	-187.6	317.3	308.7	8.66	36.631	
4,100.0	4,092.8	4,074.5	4,070.5	5.0	5.0	162.69	-32.4	-194.7	333.9	325.1	8.82	37.841	
4,200.0	4,192.3	4,173.1	4,168.9	5.0	5.0	162.76	-34.6	-201.7	350.5	341.5	8.99	38.990	
4,300.0	4,291.8	4,271.7	4,267.2	5.1	5.1	162.82	-36.7	-208.7	367.1	358.0	9.16	40.081	
4,400.0	4,391.3	4,370.3	4,365.5	5.2	5.2	162.88	-38.9	-215.8	383.7	374.4	9.33	41.116	
4,500.0	4,490.8	4,469.0	4,463.9	5.2	5.2	162.93	-41.0	-222.8	400.3	390.8	9.51	42.098	
4,600.0	4,590.2	4,567.6	4,562.2	5.3	5.3	162.98	-43.2	-229.8	416.9	407.2	9.69	43.030	
4,700.0	4,689.7	4,666.2	4,660.5	5.4	5.4	163.03	-45.4	-236.9	433.5	423.6	9.87	43.914	
4,800.0	4,789.2	4,764.8	4,758.9	5.5	5.5	163.07	-47.5	-243.9	450.1	440.1	10.06	44.752	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 10606-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,800.0	9,763.6	9,695.3	9,675.6	10.8	10.6	-162.58	-155.4	-595.5	1,280.7	1,259.3	21.35	59.984	
9,825.0	9,788.3	9,719.7	9,700.0	10.8	10.7	-146.88	-155.9	-597.3	1,285.6	1,264.2	21.39	60.104	
9,850.0	9,812.9	9,743.9	9,724.1	10.9	10.7	-137.21	-156.4	-599.0	1,290.9	1,269.4	21.43	60.239	
9,875.0	9,837.3	9,767.8	9,748.0	10.9	10.7	-130.88	-157.0	-600.7	1,296.5	1,275.1	21.47	60.387	
9,900.0	9,861.3	9,791.4	9,771.4	10.9	10.7	-126.44	-157.5	-602.4	1,302.6	1,281.1	21.51	60.549	
9,925.0	9,885.0	9,814.5	9,794.5	10.9	10.8	-123.12	-158.0	-604.0	1,309.1	1,287.5	21.56	60.725	
9,950.0	9,908.3	9,837.1	9,817.1	10.9	10.8	-120.53	-158.5	-605.7	1,315.9	1,294.3	21.60	60.915	
9,975.0	9,931.1	9,859.2	9,839.1	10.9	10.8	-118.40	-159.0	-607.2	1,323.2	1,301.5	21.65	61.120	
10,000.0	9,953.3	9,880.7	9,860.5	10.9	10.9	-116.60	-159.4	-608.8	1,330.8	1,309.1	21.70	61.339	
10,025.0	9,974.9	9,901.5	9,881.3	11.0	10.9	-115.03	-159.9	-610.3	1,338.8	1,317.1	21.74	61.573	
10,050.0	9,995.8	9,921.6	9,901.4	11.0	10.9	-113.61	-160.3	-611.7	1,347.3	1,325.5	21.79	61.822	
10,075.0	10,016.0	9,941.0	9,920.6	11.0	10.9	-112.29	-160.8	-613.1	1,356.1	1,334.3	21.84	62.086	
10,100.0	10,035.4	9,959.5	9,939.1	11.0	10.9	-111.03	-161.2	-614.4	1,365.4	1,343.5	21.89	62.367	
10,125.0	10,054.0	9,977.1	9,956.6	11.1	11.0	-109.82	-161.5	-615.6	1,375.0	1,353.1	21.94	62.664	
10,150.0	10,071.7	9,993.8	9,973.3	11.1	11.0	-108.61	-161.9	-616.8	1,385.1	1,363.1	21.99	62.977	
10,175.0	10,088.4	10,009.5	9,988.9	11.1	11.0	-107.40	-162.2	-618.0	1,395.6	1,373.5	22.04	63.308	
10,200.0	10,104.2	10,024.2	10,003.6	11.1	11.0	-106.15	-162.6	-619.0	1,406.4	1,384.3	22.09	63.655	
10,225.0	10,118.9	10,037.8	10,017.2	11.2	11.0	-104.87	-162.9	-620.0	1,417.7	1,395.5	22.14	64.019	
10,250.0	10,132.6	10,050.3	10,029.7	11.2	11.1	-103.54	-163.1	-620.9	1,429.3	1,407.1	22.19	64.401	
10,275.0	10,145.1	10,061.7	10,041.1	11.2	11.1	-102.14	-163.4	-621.7	1,441.4	1,419.1	22.24	64.799	
10,300.0	10,156.5	10,072.0	10,051.3	11.3	11.1	-100.68	-163.6	-622.4	1,453.7	1,431.4	22.29	65.215	
10,325.0	10,166.8	10,081.1	10,060.3	11.3	11.1	-99.13	-163.8	-623.1	1,466.5	1,444.1	22.34	65.648	
10,350.0	10,175.8	10,088.9	10,068.2	11.4	11.1	-97.51	-164.0	-623.6	1,479.5	1,457.1	22.38	66.097	
10,375.0	10,183.6	10,095.5	10,074.7	11.4	11.1	-95.80	-164.1	-624.1	1,492.8	1,470.4	22.43	66.563	
10,400.0	10,190.2	10,100.9	10,080.1	11.4	11.1	-94.00	-164.2	-624.5	1,506.4	1,484.0	22.47	67.044	
10,425.0	10,195.5	10,104.9	10,084.2	11.5	11.1	-92.12	-164.3	-624.8	1,520.3	1,497.8	22.51	67.541	
10,450.0	10,199.5	10,107.8	10,087.0	11.5	11.1	-90.17	-164.4	-625.0	1,534.3	1,511.8	22.55	68.052	
10,475.0	10,202.3	10,109.3	10,088.5	11.6	11.1	-88.14	-164.4	-625.1	1,548.5	1,526.0	22.58	68.576	
10,500.0	10,203.7	10,109.5	10,088.7	11.6	11.1	-86.06	-164.4	-625.1	1,562.9	1,540.3	22.61	69.113	
10,513.0	10,204.0	10,109.1	10,088.3	11.6	11.1	-84.96	-164.4	-625.1	1,570.3	1,547.7	22.63	69.398	
10,600.0	10,204.3	10,105.4	10,084.6	11.8	11.1	-84.90	-164.3	-624.8	1,621.1	1,598.3	22.74	71.295	
10,700.0	10,204.8	10,101.3	10,080.5	12.1	11.1	-84.85	-164.3	-624.5	1,680.5	1,657.6	22.86	73.506	
10,800.0	10,205.3	10,097.5	10,076.7	12.4	11.1	-84.82	-164.2	-624.2	1,740.9	1,718.0	22.98	75.745	
10,900.0	10,205.7	10,093.8	10,073.1	12.9	11.1	-84.80	-164.1	-624.0	1,802.2	1,779.1	23.10	78.011	
11,000.0	10,206.2	10,090.4	10,069.6	13.3	11.1	-84.80	-164.0	-623.7	1,864.2	1,841.0	23.22	80.300	
11,100.0	10,206.6	10,087.2	10,066.5	13.8	11.1	-84.81	-164.0	-623.5	1,926.8	1,903.4	23.32	82.608	
11,200.0	10,207.1	10,084.2	10,063.5	14.4	11.1	-84.83	-163.9	-623.3	1,989.8	1,966.3	23.43	84.934	

