

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. [325390]
2. Name of Operator [229137]		9. API Well No. 30-025-49887
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [98180]
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

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

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

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

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

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

NGMP Rec 03/10/2022

SL

(Continued on page 2)



Approval Date: 03/09/2022

KZ
03/17/2022

*(Instructions on page 2)

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

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

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

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 476-3480 Fax: (505) 476-3482

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

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

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

API Number 30-025- 49887	Pool Code 98180	Pool Name WC-025 G-09 S253309P; Upper Wolfcamp
Property Code 325390	Property Name HARRIER FEDERAL COM	Well Number 701H
OGRID No. 229137 229137	Operator Name COG OPERATING, LLC	Elevation 3366.0'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	35	25-S	32-E		890	NORTH	985	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
N	2	26-S	32-E		50	SOUTH	2310	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
640			

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

NAD 83 NME <u>SURFACE LOCATION</u> Y=397803.5 N X=752622.0 E LAT.=32.091804' N LONG.=103.651071' W <table border="1"> <thead> <tr> <th colspan="2">POINT LEGEND</th> </tr> </thead> <tbody> <tr><td>1</td><td>Y=398686.8 N X=751636.5 E</td></tr> <tr><td>2</td><td>Y=396042.9 N X=751638.1 E</td></tr> <tr><td>3</td><td>Y=393397.2 N X=751651.4 E</td></tr> <tr><td>4</td><td>Y=390723.7 N X=751673.0 E</td></tr> <tr><td>5</td><td>Y=388048.2 N X=751701.8 E</td></tr> <tr><td>6</td><td>Y=388067.3 N X=754374.2 E</td></tr> <tr><td>7</td><td>Y=393414.5 N X=754276.4 E</td></tr> <tr><td>8</td><td>Y=398704.8 N X=754294.7 E</td></tr> </tbody> </table> NAD 83 NME <u>PROPOSED BOTTOM HOLE LOCATION</u> Y=388114.7 N X=754011.2 E LAT.=32.065147' N LONG.=103.646784' W	POINT LEGEND		1	Y=398686.8 N X=751636.5 E	2	Y=396042.9 N X=751638.1 E	3	Y=393397.2 N X=751651.4 E	4	Y=390723.7 N X=751673.0 E	5	Y=388048.2 N X=751701.8 E	6	Y=388067.3 N X=754374.2 E	7	Y=393414.5 N X=754276.4 E	8	Y=398704.8 N X=754294.7 E	FTP 100' FNL & 2310' FWL Y=398602.4 N X=753946.5 E LAT.=32.093977' N LONG.=103.646777' W GRID AZ. TO FTP 58°54'04" LEASE X-ING LAT.=32.079711' N LONG.=103.646781' W LTP 100' FSL & 2310' FWL Y=388164.7 N X=754010.9 E LAT.=32.065285' N LONG.=103.646784' W	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Stan Wagner</i> 6/17/2021 Signature Date Stan Wagner Printed Name E-mail Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. MARCH 29, 2021 Date of Survey Signature & Seal of Professional Surveyor <i>Chad L. Harcrow</i> 4/2/21 Certificate No. CHAD HARCROW 17777 W.O. # 21-307 DRAWN BY: AH
POINT LEGEND																				
1	Y=398686.8 N X=751636.5 E																			
2	Y=396042.9 N X=751638.1 E																			
3	Y=393397.2 N X=751651.4 E																			
4	Y=390723.7 N X=751673.0 E																			
5	Y=388048.2 N X=751701.8 E																			
6	Y=388067.3 N X=754374.2 E																			
7	Y=393414.5 N X=754276.4 E																			
8	Y=398704.8 N X=754294.7 E																			

Intent ☒ As Drilled ☐API # 30-025-49887
30-025-

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

Kick Off Point (KOP)

UL D	Section 35	Township 25S	Range 32E	Lot	Feet	From N/S	Feet	From E/W	County Lea
Latitude					Longitude				NAD 83

First Take Point (FTP)

UL C	Section 35	Township 25S	Range 32E	Lot	Feet 100	From N/S North	Feet 2310	From E/W West	County Lea
Latitude 32.093977					Longitude -103.646777				NAD 83

Last Take Point (LTP)

UL N	Section 2	Township 26S	Range 32E	Lot	Feet 100	From N/S South	Feet 2310	From E/W West	County Lea
Latitude 32.065285					Longitude -103.646784				NAD 83

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

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

API # 30-025-	Operator Name:	Property Name:	Well Number
	COG Operating LLC	Harrier Federal Com	703H

KZ 06/29/2018

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

Submit Electronically
Via E-permitting

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: 06/10/2021

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
Harrier Federal Com 701H	30-025-	D-35-25S-32E	845 FNL & 985 FWL	± 2000	± 5630	± 2220 30-025-49887
Harrier Federal Com 702H	30-025-	D-35-25S-32E	845 FNL & 955 FWL	± 2000	± 5630	± 2220
Harrier Federal Com 703H	30-025-	D-35-25S-32E	890 FNL & 955 FWL	± 2000	± 5630	± 2220
Harrier Federal Com 704H	30-025-	D-35-25S-32E	890 FNL & 925 FWL	± 2000	± 5630	± 2220
Harrier Federal Com 801H	30-025-	D-35-25S-32E	845 FNL & 985 FWL	± 2000	± 5630	± 2220
Harrier Federal Com 802H	30-025-	D-35-25S-32E	845 FNL & 925 FWL	± 2000	± 5630	± 2220

IV. Central Delivery Point Name: Harrier Fed Com 2 N CTB 780 FSL & 1835 FWL 2-26S-32E [See 19.15.27.9(D)(1) NMAC]

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

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Harrier Federal Com	Pending	± 10/1/2022	± 25 days from spud	TBD	TBD	TBD
701H, 702H, 703H, 704H, 801H, 802H	30-025-49887					

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

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

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

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

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

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

IX. Anticipated Natural Gas Production:

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

X. Natural Gas Gathering System (NGGS):

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

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

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

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

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

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

Section 3 - Certifications

Effective May 25, 2021

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

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

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

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

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

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

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

Section 4 - Notices

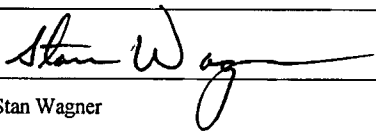
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

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

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

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

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

Signature:	
Printed Name:	Stan Wagner
Title:	Regulatory Advisor
E-mail Address:	stan.s.wagner@conocophillips.com
Date:	06/10/2021
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:

Initial separation equipment will be sized with adequate retention time to effectively separate all phases of production and capture gas prior to liquid phases entering storage tanks.

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

- Install VCU on all vent lines from tanks to combust gas emitted due to normal tank breathing
- All flare stacks are equipped with auto ignition devices and are located at a minimum of 150' from storage tanks and wellheads
- Install meters on all flare lines to quantify volume of gas being flared during an upset condition
- A properly sized mud gas separator and flare stack located a minimum of 100 feet from the nearest surface hole location will be used to combust natural gas from normal drilling operations. Will report natural gas vented or flared due to an emergency or malfunction.

VIII. Best Management Practices

Operator's best management practices to minimize venting during active and planned maintenance:

Operations plan will be to shut in production for planned maintenance activities that may result in venting of natural gas.

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG
LEASE NO.:	NMNM108973
LOCATION:	Section 35, T.25 S., R.32 E., NMPPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Harrier Fed Com 701H
SURFACE HOLE FOOTAGE:	890'N & 985'W
BOTTOM HOLE FOOTAGE:	50'S & 2310'W

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 **850** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.

- b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8 hours** or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)
 - c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:
 - Cement to surface. If cement does not circulate see B.1.a, c-d above.**Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.**

Option 2:

Operator is approved to run a DV Tool, the depth may be adjusted as long as the cement is changed proportionally. Operator shall contact BLM before running The DV Tool.

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 **10,000 (10M) psi. Variance is approved to use a 5000 (5M) Annular which shall be tested to 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)
689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure

- rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
- b. When the operator proposes to set surface casing with Spudder Rig
- Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.

4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.

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

have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.

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

C. DRILLING MUD

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

D. WASTE MATERIAL AND FLUIDS

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

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

ZS 022822

COG Operating, LLC - Harrier Federal Com 701H

1. Geologic Formations

TVD of target	12,332' EOL	Pilot hole depth	NA
MD at TD:	22,500'	Deepest expected fresh water:	207'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	744	Water	
Top of Salt	1107	Salt	
Base of Salt	4504	Salt	
Lamar	4700	Salt Water	
Bell Canyon	4735	Salt Water	
Cherry Canyon	5727	Oil/Gas	
Brushy Canyon	7293	Oil/Gas	
Bone Spring Lime	8856	Oil/Gas	
1st Bone Spring Sand	9820	Oil/Gas	
2nd Bone Spring Sand	10438	Oil/Gas	
3rd Bone Spring Sand	11603	Oil/Gas	
Wolfcamp A	12225	Target	
Wolfcamp B	0	Not Penetrated	
Wolfcamp D	0	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	1050	10.75"	45.5	N80	BTC	5.14	1.71	21.77	22.96
9.875"	0	8300	7.625"	29.7	HCL80	BTC	1.60	1.08	2.95	2.97
8.750"	8300	11800	7.625"	29.7	HCP110	FJM	1.21	1.39	2.68	1.59
6.75"	0	11300	5.5"	23	P110	BTC	1.98	2.34	2.80	2.79
6.75"	11300	22,500	5.5"	23	P110	Talon	1.81	2.14	2.57	2.49
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Surface burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface and
All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

The 5 1/2" talon casing will be run back 200' into the intermediate casing to ensure the coupling OD clearance is greater than .422" for the cement bond tie in.

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

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3. Cementing Program

Casing	# Sk	Wt. lb/ gal	Yld ft3/ sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	501	13.5	1.75	9	12	Lead: Class C + 4% Gel + 1% CaCl ₂
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter. Stage 1	840	10.3	3.3	22	24	Halliburton tunded light
	250	14.8	1.35	6.6	8	Tail: Class H
Prod	524	12.7	2	10.7	72	Lead: 50:50:10 H Blend
	1018	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

If losses are encountered in the intermediate section a DV/ECP tool will be run ~50' above the Lamar Lime top, cement will be adjusted accordingly if this contingency is necessary.

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

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

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
Production	11,300'	35% OH in Lateral (KOP to EOL)

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4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
---	---

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

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

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

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

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5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.6 - 8.8	28-34	N/C
Surf csg	7-5/8" Int shoe	Brine Diesel Emulsion	8.4 - 9	28-34	N/C
7-5/8" Int shoe	Lateral TD	OBM	9.6 - 12.5	35-45	<20

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

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

6. Logging and Testing Procedures

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

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

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7. Drilling Conditions

Condition	Specify what type and where?
BH Pressure at deepest TVD	8020 psi at 12332' TVD
Abnormal Temperature	NO 180 Deg. F.