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft	
Survey Program: 139-MWD+IFR1+FDIR, 2087-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	91.17		-9.0	440.2	440.3				
100.0	100.0	96.8	96.8	3.0	3.0	91.21		-9.3	440.3	440.4	434.4	6.00	73.354	
200.0	200.0	195.3	195.3	3.0	3.0	91.32		-10.1	440.5	440.7	434.6	6.03	73.102	
300.0	300.0	293.2	293.2	3.0	3.1	91.37		-10.6	441.3	441.4	435.3	6.10	72.408	
400.0	400.0	387.0	387.0	3.0	3.2	91.37		-10.6	442.7	443.0	436.8	6.20	71.487	
500.0	500.0	479.4	479.3	3.1	3.3	91.29		-10.1	445.7	446.2	439.9	6.33	70.542	
600.0	600.0	575.3	575.1	3.1	3.5	91.12		-8.8	450.2	450.8	444.3	6.49	69.467	
700.0	700.0	673.7	673.3	3.1	3.7	90.81		-6.4	455.4	456.1	449.4	6.69	68.204	
800.0	800.0	777.7	777.1	3.2	3.9	90.40		-3.2	460.5	460.9	454.0	6.92	66.568	
900.0	900.0	891.8	891.1	3.2	4.2	90.02		-0.1	464.5	464.5	457.3	7.21	64.438	
1,000.0	1,000.0	1,021.8	1,021.0	3.2	4.5	90.16		-1.3	460.6	461.2	453.7	7.53	61.277	
1,100.0	1,100.0	1,122.1	1,121.3	3.3	4.7	90.30		-2.4	455.3	455.9	448.1	7.80	58.476	
1,200.0	1,200.0	1,207.6	1,206.6	3.4	5.0	90.30		-2.4	451.8	451.9	443.9	8.05	56.130	
1,257.7	1,257.7	1,256.2	1,255.2	3.4	5.1	90.19		-1.5	451.4	451.4	443.2	8.20	55.060	
1,300.0	1,300.0	1,294.5	1,293.5	3.4	5.2	90.07		-0.6	451.6	451.6	443.3	8.32	54.308	
1,400.0	1,400.0	1,391.7	1,390.6	3.5	5.5	89.72		2.2	453.1	453.1	444.5	8.62	52.581	
1,500.0	1,500.0	1,493.8	1,492.7	3.5	5.8	89.35		5.2	454.3	454.4	445.4	8.94	50.805	
1,600.0	1,600.0	1,594.6	1,593.5	3.6	6.1	89.01		7.9	455.2	455.3	446.0	9.27	49.097	
1,700.0	1,700.0	1,695.4	1,694.2	3.7	6.4	88.74		10.0	456.0	456.1	446.5	9.61	47.460	
1,800.0	1,800.0	1,797.0	1,795.8	3.8	6.7	88.53		11.7	456.5	456.7	446.7	9.96	45.870	
1,900.0	1,900.0	1,899.6	1,898.4	3.9	7.1	88.36		13.0	456.6	456.8	446.5	10.31	44.310	
2,000.0	2,000.0	1,999.4	1,998.2	3.9	7.4	88.22		14.2	456.4	456.6	446.0	10.65	42.887	
2,030.4	2,030.4	2,029.1	2,027.9	4.0	7.4	88.18		14.5	456.3	456.6	445.9	10.70	42.654	
2,100.0	2,100.0	2,097.3	2,096.1	4.0	7.5	88.09		15.2	456.4	456.7	445.9	10.82	42.203	
2,200.0	2,200.0	2,195.8	2,194.6	4.1	7.5	87.97		16.2	456.8	457.1	446.3	10.87	42.052	
2,300.0	2,300.0	2,290.7	2,289.5	4.2	7.6	87.89		16.8	457.9	458.2	447.3	10.93	41.908	
2,400.0	2,400.0	2,383.1	2,381.8	4.3	7.6	87.89		17.0	460.4	461.0	450.0	11.01	41.871	
2,500.0	2,500.0	2,492.7	2,491.4	4.4	7.7	88.05		15.8	463.1	463.5	452.3	11.12	41.684	
2,600.0	2,600.0	2,598.7	2,597.3	4.4	7.8	-22.00		12.8	463.5	462.1	450.8	11.24	41.114	
2,700.0	2,699.8	2,698.2	2,696.8	4.5	7.9	-21.89		9.7	463.9	457.5	446.1	11.37	40.222	
2,790.0	2,789.5	2,786.7	2,785.3	4.5	8.0	-21.89		6.5	463.9	450.3	438.8	11.51	39.125	
2,800.0	2,799.5	2,796.0	2,794.6	4.5	8.0	-21.89		6.1	464.0	449.5	437.9	11.53	38.995	
2,900.0	2,898.9	2,893.0	2,891.5	4.5	8.1	-21.90		2.6	465.1	441.1	429.4	11.69	37.719	
3,000.0	2,998.4	2,994.3	2,992.7	4.5	8.2	-21.94		-0.9	466.2	432.7	420.8	11.89	36.390	
3,100.0	3,097.9	3,095.7	3,094.1	4.5	8.4	-22.04		-4.0	466.8	423.8	411.7	12.10	35.035	
3,200.0	3,197.4	3,202.5	3,200.8	4.6	8.6	-22.19		-7.0	466.5	414.1	401.8	12.33	33.589	
3,300.0	3,296.9	3,307.4	3,305.7	4.6	8.7	-22.38		-9.7	464.3	402.6	390.0	12.57	32.025	
3,400.0	3,396.4	3,406.0	3,404.2	4.6	8.9	-22.56		-12.4	461.7	390.6	377.7	12.82	30.467	
3,500.0	3,495.9	3,504.2	3,502.4	4.7	9.1	-22.77		-14.9	459.4	378.8	365.7	13.08	28.959	
3,600.0	3,595.4	3,603.2	3,601.3	4.7	9.3	-23.06		-17.0	457.2	367.2	353.8	13.36	27.489	
3,700.0	3,694.8	3,702.2	3,700.2	4.7	9.5	-23.40		-19.0	455.1	355.6	342.0	13.64	26.064	
3,800.0	3,794.3	3,801.7	3,799.7	4.8	9.7	-23.76		-20.9	452.9	344.1	330.1	13.95	24.672	
3,900.0	3,893.8	3,899.8	3,897.8	4.9	10.0	-24.21		-22.4	450.9	332.7	318.5	14.26	23.342	
4,000.0	3,993.3	3,998.6	3,996.5	4.9	10.2	-24.76		-23.6	449.2	321.7	307.1	14.58	22.070	
4,100.0	4,092.8	4,097.6	4,095.6	5.0	10.4	-25.35		-24.7	447.5	310.8	295.9	14.91	20.848	
4,200.0	4,192.3	4,196.9	4,194.8	5.0	10.7	-25.98		-25.8	446.0	300.0	284.8	15.25	19.674	
4,300.0	4,291.8	4,296.5	4,294.4	5.1	10.9	-26.68		-26.9	444.4	289.2	273.6	15.60	18.539	
4,400.0	4,391.3	4,396.2	4,394.1	5.2	11.2	-27.42		-28.1	442.6	278.4	262.4	15.96	17.442	
4,500.0	4,490.8	4,495.7	4,493.6	5.2	11.5	-28.19		-29.3	440.8	267.5	251.1	16.33	16.381	
4,600.0	4,590.2	4,595.0	4,592.9	5.3	11.7	-29.07		-30.4	439.0	256.6	239.9	16.70	15.364	
4,700.0	4,689.7	4,694.8	4,692.6	5.4	12.0	-30.03		-31.5	437.1	245.7	228.7	17.09	14.384	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 139-MWD+IFR1+FDIR, 2087-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,800.0	4,789.2	4,794.5	4,792.3	5.5	12.3	-31.05	-32.8	435.0	234.7	217.3	17.47	13.434	
4,900.0	4,888.7	4,894.5	4,892.3	5.5	12.6	-32.13	-34.2	432.7	223.6	205.7	17.87	12.513	
5,000.0	4,988.2	4,994.2	4,991.9	5.6	12.9	-33.30	-35.8	430.1	212.3	194.0	18.27	11.619	
5,100.0	5,087.7	5,094.6	5,092.2	5.7	13.1	-34.59	-37.6	427.3	200.7	182.0	18.68	10.746	
5,200.0	5,187.2	5,193.5	5,191.1	5.8	13.4	-36.02	-39.4	424.2	189.0	169.9	19.08	9.902	
5,300.0	5,286.7	5,293.7	5,291.2	5.9	13.7	-37.60	-41.4	420.9	177.2	157.7	19.50	9.086	
5,400.0	5,386.1	5,393.3	5,390.7	6.0	14.0	-39.35	-43.8	417.3	165.1	145.2	19.92	8.289	
5,500.0	5,485.6	5,492.2	5,489.5	6.1	14.3	-41.30	-46.2	413.7	153.1	132.8	20.34	7.530	
5,600.0	5,585.1	5,590.9	5,588.1	6.2	14.6	-43.50	-48.7	410.5	141.7	120.9	20.76	6.825	
5,700.0	5,684.6	5,690.1	5,687.2	6.3	14.9	-45.97	-51.4	407.5	130.6	109.4	21.18	6.166	
5,800.0	5,784.1	5,789.7	5,786.7	6.4	15.3	-48.91	-54.1	404.4	119.7	98.1	21.60	5.542	
5,900.0	5,883.6	5,889.4	5,886.4	6.5	15.6	-52.53	-57.0	400.7	108.6	86.6	22.02	4.934	
6,000.0	5,983.1	5,988.7	5,985.5	6.6	15.9	-56.97	-60.0	396.7	97.8	75.4	22.42	4.362	
6,100.0	6,082.6	6,087.7	6,084.4	6.7	16.2	-62.48	-62.9	392.7	87.7	64.9	22.80	3.845	
6,200.0	6,182.0	6,186.8	6,183.4	6.8	16.5	-69.16	-66.1	388.9	78.5	55.4	23.14	3.394	
6,300.0	6,281.5	6,285.7	6,282.1	6.9	16.8	-77.09	-69.3	385.5	70.9	47.5	23.43	3.025	
6,400.0	6,381.0	6,384.8	6,381.2	7.0	17.2	-86.34	-72.4	382.6	65.2	41.6	23.66	2.757	
6,500.0	6,480.5	6,484.1	6,480.3	7.1	17.5	-96.75	-75.6	380.0	61.5	37.7	23.83	2.581	
6,600.0	6,580.0	6,583.2	6,579.4	7.2	17.8	-107.70	-78.8	377.7	60.1	36.1	23.98	2.507	
6,603.7	6,583.7	6,586.9	6,583.1	7.2	17.8	-108.10	-78.9	377.6	60.1	36.1	23.99	2.506 CC, ES, SF	
6,700.0	6,679.5	6,682.4	6,678.6	7.3	18.1	-118.94	-81.8	375.1	61.2	37.0	24.17	2.532	
6,800.0	6,779.0	6,781.2	6,777.2	7.4	18.4	-130.93	-85.0	370.8	65.1	40.6	24.46	2.661	
6,900.0	6,878.5	6,879.3	6,875.1	7.5	18.8	-141.92	-87.7	365.0	72.5	47.7	24.88	2.915	
7,000.0	6,978.0	6,978.5	6,974.1	7.6	19.1	-150.20	-89.7	359.7	82.5	57.1	25.39	3.250	
7,100.0	7,077.4	7,078.6	7,074.1	7.7	19.4	-156.35	-92.1	355.3	92.8	66.9	25.91	3.582	
7,200.0	7,176.9	7,178.6	7,173.9	7.8	19.8	-161.64	-95.7	351.2	102.9	76.5	26.44	3.891	
7,300.0	7,276.4	7,277.5	7,272.7	7.9	20.1	-165.95	-99.6	347.5	113.3	86.3	26.98	4.200	
7,400.0	7,375.9	7,375.1	7,370.1	8.0	20.4	-169.83	-103.5	342.7	125.2	97.7	27.53	4.548	
7,500.0	7,475.4	7,474.8	7,469.6	8.1	20.7	-172.54	-106.4	338.4	137.6	109.6	28.04	4.907	
7,600.0	7,574.9	7,572.6	7,567.4	8.3	21.1	-174.37	-108.3	334.4	150.4	121.8	28.54	5.269	
7,700.0	7,674.4	7,669.8	7,664.3	8.4	21.4	-176.72	-111.7	328.4	164.5	135.5	29.06	5.662	
7,800.0	7,773.9	7,768.2	7,762.3	8.5	21.7	-179.16	-116.3	321.5	179.3	149.7	29.58	6.063	
7,900.0	7,873.3	7,867.4	7,861.2	8.6	22.1	-178.60	-121.3	314.1	194.7	164.6	30.09	6.470	
8,000.0	7,972.8	7,964.3	7,957.8	8.7	22.4	-177.25	-124.7	308.1	209.5	179.0	30.58	6.851	
8,100.0	8,072.3	8,054.4	8,047.6	8.8	22.7	-177.61	-121.6	301.7	227.4	196.4	31.04	7.327	
8,200.0	8,171.8	8,140.7	8,132.8	9.0	23.0	-179.62	-110.8	294.5	249.5	218.0	31.44	7.933	
8,300.0	8,271.3	8,228.1	8,217.7	9.1	23.2	-177.01	-91.4	286.6	276.2	244.4	31.80	8.683	
8,400.0	8,370.8	8,316.3	8,301.9	9.2	23.5	-173.05	-66.1	279.7	305.7	273.6	32.15	9.510	
8,500.0	8,470.3	8,385.0	8,365.4	9.3	23.7	-169.44	-40.4	274.6	341.0	308.5	32.50	10.493	
8,600.0	8,569.8	8,461.2	8,433.8	9.4	23.9	-165.70	-8.0	266.6	383.3	350.4	32.84	11.673	
8,700.0	8,669.2	8,540.9	8,505.4	9.5	24.2	-162.71	25.4	256.1	428.5	395.3	33.19	12.910	
8,800.0	8,768.7	8,609.0	8,565.8	9.7	24.4	-160.44	55.4	246.8	476.6	443.0	33.55	14.206	
8,900.0	8,868.2	8,659.7	8,609.1	9.8	24.5	-158.75	80.7	239.0	530.2	496.4	33.87	15.653	
9,000.0	8,967.7	8,695.0	8,637.8	9.9	24.6	-157.49	100.4	233.5	589.8	555.7	34.14	17.276	
9,100.0	9,067.2	8,727.0	8,662.2	10.0	24.7	-156.29	120.3	228.0	655.4	621.1	34.36	19.075	
9,200.0	9,166.7	8,747.1	8,676.5	10.1	24.8	-155.53	133.9	224.1	726.7	692.1	34.52	21.050	
9,300.0	9,266.2	8,758.0	8,683.8	10.3	24.8	-155.12	141.7	221.8	802.6	768.0	34.63	23.174	
9,400.0	9,365.7	8,790.0	8,704.0	10.4	24.9	-153.90	165.6	215.0	881.8	846.9	34.85	25.304	
9,500.0	9,465.2	8,822.0	8,722.8	10.5	25.0	-152.76	190.3	207.6	963.6	928.5	35.08	27.472	
9,600.0	9,564.6	8,842.1	8,734.4	10.6	25.0	-152.12	206.0	202.4	1,047.1	1,011.8	35.27	29.687	
9,700.0	9,664.1	8,853.0	8,740.6	10.8	25.0	-151.80	214.4	199.5	1,132.2	1,096.8	35.44	31.947	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design ADMIRAL FEDERAL PROJECT (ATLAS 2529) - ADMIRAL FEDERAL COM 504H - OWB - AWP													Offset Site Error:	0.0 usft
Survey Program: 139-MWD+IFR1+FDIR, 2087-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
9,767.4	9,731.2	8,853.0	8,740.6	10.8	25.0	-151.80	214.4	199.5	1,190.9	1,155.1	35.77	33.292		
9,775.0	9,738.7	8,853.0	8,740.6	10.8	25.0	-141.51	214.4	199.5	1,197.5	1,161.8	35.78	33.469		
9,800.0	9,763.6	8,853.0	8,740.6	10.8	25.0	-112.65	214.4	199.5	1,219.3	1,183.5	35.81	34.050		
9,825.0	9,788.3	8,853.0	8,740.6	10.8	25.0	-93.16	214.4	199.5	1,240.9	1,205.1	35.84	34.624		
9,850.0	9,812.9	8,853.0	8,740.6	10.9	25.0	-80.10	214.4	199.5	1,262.2	1,226.3	35.87	35.189		
9,875.0	9,837.3	8,853.0	8,740.6	10.9	25.0	-70.75	214.4	199.5	1,283.2	1,247.3	35.90	35.745		
9,900.0	9,861.3	8,853.0	8,740.6	10.9	25.0	-63.64	214.4	199.5	1,303.9	1,268.0	35.93	36.290		
9,925.0	9,885.0	8,853.0	8,740.6	10.9	25.0	-58.00	214.4	199.5	1,324.2	1,288.2	35.96	36.823		
9,950.0	9,908.3	8,853.0	8,740.6	10.9	25.0	-53.39	214.4	199.5	1,344.0	1,308.0	35.99	37.343		
9,975.0	9,931.1	8,853.0	8,740.6	10.9	25.0	-49.53	214.4	199.5	1,363.4	1,327.4	36.02	37.850		
10,000.0	9,953.3	8,853.0	8,740.6	10.9	25.0	-46.25	214.4	199.5	1,382.3	1,346.3	36.05	38.342		
10,025.0	9,974.9	8,853.0	8,740.6	11.0	25.0	-43.42	214.4	199.5	1,400.7	1,364.6	36.08	38.818		
10,050.0	9,995.8	8,853.0	8,740.6	11.0	25.0	-40.98	214.4	199.5	1,418.5	1,382.4	36.12	39.277		
10,075.0	10,016.0	8,853.0	8,740.6	11.0	25.0	-38.84	214.4	199.5	1,435.8	1,399.6	36.15	39.720		
10,100.0	10,035.4	8,853.0	8,740.6	11.0	25.0	-36.96	214.4	199.5	1,452.4	1,416.3	36.18	40.143		
10,125.0	10,054.0	8,853.0	8,740.6	11.1	25.0	-35.30	214.4	199.5	1,468.5	1,432.2	36.21	40.548		
10,150.0	10,071.7	8,853.0	8,740.6	11.1	25.0	-33.83	214.4	199.5	1,483.8	1,447.6	36.25	40.934		
10,175.0	10,088.4	8,853.0	8,740.6	11.1	25.0	-32.53	214.4	199.5	1,498.5	1,462.2	36.29	41.298		
10,200.0	10,104.2	8,853.0	8,740.6	11.1	25.0	-31.37	214.4	199.5	1,512.5	1,476.2	36.32	41.642		
10,225.0	10,118.9	8,853.0	8,740.6	11.2	25.0	-30.34	214.4	199.5	1,525.8	1,489.5	36.36	41.963		
10,250.0	10,132.6	8,853.0	8,740.6	11.2	25.0	-29.43	214.4	199.5	1,538.4	1,502.0	36.40	42.263		
10,275.0	10,145.1	8,853.0	8,740.6	11.2	25.0	-28.61	214.4	199.5	1,550.2	1,513.8	36.44	42.539		
10,300.0	10,156.5	8,853.0	8,740.6	11.3	25.0	-27.89	214.4	199.5	1,561.3	1,524.8	36.49	42.791		
10,325.0	10,166.8	8,853.0	8,740.6	11.3	25.0	-27.25	214.4	199.5	1,571.6	1,535.0	36.53	43.019		
10,350.0	10,175.8	8,853.0	8,740.6	11.4	25.0	-26.69	214.4	199.5	1,581.1	1,544.5	36.58	43.223		
10,375.0	10,183.6	8,853.0	8,740.6	11.4	25.0	-26.19	214.4	199.5	1,589.8	1,553.2	36.63	43.403		
10,400.0	10,190.2	8,853.0	8,740.6	11.4	25.0	-25.77	214.4	199.5	1,597.7	1,561.0	36.68	43.556		
10,425.0	10,195.5	8,853.0	8,740.6	11.5	25.0	-25.40	214.4	199.5	1,604.8	1,568.0	36.73	43.685		
10,450.0	10,199.5	8,853.0	8,740.6	11.5	25.0	-25.09	214.4	199.5	1,611.0	1,574.2	36.79	43.788		
10,475.0	10,202.3	8,853.0	8,740.6	11.6	25.0	-24.84	214.4	199.5	1,616.4	1,579.6	36.85	43.866		
10,500.0	10,203.7	8,853.0	8,740.6	11.6	25.0	-24.64	214.4	199.5	1,621.0	1,584.1	36.91	43.917		
10,513.0	10,204.0	8,853.0	8,740.6	11.6	25.0	-24.56	214.4	199.5	1,623.0	1,586.1	36.94	43.935		
10,600.0	10,204.3	8,853.0	8,740.6	11.8	25.0	-24.82	214.4	199.5	1,637.7	1,600.5	37.18	44.046		
10,700.0	10,204.8	8,853.0	8,740.6	12.1	25.0	-25.20	214.4	199.5	1,658.6	1,621.2	37.48	44.252		
10,800.0	10,205.3	8,853.0	8,740.6	12.4	25.0	-25.67	214.4	199.5	1,683.9	1,646.1	37.80	44.543		
10,900.0	10,205.7	8,853.0	8,740.6	12.9	25.0	-26.21	214.4	199.5	1,713.2	1,675.0	38.14	44.920		
11,000.0	10,206.2	8,853.0	8,740.6	13.3	25.0	-26.83	214.4	199.5	1,746.2	1,707.8	38.48	45.385		
11,100.0	10,206.6	8,853.0	8,740.6	13.8	25.0	-27.52	214.4	199.5	1,782.9	1,744.1	38.81	45.935		
11,200.0	10,207.1	8,853.0	8,740.6	14.4	25.0	-28.28	214.4	199.5	1,822.8	1,783.7	39.14	46.567		
11,300.0	10,207.6	8,853.0	8,740.6	14.9	25.0	-29.10	214.4	199.5	1,865.8	1,826.3	39.46	47.279		
11,400.0	10,208.0	8,853.0	8,740.6	15.5	25.0	-29.99	214.4	199.5	1,911.5	1,871.7	39.77	48.066		
11,500.0	10,208.5	8,853.0	8,740.6	16.1	25.0	-30.93	214.4	199.5	1,959.8	1,919.7	40.06	48.922		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 139-MWD+IFR1+FDIR, 2087-MWD+IFR1+FDIR, 7725-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference				Offset				Semi Major Axis				Distance	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	91.17	-9.0	440.2	440.3				
100.0	100.0	96.8	96.8	3.0	3.0	91.21	-9.3	440.3	440.4	434.4	6.00	73.354	
200.0	200.0	195.3	195.3	3.0	3.0	91.32	-10.1	440.5	440.7	434.6	6.03	73.102	
300.0	300.0	293.2	293.2	3.0	3.1	91.37	-10.6	441.3	441.4	435.3	6.10	72.408	
400.0	400.0	387.0	387.0	3.0	3.2	91.37	-10.6	442.7	443.0	436.8	6.20	71.487	
500.0	500.0	479.4	479.3	3.1	3.3	91.29	-10.1	445.7	446.2	439.9	6.33	70.542	
600.0	600.0	575.3	575.1	3.1	3.5	91.12	-8.8	450.2	450.8	444.3	6.49	69.467	
700.0	700.0	673.7	673.3	3.1	3.7	90.81	-6.4	455.4	456.1	449.4	6.69	68.204	
800.0	800.0	777.7	777.1	3.2	3.9	90.40	-3.2	460.5	460.9	454.0	6.92	66.568	
900.0	900.0	891.8	891.1	3.2	4.2	90.02	-0.1	464.5	464.5	457.3	7.21	64.438	
1,000.0	1,000.0	1,021.8	1,021.0	3.2	4.5	90.16	-1.3	460.6	461.2	453.7	7.53	61.277	
1,100.0	1,100.0	1,122.1	1,121.3	3.3	4.7	90.30	-2.4	455.3	455.9	448.1	7.80	58.476	
1,200.0	1,200.0	1,207.6	1,206.6	3.4	5.0	90.30	-2.4	451.8	451.9	443.9	8.05	56.130	
1,257.7	1,257.7	1,256.2	1,255.2	3.4	5.1	90.19	-1.5	451.4	451.4	443.2	8.20	55.060	
1,300.0	1,300.0	1,294.5	1,293.5	3.4	5.2	90.07	-0.6	451.6	451.6	443.3	8.32	54.308	
1,400.0	1,400.0	1,391.7	1,390.6	3.5	5.5	89.72	2.2	453.1	453.1	444.5	8.62	52.581	
1,500.0	1,500.0	1,493.8	1,492.7	3.5	5.8	89.35	5.2	454.3	454.4	445.4	8.94	50.805	
1,600.0	1,600.0	1,594.6	1,593.5	3.6	6.1	89.01	7.9	455.2	455.3	446.0	9.27	49.097	
1,700.0	1,700.0	1,695.4	1,694.2	3.7	6.4	88.74	10.0	456.0	456.1	446.5	9.61	47.460	
1,800.0	1,800.0	1,797.0	1,795.8	3.8	6.7	88.53	11.7	456.5	456.7	446.7	9.96	45.870	
1,900.0	1,900.0	1,899.6	1,898.4	3.9	7.1	88.36	13.0	456.6	456.8	446.5	10.31	44.310	
2,000.0	2,000.0	1,999.4	1,998.2	3.9	7.4	88.22	14.2	456.4	456.6	446.0	10.65	42.887	
2,030.4	2,030.4	2,029.1	2,027.9	4.0	7.4	88.18	14.5	456.3	456.6	445.9	10.70	42.654	
2,100.0	2,100.0	2,097.3	2,096.1	4.0	7.5	88.09	15.2	456.4	456.7	445.9	10.82	42.203	
2,200.0	2,200.0	2,195.8	2,194.6	4.1	7.5	87.97	16.2	456.8	457.1	446.3	10.87	42.052	
2,300.0	2,300.0	2,290.7	2,289.5	4.2	7.6	87.89	16.8	457.9	458.2	447.3	10.93	41.908	
2,400.0	2,400.0	2,383.1	2,381.8	4.3	7.6	87.89	17.0	460.4	461.0	450.0	11.01	41.871	
2,500.0	2,500.0	2,492.7	2,491.4	4.4	7.7	88.05	15.8	463.1	463.5	452.3	11.12	41.684	
2,600.0	2,600.0	2,598.7	2,597.3	4.4	7.8	-22.00	12.8	463.5	462.1	450.8	11.24	41.114	
2,700.0	2,699.8	2,698.2	2,696.8	4.5	7.9	-21.89	9.7	463.9	457.5	446.1	11.37	40.222	
2,790.0	2,789.5	2,786.7	2,785.3	4.5	8.0	-21.89	6.5	463.9	450.3	438.8	11.51	39.125	
2,800.0	2,799.5	2,796.0	2,794.6	4.5	8.0	-21.89	6.1	464.0	449.5	437.9	11.53	38.995	
2,900.0	2,898.9	2,893.0	2,891.5	4.5	8.1	-21.90	2.6	465.1	441.1	429.4	11.69	37.719	
3,000.0	2,998.4	2,994.3	2,992.7	4.5	8.2	-21.94	-0.9	466.2	432.7	420.8	11.89	36.390	
3,100.0	3,097.9	3,095.7	3,094.1	4.5	8.4	-22.04	-4.0	466.8	423.8	411.7	12.10	35.035	
3,200.0	3,197.4	3,202.5	3,200.8	4.6	8.6	-22.19	-7.0	466.5	414.1	401.8	12.33	33.589	
3,300.0	3,296.9	3,307.4	3,305.7	4.6	8.7	-22.38	-9.7	464.3	402.6	390.0	12.57	32.025	
3,400.0	3,396.4	3,406.0	3,404.2	4.6	8.9	-22.56	-12.4	461.7	390.6	377.7	12.82	30.467	
3,500.0	3,495.9	3,504.2	3,502.4	4.7	9.1	-22.77	-14.9	459.4	378.8	365.7	13.08	28.959	
3,600.0	3,595.4	3,603.2	3,601.3	4.7	9.3	-23.06	-17.0	457.2	367.2	353.8	13.36	27.489	
3,700.0	3,694.8	3,702.2	3,700.2	4.7	9.5	-23.40	-19.0	455.1	355.6	342.0	13.64	26.064	
3,800.0	3,794.3	3,801.7	3,799.7	4.8	9.7	-23.76	-20.9	452.9	344.1	330.1	13.95	24.672	
3,900.0	3,893.8	3,899.8	3,897.8	4.9	10.0	-24.21	-22.4	450.9	332.7	318.5	14.26	23.342	
4,000.0	3,993.3	3,998.6	3,996.5	4.9	10.2	-24.76	-23.6	449.2	321.7	307.1	14.58	22.070	
4,100.0	4,092.8	4,097.6	4,095.6	5.0	10.4	-25.35	-24.7	447.5	310.8	295.9	14.91	20.848	
4,200.0	4,192.3	4,196.9	4,194.8	5.0	10.7	-25.98	-25.8	446.0	300.0	284.8	15.25	19.674	
4,300.0	4,291.8	4,296.5	4,294.4	5.1	10.9	-26.68	-26.9	444.4	289.2	273.6	15.60	18.539	
4,400.0	4,391.3	4,396.2	4,394.1	5.2	11.2	-27.42	-28.1	442.6	278.4	262.4	15.96	17.442	
4,500.0	4,490.8	4,495.7	4,493.6	5.2	11.5	-28.19	-29.3	440.8	267.5	251.1	16.33	16.381	
4,600.0	4,590.2	4,595.0	4,592.9	5.3	11.7	-29.07	-30.4	439.0	256.6	239.9	16.70	15.364	
4,700.0	4,689.7	4,694.8	4,692.6	5.4	12.0	-30.03	-31.5	437.1	245.7	228.7	17.09	14.384	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design ADMIRAL FEDERAL PROJECT (ATLAS 2529) - ADMIRAL FEDERAL COM 504H - ST01 - ST01												Offset Site Error:	0.0 usft
Survey Program: 139-MWD+IFR1+FDIR, 2087-MWD+IFR1+FDIR, 7725-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance									Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
17,000.0	10,233.3	14,972.8	8,688.5	59.4	60.9	-35.96	6,616.9	-39.0	1,905.4	1,790.9	114.52	16.638	
17,100.0	10,233.8	15,039.0	8,688.5	60.3	61.4	-35.97	6,683.0	-40.0	1,906.5	1,790.7	115.81	16.462	
17,200.0	10,234.2	15,118.9	8,687.9	61.1	62.0	-36.00	6,762.9	-42.3	1,909.0	1,791.8	117.19	16.289	
17,300.0	10,234.7	15,193.0	8,686.3	62.0	62.7	-36.03	6,837.0	-45.1	1,912.9	1,794.4	118.51	16.141	
17,400.0	10,235.1	15,278.9	8,683.5	62.8	63.4	-36.04	6,922.7	-48.6	1,918.1	1,798.2	119.93	15.994	
17,500.0	10,235.6	15,402.7	8,681.0	63.7	64.4	-36.12	7,046.3	-54.7	1,922.6	1,800.9	121.71	15.796	
17,600.0	10,236.0	15,511.0	8,680.5	64.5	65.2	-36.24	7,154.5	-60.7	1,926.3	1,802.9	123.36	15.615	
17,700.0	10,236.5	15,580.2	8,679.2	65.4	65.8	-36.29	7,223.5	-64.6	1,931.1	1,806.4	124.64	15.493	
17,800.0	10,236.9	15,605.0	8,678.6	66.2	66.0	-36.31	7,248.3	-66.0	1,937.9	1,812.5	125.38	15.456	
17,900.0	10,237.4	15,605.0	8,678.6	67.1	66.0	-36.31	7,248.3	-66.0	1,949.6	1,824.0	125.60	15.522	
18,000.0	10,237.8	15,605.0	8,678.6	67.9	66.0	-36.31	7,248.3	-66.0	1,966.3	1,840.7	125.53	15.664	
18,100.0	10,238.3	15,605.0	8,678.6	68.7	66.0	-36.31	7,248.3	-66.0	1,987.9	1,862.7	125.20	15.878	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design													Offset Site Error:	0.0 usft
Survey Program: 139-MWD+IFR1+FDIR, 2087-MWD+IFR1+FDIR, 7725-MWD+IFR1+FDIR, 13810-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference				Offset				Semi Major Axis				Distance		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	3.0	3.0	91.17	-9.0	440.2	440.3					
100.0	100.0	96.8	96.8	3.0	3.0	91.21	-9.3	440.3	440.4	434.4	6.00	73.354		
200.0	200.0	195.3	195.3	3.0	3.0	91.32	-10.1	440.5	440.7	434.6	6.03	73.102		
300.0	300.0	293.2	293.2	3.0	3.1	91.37	-10.6	441.3	441.4	435.3	6.10	72.408		
400.0	400.0	387.0	387.0	3.0	3.2	91.37	-10.6	442.7	443.0	436.8	6.20	71.487		
500.0	500.0	479.4	479.3	3.1	3.3	91.29	-10.1	445.7	446.2	439.9	6.33	70.542		
600.0	600.0	575.3	575.1	3.1	3.5	91.12	-8.8	450.2	450.8	444.3	6.49	69.467		
700.0	700.0	673.7	673.3	3.1	3.7	90.81	-6.4	455.4	456.1	449.4	6.69	68.204		
800.0	800.0	777.7	777.1	3.2	3.9	90.40	-3.2	460.5	460.9	454.0	6.92	66.568		
900.0	900.0	891.8	891.1	3.2	4.2	90.02	-0.1	464.5	464.5	457.3	7.21	64.438		
1,000.0	1,000.0	1,021.8	1,021.0	3.2	4.5	90.16	-1.3	460.6	461.2	453.7	7.53	61.277		
1,100.0	1,100.0	1,122.1	1,121.3	3.3	4.7	90.30	-2.4	455.3	455.9	448.1	7.80	58.476		
1,200.0	1,200.0	1,207.6	1,206.6	3.4	5.0	90.30	-2.4	451.8	451.9	443.9	8.05	56.130		
1,257.7	1,257.7	1,256.2	1,255.2	3.4	5.1	90.19	-1.5	451.4	451.4	443.2	8.20	55.060		
1,300.0	1,300.0	1,294.5	1,293.5	3.4	5.2	90.07	-0.6	451.6	451.6	443.3	8.32	54.308		
1,400.0	1,400.0	1,391.7	1,390.6	3.5	5.5	89.72	2.2	453.1	453.1	444.5	8.62	52.581		
1,500.0	1,500.0	1,493.8	1,492.7	3.5	5.8	89.35	5.2	454.3	454.4	445.4	8.94	50.805		
1,600.0	1,600.0	1,594.6	1,593.5	3.6	6.1	89.01	7.9	455.2	455.3	446.0	9.27	49.097		
1,700.0	1,700.0	1,695.4	1,694.2	3.7	6.4	88.74	10.0	456.0	456.1	446.5	9.61	47.460		
1,800.0	1,800.0	1,797.0	1,795.8	3.8	6.7	88.53	11.7	456.5	456.7	446.7	9.96	45.870		
1,900.0	1,900.0	1,899.6	1,898.4	3.9	7.1	88.36	13.0	456.6	456.8	446.5	10.31	44.310		
2,000.0	2,000.0	1,999.4	1,998.2	3.9	7.4	88.22	14.2	456.4	456.6	446.0	10.65	42.887		
2,030.4	2,030.4	2,029.1	2,027.9	4.0	7.4	88.18	14.5	456.3	456.6	445.9	10.70	42.654		
2,100.0	2,100.0	2,097.3	2,096.1	4.0	7.5	88.09	15.2	456.4	456.7	445.9	10.82	42.203		
2,200.0	2,200.0	2,195.8	2,194.6	4.1	7.5	87.97	16.2	456.8	457.1	446.3	10.87	42.052		
2,300.0	2,300.0	2,290.7	2,289.5	4.2	7.6	87.89	16.8	457.9	458.2	447.3	10.93	41.908		
2,400.0	2,400.0	2,383.1	2,381.8	4.3	7.6	87.89	17.0	460.4	461.0	450.0	11.01	41.871		
2,500.0	2,500.0	2,492.7	2,491.4	4.4	7.7	88.05	15.8	463.1	463.5	452.3	11.12	41.684		
2,600.0	2,600.0	2,598.7	2,597.3	4.4	7.8	-22.00	12.8	463.5	462.1	450.8	11.24	41.114		
2,700.0	2,699.8	2,698.2	2,696.8	4.5	7.9	-21.89	9.7	463.9	457.5	446.1	11.37	40.222		
2,790.0	2,789.5	2,786.7	2,785.3	4.5	8.0	-21.89	6.5	463.9	450.3	438.8	11.51	39.125		
2,800.0	2,799.5	2,796.0	2,794.6	4.5	8.0	-21.89	6.1	464.0	449.5	437.9	11.53	38.995		
2,900.0	2,898.9	2,893.0	2,891.5	4.5	8.1	-21.90	2.6	465.1	441.1	429.4	11.69	37.719		
3,000.0	2,998.4	2,994.3	2,992.7	4.5	8.2	-21.94	-0.9	466.2	432.7	420.8	11.89	36.390		
3,100.0	3,097.9	3,095.7	3,094.1	4.5	8.4	-22.04	-4.0	466.8	423.8	411.7	12.10	35.035		
3,200.0	3,197.4	3,202.5	3,200.8	4.6	8.6	-22.19	-7.0	466.5	414.1	401.8	12.33	33.589		
3,300.0	3,296.9	3,307.4	3,305.7	4.6	8.7	-22.38	-9.7	464.3	402.6	390.0	12.57	32.025		
3,400.0	3,396.4	3,406.0	3,404.2	4.6	8.9	-22.56	-12.4	461.7	390.6	377.7	12.82	30.467		
3,500.0	3,495.9	3,504.2	3,502.4	4.7	9.1	-22.77	-14.9	459.4	378.8	365.7	13.08	28.959		
3,600.0	3,595.4	3,603.2	3,601.3	4.7	9.3	-23.06	-17.0	457.2	367.2	353.8	13.36	27.489		
3,700.0	3,694.8	3,702.2	3,700.2	4.7	9.5	-23.40	-19.0	455.1	355.6	342.0	13.64	26.064		
3,800.0	3,794.3	3,801.7	3,799.7	4.8	9.7	-23.76	-20.9	452.9	344.1	330.1	13.95	24.672		
3,900.0	3,893.8	3,899.8	3,897.8	4.9	10.0	-24.21	-22.4	450.9	332.7	318.5	14.26	23.342		
4,000.0	3,993.3	3,998.6	3,996.5	4.9	10.2	-24.76	-23.6	449.2	321.7	307.1	14.58	22.070		
4,100.0	4,092.8	4,097.6	4,095.6	5.0	10.4	-25.35	-24.7	447.5	310.8	295.9	14.91	20.848		
4,200.0	4,192.3	4,196.9	4,194.8	5.0	10.7	-25.98	-25.8	446.0	300.0	284.8	15.25	19.674		
4,300.0	4,291.8	4,296.5	4,294.4	5.1	10.9	-26.68	-26.9	444.4	289.2	273.6	15.60	18.539		
4,400.0	4,391.3	4,396.2	4,394.1	5.2	11.2	-27.42	-28.1	442.6	278.4	262.4	15.96	17.442		
4,500.0	4,490.8	4,495.7	4,493.6	5.2	11.5	-28.19	-29.3	440.8	267.5	251.1	16.33	16.381		
4,600.0	4,590.2	4,595.0	4,592.9	5.3	11.7	-29.07	-30.4	439.0	256.6	239.9	16.70	15.364		
4,700.0	4,689.7	4,694.8	4,692.6	5.4	12.0	-30.03	-31.5	437.1	245.7	228.7	17.09	14.384		