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

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

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

N H₂S is present

Y H₂S Plan attached

8. Other Facets of Operation

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

x	H ₂ S Plan.
x	BOP & Choke Schematics.
x	Directional Plan

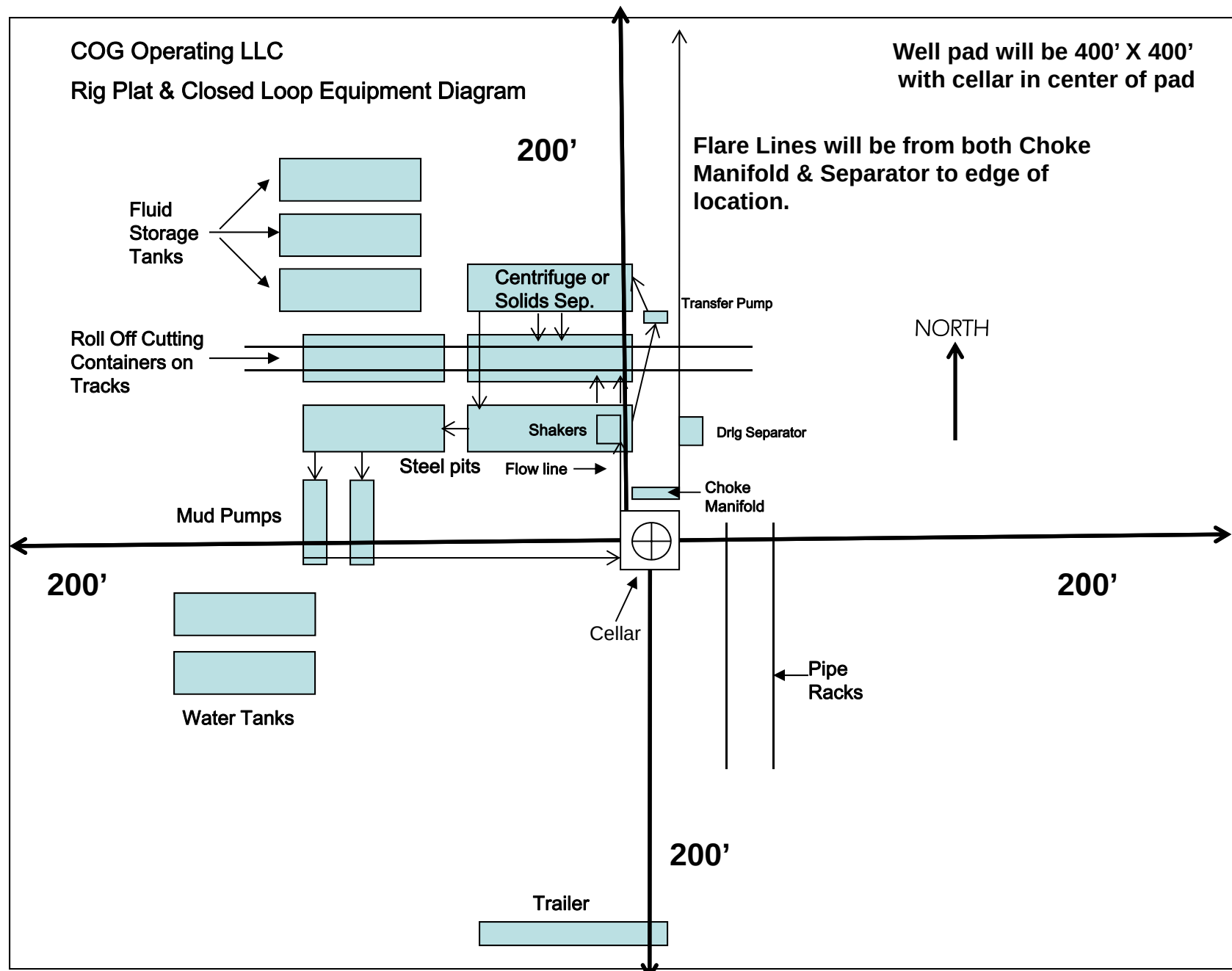


Exhibit 1

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

DELAWARE BASIN EAST

LEA PROSPECT (NM-E)

HARRIER FEDERAL PROJECT (LEA 2632)

HARRIER FED COM #701H

OWB

PWP1

Anticollision Report

04 May, 2021

The ConocoPhillips logo is displayed on a light yellow rectangular background. It features the company name "ConocoPhillips" in a bold, black, sans-serif font. Above the "o" in "Phillips", there is a red stylized flame or checkmark symbol.

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Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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	5/3/2021		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,908.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,908.0	22,273.7	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

Summary						
Site Name	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Distance Between Ellipses (usft)	Separation Factor	Warning
Offset Well - Wellbore - Design						
HARRIER FEDERAL PROJECT (LEA 2632)						
HARRIER 35 FEDERAL COM #1H - OWB - ACTUAL WE	13,669.2	13,234.9	288.8	231.7	5.057	CC, ES
HARRIER 35 FEDERAL COM #1H - OWB - ACTUAL WE	13,718.7	13,233.3	293.1	234.6	5.014	SF
HARRIER FED COM #101H - OWB - AWP	9,656.3	19,159.6	234.2	139.2	2.467	CC, ES, SF
HARRIER FED COM #201H - OWB - AWB	9,316.9	18,936.6	668.1	573.7	7.077	CC, ES, SF
HARRIER FED COM #202H - OWB - AWP	0.0	1.0	851.0			
HARRIER FED COM #202H - OWB - AWP	4,900.0	4,879.9	993.3	984.1	107.793	SF
HARRIER FED COM #301H - OWB - AWP	9,772.4	19,180.4	612.4	517.0	6.421	CC, ES, SF
HARRIER FED COM #302H - OWB - AWP	10,237.6	19,657.0	267.1	171.2	2.787	CC, ES, SF
HARRIER FED COM #303H - OWB - AWP	9,223.5	18,661.0	216.1	122.0	2.298	CC, ES, SF
HARRIER FED COM #702H - OWB - PWP1	2,416.5	2,417.0	53.9	45.8	6.642	CC
HARRIER FED COM #702H - OWB - PWP1	2,500.0	2,500.5	53.9	45.7	6.536	ES, SF
HARRIER FED COM #703H - OWB - PWP1	2,500.0	2,501.1	30.0	17.3	2.366	CC, ES, SF
HARRIER FED COM #704H - OWB - PWP1	2,416.2	2,417.5	60.0	53.2	8.772	CC
HARRIER FED COM #704H - OWB - PWP1	2,500.0	2,501.3	60.0	53.1	8.700	ES, SF
HARRIER FED COM #801H - OWB - PWP1	2,415.7	2,418.5	45.0	36.4	5.215	CC
HARRIER FED COM #801H - OWB - PWP1	2,600.0	2,602.2	45.1	36.1	5.043	ES
HARRIER FED COM #801H - OWB - PWP1	22,274.3	22,529.4	411.1	238.6	2.383	SF
HARRIER FED COM #802H - OWB - PWP1	2,416.4	2,417.2	74.7	67.2	9.929	CC
HARRIER FED COM #802H - OWB - PWP1	2,500.0	2,500.0	74.7	67.1	9.802	ES, SF

HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER 35 FEDERAL COM #1H - OWB - ACTUAL WE													Offset Site Error:	0.0 usft
Survey Program: 100-MWD													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
12,700.0	12,331.9	13,462.0	12,015.2	15.5	57.7	49.48	-1,075.0	1,113.7	986.1	914.9	71.22	13.846		
12,800.0	12,331.6	13,428.7	12,016.4	15.8	57.1	44.24	-1,076.5	1,147.0	897.6	827.0	70.58	12.718		
12,900.0	12,331.3	13,396.3	12,017.4	16.1	56.6	38.16	-1,077.9	1,179.3	809.0	739.1	69.91	11.573		
13,000.0	12,331.1	13,368.1	12,018.0	16.4	56.2	31.70	-1,079.1	1,207.5	721.0	651.7	69.25	10.412		
13,100.0	12,330.8	13,335.3	12,018.9	16.8	55.6	23.92	-1,080.6	1,240.2	634.1	565.7	68.37	9.274		
13,200.0	12,330.5	13,295.8	12,021.3	17.3	55.0	14.39	-1,082.1	1,279.7	549.1	482.0	67.14	8.179		
13,300.0	12,330.3	13,272.0	12,023.3	17.7	54.7	7.35	-1,082.9	1,303.3	468.1	402.3	65.85	7.109		
13,400.0	12,330.0	13,257.4	12,024.6	18.2	54.4	2.41	-1,083.3	1,317.9	394.8	330.7	64.05	6.164		

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

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Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER 35 FEDERAL COM #1H - OWB - ACTUAL WE													Offset Site Error:	0.0 usft
Survey Program: 100-MWD													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis			Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
13,500.0	12,329.8	13,246.4	12,025.5	18.7	54.3	-1.26	-1,083.6	1,328.9	334.8	273.7	61.16	5.475		
13,600.0	12,329.5	13,238.5	12,026.1	19.2	54.1	-3.64	-1,083.9	1,336.7	297.0	239.3	57.72	5.146		
13,669.2	12,329.3	13,234.9	12,026.4	19.5	54.1	-4.51	-1,084.0	1,340.3	288.8	231.7	57.12	5.057 CC, ES		
13,700.0	12,329.3	13,233.8	12,026.5	19.7	54.1	-4.70	-1,084.0	1,341.4	290.5	232.7	57.79	5.027		
13,718.7	12,329.2	13,233.3	12,026.5	19.8	54.1	-4.75	-1,084.1	1,341.9	293.1	234.6	58.45	5.014 SF		
13,800.0	12,329.0	13,231.2	12,026.7	20.2	54.0	-5.16	-1,084.1	1,344.0	317.2	254.7	62.44	5.080		
13,900.0	12,328.8	13,228.7	12,026.9	20.8	54.0	-5.66	-1,084.2	1,346.5	369.9	303.2	66.69	5.546		
14,000.0	12,328.5	13,226.2	12,027.1	21.4	54.0	-6.16	-1,084.3	1,349.0	439.3	370.2	69.08	6.360		
14,100.0	12,328.3	13,223.6	12,027.3	22.0	53.9	-6.66	-1,084.4	1,351.5	518.8	448.6	70.23	7.387		
14,200.0	12,328.0	13,221.1	12,027.5	22.6	53.9	-7.16	-1,084.4	1,354.1	604.4	533.7	70.77	8.541		
14,300.0	12,327.8	13,218.6	12,027.7	23.2	53.8	-7.66	-1,084.5	1,356.6	693.9	622.9	71.01	9.772		
14,400.0	12,327.5	13,216.0	12,027.8	23.9	53.8	-8.16	-1,084.6	1,359.1	785.9	714.8	71.10	11.053		
14,500.0	12,327.2	13,213.5	12,028.0	24.5	53.8	-8.65	-1,084.7	1,361.6	879.6	808.5	71.13	12.367		
14,600.0	12,327.0	13,212.2	12,028.1	25.2	53.7	-8.92	-1,084.7	1,362.9	974.6	903.5	71.14	13.700		

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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
HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #101H - OWB - AWP												Offset Well Error:	3.0 usft
Survey Program: 100-Standard Keeper 104, 8898-MWD+HFR1+FDIR													
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
8,700.0	8,667.1	19,158.2	9,516.5	10.6	84.5	-161.41	245.1	455.2	984.6	891.5	93.01	10.585	
8,800.0	8,766.6	19,158.3	9,516.5	10.8	84.5	-161.37	245.3	455.2	887.7	794.5	93.27	9.517	
8,900.0	8,866.0	19,158.5	9,516.5	10.9	84.5	-161.34	245.4	455.2	791.7	698.2	93.54	8.464	
9,000.0	8,965.5	19,158.6	9,516.5	11.0	84.5	-161.30	245.6	455.2	696.8	603.0	93.81	7.428	
9,100.0	9,064.9	19,158.7	9,516.5	11.1	84.5	-161.27	245.7	455.2	603.6	509.5	94.07	6.416	
9,200.0	9,164.4	19,158.9	9,516.5	11.3	84.5	-161.23	245.9	455.2	512.9	418.5	94.34	5.436	
9,300.0	9,263.8	19,159.0	9,516.5	11.4	84.5	-161.20	246.0	455.2	426.4	331.8	94.60	4.507	
9,400.0	9,363.3	19,159.2	9,516.5	11.5	84.5	-161.16	246.2	455.2	347.2	252.3	94.83	3.661	
9,500.0	9,462.7	19,159.3	9,516.5	11.6	84.5	-161.13	246.3	455.2	281.5	186.6	94.93	2.966	
9,600.0	9,562.2	19,159.5	9,516.4	11.8	84.5	-161.09	246.4	455.2	240.8	146.0	94.81	2.540	
9,656.3	9,618.2	19,159.6	9,516.4	11.8	84.5	-161.07	246.5	455.2	234.2	139.2	94.93	2.467	CC, ES, SF
9,700.0	9,661.7	19,159.6	9,516.4	11.9	84.5	-161.06	246.6	455.2	238.2	142.9	95.30	2.500	
9,800.0	9,761.1	19,159.8	9,516.4	12.0	84.5	-161.02	246.7	455.2	274.7	178.3	96.42	2.850	
9,900.0	9,860.6	19,159.9	9,516.4	12.1	84.5	-160.99	246.9	455.2	338.0	240.9	97.10	3.481	
10,000.0	9,960.0	19,160.0	9,516.4	12.3	84.5	-160.95	247.0	455.2	415.9	318.4	97.46	4.267	
10,100.0	10,059.5	19,160.2	9,516.4	12.4	84.5	-160.92	247.2	455.2	501.7	404.0	97.74	5.133	
10,200.0	10,158.9	19,160.3	9,516.4	12.5	84.5	-160.88	247.3	455.2	592.0	494.0	98.01	6.040	
10,300.0	10,258.4	19,160.5	9,516.4	12.6	84.5	-160.85	247.4	455.2	685.0	586.7	98.28	6.970	
10,400.0	10,357.8	19,160.6	9,516.4	12.8	84.5	-160.81	247.6	455.2	779.7	681.1	98.56	7.911	
10,500.0	10,457.3	19,160.8	9,516.4	12.9	84.5	-160.78	247.7	455.2	875.6	776.7	98.85	8.858	
10,600.0	10,556.7	19,160.9	9,516.4	13.0	84.5	-160.74	247.9	455.2	972.3	873.2	99.15	9.807	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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
HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #201H - OWB - AWB												Offset Well Error:	3.0 usft
Survey Program: 100-Standard Keeper 104, 8506-MWD+IFR1+FDIR													
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
8,600.0	8,567.7	18,922.0	9,224.6	10.5	84.3	-160.93	228.7	-10.1	979.8	887.2	92.55	10.587	
8,700.0	8,667.1	18,923.4	9,224.6	10.6	84.3	-160.82	230.0	-10.1	909.2	816.3	92.85	9.792	
8,800.0	8,766.6	18,924.9	9,224.5	10.8	84.4	-160.69	231.5	-10.1	844.6	751.4	93.14	9.068	
8,900.0	8,866.0	18,926.6	9,224.5	10.9	84.4	-160.54	233.2	-10.0	787.4	694.0	93.41	8.430	
9,000.0	8,965.5	18,928.5	9,224.5	11.0	84.4	-160.38	235.1	-10.0	739.4	645.7	93.65	7.895	
9,100.0	9,064.9	18,930.7	9,224.5	11.1	84.4	-160.19	237.3	-10.0	702.4	608.5	93.85	7.484	
9,200.0	9,164.4	18,933.2	9,224.5	11.3	84.4	-159.98	239.8	-10.0	678.2	584.2	94.07	7.210	
9,300.0	9,263.8	18,936.1	9,224.5	11.4	84.5	-159.73	242.7	-10.0	668.3	574.0	94.34	7.084	
9,316.9	9,280.7	18,936.6	9,224.5	11.4	84.5	-159.68	243.2	-10.0	668.1	573.7	94.40	7.077	CC, ES, SF
9,400.0	9,363.3	18,939.5	9,224.4	11.5	84.5	-159.43	246.1	-10.0	673.2	578.5	94.73	7.107	
9,500.0	9,462.7	18,943.6	9,224.5	11.6	84.5	-159.08	250.2	-9.9	692.7	597.5	95.22	7.275	
9,600.0	9,562.2	18,948.6	9,224.5	11.8	84.6	-158.65	255.2	-9.9	725.5	629.8	95.75	7.577	
9,700.0	9,661.7	18,954.8	9,224.5	11.9	84.6	-158.12	261.4	-9.8	770.0	673.7	96.26	7.999	
9,800.0	9,761.1	18,962.7	9,224.7	12.0	84.7	-157.45	269.3	-9.8	824.2	727.5	96.72	8.521	
9,900.0	9,860.6	18,973.2	9,224.9	12.1	84.8	-156.56	279.8	-9.7	886.3	789.2	97.15	9.124	
10,000.0	9,960.0	18,987.6	9,225.4	12.3	84.9	-155.33	294.2	-9.6	954.9	857.3	97.54	9.789	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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
HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #202H - OWB - AWP												Offset Well Error:	3.0 usft
Survey Program: 100-Standard Keeper 104, 8598-MWD+IFR1+FDIR													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	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	1.0	1.0	3.0	3.0	-58.07	450.1	-722.2	851.0				
100.0	100.0	97.8	97.8	3.0	3.0	-58.06	450.4	-722.3	851.2	845.2	6.00	141.861	
200.0	200.0	196.8	196.8	3.0	3.0	-58.01	451.2	-722.3	851.7	845.7	6.01	141.817	
300.0	300.0	294.6	294.6	3.0	3.0	-57.94	452.3	-722.2	852.2	846.1	6.02	141.667	
400.0	400.0	400.1	400.1	3.0	3.0	-57.88	453.1	-721.9	852.3	846.3	6.03	141.368	
483.0	483.0	483.0	483.0	3.1	3.0	-57.84	453.7	-721.5	852.3	846.2	6.04	141.045	
500.0	500.0	499.2	499.2	3.1	3.0	-57.83	453.8	-721.4	852.3	846.2	6.05	140.972	
600.0	600.0	595.5	595.5	3.1	3.1	-57.77	454.7	-721.2	852.6	846.5	6.07	140.490	
700.0	700.0	695.4	695.4	3.1	3.1	-57.73	455.5	-721.4	853.1	847.0	6.10	139.858	
800.0	800.0	792.8	792.7	3.2	3.1	-57.68	456.5	-721.5	853.8	847.7	6.14	139.132	
900.0	900.0	888.8	888.8	3.2	3.2	-57.63	457.7	-722.1	855.0	848.8	6.18	138.323	
1,000.0	1,000.0	990.5	990.4	3.2	3.2	-57.60	458.6	-722.8	856.1	849.8	6.24	137.291	
1,100.0	1,100.0	1,089.4	1,089.3	3.3	3.3	-57.58	459.5	-723.6	857.2	850.9	6.30	136.131	
1,200.0	1,200.0	1,191.0	1,190.9	3.4	3.3	-57.55	460.5	-724.2	858.3	851.9	6.37	134.838	
1,300.0	1,300.0	1,287.1	1,287.0	3.4	3.4	-57.52	461.6	-725.1	859.7	853.2	6.44	133.510	
1,400.0	1,400.0	1,389.0	1,388.9	3.5	3.4	-57.49	462.8	-726.0	861.0	854.5	6.52	132.026	
1,500.0	1,500.0	1,486.6	1,486.5	3.5	3.5	-57.44	464.1	-726.8	862.4	855.8	6.61	130.532	
1,600.0	1,600.0	1,582.0	1,581.9	3.6	3.5	-57.40	465.6	-727.9	864.2	857.5	6.70	129.034	
1,700.0	1,700.0	1,684.0	1,683.9	3.7	3.6	-57.36	467.1	-729.3	866.2	859.4	6.80	127.388	
1,800.0	1,800.0	1,807.5	1,807.4	3.8	3.7	-57.30	468.7	-729.9	867.5	860.6	6.90	125.648	
1,900.0	1,900.0	1,908.6	1,908.4	3.9	3.7	-57.21	469.2	-728.5	866.6	859.6	6.95	124.677	
2,000.0	2,000.0	2,004.3	2,004.1	3.9	3.7	-57.14	469.8	-727.4	865.9	858.9	7.01	123.608	
2,100.0	2,100.0	2,100.1	2,099.9	4.0	3.8	-57.06	470.6	-726.5	865.6	858.5	7.07	122.399	
2,149.6	2,149.6	2,151.8	2,151.6	4.1	3.8	-57.03	471.0	-726.2	865.6	858.4	7.11	121.734	
2,200.0	2,200.0	2,201.3	2,201.1	4.1	3.9	-57.00	471.4	-725.8	865.5	858.3	7.15	121.075	
2,242.6	2,242.6	2,242.8	2,242.6	4.2	3.9	-56.97	471.8	-725.5	865.4	858.3	7.18	120.509	
2,300.0	2,300.0	2,300.1	2,299.9	4.2	3.9	-56.93	472.2	-725.3	865.5	858.2	7.23	119.700	
2,400.0	2,400.0	2,400.4	2,400.2	4.3	4.0	-56.87	473.0	-724.7	865.4	858.1	7.31	118.317	
2,500.0	2,500.0	2,501.3	2,501.1	4.4	4.1	-56.81	473.7	-724.1	865.4	857.9	7.40	116.921	
2,504.8	2,504.8	2,505.9	2,505.6	4.4	4.1	-126.80	473.8	-724.1	865.3	857.9	7.40	116.861	
2,600.0	2,600.0	2,599.5	2,599.3	4.5	4.2	-126.84	474.4	-723.8	866.4	859.0	7.47	116.050	
2,700.0	2,699.8	2,699.7	2,699.5	4.5	4.2	-127.04	474.6	-723.7	869.6	862.1	7.50	115.889	
2,800.0	2,799.5	2,798.7	2,798.5	4.6	4.3	-127.41	474.6	-723.7	874.9	867.4	7.55	115.854	
2,900.0	2,898.9	2,899.7	2,899.5	4.6	4.3	-127.96	474.7	-723.9	881.5	873.9	7.61	115.774	
3,000.0	2,998.4	2,999.5	2,999.3	4.7	4.3	-128.50	474.5	-724.0	888.0	880.4	7.65	116.052	
3,100.0	3,097.8	3,103.3	3,103.0	4.8	4.3	-129.05	474.2	-723.7	894.3	886.6	7.67	116.651	
3,200.0	3,197.3	3,210.6	3,210.4	4.8	4.3	-129.58	474.0	-722.5	899.8	892.1	7.69	117.018	
3,300.0	3,296.7	3,316.4	3,316.2	4.9	4.3	-130.09	473.5	-720.6	904.7	897.0	7.72	117.171	
3,400.0	3,396.2	3,416.7	3,416.4	5.0	4.4	-130.54	473.1	-718.3	909.3	901.6	7.76	117.142	
3,500.0	3,495.6	3,520.7	3,520.4	5.0	4.4	-130.99	472.9	-715.5	913.7	905.9	7.81	116.920	
3,600.0	3,595.1	3,609.8	3,609.5	5.1	4.5	-131.35	472.9	-712.9	918.1	910.2	7.87	116.645	
3,700.0	3,694.5	3,696.0	3,695.7	5.2	4.5	-131.76	472.8	-712.4	924.5	916.5	7.93	116.509	
3,800.0	3,794.0	3,794.2	3,793.8	5.3	4.6	-132.23	472.8	-712.3	931.4	923.4	8.01	116.246	
3,900.0	3,893.4	3,894.1	3,893.8	5.4	4.6	-132.71	472.6	-712.3	938.3	930.2	8.10	115.893	
4,000.0	3,992.9	4,012.2	4,011.8	5.5	4.6	-133.27	472.0	-711.4	944.6	936.4	8.19	115.357	
4,100.0	4,092.3	4,118.4	4,118.1	5.5	4.7	-133.74	471.1	-709.1	949.5	941.2	8.28	114.623	
4,200.0	4,191.8	4,232.6	4,232.1	5.6	4.7	-134.25	469.7	-705.7	953.6	945.2	8.39	113.638	
4,300.0	4,291.2	4,346.9	4,346.3	5.7	4.8	-134.75	467.4	-700.4	955.9	947.4	8.51	112.319	
4,400.0	4,390.7	4,434.4	4,433.7	5.8	4.8	-135.15	465.3	-696.3	958.1	949.4	8.62	111.162	
4,500.0	4,490.1	4,500.0	4,499.3	5.9	4.8	-135.48	463.9	-695.1	962.9	954.2	8.72	110.398	
4,600.0	4,589.6	4,590.3	4,589.5	6.0	4.8	-135.96	462.6	-695.6	970.2	961.4	8.84	109.758	
4,700.0	4,689.0	4,691.4	4,690.6	6.1	4.8	-136.48	461.2	-696.1	977.7	968.8	8.96	109.083	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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
HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #202H - OWB - AWP												Offset Well Error:	3.0 usft
Survey Program: 100-Standard Keeper 104, 8598-MWD+IFR1+FDIR													
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	4,788.5	4,789.2	4,788.4	6.2	4.8	-136.96	460.0	-696.4	985.2	976.1	9.09	108.367	
4,900.0	4,887.9	4,879.9	4,879.1	6.3	4.9	-137.23	461.7	-696.1	993.3	984.1	9.21	107.793 SF	