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design		ADMIRAL FEDERAL PROJECT (ATLAS 2529) - ADMIRAL FEDERAL COM 504H - ST02 - ST02											Offset Site Error:		0.0 usft	
Survey Program:		139-MWD+IFR1+FDIR, 2087-MWD+IFR1+FDIR, 7725-MWD+IFR1+FDIR, 13810-MWD+IFR1+FDIR											Offset Well Error:		3.0 usft	
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
17,000.0	10,233.3	15,030.4	8,667.4	59.4	56.7	-36.90	6,674.2	-94.3	1,955.8	1,847.6	108.18	18.079				
17,100.0	10,233.8	15,109.6	8,668.7	60.3	57.0	-36.88	6,753.3	-93.1	1,953.6	1,844.4	109.20	17.890				
17,200.0	10,234.2	15,317.1	8,677.7	61.1	58.0	-36.88	6,960.5	-88.2	1,948.2	1,837.8	110.41	17.645				
17,300.0	10,234.7	15,393.2	8,682.5	62.0	58.4	-36.91	7,036.4	-86.5	1,941.8	1,830.3	111.51	17.414				
17,400.0	10,235.1	15,462.8	8,686.0	62.8	58.8	-36.93	7,105.9	-85.2	1,936.8	1,824.3	112.59	17.203				
17,500.0	10,235.6	15,532.3	8,688.1	63.7	59.1	-36.92	7,175.4	-84.1	1,933.5	1,819.9	113.65	17.013				
17,600.0	10,236.0	15,605.0	8,689.4	64.5	59.5	-36.92	7,248.0	-83.5	1,931.6	1,816.9	114.71	16.839				
17,700.0	10,236.5	15,683.6	8,689.9	65.4	59.9	-36.90	7,326.7	-83.2	1,930.9	1,815.1	115.77	16.678				
17,704.8	10,236.5	15,687.3	8,689.9	65.4	59.9	-36.90	7,330.3	-83.1	1,930.9	1,815.1	115.82	16.671				
17,800.0	10,236.9	15,754.7	8,689.4	66.2	60.3	-36.88	7,397.7	-83.1	1,931.6	1,814.8	116.80	16.537				
17,900.0	10,237.4	15,874.4	8,687.2	67.1	61.0	-36.82	7,517.4	-83.2	1,933.2	1,815.2	118.02	16.381				
18,000.0	10,237.8	15,952.4	8,686.6	67.9	61.4	-36.79	7,595.4	-83.2	1,934.0	1,814.9	119.08	16.241				
18,100.0	10,238.3	16,057.8	8,684.9	68.7	62.0	-36.76	7,700.8	-84.0	1,935.8	1,815.5	120.27	16.095				
18,200.0	10,238.7	16,234.9	8,688.2	69.6	63.0	-36.79	7,877.9	-84.4	1,934.1	1,812.3	121.73	15.888				
18,300.0	10,239.2	16,318.2	8,690.9	70.4	63.4	-36.83	7,961.1	-84.5	1,931.7	1,808.8	122.90	15.718				
18,400.0	10,239.6	16,389.7	8,691.8	71.3	63.9	-36.82	8,032.6	-84.3	1,930.5	1,806.5	124.01	15.567				
18,420.8	10,239.7	16,403.4	8,691.8	71.5	63.9	-36.82	8,046.3	-84.2	1,930.4	1,806.2	124.23	15.539				
18,500.0	10,240.1	16,452.0	8,691.2	72.1	64.2	-36.79	8,094.9	-83.9	1,931.0	1,806.0	125.05	15.442				
18,600.0	10,240.5	16,546.0	8,688.9	73.0	64.8	-36.71	8,188.8	-83.2	1,932.6	1,806.4	126.22	15.312				
18,700.0	10,241.0	16,663.5	8,687.4	73.8	65.5	-36.67	8,306.3	-83.5	1,933.8	1,806.2	127.52	15.165				
18,800.0	10,241.4	16,734.0	8,686.4	74.7	65.9	-36.65	8,376.8	-83.9	1,935.4	1,806.8	128.60	15.050				
18,900.0	10,241.9	16,814.6	8,683.9	75.5	66.4	-36.60	8,457.4	-84.2	1,938.3	1,808.5	129.71	14.943				
19,000.0	10,242.3	16,931.7	8,679.5	76.4	67.1	-36.51	8,574.4	-84.7	1,941.6	1,810.6	131.04	14.817				
19,100.0	10,242.8	17,145.0	8,680.9	77.2	68.4	-36.48	8,787.6	-84.4	1,940.7	1,808.0	132.77	14.618				
19,200.0	10,243.2	17,241.2	8,685.6	78.1	69.0	-36.56	8,883.8	-85.2	1,937.4	1,803.3	134.06	14.451				
19,300.0	10,243.7	17,317.3	8,688.9	78.9	69.5	-36.64	8,959.8	-86.5	1,935.0	1,799.7	135.30	14.302				
19,400.0	10,244.1	17,393.0	8,691.2	79.8	70.0	-36.70	9,035.4	-87.9	1,933.8	1,797.3	136.51	14.166				
19,454.6	10,244.4	17,437.7	8,692.0	80.3	70.3	-36.73	9,080.1	-88.9	1,933.7	1,796.5	137.19	14.095				
19,500.0	10,244.6	17,474.1	8,692.5	80.6	70.5	-36.74	9,116.4	-89.6	1,933.8	1,796.0	137.74	14.039				
19,600.0	10,245.0	17,548.7	8,692.7	81.5	71.0	-36.77	9,191.1	-91.1	1,934.9	1,796.0	138.92	13.928				
19,700.0	10,245.5	17,648.4	8,691.6	82.3	71.6	-36.77	9,290.7	-93.0	1,937.0	1,796.7	140.23	13.813				
19,800.0	10,245.9	17,771.1	8,691.5	83.2	72.4	-36.80	9,413.4	-95.1	1,938.1	1,796.4	141.67	13.680				
19,900.0	10,246.4	17,855.0	8,691.2	84.0	73.0	-36.80	9,497.3	-96.2	1,939.2	1,796.3	142.91	13.569				
20,000.0	10,246.8	17,956.8	8,690.2	84.9	73.6	-36.79	9,599.1	-97.3	1,940.7	1,796.5	144.25	13.454				
20,100.0	10,247.3	18,043.0	8,689.1	85.7	74.2	-36.78	9,685.3	-98.3	1,942.5	1,797.0	145.50	13.351				
20,200.0	10,247.7	18,130.3	8,687.7	86.6	74.8	-36.77	9,772.6	-99.9	1,944.9	1,798.2	146.75	13.253				
20,300.0	10,248.2	18,215.0	8,686.1	87.5	75.4	-36.78	9,857.2	-102.1	1,948.0	1,800.0	148.00	13.162				
20,400.0	10,248.6	18,305.6	8,683.6	88.3	76.0	-36.77	9,947.7	-104.4	1,951.8	1,802.5	149.28	13.075				
20,486.2	10,249.0	18,372.0	8,681.4	88.9	76.4	-36.76	10,014.0	-106.2	1,955.6	1,805.7	149.88	13.048				