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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
HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #301H - OWB - AWP												Offset Well Error:	3.0 usft
Survey Program: 100-Standard Keeper 104, 8973-MWD+IFR1+FDIR													
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
9,000.0	8,965.5	19,155.2	9,555.3	11.0	84.6	22.70	224.7	1,308.8	985.4	890.5	94.88	10.385	
9,100.0	9,064.9	19,158.4	9,555.3	11.1	84.6	22.40	227.9	1,308.8	909.2	814.0	95.18	9.552	
9,200.0	9,164.4	19,161.6	9,555.3	11.3	84.7	22.10	231.1	1,308.8	838.0	742.6	95.44	8.780	
9,300.0	9,263.8	19,164.8	9,555.3	11.4	84.7	21.80	234.3	1,308.9	773.2	677.6	95.63	8.086	
9,400.0	9,363.3	19,168.1	9,555.3	11.5	84.7	21.49	237.6	1,308.9	716.6	620.9	95.72	7.486	
9,500.0	9,462.7	19,171.3	9,555.3	11.6	84.7	21.19	240.9	1,308.9	670.1	574.5	95.68	7.004	
9,600.0	9,562.2	19,174.6	9,555.3	11.8	84.8	20.88	244.1	1,309.0	636.1	540.6	95.55	6.658	
9,700.0	9,661.7	19,177.9	9,555.2	11.9	84.8	20.57	247.5	1,309.0	616.6	521.2	95.40	6.464	
9,772.4	9,733.6	19,180.4	9,555.2	12.0	84.8	20.34	249.9	1,309.0	612.4	517.0	95.36	6.421	CC, ES, SF
9,800.0	9,761.1	19,181.3	9,555.2	12.0	84.8	20.26	250.8	1,309.0	613.0	517.6	95.38	6.427	
9,900.0	9,860.6	19,184.6	9,555.2	12.1	84.9	19.94	254.2	1,309.0	625.5	529.9	95.56	6.545	
10,000.0	9,960.0	19,188.0	9,555.2	12.3	84.9	19.63	257.5	1,309.1	653.2	557.3	95.92	6.810	
10,100.0	10,059.5	19,191.4	9,555.2	12.4	84.9	19.31	260.9	1,309.1	694.4	598.1	96.35	7.207	
10,200.0	10,158.9	19,194.8	9,555.2	12.5	84.9	18.99	264.4	1,309.1	746.8	650.0	96.79	7.715	
10,300.0	10,258.4	19,198.3	9,555.2	12.6	85.0	18.67	267.8	1,309.1	808.1	710.9	97.22	8.312	
10,400.0	10,357.8	19,201.8	9,555.1	12.8	85.0	18.34	271.3	1,309.1	876.6	779.0	97.64	8.978	
10,500.0	10,457.3	19,205.1	9,555.1	12.9	85.0	18.03	274.6	1,309.2	950.7	852.7	98.04	9.697	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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
HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #302H - OWB - AWP												Offset Well Error:	3.0 usft
Survey Program: 100-Standard Keeper 104, 9382-MWD+IFR1+FDIR													
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
9,300.0	9,263.8	19,613.8	10,048.9	11.4	84.3	28.55	230.5	1,011.4	974.1	878.8	95.22	10.230	
9,400.0	9,363.3	19,619.0	10,049.0	11.5	84.3	27.47	235.7	1,011.4	878.4	782.8	95.58	9.191	
9,500.0	9,462.7	19,624.0	10,049.0	11.6	84.4	26.41	240.7	1,011.3	783.8	687.9	95.93	8.170	
9,600.0	9,562.2	19,628.9	10,049.1	11.8	84.4	25.38	245.6	1,011.3	690.7	594.5	96.29	7.173	
9,700.0	9,661.7	19,633.6	10,049.1	11.9	84.4	24.37	250.4	1,011.2	599.9	503.2	96.65	6.207	
9,800.0	9,761.1	19,638.3	10,049.1	12.0	84.5	23.38	255.0	1,011.2	512.3	415.4	96.97	5.283	
9,900.0	9,860.6	19,642.7	10,049.2	12.1	84.5	22.43	259.4	1,011.2	430.2	333.0	97.21	4.426	
10,000.0	9,960.0	19,647.0	10,049.2	12.3	84.6	21.51	263.7	1,011.1	357.3	260.1	97.23	3.675	
10,100.0	10,059.5	19,651.3	10,049.2	12.4	84.6	20.61	268.0	1,011.1	300.4	203.6	96.78	3.104	
10,200.0	10,158.9	19,655.5	10,049.3	12.5	84.6	19.71	272.2	1,011.1	269.7	173.7	95.95	2.811	
10,237.6	10,196.3	19,657.0	10,049.3	12.6	84.6	19.37	273.7	1,011.0	267.1	171.2	95.81	2.787 CC, ES, SF	
10,300.0	10,258.4	19,659.6	10,049.3	12.6	84.7	18.82	276.3	1,011.0	274.2	178.2	96.04	2.856	
10,400.0	10,357.8	19,663.7	10,049.3	12.8	84.7	17.95	280.4	1,011.0	312.5	215.5	97.01	3.221	
10,500.0	10,457.3	19,667.7	10,049.4	12.9	84.7	17.09	284.4	1,011.0	374.2	276.4	97.87	3.824	
10,600.0	10,556.7	19,671.7	10,049.4	13.0	84.8	16.24	288.4	1,010.9	449.9	351.4	98.52	4.567	
10,700.0	10,656.2	19,675.6	10,049.4	13.2	84.8	15.40	292.3	1,010.9	533.6	434.6	99.05	5.387	
10,800.0	10,755.6	19,679.4	10,049.4	13.3	84.8	14.58	296.1	1,010.9	622.2	522.6	99.53	6.251	
10,900.0	10,855.1	19,683.3	10,049.4	13.4	84.9	13.76	300.0	1,010.8	713.7	613.7	99.98	7.138	
11,000.0	10,954.5	19,687.0	10,049.5	13.6	84.9	12.96	303.7	1,010.8	807.2	706.8	100.41	8.039	
11,100.0	11,054.0	19,690.8	10,049.5	13.7	84.9	12.18	307.5	1,010.8	902.1	801.3	100.83	8.947	
11,200.0	11,153.4	19,694.4	10,049.5	13.8	85.0	11.40	311.1	1,010.7	998.0	896.8	101.24	9.858	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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
HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #303H - OWB - AWP												Offset Well Error:	3.0 usft
Survey Program: 100-Standard Keeper 104, 8315-MWD+IFR1+FDIR													
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
8,300.0	8,269.3	18,645.5	9,084.9	10.2	84.1	-162.32	226.6	430.3	948.4	856.9	91.43	10.373	
8,400.0	8,368.8	18,647.2	9,084.9	10.3	84.1	-161.85	228.4	430.4	851.3	759.6	91.71	9.283	
8,500.0	8,468.2	18,649.0	9,084.8	10.4	84.2	-161.39	230.1	430.4	755.0	663.0	91.99	8.208	
8,600.0	8,567.7	18,650.7	9,084.8	10.5	84.2	-160.94	231.8	430.5	659.8	567.6	92.28	7.151	
8,700.0	8,667.1	18,652.4	9,084.8	10.6	84.2	-160.50	233.5	430.5	566.3	473.7	92.58	6.117	
8,800.0	8,766.6	18,654.0	9,084.7	10.8	84.2	-160.06	235.2	430.6	475.4	382.5	92.90	5.118	
8,900.0	8,866.0	18,655.6	9,084.7	10.9	84.2	-159.63	236.8	430.6	389.0	295.8	93.24	4.172	
9,000.0	8,965.5	18,657.2	9,084.7	11.0	84.2	-159.21	238.4	430.7	310.9	217.3	93.60	3.321	
9,100.0	9,064.9	18,658.8	9,084.6	11.1	84.2	-158.80	239.9	430.7	248.9	155.0	93.86	2.652	
9,200.0	9,164.4	18,660.3	9,084.6	11.3	84.3	-158.39	241.5	430.7	217.3	123.4	93.95	2.313	
9,223.5	9,187.8	18,661.0	9,084.6	11.3	84.3	-158.21	242.1	430.8	216.1	122.0	94.04	2.298	CC, ES, SF
9,300.0	9,263.8	18,661.0	9,084.6	11.4	84.3	-158.21	242.1	430.8	229.2	134.5	94.70	2.420	
9,400.0	9,363.3	18,663.3	9,084.5	11.5	84.3	-157.60	244.4	430.8	279.0	183.5	95.42	2.924	
9,500.0	9,462.7	18,664.7	9,084.5	11.6	84.3	-157.22	245.9	430.9	350.9	255.1	95.73	3.665	
9,600.0	9,562.2	18,666.2	9,084.4	11.8	84.3	-156.83	247.3	430.9	434.0	338.1	95.93	4.525	
9,700.0	9,661.7	18,667.6	9,084.4	11.9	84.3	-156.46	248.7	431.0	523.1	427.0	96.13	5.442	
9,800.0	9,761.1	18,669.0	9,084.4	12.0	84.3	-156.09	250.1	431.0	615.6	519.2	96.36	6.388	
9,900.0	9,860.6	18,670.4	9,084.3	12.1	84.3	-155.72	251.5	431.0	710.1	613.5	96.61	7.350	
10,000.0	9,960.0	18,671.7	9,084.3	12.3	84.4	-155.36	252.9	431.1	805.9	709.0	96.88	8.318	
10,100.0	10,059.5	18,673.1	9,084.3	12.4	84.4	-155.01	254.2	431.1	902.6	805.4	97.17	9.289	
10,200.0	10,158.9	18,674.4	9,084.3	12.5	84.4	-154.66	255.5	431.1	1,000.0	902.5	97.46	10.260	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #702H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11850-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 Toelface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	0.5	0.5	3.0	3.0	-33.81	44.8	-30.0	53.9				
100.0	100.0	100.5	100.5	3.0	3.0	-33.81	44.8	-30.0	53.9	47.9	6.00	8.985	
200.0	200.0	200.5	200.5	3.0	3.0	-33.81	44.8	-30.0	53.9	47.9	6.01	8.974	
300.0	300.0	300.5	300.5	3.0	3.0	-33.81	44.8	-30.0	53.9	47.9	6.02	8.949	
400.0	400.0	400.5	400.5	3.0	3.0	-33.81	44.8	-30.0	53.9	47.9	6.05	8.911	
500.0	500.0	500.5	500.5	3.1	3.1	-33.81	44.8	-30.0	53.9	47.8	6.08	8.861	
600.0	600.0	600.5	600.5	3.1	3.1	-33.81	44.8	-30.0	53.9	47.8	6.13	8.799	
700.0	700.0	700.5	700.5	3.1	3.1	-33.81	44.8	-30.0	53.9	47.7	6.18	8.726	
800.0	800.0	800.5	800.5	3.2	3.2	-33.81	44.8	-30.0	53.9	47.7	6.24	8.642	
900.0	900.0	900.5	900.5	3.2	3.2	-33.81	44.8	-30.0	53.9	47.6	6.31	8.550	
1,000.0	1,000.0	1,000.5	1,000.5	3.2	3.2	-33.81	44.8	-30.0	53.9	47.5	6.38	8.449	
1,100.0	1,100.0	1,100.5	1,100.5	3.3	3.3	-33.81	44.8	-30.0	53.9	47.5	6.46	8.340	
1,200.0	1,200.0	1,200.5	1,200.5	3.4	3.4	-33.81	44.8	-30.0	53.9	47.4	6.55	8.226	
1,300.0	1,300.0	1,300.5	1,300.5	3.4	3.4	-33.81	44.8	-30.0	53.9	47.3	6.65	8.106	
1,400.0	1,400.0	1,400.5	1,400.5	3.5	3.5	-33.81	44.8	-30.0	53.9	47.2	6.76	7.981	
1,500.0	1,500.0	1,500.5	1,500.5	3.5	3.5	-33.81	44.8	-30.0	53.9	47.1	6.87	7.854	
1,600.0	1,600.0	1,600.5	1,600.5	3.6	3.6	-33.81	44.8	-30.0	53.9	46.9	6.98	7.723	
1,700.0	1,700.0	1,700.5	1,700.5	3.7	3.7	-33.81	44.8	-30.0	53.9	46.8	7.10	7.591	
1,800.0	1,800.0	1,800.5	1,800.5	3.8	3.8	-33.81	44.8	-30.0	53.9	46.7	7.23	7.458	
1,900.0	1,900.0	1,900.5	1,900.5	3.9	3.9	-33.81	44.8	-30.0	53.9	46.6	7.36	7.324	
2,000.0	2,000.0	2,000.5	2,000.5	3.9	3.9	-33.81	44.8	-30.0	53.9	46.4	7.50	7.190	
2,100.0	2,100.0	2,100.5	2,100.5	4.0	4.0	-33.81	44.8	-30.0	53.9	46.3	7.64	7.056	
2,200.0	2,200.0	2,200.5	2,200.5	4.1	4.1	-33.81	44.8	-30.0	53.9	46.1	7.79	6.924	
2,300.0	2,300.0	2,300.5	2,300.5	4.2	4.2	-33.81	44.8	-30.0	53.9	46.0	7.94	6.793	
2,400.0	2,400.0	2,400.5	2,400.5	4.3	4.3	-33.81	44.8	-30.0	53.9	45.8	8.09	6.664	
2,416.5	2,416.5	2,417.0	2,417.0	4.3	4.3	-33.81	44.8	-30.0	53.9	45.8	8.12	6.642 CC	
2,500.0	2,500.0	2,500.5	2,500.5	4.4	4.4	-33.81	44.8	-30.0	53.9	45.7	8.25	6.536 ES, SF	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	-103.90	46.3	-29.1	55.1	46.7	8.36	6.588	
2,700.0	2,699.8	2,698.8	2,698.6	4.5	4.6	-104.19	50.7	-26.5	58.5	50.1	8.42	6.956	
2,800.0	2,799.5	2,798.2	2,797.7	4.6	4.7	-104.94	57.7	-22.2	64.2	55.7	8.46	7.585	
2,900.0	2,898.9	2,898.0	2,897.1	4.6	4.7	-106.68	65.2	-17.8	70.4	62.0	8.47	8.318	
3,000.0	2,998.4	2,997.8	2,996.5	4.7	4.8	-108.13	72.7	-13.3	76.8	68.3	8.49	9.046	
3,100.0	3,097.8	3,097.5	3,095.9	4.8	4.9	-109.36	80.1	-8.8	83.2	74.7	8.51	9.768	
3,200.0	3,197.3	3,197.3	3,195.3	4.8	5.0	-110.42	87.6	-4.3	89.6	81.0	8.55	10.481	
3,300.0	3,296.7	3,297.1	3,294.7	4.9	5.1	-111.34	95.0	0.1	96.0	87.4	8.59	11.183	
3,400.0	3,396.2	3,396.9	3,394.1	5.0	5.2	-112.14	102.5	4.6	102.5	93.9	8.63	11.872	
3,500.0	3,495.6	3,496.7	3,493.5	5.0	5.3	-112.84	109.9	9.1	109.0	100.3	8.68	12.548	
3,600.0	3,595.1	3,596.4	3,592.9	5.1	5.4	-113.47	117.4	13.6	115.5	106.7	8.74	13.208	
3,700.0	3,694.5	3,696.2	3,692.3	5.2	5.5	-114.03	124.9	18.0	122.0	113.2	8.80	13.854	
3,800.0	3,794.0	3,796.0	3,791.7	5.3	5.6	-114.53	132.3	22.5	128.5	119.6	8.87	14.482	
3,900.0	3,893.4	3,895.8	3,891.1	5.4	5.7	-114.98	139.8	27.0	135.0	126.1	8.94	15.094	
4,000.0	3,992.9	3,995.6	3,990.5	5.5	5.8	-115.39	147.2	31.5	141.5	132.5	9.02	15.688	
4,100.0	4,092.3	4,095.3	4,089.9	5.5	5.9	-115.77	154.7	35.9	148.1	139.0	9.10	16.265	
4,200.0	4,191.8	4,195.1	4,189.3	5.6	6.0	-116.11	162.2	40.4	154.6	145.4	9.19	16.823	
4,300.0	4,291.2	4,294.9	4,288.7	5.7	6.2	-116.43	169.6	44.9	161.2	151.9	9.28	17.364	
4,400.0	4,390.7	4,394.7	4,388.1	5.8	6.3	-116.72	177.1	49.4	167.7	158.4	9.38	17.886	
4,500.0	4,490.1	4,494.5	4,487.5	5.9	6.4	-116.99	184.5	53.8	174.3	164.8	9.48	18.390	
4,600.0	4,589.6	4,594.3	4,586.9	6.0	6.5	-117.24	192.0	58.3	180.9	171.3	9.58	18.876	
4,700.0	4,689.0	4,694.0	4,686.3	6.1	6.6	-117.47	199.4	62.8	187.4	177.7	9.69	19.343	
4,800.0	4,788.5	4,793.8	4,785.7	6.2	6.7	-117.69	206.9	67.3	194.0	184.2	9.80	19.793	
4,900.0	4,887.9	4,893.6	4,885.1	6.3	6.8	-117.89	214.4	71.7	200.6	190.7	9.92	20.226	
5,000.0	4,987.4	4,993.4	4,984.5	6.4	6.9	-118.08	221.8	76.2	207.1	197.1	10.04	20.641	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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, 11850-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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,086.9	5,093.2	5,083.9	6.5	7.0	-118.26	229.3	80.7	213.7	203.6	10.16	21.039	
5,200.0	5,186.3	5,192.9	5,183.3	6.6	7.1	-118.43	236.7	85.2	220.3	210.0	10.28	21.421	
5,300.0	5,285.8	5,292.7	5,282.7	6.7	7.3	-118.58	244.2	89.6	226.9	216.5	10.41	21.786	
5,400.0	5,385.2	5,392.5	5,382.1	6.8	7.4	-118.73	251.6	94.1	233.5	222.9	10.55	22.136	
5,500.0	5,484.7	5,492.3	5,481.5	6.9	7.5	-118.87	259.1	98.6	240.0	229.4	10.68	22.470	
5,600.0	5,584.1	5,592.1	5,580.9	7.0	7.6	-119.00	266.6	103.1	246.6	235.8	10.82	22.789	
5,700.0	5,683.6	5,691.8	5,680.3	7.1	7.7	-119.13	274.0	107.5	253.2	242.3	10.97	23.093	
5,800.0	5,783.0	5,791.6	5,779.7	7.2	7.8	-119.25	281.5	112.0	259.8	248.7	11.11	23.383	
5,900.0	5,882.5	5,891.4	5,879.1	7.4	8.0	-119.36	288.9	116.5	266.4	255.1	11.26	23.660	
6,000.0	5,981.9	5,991.2	5,978.5	7.5	8.1	-119.47	296.4	120.9	273.0	261.6	11.41	23.923	
6,100.0	6,081.4	6,091.0	6,077.9	7.6	8.2	-119.58	303.8	125.4	279.6	268.0	11.57	24.174	
6,200.0	6,180.8	6,190.8	6,177.3	7.7	8.3	-119.67	311.3	129.9	286.2	274.4	11.72	24.412	
6,300.0	6,280.3	6,290.5	6,276.7	7.8	8.4	-119.77	318.8	134.4	292.8	280.9	11.88	24.638	
6,400.0	6,379.7	6,390.3	6,376.1	7.9	8.5	-119.86	326.2	138.8	299.3	287.3	12.04	24.853	
6,500.0	6,479.2	6,490.1	6,475.5	8.0	8.7	-119.94	333.7	143.3	305.9	293.7	12.21	25.056	
6,600.0	6,578.6	6,589.9	6,575.0	8.1	8.8	-120.03	341.1	147.8	312.5	300.2	12.38	25.249	
6,700.0	6,678.1	6,689.7	6,674.4	8.3	8.9	-120.11	348.6	152.3	319.1	306.6	12.55	25.432	
6,800.0	6,777.5	6,789.4	6,773.8	8.4	9.0	-120.18	356.0	156.7	325.7	313.0	12.72	25.605	
6,900.0	6,877.0	6,889.2	6,873.2	8.5	9.1	-120.25	363.5	161.2	332.3	319.4	12.90	25.769	
7,000.0	6,976.4	6,989.0	6,972.6	8.6	9.3	-120.32	371.0	165.7	338.9	325.8	13.07	25.923	
7,100.0	7,075.9	7,088.8	7,072.0	8.7	9.4	-120.39	378.4	170.2	345.5	332.3	13.25	26.069	
7,200.0	7,175.3	7,188.6	7,171.4	8.8	9.5	-120.46	385.9	174.6	352.1	338.7	13.44	26.206	
7,300.0	7,274.8	7,288.3	7,270.8	9.0	9.6	-120.52	393.3	179.1	358.7	345.1	13.62	26.336	
7,400.0	7,374.3	7,388.1	7,370.2	9.1	9.7	-120.58	400.8	183.6	365.3	351.5	13.81	26.457	
7,500.0	7,473.7	7,487.9	7,469.6	9.2	9.9	-120.64	408.2	188.1	371.9	357.9	14.00	26.572	
7,600.0	7,573.2	7,587.7	7,569.0	9.3	10.0	-120.69	415.7	192.5	378.5	364.3	14.19	26.679	
7,700.0	7,672.6	7,687.5	7,668.4	9.4	10.1	-120.75	423.2	197.0	385.1	370.7	14.38	26.780	
7,800.0	7,772.1	7,787.8	7,768.4	9.5	10.2	-120.85	430.4	201.3	391.7	377.1	14.57	26.878	
7,900.0	7,871.5	7,888.6	7,868.9	9.7	10.4	-121.17	436.2	204.9	398.0	383.2	14.75	26.986	
8,000.0	7,971.0	7,989.2	7,969.4	9.8	10.5	-121.74	440.6	207.5	404.1	389.2	14.90	27.115	
8,100.0	8,070.4	8,089.7	8,069.8	9.9	10.6	-122.54	443.4	209.2	410.1	395.0	15.04	27.265	
8,200.0	8,169.9	8,190.0	8,170.1	10.0	10.7	-123.55	444.7	209.9	416.0	400.8	15.17	27.415	
8,300.0	8,269.3	8,289.7	8,269.8	10.2	10.9	-124.71	444.8	210.0	421.9	406.5	15.32	27.542	
8,400.0	8,368.8	8,389.2	8,369.3	10.3	11.0	-125.86	444.8	210.0	427.9	412.5	15.47	27.662	
8,500.0	8,468.2	8,488.6	8,468.7	10.4	11.1	-126.97	444.8	210.0	434.1	418.5	15.63	27.782	
8,600.0	8,567.7	8,588.1	8,568.2	10.5	11.2	-128.06	444.8	210.0	440.5	424.7	15.79	27.903	
8,700.0	8,667.1	8,687.5	8,667.6	10.6	11.3	-129.11	444.8	210.0	447.1	431.1	15.95	28.022	
8,800.0	8,766.6	8,787.0	8,767.1	10.8	11.5	-130.13	444.8	210.0	453.8	437.6	16.12	28.142	
8,900.0	8,866.0	8,886.4	8,866.5	10.9	11.6	-131.12	444.8	210.0	460.6	444.3	16.30	28.262	
9,000.0	8,965.5	8,985.9	8,966.0	11.0	11.7	-132.08	444.8	210.0	467.6	451.1	16.47	28.381	
9,100.0	9,064.9	9,085.3	9,065.4	11.1	11.8	-133.02	444.8	210.0	474.6	458.0	16.65	28.499	
9,200.0	9,164.4	9,184.8	9,164.9	11.3	11.9	-133.92	444.8	210.0	481.9	465.0	16.84	28.618	
9,300.0	9,263.8	9,284.2	9,264.3	11.4	12.1	-134.80	444.8	210.0	489.2	472.2	17.02	28.736	
9,400.0	9,363.3	9,383.7	9,363.8	11.5	12.2	-135.66	444.8	210.0	496.6	479.4	17.21	28.853	
9,500.0	9,462.7	9,483.1	9,463.2	11.6	12.3	-136.48	444.8	210.0	504.2	486.8	17.40	28.970	
9,600.0	9,562.2	9,582.6	9,562.7	11.8	12.4	-137.29	444.8	210.0	511.8	494.2	17.60	29.087	
9,700.0	9,661.7	9,682.0	9,662.2	11.9	12.5	-138.07	444.8	210.0	519.6	501.8	17.79	29.203	
9,800.0	9,761.1	9,781.5	9,761.6	12.0	12.7	-138.82	444.8	210.0	527.4	509.4	17.99	29.319	
9,900.0	9,860.6	9,880.9	9,861.1	12.1	12.8	-139.56	444.8	210.0	535.3	517.2	18.19	29.435	
10,000.0	9,960.0	9,980.4	9,960.5	12.3	12.9	-140.27	444.8	210.0	543.4	525.0	18.39	29.549	
10,100.0	10,059.5	10,079.9	10,060.0	12.4	13.0	-140.97	444.8	210.0	551.5	532.9	18.59	29.664	
10,200.0	10,158.9	10,179.3	10,159.4	12.5	13.2	-141.64	444.8	210.0	559.6	540.8	18.79	29.778	