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 142-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference				Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	91.08	-8.9	470.2	470.3				
100.0	100.0	95.6	95.6	3.0	3.0	91.13	-9.2	470.4	470.5	464.5	6.00	78.379	
200.0	200.0	196.4	196.3	3.0	3.0	91.24	-10.2	471.0	471.1	465.1	6.03	78.152	
300.0	300.0	295.5	295.5	3.0	3.1	91.32	-10.9	471.3	471.4	465.3	6.10	77.305	
400.0	400.0	394.3	394.3	3.0	3.2	91.33	-11.0	472.0	472.1	465.9	6.21	76.083	
500.0	500.0	487.9	487.8	3.1	3.3	91.31	-10.8	473.2	473.4	467.1	6.34	74.685	
600.0	600.0	582.0	581.9	3.1	3.5	91.26	-10.5	475.9	476.3	469.8	6.50	73.243	
700.0	700.0	681.2	681.1	3.1	3.7	91.20	-10.0	479.4	479.8	473.1	6.70	71.576	
800.0	800.0	783.2	783.0	3.2	3.9	91.07	-9.0	482.8	483.1	476.2	6.94	69.650	
900.0	900.0	885.8	885.6	3.2	4.1	90.95	-8.1	485.7	485.9	478.7	7.19	67.555	
1,000.0	1,000.0	983.0	982.7	3.2	4.4	91.06	-9.0	488.5	488.8	481.4	7.45	65.588	
1,100.0	1,100.0	1,083.2	1,082.9	3.3	4.7	91.33	-11.4	491.5	491.9	484.2	7.74	63.580	
1,200.0	1,200.0	1,183.1	1,182.7	3.4	4.9	91.53	-13.2	494.6	495.0	487.0	8.03	61.620	
1,300.0	1,300.0	1,282.5	1,282.0	3.4	5.2	91.72	-14.9	497.6	498.1	489.7	8.34	59.727	
1,400.0	1,400.0	1,378.9	1,378.4	3.5	5.5	91.90	-16.6	500.9	501.6	492.9	8.65	58.019	
1,500.0	1,500.0	1,474.9	1,474.3	3.5	5.8	92.04	-18.0	505.1	505.9	497.0	8.96	56.480	
1,600.0	1,600.0	1,573.9	1,573.1	3.6	6.1	92.20	-19.6	509.8	510.8	501.5	9.29	54.998	
1,700.0	1,700.0	1,676.8	1,675.8	3.7	6.4	92.58	-23.2	514.5	515.5	505.8	9.64	53.481	
1,800.0	1,800.0	1,778.8	1,777.7	3.8	6.8	93.02	-27.4	518.4	519.5	509.5	9.99	51.992	
1,900.0	1,900.0	1,878.8	1,877.5	3.9	7.1	93.44	-31.4	522.1	523.4	513.1	10.34	50.606	
2,000.0	2,000.0	1,982.0	1,980.7	3.9	7.4	93.79	-34.9	525.6	527.1	516.4	10.71	49.215	
2,100.0	2,100.0	2,086.8	2,085.3	4.0	7.8	94.17	-38.5	528.4	529.9	518.8	11.09	47.804	
2,200.0	2,200.0	2,182.5	2,181.0	4.1	8.1	94.46	-41.4	530.8	532.6	521.2	11.43	46.584	
2,300.0	2,300.0	2,274.2	2,272.5	4.2	8.4	94.67	-43.6	534.2	536.6	524.8	11.77	45.584	
2,400.0	2,400.0	2,365.1	2,363.2	4.3	8.7	94.94	-46.5	539.0	542.2	530.1	12.11	44.776	
2,500.0	2,500.0	2,464.9	2,462.8	4.4	9.0	95.29	-50.5	545.2	548.7	536.2	12.48	43.952	
2,600.0	2,600.0	2,563.2	2,560.8	4.4	9.4	-14.69	-54.6	551.3	553.6	540.7	12.85	43.070	
2,700.0	2,699.8	2,656.1	2,653.4	4.5	9.7	-14.42	-58.9	557.7	555.8	542.6	13.20	42.113	
2,790.0	2,789.5	2,742.5	2,739.4	4.5	10.0	-14.28	-62.9	564.5	555.9	542.4	13.52	41.101	
2,800.0	2,799.5	2,752.1	2,749.0	4.5	10.0	-14.27	-63.3	565.3	555.8	542.2	13.56	40.982	
2,900.0	2,898.9	2,854.6	2,851.0	4.5	10.4	-14.15	-67.9	573.6	554.5	540.6	13.96	39.728	
3,000.0	2,998.4	2,962.2	2,958.3	4.5	10.8	-14.08	-72.1	581.3	552.2	537.8	14.38	38.399	
3,100.0	3,097.9	3,062.0	3,057.8	4.5	11.1	-14.05	-75.6	587.8	549.3	534.5	14.77	37.181	
3,200.0	3,197.4	3,163.2	3,158.7	4.6	11.5	-14.00	-79.3	594.5	546.4	531.2	15.18	36.000	
3,300.0	3,296.9	3,265.7	3,261.0	4.6	11.8	-13.98	-82.7	600.7	543.0	527.4	15.59	34.830	
3,400.0	3,396.4	3,366.1	3,361.2	4.6	12.2	-14.02	-85.4	606.6	539.3	523.3	16.00	33.711	
3,500.0	3,495.9	3,467.9	3,462.8	4.7	12.5	-14.06	-88.2	612.5	535.6	519.2	16.42	32.624	
3,600.0	3,595.4	3,572.4	3,567.1	4.7	12.9	-14.14	-90.6	618.0	531.2	514.3	16.85	31.527	
3,700.0	3,694.8	3,674.0	3,668.6	4.7	13.3	-14.27	-92.5	622.6	526.1	508.8	17.27	30.457	
3,800.0	3,794.3	3,759.3	3,753.8	4.8	13.6	-14.33	-94.6	627.3	522.1	504.4	17.64	29.599	
3,900.0	3,893.8	3,854.9	3,849.0	4.9	13.9	-14.30	-98.1	634.8	520.4	502.4	18.04	28.841	
4,000.0	3,993.3	3,959.3	3,953.0	4.9	14.3	-14.32	-101.3	642.7	518.5	500.0	18.49	28.039	
4,100.0	4,092.8	4,059.6	4,053.1	5.0	14.6	-14.40	-103.9	649.8	516.0	497.1	18.93	27.264	
4,200.0	4,192.3	4,160.1	4,153.3	5.0	15.0	-14.53	-106.0	656.9	513.5	494.1	19.36	26.518	
4,300.0	4,291.8	4,263.1	4,256.0	5.1	15.3	-14.69	-107.9	663.9	510.6	490.8	19.81	25.769	
4,400.0	4,391.3	4,362.5	4,355.2	5.2	15.7	-14.84	-109.7	670.2	507.3	487.1	20.25	25.050	
4,500.0	4,490.8	4,454.3	4,446.6	5.2	16.0	-14.80	-113.1	676.9	505.1	484.5	20.66	24.450	
4,600.0	4,590.2	4,550.4	4,542.3	5.3	16.4	-14.62	-118.0	685.0	504.2	483.1	21.08	23.914	
4,700.0	4,689.7	4,656.3	4,647.7	5.4	16.7	-14.41	-123.4	693.4	502.9	481.3	21.55	23.331	
4,800.0	4,789.2	4,758.0	4,749.0	5.5	17.1	-14.28	-127.8	700.9	500.8	478.8	22.01	22.756	
4,900.0	4,888.7	4,858.7	4,849.4	5.5	17.5	-14.17	-132.1	708.1	498.6	476.1	22.46	22.199	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
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Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design												Offset Site Error:	0.0 usft
Survey Program: 142-MWD+IFR1+FDIR, 9097-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference				Offset				Semi Major Axis				Distance	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	91.08	-8.9	470.2	470.3				
100.0	100.0	95.6	95.6	3.0	3.0	91.13	-9.2	470.4	470.5	464.5	6.00	78.379	
200.0	200.0	196.4	196.3	3.0	3.0	91.24	-10.2	471.0	471.1	465.1	6.03	78.152	
300.0	300.0	295.5	295.5	3.0	3.1	91.32	-10.9	471.3	471.4	465.3	6.10	77.305	
400.0	400.0	394.3	394.3	3.0	3.2	91.33	-11.0	472.0	472.1	465.9	6.21	76.083	
500.0	500.0	487.9	487.8	3.1	3.3	91.31	-10.8	473.2	473.4	467.1	6.34	74.685	
600.0	600.0	582.0	581.9	3.1	3.5	91.26	-10.5	475.9	476.3	469.8	6.50	73.243	
700.0	700.0	681.2	681.1	3.1	3.7	91.20	-10.0	479.4	479.8	473.1	6.70	71.576	
800.0	800.0	783.2	783.0	3.2	3.9	91.07	-9.0	482.8	483.1	476.2	6.94	69.650	
900.0	900.0	885.8	885.6	3.2	4.1	90.95	-8.1	485.7	485.9	478.7	7.19	67.555	
1,000.0	1,000.0	983.0	982.7	3.2	4.4	91.06	-9.0	488.5	488.8	481.4	7.45	65.588	
1,100.0	1,100.0	1,083.2	1,082.9	3.3	4.7	91.33	-11.4	491.5	491.9	484.2	7.74	63.580	
1,200.0	1,200.0	1,183.1	1,182.7	3.4	4.9	91.53	-13.2	494.6	495.0	487.0	8.03	61.620	
1,300.0	1,300.0	1,282.5	1,282.0	3.4	5.2	91.72	-14.9	497.6	498.1	489.7	8.34	59.727	
1,400.0	1,400.0	1,378.9	1,378.4	3.5	5.5	91.90	-16.6	500.9	501.6	492.9	8.65	58.019	
1,500.0	1,500.0	1,474.9	1,474.3	3.5	5.8	92.04	-18.0	505.1	505.9	497.0	8.96	56.480	
1,600.0	1,600.0	1,573.9	1,573.1	3.6	6.1	92.20	-19.6	509.8	510.8	501.5	9.29	54.998	
1,700.0	1,700.0	1,676.8	1,675.8	3.7	6.4	92.58	-23.2	514.5	515.5	505.8	9.64	53.481	
1,800.0	1,800.0	1,778.8	1,777.7	3.8	6.8	93.02	-27.4	518.4	519.5	509.5	9.99	51.992	
1,900.0	1,900.0	1,878.8	1,877.5	3.9	7.1	93.44	-31.4	522.1	523.4	513.1	10.34	50.606	
2,000.0	2,000.0	1,982.0	1,980.7	3.9	7.4	93.79	-34.9	525.6	527.1	516.4	10.71	49.215	
2,100.0	2,100.0	2,086.8	2,085.3	4.0	7.8	94.17	-38.5	528.4	529.9	518.8	11.09	47.804	
2,200.0	2,200.0	2,182.5	2,181.0	4.1	8.1	94.46	-41.4	530.8	532.6	521.2	11.43	46.585	
2,300.0	2,300.0	2,274.2	2,272.5	4.2	8.4	94.67	-43.6	534.2	536.6	524.8	11.77	45.584	
2,400.0	2,400.0	2,365.1	2,363.2	4.3	8.7	94.94	-46.5	539.0	542.2	530.1	12.11	44.776	
2,500.0	2,500.0	2,464.9	2,462.8	4.4	9.0	95.29	-50.5	545.2	548.7	536.2	12.48	43.952	
2,600.0	2,600.0	2,563.2	2,560.8	4.4	9.4	-14.69	-54.6	551.3	553.6	540.7	12.85	43.070	
2,700.0	2,699.8	2,656.1	2,653.4	4.5	9.7	-14.42	-58.9	557.7	555.8	542.6	13.20	42.113	
2,790.0	2,789.5	2,742.5	2,739.4	4.5	10.0	-14.28	-62.9	564.5	555.9	542.4	13.52	41.101	
2,800.0	2,799.5	2,752.1	2,749.0	4.5	10.0	-14.27	-63.3	565.3	555.8	542.2	13.56	40.982	
2,900.0	2,898.9	2,854.6	2,851.0	4.5	10.4	-14.15	-67.9	573.6	554.5	540.6	13.96	39.728	
3,000.0	2,998.4	2,962.2	2,958.3	4.5	10.8	-14.08	-72.1	581.3	552.2	537.8	14.38	38.399	
3,100.0	3,097.9	3,062.0	3,057.8	4.5	11.1	-14.05	-75.6	587.8	549.3	534.5	14.77	37.181	
3,200.0	3,197.4	3,163.2	3,158.7	4.6	11.5	-14.00	-79.3	594.5	546.4	531.2	15.18	36.000	
3,300.0	3,296.9	3,265.7	3,261.0	4.6	11.8	-13.98	-82.7	600.7	543.0	527.4	15.59	34.830	
3,400.0	3,396.4	3,366.1	3,361.2	4.6	12.2	-14.02	-85.4	606.6	539.3	523.3	16.00	33.711	
3,500.0	3,495.9	3,467.9	3,462.8	4.7	12.5	-14.06	-88.2	612.5	535.6	519.2	16.42	32.624	
3,600.0	3,595.4	3,572.4	3,567.1	4.7	12.9	-14.14	-90.6	618.0	531.2	514.3	16.85	31.527	
3,700.0	3,694.8	3,674.0	3,668.6	4.7	13.3	-14.27	-92.5	622.6	526.1	508.8	17.27	30.457	
3,800.0	3,794.3	3,759.3	3,753.8	4.8	13.6	-14.33	-94.6	627.3	522.1	504.4	17.64	29.599	
3,900.0	3,893.8	3,854.9	3,849.0	4.9	13.9	-14.30	-98.1	634.8	520.4	502.4	18.04	28.841	
4,000.0	3,993.3	3,959.3	3,953.0	4.9	14.3	-14.32	-101.3	642.7	518.5	500.0	18.49	28.039	
4,100.0	4,092.8	4,059.6	4,053.1	5.0	14.6	-14.40	-103.9	649.8	516.0	497.1	18.93	27.264	
4,200.0	4,192.3	4,160.1	4,153.3	5.0	15.0	-14.53	-106.0	656.9	513.5	494.1	19.36	26.518	
4,300.0	4,291.8	4,263.1	4,256.0	5.1	15.3	-14.69	-107.9	663.9	510.6	490.8	19.81	25.769	
4,400.0	4,391.3	4,362.5	4,355.2	5.2	15.7	-14.84	-109.7	670.2	507.3	487.1	20.25	25.050	
4,500.0	4,490.8	4,454.3	4,446.6	5.2	16.0	-14.80	-113.1	676.9	505.1	484.5	20.66	24.450	
4,600.0	4,590.2	4,550.4	4,542.3	5.3	16.4	-14.62	-118.0	685.0	504.2	483.1	21.08	23.914	
4,700.0	4,689.7	4,656.3	4,647.7	5.4	16.7	-14.41	-123.4	693.4	502.9	481.3	21.55	23.331	
4,800.0	4,789.2	4,758.0	4,749.0	5.5	17.1	-14.28	-127.8	700.9	500.8	478.8	22.01	22.756	
4,900.0	4,888.7	4,858.7	4,849.4	5.5	17.5	-14.17	-132.1	708.1	498.6	476.1	22.46	22.199	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB=25' @ 3009.5usft

Offset Depths are relative to Offset Datum

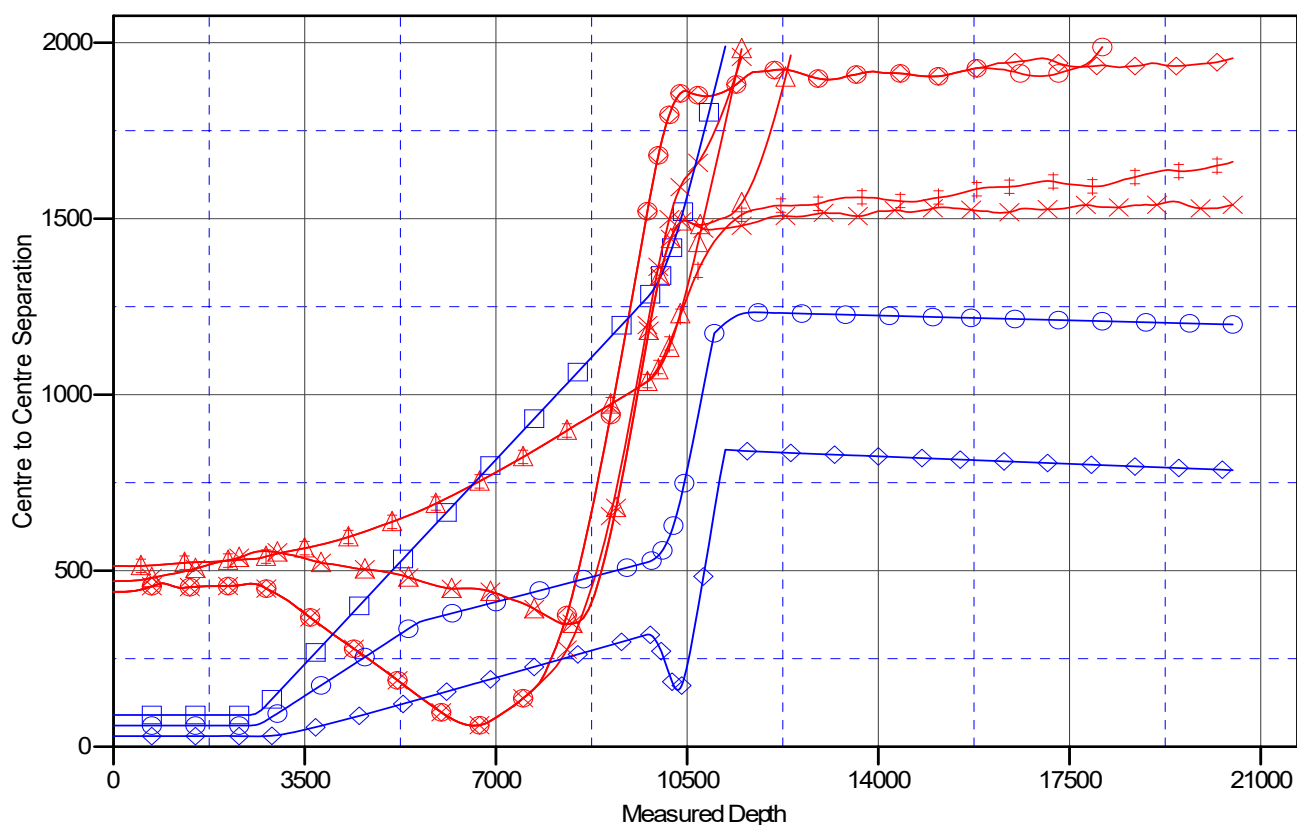
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: ADMIRAL FEDERAL COM #701H

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

Grid Convergence at Surface is: 0.19°

Ladder Plot



LEGEND

ADMIRAL FEDERAL COM 504H, OWB, AWP V0	ADMIRAL FED COM #2H, LATERAL 01 AWP-LAT 01 V0	ADMIRAL FEDERAL COM 505H, ST01, ST 01 V0
ADMIRAL FEDERAL COM 504H, ST01, ST 01 V0	ADMIRAL FEDERAL COM #802H, OWB, PWP1 V0	ADMIRAL FEDERAL COM 505H, OWB, AWP V0
ADMIRAL FEDERAL COM 504H, ST02, ST 02 V0	ADMIRAL FEDERAL COM #801H, OWB, PWP1 V0	
ADMIRAL FED COM #2H, OWB-PILOT HOLE, AWP-PH V0	ADMIRAL FEDERAL COM #803H, OWB, PWP1 V0	

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

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Reference Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	ADMIRAL FEDERAL COM #701H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB=25' @ 3009.5usft

Offset Depths are relative to Offset Datum

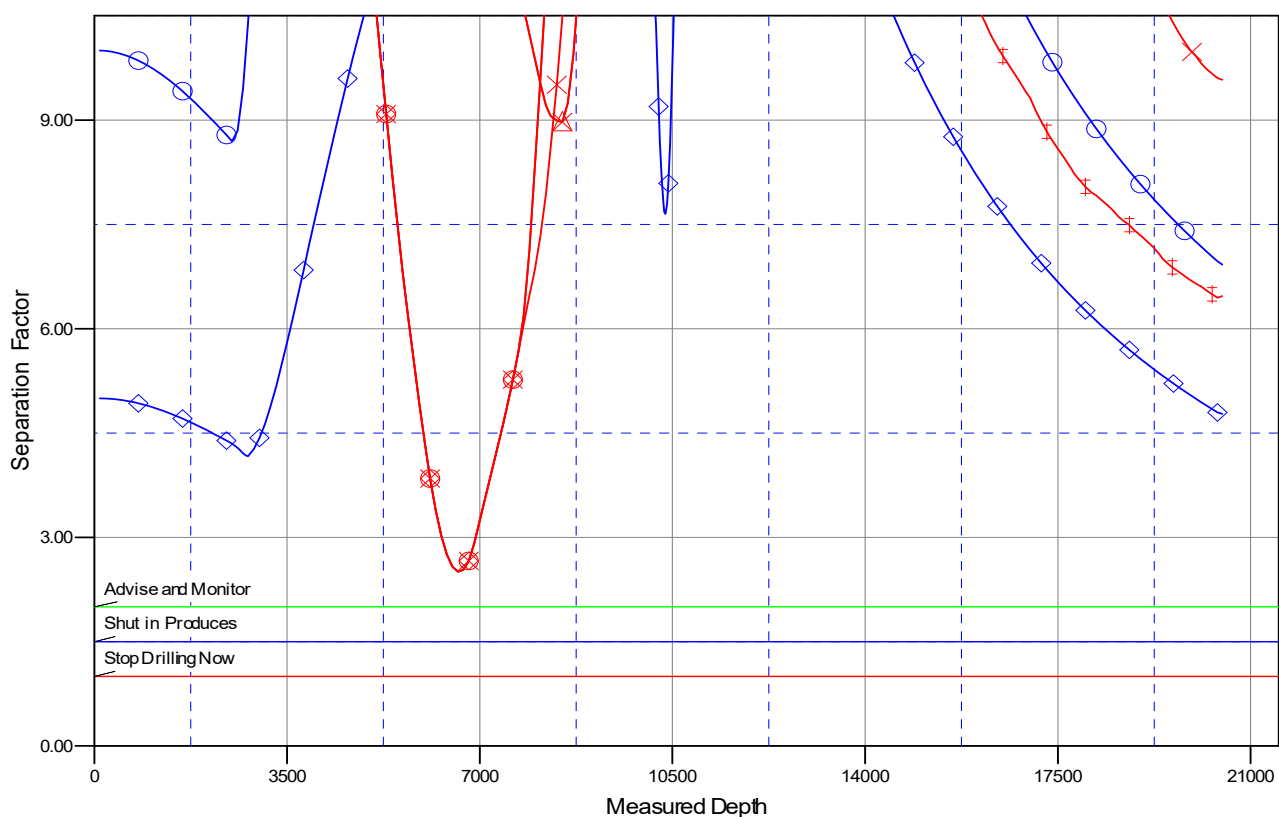
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: ADMIRAL FEDERAL COM #701H

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

Grid Convergence at Surface is: 0.19°

Separation Factor Plot



LEGEND

ADMIRAL FEDERAL COM #504H, OWB, AWP V0	ADMIRAL FEDERAL COM #802H, LATERAL 01 AWP-LAT 01 V0	ADMIRAL FEDERAL COM #505H, ST 01, ST 01 V0
ADMIRAL FEDERAL COM #504H, ST 01, ST 01 V0	ADMIRAL FEDERAL COM #802H, OWB, PWP 1 V0	ADMIRAL FEDERAL COM #505H, OWB, AWP V0
ADMIRAL FEDERAL COM #504H, ST 02, ST 02 V0	ADMIRAL FEDERAL COM #803H, OWB, PWP 1 V0	
ADMIRAL FEDERAL COM #802H, OWB, PILOT HOLE, AWP-PH V0		

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-E)

ADMIRAL FEDERAL PROJECT (ATLAS 2529)

ADMIRAL FEDERAL COM #701H

OWB

Plan: PWP1

Standard Survey Report

14 December, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Well:	ADMIRAL FEDERAL COM #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Project	ATLAS 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		

Site	ADMIRAL FEDERAL PROJECT (ATLAS 2529)		
Site Position:		Northing:	398,093.60 usft
From:	Map	Easting:	604,917.40 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 5' 38.480 N
		Longitude:	103° 59' 40.340 W
		Grid Convergence:	0.18 °

Well	ADMIRAL FEDERAL COM #701H		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	3.0 usft	Wellhead Elevation:	usft
		Latitude:	32° 5' 39.418 N
		Longitude:	103° 59' 5.907 W
		Ground Level:	2,984.5 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/20/2020	6.80	59.74	47,445.01187116

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	6.00

Survey Tool Program	Date	12/14/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
0.0	9,767.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
9,767.0	20,485.8	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction

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

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Well:	ADMIRAL FEDERAL COM #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,000.0	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
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,600.0	2.00	110.32	2,600.0	-0.6	1.6	-0.4	2.00	2.00	0.00
2,700.0	4.00	110.32	2,699.8	-2.4	6.5	-1.7	2.00	2.00	0.00
2,790.0	5.80	110.32	2,789.5	-5.1	13.8	-3.6	2.00	2.00	0.00
Start 6977.4 hold at 2790.0 MD									
2,800.0	5.80	110.32	2,799.5	-5.4	14.7	-3.9	0.00	0.00	0.00
2,900.0	5.80	110.32	2,898.9	-9.0	24.2	-6.4	0.00	0.00	0.00
3,000.0	5.80	110.32	2,998.4	-12.5	33.7	-8.9	0.00	0.00	0.00
3,100.0	5.80	110.32	3,097.9	-16.0	43.1	-11.4	0.00	0.00	0.00
3,200.0	5.80	110.32	3,197.4	-19.5	52.6	-13.9	0.00	0.00	0.00
3,300.0	5.80	110.32	3,296.9	-23.0	62.1	-16.4	0.00	0.00	0.00
3,400.0	5.80	110.32	3,396.4	-26.5	71.6	-18.9	0.00	0.00	0.00
3,500.0	5.80	110.32	3,495.9	-30.0	81.0	-21.4	0.00	0.00	0.00
3,600.0	5.80	110.32	3,595.4	-33.5	90.5	-23.9	0.00	0.00	0.00
3,700.0	5.80	110.32	3,694.8	-37.0	100.0	-26.4	0.00	0.00	0.00
3,800.0	5.80	110.32	3,794.3	-40.5	109.5	-28.9	0.00	0.00	0.00
3,900.0	5.80	110.32	3,893.8	-44.1	118.9	-31.4	0.00	0.00	0.00
4,000.0	5.80	110.32	3,993.3	-47.6	128.4	-33.9	0.00	0.00	0.00
4,100.0	5.80	110.32	4,092.8	-51.1	137.9	-36.4	0.00	0.00	0.00
4,200.0	5.80	110.32	4,192.3	-54.6	147.4	-38.9	0.00	0.00	0.00
4,300.0	5.80	110.32	4,291.8	-58.1	156.9	-41.4	0.00	0.00	0.00
4,400.0	5.80	110.32	4,391.3	-61.6	166.3	-43.9	0.00	0.00	0.00
4,500.0	5.80	110.32	4,490.8	-65.1	175.8	-46.4	0.00	0.00	0.00
4,600.0	5.80	110.32	4,590.2	-68.6	185.3	-48.9	0.00	0.00	0.00
4,700.0	5.80	110.32	4,689.7	-72.1	194.8	-51.4	0.00	0.00	0.00
4,800.0	5.80	110.32	4,789.2	-75.6	204.2	-53.9	0.00	0.00	0.00
4,900.0	5.80	110.32	4,888.7	-79.2	213.7	-56.4	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Well:	ADMIRAL FEDERAL COM #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
5,000.0	5.80	110.32	4,988.2	-82.7	223.2	-58.9	0.00	0.00	0.00	
5,100.0	5.80	110.32	5,087.7	-86.2	232.7	-61.4	0.00	0.00	0.00	
5,200.0	5.80	110.32	5,187.2	-89.7	242.1	-63.9	0.00	0.00	0.00	
5,300.0	5.80	110.32	5,286.7	-93.2	251.6	-66.4	0.00	0.00	0.00	
5,400.0	5.80	110.32	5,386.1	-96.7	261.1	-68.9	0.00	0.00	0.00	
5,500.0	5.80	110.32	5,485.6	-100.2	270.6	-71.4	0.00	0.00	0.00	
5,600.0	5.80	110.32	5,585.1	-103.7	280.1	-73.9	0.00	0.00	0.00	
5,700.0	5.80	110.32	5,684.6	-107.2	289.5	-76.4	0.00	0.00	0.00	
5,800.0	5.80	110.32	5,784.1	-110.7	299.0	-78.9	0.00	0.00	0.00	
5,900.0	5.80	110.32	5,883.6	-114.3	308.5	-81.4	0.00	0.00	0.00	
6,000.0	5.80	110.32	5,983.1	-117.8	318.0	-83.9	0.00	0.00	0.00	
6,100.0	5.80	110.32	6,082.6	-121.3	327.4	-86.4	0.00	0.00	0.00	
6,200.0	5.80	110.32	6,182.0	-124.8	336.9	-88.9	0.00	0.00	0.00	
6,300.0	5.80	110.32	6,281.5	-128.3	346.4	-91.4	0.00	0.00	0.00	
6,400.0	5.80	110.32	6,381.0	-131.8	355.9	-93.9	0.00	0.00	0.00	
6,500.0	5.80	110.32	6,480.5	-135.3	365.3	-96.4	0.00	0.00	0.00	
6,600.0	5.80	110.32	6,580.0	-138.8	374.8	-98.9	0.00	0.00	0.00	
6,700.0	5.80	110.32	6,679.5	-142.3	384.3	-101.4	0.00	0.00	0.00	
6,800.0	5.80	110.32	6,779.0	-145.8	393.8	-103.9	0.00	0.00	0.00	
6,900.0	5.80	110.32	6,878.5	-149.4	403.3	-106.4	0.00	0.00	0.00	
7,000.0	5.80	110.32	6,978.0	-152.9	412.7	-108.9	0.00	0.00	0.00	
7,100.0	5.80	110.32	7,077.4	-156.4	422.2	-111.4	0.00	0.00	0.00	
7,200.0	5.80	110.32	7,176.9	-159.9	431.7	-113.9	0.00	0.00	0.00	
7,300.0	5.80	110.32	7,276.4	-163.4	441.2	-116.4	0.00	0.00	0.00	
7,400.0	5.80	110.32	7,375.9	-166.9	450.6	-118.9	0.00	0.00	0.00	
7,500.0	5.80	110.32	7,475.4	-170.4	460.1	-121.4	0.00	0.00	0.00	
7,600.0	5.80	110.32	7,574.9	-173.9	469.6	-123.9	0.00	0.00	0.00	
7,700.0	5.80	110.32	7,674.4	-177.4	479.1	-126.4	0.00	0.00	0.00	
7,800.0	5.80	110.32	7,773.9	-180.9	488.5	-128.9	0.00	0.00	0.00	
7,900.0	5.80	110.32	7,873.3	-184.5	498.0	-131.4	0.00	0.00	0.00	
8,000.0	5.80	110.32	7,972.8	-188.0	507.5	-133.9	0.00	0.00	0.00	
8,100.0	5.80	110.32	8,072.3	-191.5	517.0	-136.4	0.00	0.00	0.00	
8,200.0	5.80	110.32	8,171.8	-195.0	526.5	-138.9	0.00	0.00	0.00	
8,300.0	5.80	110.32	8,271.3	-198.5	535.9	-141.4	0.00	0.00	0.00	
8,400.0	5.80	110.32	8,370.8	-202.0	545.4	-143.9	0.00	0.00	0.00	
8,500.0	5.80	110.32	8,470.3	-205.5	554.9	-146.4	0.00	0.00	0.00	
8,600.0	5.80	110.32	8,569.8	-209.0	564.4	-148.9	0.00	0.00	0.00	
8,700.0	5.80	110.32	8,669.2	-212.5	573.8	-151.4	0.00	0.00	0.00	
8,800.0	5.80	110.32	8,768.7	-216.0	583.3	-153.9	0.00	0.00	0.00	
8,900.0	5.80	110.32	8,868.2	-219.6	592.8	-156.4	0.00	0.00	0.00	
9,000.0	5.80	110.32	8,967.7	-223.1	602.3	-158.9	0.00	0.00	0.00	
9,100.0	5.80	110.32	9,067.2	-226.6	611.7	-161.4	0.00	0.00	0.00	
9,200.0	5.80	110.32	9,166.7	-230.1	621.2	-163.9	0.00	0.00	0.00	
9,300.0	5.80	110.32	9,266.2	-233.6	630.7	-166.4	0.00	0.00	0.00	