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

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Anticollision Report



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Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #702H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11850-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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.0	10,258.4	10,278.8	10,258.9	12.6	13.3	-142.29	444.8	210.0	567.9	548.9	19.00	29.891	
10,400.0	10,357.8	10,378.2	10,358.3	12.8	13.4	-142.93	444.8	210.0	576.2	557.0	19.20	30.004	
10,500.0	10,457.3	10,477.7	10,457.8	12.9	13.5	-143.54	444.8	210.0	584.6	565.2	19.41	30.116	
10,600.0	10,556.7	10,577.1	10,557.2	13.0	13.7	-144.14	444.8	210.0	593.1	573.4	19.62	30.228	
10,700.0	10,656.2	10,676.6	10,656.7	13.2	13.8	-144.72	444.8	210.0	601.6	581.7	19.83	30.339	
10,800.0	10,755.6	10,776.0	10,756.1	13.3	13.9	-145.29	444.8	210.0	610.1	590.1	20.04	30.449	
10,900.0	10,855.1	10,875.5	10,855.6	13.4	14.0	-145.84	444.8	210.0	618.8	598.5	20.25	30.559	
11,000.0	10,954.5	10,974.9	10,955.0	13.6	14.2	-146.37	444.8	210.0	627.5	607.0	20.46	30.668	
11,100.0	11,054.0	11,074.4	11,054.5	13.7	14.3	-146.89	444.8	210.0	636.2	615.5	20.67	30.777	
11,200.0	11,153.4	11,173.8	11,153.9	13.8	14.4	-147.40	444.8	210.0	645.0	624.1	20.88	30.885	
11,300.0	11,252.9	11,273.3	11,253.4	13.9	14.5	-147.89	444.8	210.0	653.9	632.8	21.10	30.992	
11,400.0	11,352.3	11,372.7	11,352.8	14.1	14.6	-148.37	444.8	210.0	662.8	641.4	21.31	31.098	
11,500.0	11,451.8	11,472.2	11,452.3	14.2	14.8	-148.84	444.8	210.0	671.7	650.2	21.53	31.204	
11,600.0	11,551.2	11,571.6	11,551.7	14.3	14.9	-149.29	444.8	210.0	680.7	658.9	21.74	31.309	
11,700.0	11,650.7	11,671.1	11,651.2	14.5	15.0	-149.74	444.8	210.0	689.7	667.7	21.96	31.414	
11,800.0	11,750.1	11,770.5	11,750.6	14.6	15.1	-150.17	444.8	210.0	698.7	676.6	22.17	31.517	
11,908.4	11,858.0	11,875.0	11,855.1	14.7	15.2	-150.66	444.2	209.8	708.7	686.3	22.37	31.678	
11,925.0	11,874.5	11,889.5	11,869.6	14.7	15.2	-169.12	443.2	209.6	710.4	688.0	22.39	31.724	
11,950.0	11,899.3	11,911.1	11,891.1	14.7	15.2	169.33	441.1	209.0	713.7	691.3	22.43	31.815	
11,975.0	11,924.0	11,932.5	11,912.3	14.7	15.2	155.66	438.0	208.3	717.8	695.3	22.48	31.931	
12,000.0	11,948.5	11,953.7	11,933.0	14.7	15.2	146.88	434.0	207.2	722.5	700.0	22.53	32.074	
12,025.0	11,972.7	11,975.0	11,953.7	14.7	15.2	140.82	429.1	206.0	728.0	705.5	22.58	32.245	
12,050.0	11,996.7	11,995.4	11,973.3	14.7	15.2	136.32	423.6	204.6	734.2	711.6	22.64	32.433	
12,075.0	12,020.3	12,015.9	11,992.7	14.7	15.3	132.75	417.3	203.0	741.1	718.4	22.70	32.648	
12,100.0	12,043.4	12,036.1	12,011.6	14.7	15.3	129.76	410.3	201.2	748.7	725.9	22.77	32.885	
12,125.0	12,066.0	12,056.0	12,029.9	14.7	15.3	127.14	402.5	199.2	756.9	734.1	22.84	33.144	
12,150.0	12,088.0	12,075.0	12,046.9	14.8	15.3	124.77	394.6	197.1	765.7	742.8	22.91	33.415	
12,175.0	12,109.4	12,095.2	12,064.7	14.8	15.3	122.57	385.3	194.8	775.1	752.1	22.98	33.724	
12,200.0	12,130.1	12,114.4	12,081.2	14.8	15.3	120.48	375.9	192.4	785.0	761.9	23.06	34.044	
12,225.0	12,150.1	12,133.3	12,097.2	14.8	15.3	118.46	365.9	189.8	795.5	772.3	23.13	34.384	
12,250.0	12,169.2	12,150.0	12,110.8	14.8	15.3	116.48	356.7	187.5	806.4	783.2	23.23	34.721	
12,275.0	12,187.5	12,170.5	12,127.2	14.8	15.3	114.54	344.7	184.4	817.8	794.5	23.28	35.123	
12,300.0	12,204.9	12,188.7	12,141.2	14.8	15.4	112.61	333.4	181.5	829.6	806.3	23.36	35.520	
12,325.0	12,221.4	12,206.8	12,154.7	14.9	15.4	110.70	321.8	178.5	841.8	818.4	23.43	35.935	
12,350.0	12,236.8	12,225.0	12,167.8	14.9	15.4	108.79	309.6	175.4	854.4	830.9	23.49	36.373	
12,375.0	12,251.2	12,242.3	12,179.9	14.9	15.4	106.87	297.5	172.3	867.3	843.7	23.55	36.820	
12,400.0	12,264.5	12,259.9	12,191.6	14.9	15.4	104.97	284.9	169.1	880.4	856.8	23.61	37.287	
12,425.0	12,276.7	12,277.2	12,202.7	15.0	15.4	103.06	271.9	165.8	893.8	870.2	23.66	37.770	
12,450.0	12,287.8	12,294.5	12,213.3	15.0	15.5	101.17	258.7	162.4	907.4	883.7	23.71	38.268	
12,475.0	12,297.7	12,311.6	12,223.3	15.0	15.5	99.28	245.2	158.9	921.2	897.5	23.76	38.779	
12,500.0	12,306.3	12,328.7	12,232.7	15.1	15.5	97.42	231.5	155.4	935.2	911.4	23.79	39.302	
12,525.0	12,313.8	12,345.7	12,241.6	15.1	15.5	95.57	217.4	151.8	949.2	925.4	23.83	39.834	
12,550.0	12,320.0	12,362.7	12,250.0	15.2	15.5	93.76	203.1	148.2	963.4	939.5	23.86	40.374	
12,575.0	12,324.9	12,379.7	12,257.9	15.2	15.5	91.98	188.5	144.4	977.5	953.6	23.89	40.921	
12,600.0	12,328.5	12,396.7	12,265.2	15.3	15.5	90.24	173.7	140.6	991.7	967.8	23.91	41.470	