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Survey Report

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Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Well:	ADMIRAL FEDERAL COM #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.0	5.80	110.32	9,365.7	-237.1	640.2	-168.9	0.00	0.00	0.00
9,500.0	5.80	110.32	9,465.2	-240.6	649.7	-171.4	0.00	0.00	0.00
9,600.0	5.80	110.32	9,564.6	-244.1	659.1	-173.9	0.00	0.00	0.00
9,700.0	5.80	110.32	9,664.1	-247.6	668.6	-176.4	0.00	0.00	0.00
9,767.4	5.80	110.32	9,731.2	-250.0	675.0	-178.1	0.00	0.00	0.00
Start DLS 12.00 TFO -87.30									
9,800.0	7.14	77.11	9,763.6	-250.1	678.5	-177.8	12.00	4.12	-101.95
9,900.0	17.16	42.21	9,861.3	-237.8	694.6	-163.9	12.00	10.02	-34.89
10,000.0	28.73	33.70	9,953.3	-206.7	717.9	-130.6	12.00	11.56	-8.51
10,100.0	40.53	29.85	10,035.4	-158.4	747.5	-79.4	12.00	11.80	-3.85
10,200.0	52.41	27.51	10,104.2	-94.8	782.1	-12.6	12.00	11.88	-2.34
10,300.0	64.33	25.83	10,156.5	-18.8	820.2	67.0	12.00	11.91	-1.68
10,400.0	76.26	24.46	10,190.2	66.2	860.1	155.7	12.00	11.93	-1.37
10,500.0	88.19	23.22	10,203.7	156.7	900.0	249.9	12.00	11.94	-1.24
10,513.0	89.74	23.06	10,204.0	168.6	905.1	262.3	12.00	11.94	-1.21
Start DLS 2.00 TFO -90.05									
10,600.0	89.74	21.32	10,204.3	249.2	938.0	345.9	2.00	0.00	-2.00
10,700.0	89.74	19.32	10,204.8	343.0	972.7	442.7	2.00	0.00	-2.00
10,800.0	89.74	17.32	10,205.3	437.9	1,004.1	540.4	2.00	0.00	-2.00
10,900.0	89.74	15.32	10,205.7	533.9	1,032.2	638.8	2.00	0.00	-2.00
11,000.0	89.74	13.32	10,206.2	630.8	1,057.0	737.8	2.00	0.00	-2.00
11,100.0	89.74	11.32	10,206.6	728.5	1,078.3	837.1	2.00	0.00	-2.00
11,200.0	89.74	9.32	10,207.1	826.8	1,096.2	936.9	2.00	0.00	-2.00
11,300.0	89.74	7.32	10,207.6	925.8	1,110.7	1,036.8	2.00	0.00	-2.00
11,400.0	89.74	5.32	10,208.0	1,025.2	1,121.7	1,136.8	2.00	0.00	-2.00
11,500.0	89.74	3.32	10,208.5	1,124.9	1,129.2	1,236.7	2.00	0.00	-2.00
11,600.0	89.74	1.32	10,208.9	1,224.8	1,133.3	1,336.5	2.00	0.00	-2.00
11,700.0	89.74	359.32	10,209.4	1,324.8	1,133.8	1,436.0	2.00	0.00	-2.00
11,701.6	89.74	359.29	10,209.4	1,326.4	1,133.8	1,437.6	2.00	0.00	-2.00
Start 3676.4 hold at 11701.6 MD									
11,800.0	89.74	359.29	10,209.9	1,424.8	1,132.6	1,535.3	0.00	0.00	0.00
11,900.0	89.74	359.29	10,210.3	1,524.8	1,131.3	1,634.6	0.00	0.00	0.00
12,000.0	89.74	359.29	10,210.8	1,624.7	1,130.1	1,733.9	0.00	0.00	0.00
12,100.0	89.74	359.29	10,211.2	1,724.7	1,128.8	1,833.3	0.00	0.00	0.00
12,200.0	89.74	359.29	10,211.7	1,824.7	1,127.6	1,932.6	0.00	0.00	0.00
12,300.0	89.74	359.29	10,212.1	1,924.7	1,126.3	2,031.9	0.00	0.00	0.00
12,400.0	89.74	359.29	10,212.6	2,024.7	1,125.1	2,131.2	0.00	0.00	0.00
12,500.0	89.74	359.29	10,213.0	2,124.7	1,123.9	2,230.5	0.00	0.00	0.00
12,600.0	89.74	359.29	10,213.5	2,224.7	1,122.6	2,329.8	0.00	0.00	0.00
12,700.0	89.74	359.29	10,213.9	2,324.7	1,121.4	2,429.1	0.00	0.00	0.00
12,800.0	89.74	359.29	10,214.4	2,424.7	1,120.1	2,528.4	0.00	0.00	0.00
12,900.0	89.74	359.29	10,214.8	2,524.7	1,118.9	2,627.8	0.00	0.00	0.00
13,000.0	89.74	359.29	10,215.3	2,624.7	1,117.6	2,727.1	0.00	0.00	0.00

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Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Well:	ADMIRAL FEDERAL COM #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,100.0	89.74	359.29	10,215.7	2,724.7	1,116.4	2,826.4	0.00	0.00	0.00
13,200.0	89.74	359.29	10,216.2	2,824.6	1,115.2	2,925.7	0.00	0.00	0.00
13,300.0	89.74	359.29	10,216.6	2,924.6	1,113.9	3,025.0	0.00	0.00	0.00
13,400.0	89.74	359.29	10,217.1	3,024.6	1,112.7	3,124.3	0.00	0.00	0.00
13,500.0	89.74	359.29	10,217.5	3,124.6	1,111.4	3,223.6	0.00	0.00	0.00
13,600.0	89.74	359.29	10,218.0	3,224.6	1,110.2	3,323.0	0.00	0.00	0.00
13,700.0	89.74	359.29	10,218.4	3,324.6	1,108.9	3,422.3	0.00	0.00	0.00
13,800.0	89.74	359.29	10,218.9	3,424.6	1,107.7	3,521.6	0.00	0.00	0.00
13,900.0	89.74	359.29	10,219.3	3,524.6	1,106.4	3,620.9	0.00	0.00	0.00
14,000.0	89.74	359.29	10,219.8	3,624.6	1,105.2	3,720.2	0.00	0.00	0.00
14,100.0	89.74	359.29	10,220.2	3,724.6	1,104.0	3,819.5	0.00	0.00	0.00
14,200.0	89.74	359.29	10,220.7	3,824.6	1,102.7	3,918.8	0.00	0.00	0.00
14,300.0	89.74	359.29	10,221.1	3,924.5	1,101.5	4,018.2	0.00	0.00	0.00
14,400.0	89.74	359.29	10,221.6	4,024.5	1,100.2	4,117.5	0.00	0.00	0.00
14,500.0	89.74	359.29	10,222.0	4,124.5	1,099.0	4,216.8	0.00	0.00	0.00
14,600.0	89.74	359.29	10,222.5	4,224.5	1,097.7	4,316.1	0.00	0.00	0.00
14,700.0	89.74	359.29	10,222.9	4,324.5	1,096.5	4,415.4	0.00	0.00	0.00
14,800.0	89.74	359.29	10,223.4	4,424.5	1,095.2	4,514.7	0.00	0.00	0.00
14,900.0	89.74	359.29	10,223.8	4,524.5	1,094.0	4,614.0	0.00	0.00	0.00
15,000.0	89.74	359.29	10,224.3	4,624.5	1,092.8	4,713.4	0.00	0.00	0.00
15,100.0	89.74	359.29	10,224.7	4,724.5	1,091.5	4,812.7	0.00	0.00	0.00
15,200.0	89.74	359.29	10,225.2	4,824.5	1,090.3	4,912.0	0.00	0.00	0.00
15,300.0	89.74	359.29	10,225.6	4,924.5	1,089.0	5,011.3	0.00	0.00	0.00
15,378.0	89.74	359.29	10,226.0	5,002.5	1,088.1	5,088.8	0.00	0.00	0.00
Start DLS 2.00 TFO 89.92									
15,399.3	89.74	359.71	10,226.1	5,023.7	1,087.9	5,109.9	2.00	0.00	2.00
Start 5086.9 hold at 15399.3 MD									
15,400.0	89.74	359.71	10,226.1	5,024.5	1,087.9	5,110.6	0.00	0.00	0.00
15,500.0	89.74	359.71	10,226.5	5,124.4	1,087.4	5,210.0	0.00	0.00	0.00
15,600.0	89.74	359.71	10,227.0	5,224.4	1,086.9	5,309.4	0.00	0.00	0.00
15,700.0	89.74	359.71	10,227.4	5,324.4	1,086.4	5,408.8	0.00	0.00	0.00
15,800.0	89.74	359.71	10,227.9	5,424.4	1,085.9	5,508.2	0.00	0.00	0.00
15,900.0	89.74	359.71	10,228.4	5,524.4	1,085.4	5,607.6	0.00	0.00	0.00
16,000.0	89.74	359.71	10,228.8	5,624.4	1,084.9	5,707.0	0.00	0.00	0.00
16,100.0	89.74	359.71	10,229.3	5,724.4	1,084.3	5,806.4	0.00	0.00	0.00
16,200.0	89.74	359.71	10,229.7	5,824.4	1,083.8	5,905.8	0.00	0.00	0.00
16,300.0	89.74	359.71	10,230.2	5,924.4	1,083.3	6,005.2	0.00	0.00	0.00
16,400.0	89.74	359.71	10,230.6	6,024.4	1,082.8	6,104.6	0.00	0.00	0.00
16,500.0	89.74	359.71	10,231.1	6,124.4	1,082.3	6,204.0	0.00	0.00	0.00
16,600.0	89.74	359.71	10,231.5	6,224.4	1,081.8	6,303.4	0.00	0.00	0.00
16,700.0	89.74	359.71	10,232.0	6,324.4	1,081.3	6,402.8	0.00	0.00	0.00
16,800.0	89.74	359.71	10,232.4	6,424.4	1,080.8	6,502.2	0.00	0.00	0.00
16,900.0	89.74	359.71	10,232.9	6,524.4	1,080.3	6,601.6	0.00	0.00	0.00
17,000.0	89.74	359.71	10,233.3	6,624.4	1,079.8	6,701.0	0.00	0.00	0.00

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Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Well:	ADMIRAL FEDERAL COM #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,100.0	89.74	359.71	10,233.8	6,724.4	1,079.3	6,800.4	0.00	0.00	0.00
17,200.0	89.74	359.71	10,234.2	6,824.4	1,078.8	6,899.8	0.00	0.00	0.00
17,300.0	89.74	359.71	10,234.7	6,924.4	1,078.3	6,999.2	0.00	0.00	0.00
17,400.0	89.74	359.71	10,235.1	7,024.4	1,077.8	7,098.6	0.00	0.00	0.00
17,500.0	89.74	359.71	10,235.6	7,124.4	1,077.3	7,198.0	0.00	0.00	0.00
17,600.0	89.74	359.71	10,236.0	7,224.4	1,076.8	7,297.4	0.00	0.00	0.00
17,700.0	89.74	359.71	10,236.5	7,324.4	1,076.3	7,396.8	0.00	0.00	0.00
17,800.0	89.74	359.71	10,236.9	7,424.4	1,075.8	7,496.2	0.00	0.00	0.00
17,900.0	89.74	359.71	10,237.4	7,524.4	1,075.3	7,595.6	0.00	0.00	0.00
18,000.0	89.74	359.71	10,237.8	7,624.4	1,074.8	7,695.0	0.00	0.00	0.00
18,100.0	89.74	359.71	10,238.3	7,724.4	1,074.3	7,794.4	0.00	0.00	0.00
18,200.0	89.74	359.71	10,238.7	7,824.4	1,073.8	7,893.8	0.00	0.00	0.00
18,300.0	89.74	359.71	10,239.2	7,924.4	1,073.3	7,993.2	0.00	0.00	0.00
18,400.0	89.74	359.71	10,239.6	8,024.4	1,072.8	8,092.6	0.00	0.00	0.00
18,500.0	89.74	359.71	10,240.1	8,124.4	1,072.3	8,192.0	0.00	0.00	0.00
18,600.0	89.74	359.71	10,240.5	8,224.4	1,071.8	8,291.3	0.00	0.00	0.00
18,700.0	89.74	359.71	10,241.0	8,324.4	1,071.3	8,390.7	0.00	0.00	0.00
18,800.0	89.74	359.71	10,241.4	8,424.4	1,070.8	8,490.1	0.00	0.00	0.00
18,900.0	89.74	359.71	10,241.9	8,524.4	1,070.3	8,589.5	0.00	0.00	0.00
19,000.0	89.74	359.71	10,242.3	8,624.4	1,069.8	8,688.9	0.00	0.00	0.00
19,100.0	89.74	359.71	10,242.8	8,724.4	1,069.3	8,788.3	0.00	0.00	0.00
19,200.0	89.74	359.71	10,243.2	8,824.4	1,068.8	8,887.7	0.00	0.00	0.00
19,300.0	89.74	359.71	10,243.7	8,924.4	1,068.3	8,987.1	0.00	0.00	0.00
19,400.0	89.74	359.71	10,244.1	9,024.4	1,067.8	9,086.5	0.00	0.00	0.00
19,500.0	89.74	359.71	10,244.6	9,124.4	1,067.3	9,185.9	0.00	0.00	0.00
19,600.0	89.74	359.71	10,245.0	9,224.4	1,066.8	9,285.3	0.00	0.00	0.00
19,700.0	89.74	359.71	10,245.5	9,324.4	1,066.3	9,384.7	0.00	0.00	0.00
19,800.0	89.74	359.71	10,245.9	9,424.4	1,065.7	9,484.1	0.00	0.00	0.00
19,900.0	89.74	359.71	10,246.4	9,524.3	1,065.2	9,583.5	0.00	0.00	0.00
20,000.0	89.74	359.71	10,246.8	9,624.3	1,064.7	9,682.9	0.00	0.00	0.00
20,100.0	89.74	359.71	10,247.3	9,724.3	1,064.2	9,782.3	0.00	0.00	0.00
20,200.0	89.74	359.71	10,247.7	9,824.3	1,063.7	9,881.7	0.00	0.00	0.00
20,300.0	89.74	359.71	10,248.2	9,924.3	1,063.2	9,981.1	0.00	0.00	0.00
20,400.0	89.74	359.71	10,248.6	10,024.3	1,062.7	10,080.5	0.00	0.00	0.00
20,486.2	89.74	359.71	10,249.0	10,110.5	1,062.3	10,166.2	0.00	0.00	0.00
TD at 20486.2									

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM #701H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3009.5usft
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3009.5usft
Well:	ADMIRAL FEDERAL COM #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Design Targets

Target Name

- hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (ADMIRAL FED C - plan misses target center by 281.9usft at 10479.9usft MD (10202.7 TVD, 138.3 N, 892.1 E) - Circle (radius 50.0)	0.00	0.00	10,204.0	24.2	1,149.8	398,222.00	609,028.90	32° 5' 39.620 N	103° 58' 52.540 W
POI 1 (ADMIRAL FED C - plan hits target center - Rectangle (sides W100.0 H4,980.0 D20.0)	-0.26	179.29	10,226.0	5,002.5	1,088.1	403,200.28	608,967.16	32° 6' 28.889 N	103° 58' 53.069 W
LTP (ADMIRAL FED C - plan misses target center by 0.7usft at 20356.2usft MD (10248.4 TVD, 9980.5 N, 1063.0 E) - Point	0.00	0.00	10,249.0	9,980.5	1,063.4	408,178.30	608,942.50	32° 7' 18.154 N	103° 58' 53.167 W
PBHL (ADMIRAL FED C - plan hits target center - Rectangle (sides W100.0 H5,108.0 D20.0)	-0.26	179.71	10,249.0	10,110.5	1,062.3	408,308.30	608,941.40	32° 7' 19.441 N	103° 58' 53.175 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2500	2500	0	0	Start Build 2.00
2790	2790	-5	14	Start 6977.4 hold at 2790.0 MD
9767	9731	-250	675	Start DLS 12.00 TFO -87.30
10,513	10,204	169	905	Start DLS 2.00 TFO -90.05
11,702	10,209	1326	1134	Start 3676.4 hold at 11701.6 MD
15,378	10,226	5002	1088	Start DLS 2.00 TFO 89.92
15,399	10,226	5024	1088	Start 5086.9 hold at 15399.3 MD
20,486	10,249	10,111	1062	TD at 20486.2

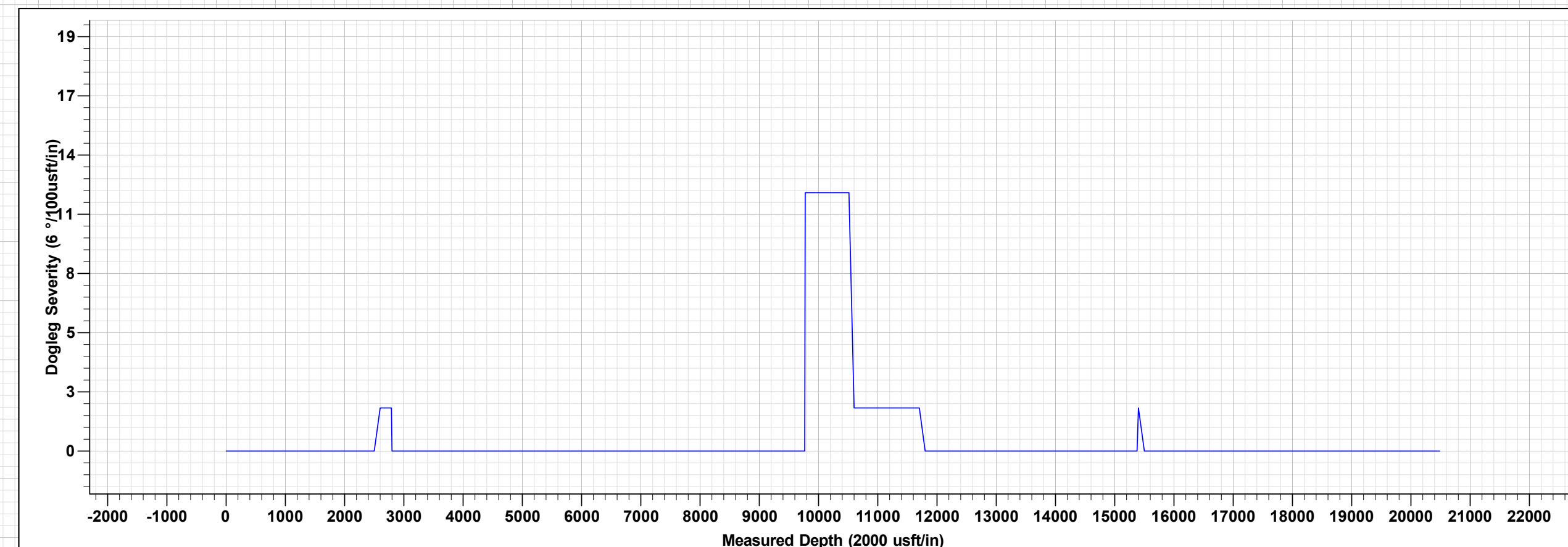
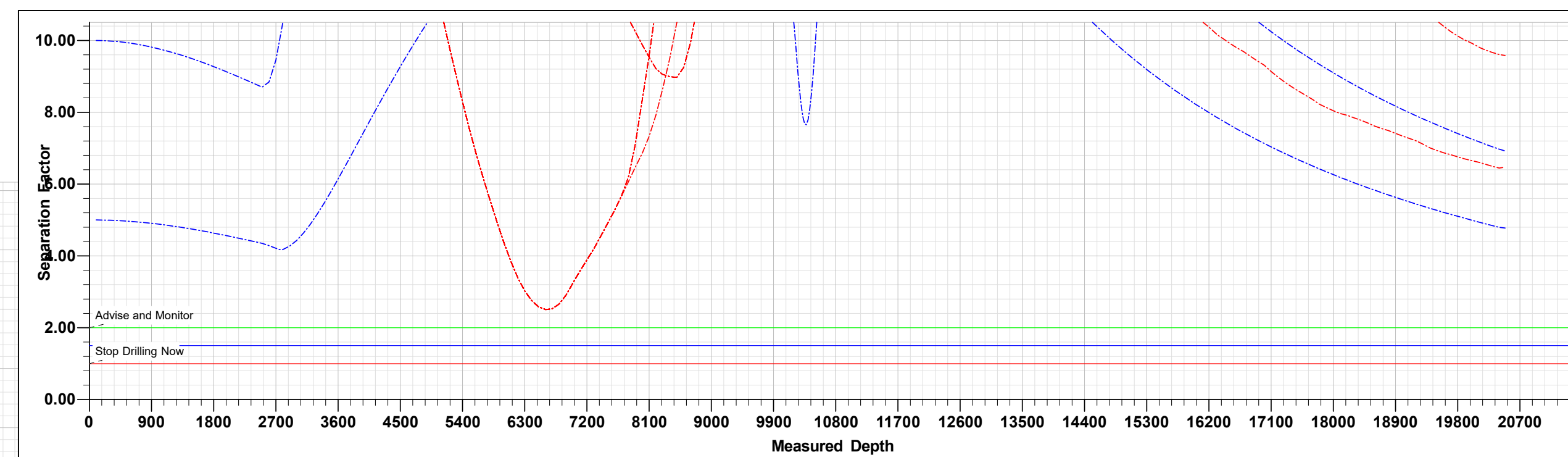
Checked By: _____ Approved By: _____ Date: _____

Project: ATLAS PROSPECT (NM-E)
Site: ADMIRAL FEDERAL PROJECT (ATLAS 2529)
Well: ADMIRAL FEDERAL COM #701H
Wellbore: OWS
Design: PWP1
GL: 2984.5
KB=25' @ 3009.5usft

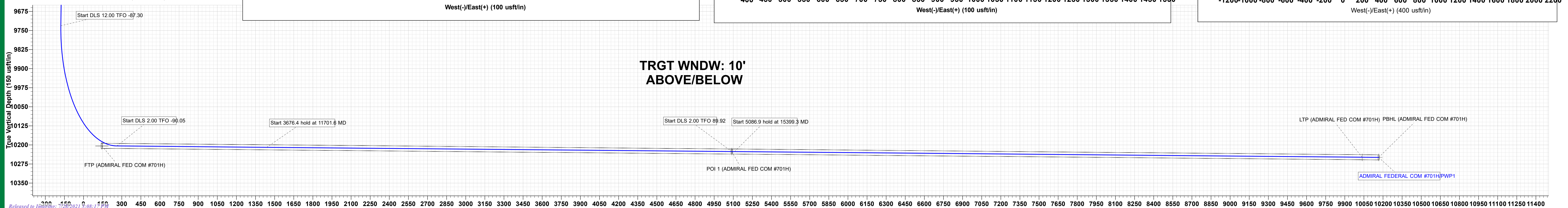
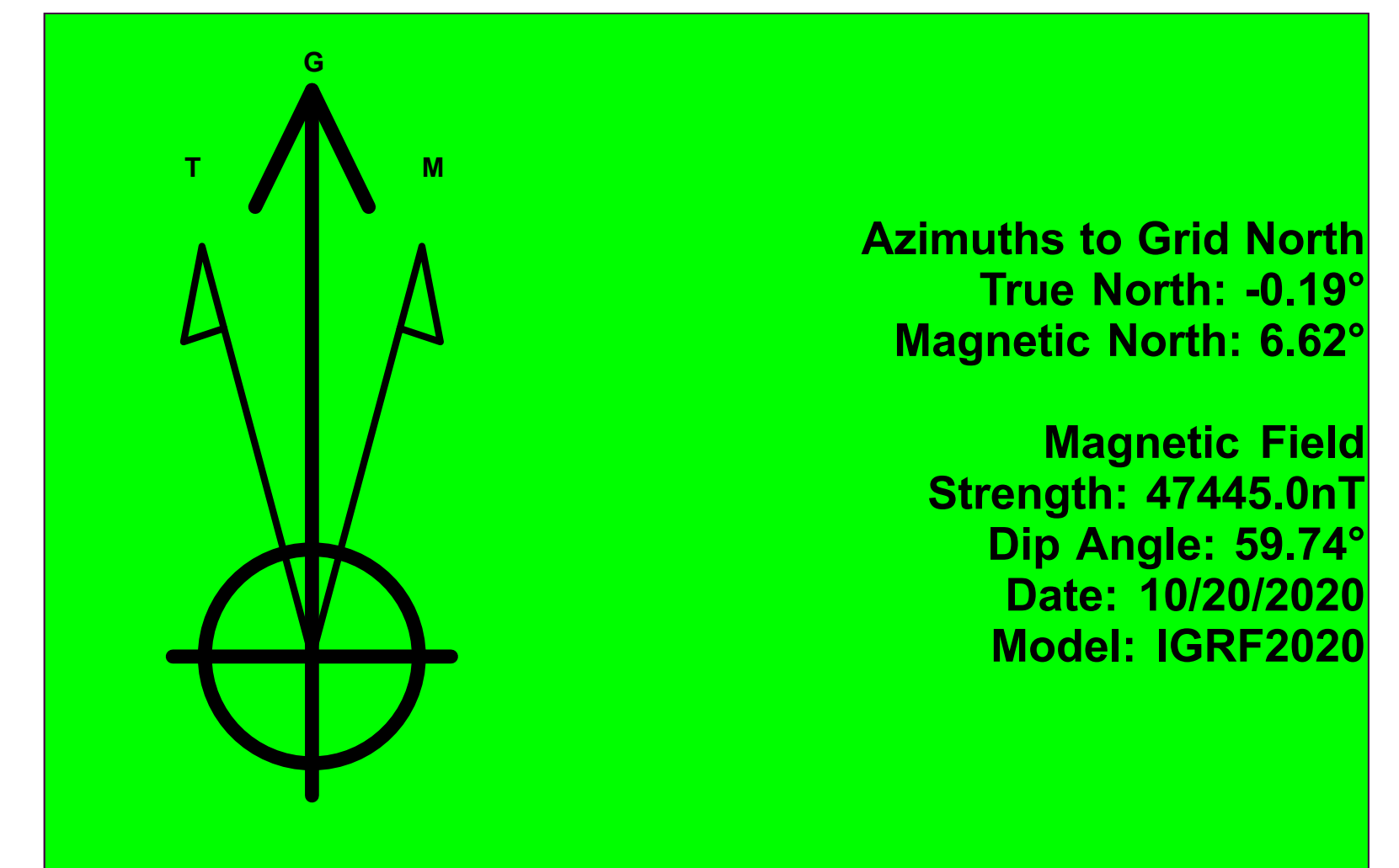
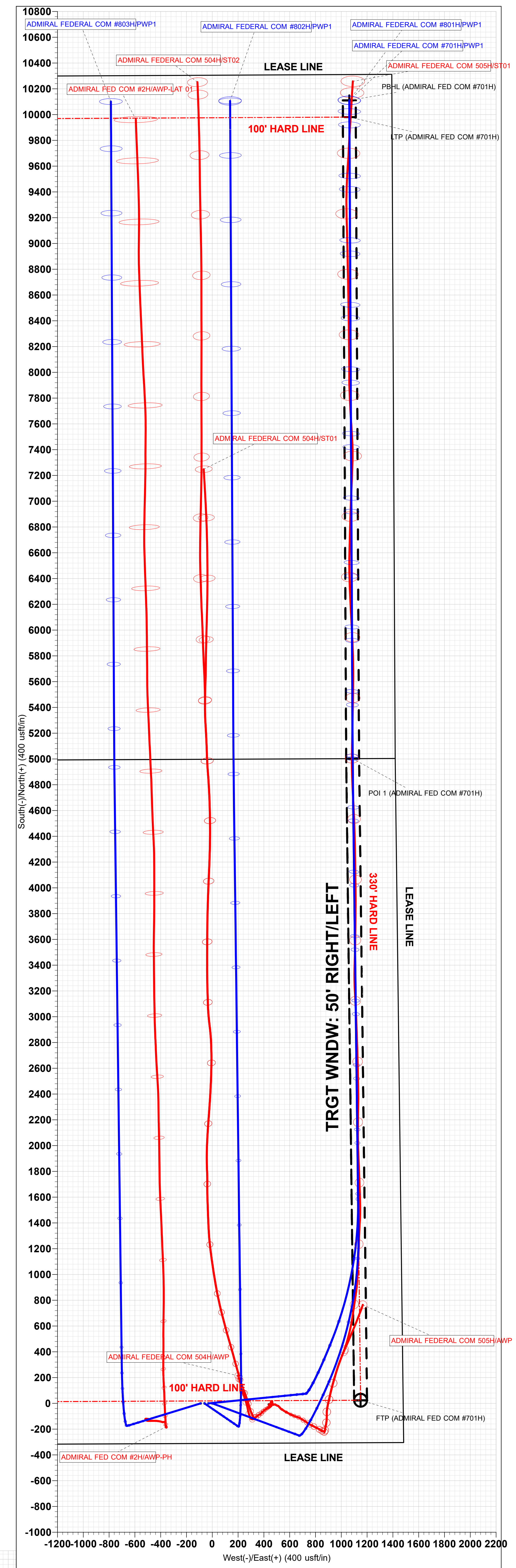
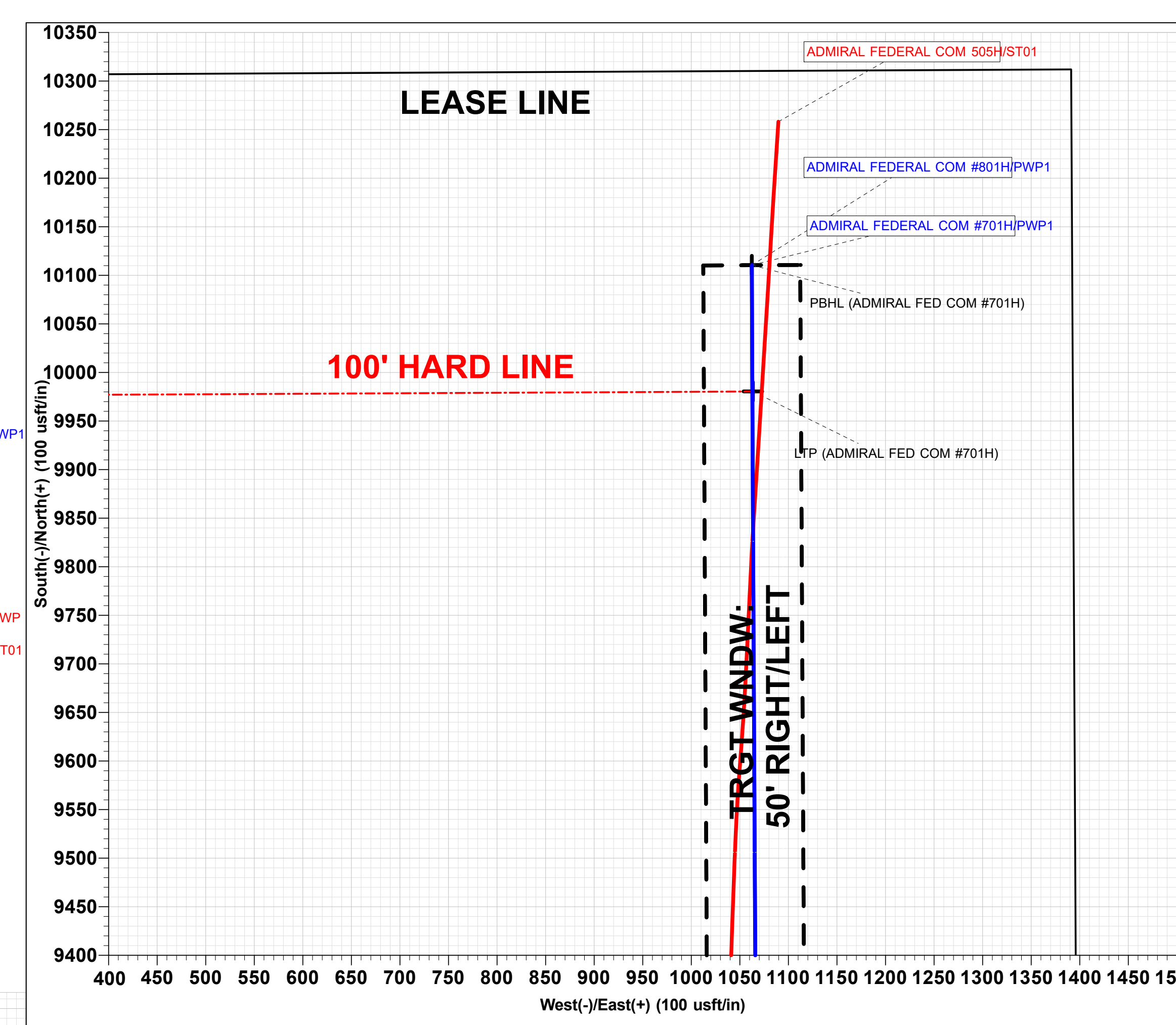
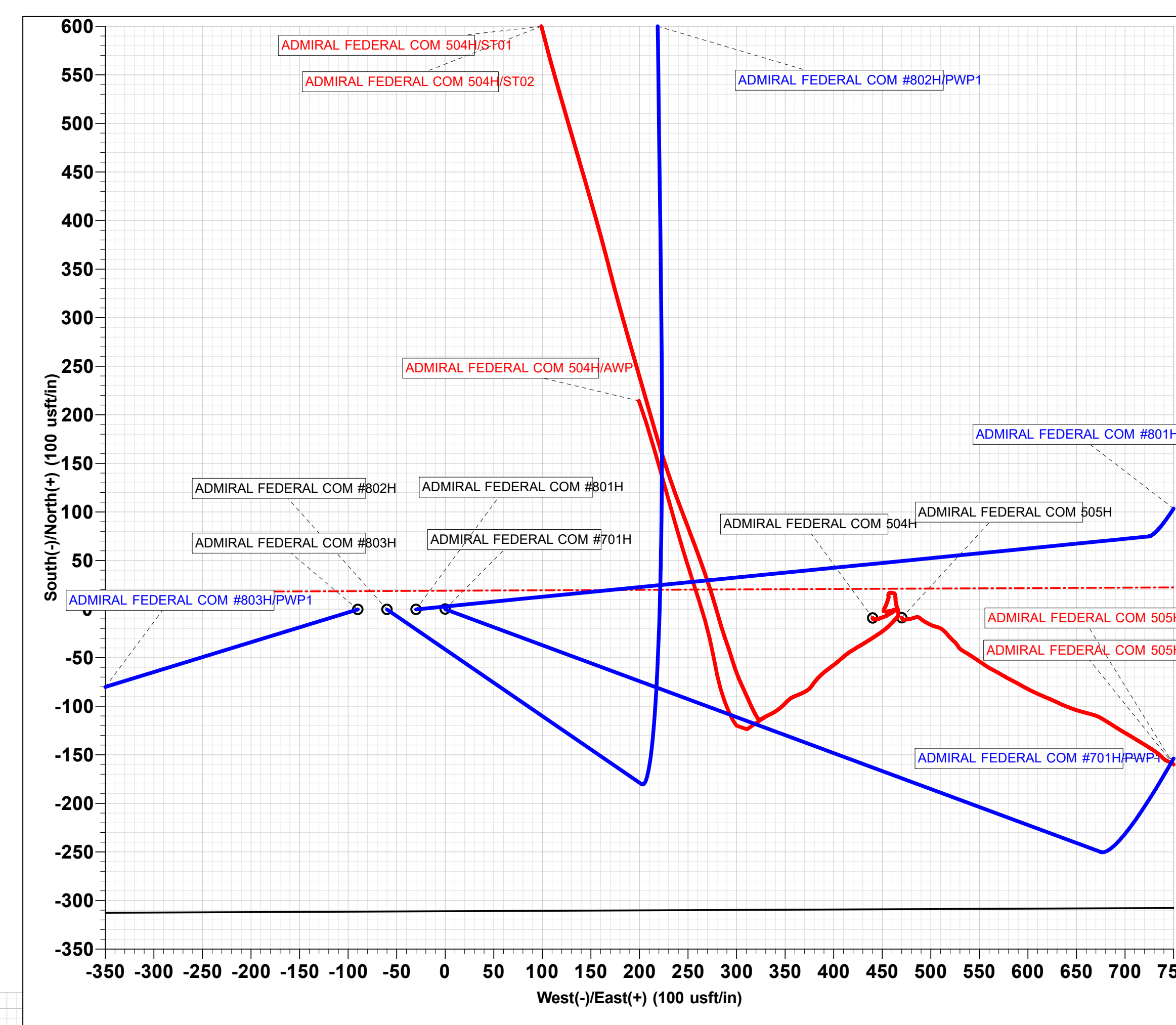
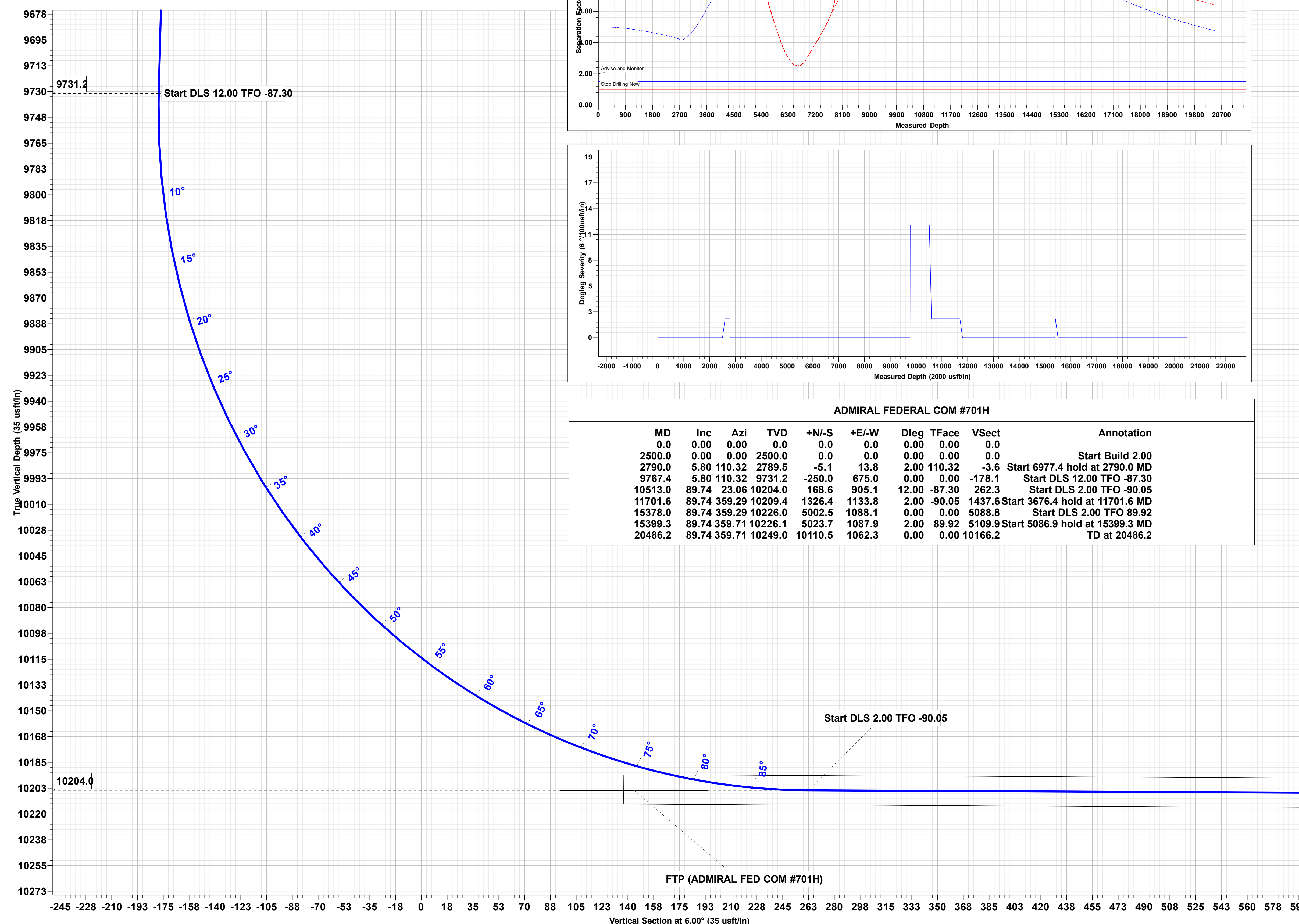
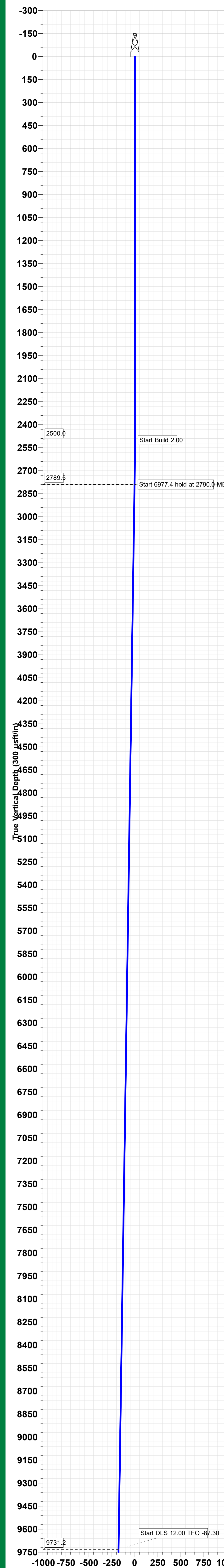