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

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Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #703H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Warning								
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	1.1	1.1	3.0	3.0	-90.38	-0.2	-30.0	30.0					
100.0	100.0	101.1	101.1	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.00	4.998		
200.0	200.0	201.1	201.1	3.0	3.0	-90.38	-0.2	-30.0	30.0	24.0	6.04	4.966		
300.0	300.0	301.1	301.1	3.0	3.1	-90.38	-0.2	-30.0	30.0	23.9	6.12	4.901		
400.0	400.0	401.1	401.1	3.0	3.2	-90.38	-0.2	-30.0	30.0	23.8	6.24	4.806		
500.0	500.0	501.1	501.1	3.1	3.4	-90.38	-0.2	-30.0	30.0	23.6	6.40	4.689		
600.0	600.0	601.1	601.1	3.1	3.6	-90.38	-0.2	-30.0	30.0	23.4	6.59	4.555		
700.0	700.0	701.1	701.1	3.1	3.8	-90.38	-0.2	-30.0	30.0	23.2	6.80	4.411		
800.0	800.0	801.1	801.1	3.2	4.0	-90.38	-0.2	-30.0	30.0	23.0	7.04	4.262		
900.0	900.0	901.1	901.1	3.2	4.2	-90.38	-0.2	-30.0	30.0	22.7	7.30	4.112		
1,000.0	1,000.0	1,001.1	1,001.1	3.2	4.5	-90.38	-0.2	-30.0	30.0	22.4	7.57	3.962		
1,100.0	1,100.0	1,101.1	1,101.1	3.3	4.8	-90.38	-0.2	-30.0	30.0	22.1	7.86	3.817		
1,200.0	1,200.0	1,201.1	1,201.1	3.4	5.1	-90.38	-0.2	-30.0	30.0	21.8	8.16	3.676		
1,300.0	1,300.0	1,301.1	1,301.1	3.4	5.4	-90.38	-0.2	-30.0	30.0	21.5	8.47	3.541		
1,400.0	1,400.0	1,401.1	1,401.1	3.5	5.7	-90.38	-0.2	-30.0	30.0	21.2	8.79	3.412		
1,500.0	1,500.0	1,501.1	1,501.1	3.5	6.0	-90.38	-0.2	-30.0	30.0	20.9	9.12	3.289		
1,600.0	1,600.0	1,601.1	1,601.1	3.6	6.3	-90.38	-0.2	-30.0	30.0	20.5	9.46	3.173		
1,700.0	1,700.0	1,701.1	1,701.1	3.7	6.6	-90.38	-0.2	-30.0	30.0	20.2	9.80	3.062		
1,800.0	1,800.0	1,801.1	1,801.1	3.8	6.9	-90.38	-0.2	-30.0	30.0	19.9	10.14	2.957		
1,900.0	1,900.0	1,901.1	1,901.1	3.9	7.2	-90.38	-0.2	-30.0	30.0	19.5	10.50	2.858		
2,000.0	2,000.0	2,001.1	2,001.1	3.9	7.6	-90.38	-0.2	-30.0	30.0	19.1	10.85	2.765		
2,100.0	2,100.0	2,101.1	2,101.1	4.0	7.9	-90.38	-0.2	-30.0	30.0	18.8	11.21	2.676		
2,200.0	2,200.0	2,201.1	2,201.1	4.1	8.2	-90.38	-0.2	-30.0	30.0	18.4	11.57	2.592		
2,300.0	2,300.0	2,301.1	2,301.1	4.2	8.6	-90.38	-0.2	-30.0	30.0	18.1	11.94	2.513		
2,400.0	2,400.0	2,401.1	2,401.1	4.3	8.9	-90.38	-0.2	-30.0	30.0	17.7	12.31	2.437		
2,500.0	2,500.0	2,501.1	2,501.1	4.4	9.2	-90.38	-0.2	-30.0	30.0	17.3	12.68	2.366 CC, ES, SF		
2,600.0	2,600.0	2,601.1	2,601.1	4.5	9.6	-161.43	-0.2	-30.0	31.6	18.6	13.06	2.424		
2,700.0	2,699.8	2,700.9	2,700.9	4.5	9.9	-164.01	-0.2	-30.0	36.6	23.2	13.45	2.725		
2,800.0	2,799.5	2,800.6	2,800.6	4.6	10.3	-167.02	-0.2	-30.0	45.1	31.2	13.86	3.253		
2,900.0	2,898.9	2,900.0	2,900.0	4.6	10.6	-169.45	-0.2	-30.0	55.3	41.0	14.28	3.874		
3,000.0	2,998.4	2,999.5	2,999.5	4.7	10.9	-171.12	-0.2	-30.0	65.6	50.9	14.71	4.462		
3,100.0	3,097.8	3,098.9	3,098.9	4.8	11.3	-172.34	-0.2	-30.0	76.0	60.8	15.14	5.019		
3,200.0	3,197.3	3,198.4	3,198.4	4.8	11.6	-173.26	-0.2	-30.0	86.4	70.8	15.57	5.547		
3,300.0	3,296.7	3,297.8	3,297.8	4.9	12.0	-173.99	-0.2	-30.0	96.7	80.7	16.00	6.046		
3,400.0	3,396.2	3,397.3	3,397.3	5.0	12.3	-174.58	-0.2	-30.0	107.1	90.7	16.44	6.519		
3,500.0	3,495.6	3,496.7	3,496.7	5.0	12.7	-175.06	-0.2	-30.0	117.6	100.7	16.87	6.967		
3,600.0	3,595.1	3,596.2	3,596.2	5.1	13.0	-175.46	-0.2	-30.0	128.0	110.7	17.31	7.392		
3,700.0	3,694.5	3,695.6	3,695.6	5.2	13.4	-175.80	-0.2	-30.0	138.4	120.6	17.75	7.795		
3,800.0	3,794.0	3,795.1	3,795.1	5.3	13.7	-176.10	-0.2	-30.0	148.8	130.6	18.20	8.178		
3,900.0	3,893.4	3,894.5	3,894.5	5.4	14.1	-176.35	-0.2	-30.0	159.3	140.6	18.64	8.542		
4,000.0	3,992.9	3,994.0	3,994.0	5.5	14.4	-176.58	-0.2	-30.0	169.7	150.6	19.09	8.889		
4,100.0	4,092.3	4,093.4	4,093.4	5.5	14.7	-176.78	-0.2	-30.0	180.1	160.6	19.54	9.218		
4,200.0	4,191.8	4,192.9	4,192.9	5.6	15.1	-176.95	-0.2	-30.0	190.6	170.6	19.99	9.533		
4,300.0	4,291.2	4,292.3	4,292.3	5.7	15.4	-177.11	-0.2	-30.0	201.0	180.6	20.44	9.833		
4,400.0	4,390.7	4,391.8	4,391.8	5.8	15.8	-177.25	-0.2	-30.0	211.4	190.5	20.89	10.119		
4,500.0	4,490.1	4,491.2	4,491.2	5.9	16.1	-177.38	-0.2	-30.0	221.9	200.5	21.35	10.393		
4,600.0	4,589.6	4,590.7	4,590.7	6.0	16.5	-177.50	-0.2	-30.0	232.3	210.5	21.81	10.654		
4,700.0	4,689.0	4,690.1	4,690.1	6.1	16.8	-177.61	-0.2	-30.0	242.8	220.5	22.26	10.905		
4,800.0	4,788.5	4,789.6	4,789.6	6.2	17.2	-177.71	-0.2	-30.0	253.2	230.5	22.72	11.144		
4,900.0	4,887.9	4,889.0	4,889.0	6.3	17.6	-177.80	-0.2	-30.0	263.7	240.5	23.18	11.374		
5,000.0	4,987.4	4,988.5	4,988.5	6.4	17.9	-177.88	-0.2	-30.0	274.1	250.5	23.64	11.594		
5,100.0	5,086.9	5,088.0	5,088.0	6.5	18.3	-177.96	-0.2	-30.0	284.5	260.4	24.10	11.806		