WELL DETAILS: ADMIRAL FEDERAL COM #701H					
+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	398197.80	607879.10	32° 5' 39.418 N	103° 58' 5.907 W

DESIGN TARGET DETAILS							
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
FTP (ADMIRAL FED COM #701H)	10204.0	24.2	1149.3	398222.00	609028.90	32° 5' 38.620 N	103° 58' 52.540 W
POI 1 (ADMIRAL FED COM #701H)	10226.0	5002.5	1088.1	403200.28	608967.16	32° 6' 28.889 N	103° 58' 53.069 W
LTP (ADMIRAL FED COM #701H)	10249.0	9980.5	1063.4	408178.30	608942.50	32° 7' 18.154 N	103° 58' 53.167 W
PBHL (ADMIRAL FED COM #701H)	10249.0	10110.5	1062.3	408308.30	608941.40	32° 7' 19.441 N	103° 58' 53.175 W



ADMIRAL FEDERAL COM #701H									
MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2790.0	5.80	110.32	2789.5	-5.1	13.8	2.00	110.32	-3.6	Start 6977.4 hold at 2790.0 MD
9767.4	5.80	110.32	9731.2	-250.0	675.0	0.00	0.00	-178.1	Start DLS 12.00 TFO -87.30
10513.0	89.74	23.06	10204.0	168.6	905.1	12.00	-87.30	262.3	Start DLS 2.00 TFO -90.05
11701.6	89.74	359.29	10209.4	1326.4	1133.8	2.00	-90.05	1437.6	Start 3676.4 hold at 11701.6 MD
15378.0	89.74	359.29	10226.0	5002.5	1088.1	0.00	0.00	5088.8	Start DLS 2.00 TFO 89.92
15399.3	89.74	359.71	10226.1	5023.7	1087.9	2.00	89.92	5109.9	Start 5086.9 hold at 15399.3 MD
20486.2	89.74	359.71	10249.0	10110.5	1062.3	0.00	0.00	10166.2	TD at 20486.2



PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG
LEASE NO.:	NMNM115414
LOCATION:	Section 28, T.25 S., R.29 E., NMPM
COUNTY:	Eddy County, New Mexico

WELL NAME & NO.:	Admiral Fed Com 701H
SURFACE HOLE FOOTAGE:	311'/S & 1480'/E
BOTTOM HOLE FOOTAGE:	200'/N & 330'/E

COA

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

A. HYDROGEN SULFIDE

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

B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **610** feet (a minimum of **70 feet (Eddy County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8**

hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above.
- Wait on cement (WOC) time for a primary cement job is to include the lead cement slurry due to cave/karst or potash.**
- ❖ In Medium Cave/Karst Areas if cement does not circulate to surface on the first two casing strings, the cement on the 3rd casing string must come to surface.
3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. **Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).**
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi**.
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

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)

☒ Eddy County

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

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
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 Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.

5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.

- c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
- a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).
 - b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
 - c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
 - d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
 - e. The results of the test shall be reported to the appropriate BLM office.

- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

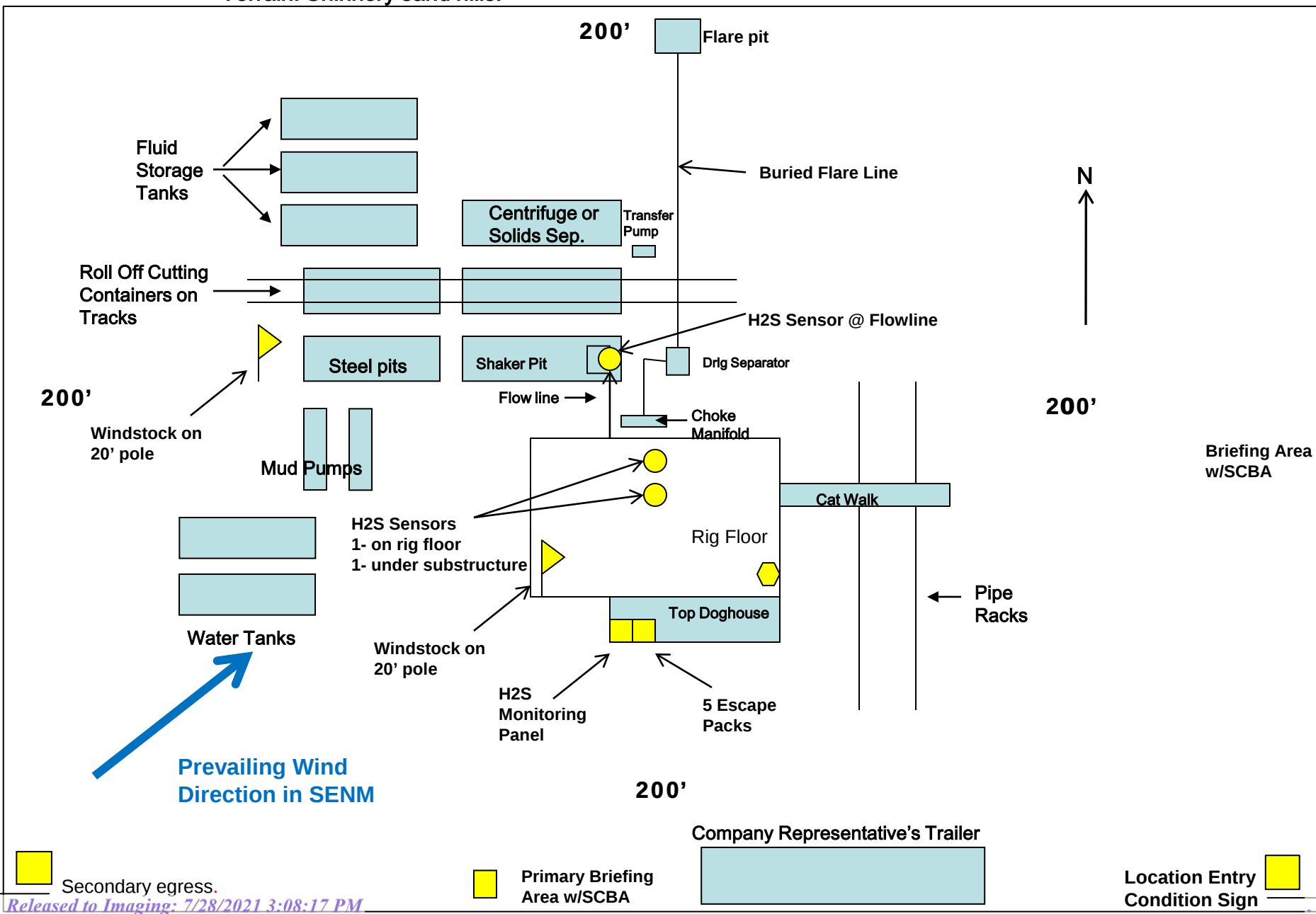
All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location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

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

ZS 062321

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

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



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

W A R N I N G

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

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

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

EMERGENCY RESPONSE NUMBERS

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

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

COMMENTS

Action 38309

COMMENTS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 38309
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

COMMENTS

Created By	Comment	Comment Date
kpickford	KP GEO Review 7/28/2021	7/28/2021

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CONDITIONS

Action 38309

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Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 38309
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
kpickford	Notify OCD 24 hours prior to casing & cement	7/28/2021
kpickford	Will require a File As Drilled C-102 and a Directional Survey with the C-104	7/28/2021
kpickford	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	7/28/2021
kpickford	Cement is required to circulate on both surface and intermediate1 strings of casing	7/28/2021
kpickford	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	7/28/2021