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #703H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,200.0	5,186.3	5,187.4	5,187.4	6.6	18.6	-178.03	-0.2	-30.0	295.0	270.4	24.56	12.009	
5,300.0	5,285.8	5,286.9	5,286.9	6.7	19.0	-178.10	-0.2	-30.0	305.4	280.4	25.03	12.204	
5,400.0	5,385.2	5,386.3	5,386.3	6.8	19.3	-178.16	-0.2	-30.0	315.9	290.4	25.49	12.391	
5,500.0	5,484.7	5,485.8	5,485.8	6.9	19.7	-178.22	-0.2	-30.0	326.3	300.4	25.96	12.572	
5,600.0	5,584.1	5,595.2	5,595.2	7.0	20.0	-178.16	0.9	-28.9	335.5	309.1	26.44	12.691	
5,700.0	5,683.6	5,706.7	5,706.6	7.1	20.4	-177.78	5.1	-24.7	341.3	314.4	26.89	12.690	
5,800.0	5,783.0	5,812.4	5,811.8	7.2	20.8	-177.16	11.5	-18.3	344.1	316.7	27.33	12.588	
5,900.0	5,882.5	5,912.3	5,911.3	7.4	21.2	-176.54	17.9	-11.9	346.5	318.7	27.77	12.476	
6,000.0	5,981.9	6,012.2	6,010.8	7.5	21.5	-175.93	24.3	-5.5	349.0	320.8	28.22	12.368	
6,100.0	6,081.4	6,112.1	6,110.2	7.6	21.9	-175.34	30.8	1.0	351.5	322.8	28.66	12.264	
6,200.0	6,180.8	6,212.0	6,209.7	7.7	22.2	-174.75	37.2	7.4	354.0	324.9	29.10	12.165	
6,300.0	6,280.3	6,311.9	6,309.2	7.8	22.6	-174.16	43.6	13.8	356.6	327.1	29.55	12.070	
6,400.0	6,379.7	6,411.8	6,408.7	7.9	22.9	-173.59	50.0	20.2	359.2	329.2	29.99	11.978	
6,500.0	6,479.2	6,511.7	6,508.2	8.0	23.3	-173.03	56.4	26.6	361.9	331.5	30.44	11.890	
6,600.0	6,578.6	6,611.6	6,607.7	8.1	23.6	-172.47	62.8	33.0	364.6	333.7	30.88	11.805	
6,700.0	6,678.1	6,711.5	6,707.2	8.3	24.0	-171.92	69.3	39.5	367.3	336.0	31.33	11.724	
6,800.0	6,777.5	6,811.4	6,806.7	8.4	24.3	-171.38	75.7	45.9	370.1	338.3	31.78	11.645	
6,900.0	6,877.0	6,911.3	6,906.2	8.5	24.7	-170.85	82.1	52.3	372.8	340.6	32.23	11.570	
7,000.0	6,976.4	7,011.2	7,005.6	8.6	25.0	-170.33	88.5	58.7	375.7	343.0	32.67	11.497	
7,100.0	7,075.9	7,111.1	7,105.1	8.7	25.4	-169.81	94.9	65.1	378.5	345.4	33.12	11.427	
7,200.0	7,175.3	7,211.0	7,204.6	8.8	25.7	-169.30	101.4	71.6	381.4	347.8	33.57	11.360	
7,300.0	7,274.8	7,310.9	7,304.1	9.0	26.1	-168.80	107.8	78.0	384.3	350.3	34.02	11.295	
7,400.0	7,374.3	7,410.8	7,403.6	9.1	26.4	-168.31	114.2	84.4	387.2	352.8	34.47	11.233	
7,500.0	7,473.7	7,510.7	7,503.1	9.2	26.8	-167.82	120.6	90.8	390.2	355.3	34.93	11.173	
7,600.0	7,573.2	7,610.6	7,602.6	9.3	27.1	-167.34	127.0	97.2	393.2	357.8	35.38	11.114	
7,700.0	7,672.6	7,710.5	7,702.1	9.4	27.5	-166.87	133.4	103.6	396.2	360.4	35.83	11.058	
7,800.0	7,772.1	7,810.4	7,801.6	9.5	27.9	-166.41	139.9	110.1	399.3	363.0	36.28	11.004	
7,900.0	7,871.5	7,910.3	7,901.0	9.7	28.2	-165.95	146.3	116.5	402.4	365.6	36.74	10.952	
8,000.0	7,971.0	8,010.2	8,000.5	9.8	28.6	-165.50	152.7	122.9	405.5	368.3	37.19	10.902	
8,100.0	8,070.4	8,110.1	8,100.0	9.9	28.9	-165.06	159.1	129.3	408.6	370.9	37.65	10.853	
8,200.0	8,169.9	8,210.0	8,199.5	10.0	29.3	-164.62	165.5	135.7	411.7	373.6	38.10	10.806	
8,300.0	8,269.3	8,309.9	8,299.0	10.2	29.6	-164.19	172.0	142.2	414.9	376.3	38.56	10.760	
8,400.0	8,368.8	8,409.8	8,398.5	10.3	30.0	-163.77	178.4	148.6	418.1	379.1	39.01	10.716	
8,500.0	8,468.2	8,509.7	8,498.0	10.4	30.3	-163.35	184.8	155.0	421.3	381.8	39.47	10.674	
8,600.0	8,567.7	8,609.6	8,597.5	10.5	30.7	-162.94	191.2	161.4	424.6	384.6	39.93	10.633	
8,700.0	8,667.1	8,709.5	8,696.9	10.6	31.1	-162.54	197.6	167.8	427.8	387.4	40.39	10.593	
8,800.0	8,766.6	8,809.4	8,796.4	10.8	31.4	-162.14	204.0	174.2	431.1	390.3	40.85	10.554	
8,900.0	8,866.0	8,909.3	8,895.9	10.9	31.8	-161.75	210.5	180.7	434.4	393.1	41.30	10.517	
9,000.0	8,965.5	9,009.2	8,995.4	11.0	32.1	-161.36	216.9	187.1	437.7	396.0	41.76	10.481	
9,100.0	9,064.9	9,109.1	9,094.9	11.1	32.5	-160.98	223.3	193.5	441.1	398.8	42.22	10.446	
9,200.0	9,164.4	9,209.0	9,194.4	11.3	32.8	-160.61	229.7	199.9	444.4	401.7	42.69	10.412	
9,300.0	9,263.8	9,308.9	9,293.9	11.4	33.2	-160.24	236.1	206.3	447.8	404.7	43.15	10.379	
9,400.0	9,363.3	9,408.8	9,393.4	11.5	33.6	-159.87	242.6	212.8	451.2	407.6	43.61	10.347	
9,500.0	9,462.7	9,508.7	9,492.9	11.6	33.9	-159.52	249.0	219.2	454.6	410.5	44.07	10.316	
9,600.0	9,562.2	9,608.6	9,592.3	11.8	34.3	-159.16	255.4	225.6	458.1	413.5	44.53	10.286	
9,700.0	9,661.7	9,708.5	9,691.8	11.9	34.6	-158.82	261.8	232.0	461.5	416.5	45.00	10.256	
9,800.0	9,761.1	9,808.4	9,791.3	12.0	35.0	-158.47	268.2	238.4	465.0	419.5	45.46	10.228	
9,900.0	9,860.6	9,908.3	9,890.8	12.1	35.4	-158.14	274.7	244.9	468.5	422.5	45.93	10.200	
10,000.0	9,960.0	10,008.2	9,990.3	12.3	35.7	-157.80	281.1	251.3	472.0	425.6	46.39	10.173	
10,100.0	10,059.5	10,108.1	10,089.8	12.4	36.1	-157.48	287.5	257.7	475.5	428.6	46.86	10.147	
10,200.0	10,158.9	10,208.0	10,189.3	12.5	36.4	-157.15	293.9	264.1	479.0	431.7	47.32	10.122	
10,300.0	10,258.4	10,307.9	10,288.8	12.6	36.8	-156.84	300.3	270.5	482.5	434.8	47.79	10.097	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #703H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance		Warning							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,400.0	10,357.8	10,407.8	10,388.2	12.8	37.1	-156.52	306.7	276.9	486.1	437.8	48.26	10.073	
10,500.0	10,457.3	10,507.7	10,487.7	12.9	37.5	-156.22	313.2	283.4	489.7	441.0	48.73	10.050	
10,600.0	10,556.7	10,607.6	10,587.2	13.0	37.9	-155.91	319.6	289.8	493.3	444.1	49.20	10.027	
10,700.0	10,656.2	10,707.5	10,686.7	13.2	38.2	-155.61	326.0	296.2	496.9	447.2	49.66	10.005	
10,800.0	10,755.6	10,807.4	10,786.2	13.3	38.6	-155.32	332.4	302.6	500.5	450.4	50.13	9.983	
10,900.0	10,855.1	10,907.3	10,885.7	13.4	38.9	-155.03	338.8	309.0	504.1	453.5	50.61	9.962	
11,000.0	10,954.5	11,007.2	10,985.2	13.6	39.3	-154.74	345.3	315.5	507.8	456.7	51.08	9.941	
11,100.0	11,054.0	11,107.1	11,084.7	13.7	39.7	-154.46	351.7	321.9	511.4	459.9	51.55	9.921	
11,200.0	11,153.4	11,207.0	11,184.2	13.8	40.0	-154.18	358.1	328.3	515.1	463.1	52.02	9.901	
11,300.0	11,252.9	11,306.9	11,283.6	13.9	40.4	-153.90	364.5	334.7	518.8	466.3	52.49	9.882	
11,400.0	11,352.3	11,406.8	11,383.1	14.1	40.7	-153.63	370.9	341.1	522.4	469.5	52.97	9.864	
11,500.0	11,451.8	11,506.7	11,482.6	14.2	41.1	-153.36	377.3	347.5	526.1	472.7	53.44	9.845	
11,600.0	11,551.2	11,606.6	11,582.1	14.3	41.5	-153.10	383.8	354.0	529.9	475.9	53.92	9.828	
11,700.0	11,650.7	11,706.6	11,681.6	14.5	41.8	-152.84	390.2	360.4	533.6	479.2	54.39	9.810	
11,800.0	11,750.1	11,806.5	11,781.1	14.6	42.2	-152.58	396.6	366.8	537.3	482.4	54.87	9.793	
11,908.4	11,858.0	11,965.1	11,938.7	14.7	42.7	-153.38	394.9	380.6	538.6	483.3	55.35	9.732	
11,925.0	11,874.5	11,994.8	11,967.6	14.7	42.8	-172.05	389.5	384.6	537.7	482.2	55.44	9.699	
11,950.0	11,899.3	12,038.5	12,009.3	14.7	43.0	166.03	378.4	391.5	536.0	480.4	55.58	9.643	
11,975.0	11,924.0	12,080.8	12,048.3	14.7	43.1	151.96	364.2	399.1	534.1	478.4	55.74	9.582	
12,000.0	11,948.5	12,121.5	12,084.5	14.7	43.2	142.78	347.4	407.2	532.1	476.2	55.90	9.518	
12,025.0	11,972.7	12,160.7	12,117.7	14.7	43.3	136.32	328.5	415.8	530.0	473.9	56.07	9.453	
12,050.0	11,996.7	12,198.3	12,147.9	14.7	43.4	131.43	307.9	424.6	527.9	471.7	56.23	9.387	
12,075.0	12,020.3	12,234.4	12,175.2	14.7	43.5	127.50	285.9	433.5	525.8	469.4	56.40	9.324	
12,100.0	12,043.4	12,269.1	12,199.6	14.7	43.5	124.20	263.1	442.5	523.8	467.3	56.55	9.263	
12,125.0	12,066.0	12,302.3	12,221.3	14.7	43.6	121.31	239.6	451.5	522.0	465.3	56.71	9.206	
12,150.0	12,088.0	12,334.3	12,240.5	14.8	43.7	118.73	215.6	460.4	520.4	463.5	56.85	9.153	
12,175.0	12,109.4	12,365.0	12,257.3	14.8	43.7	116.36	191.4	469.1	518.9	462.0	56.99	9.105	
12,200.0	12,130.1	12,394.6	12,271.8	14.8	43.8	114.17	167.2	477.7	517.8	460.6	57.13	9.064	
12,225.0	12,150.1	12,423.1	12,284.4	14.8	43.8	112.10	142.9	486.1	516.9	459.6	57.25	9.028	
12,250.0	12,169.2	12,450.6	12,295.0	14.8	43.8	110.14	118.9	494.3	516.3	458.9	57.38	8.998	
12,275.0	12,187.5	12,477.3	12,303.9	14.8	43.9	108.27	95.0	502.3	516.0	458.5	57.49	8.975	
12,286.1	12,195.4	12,488.9	12,307.3	14.8	43.9	107.46	84.5	505.8	515.9	458.4	57.54	8.966	
12,300.0	12,204.9	12,503.2	12,311.2	14.8	43.9	106.46	71.5	510.0	516.0	458.4	57.60	8.958	
12,325.0	12,221.4	12,528.3	12,316.9	14.9	43.9	104.72	48.3	517.6	516.3	458.6	57.71	8.947	
12,350.0	12,236.8	12,552.7	12,321.3	14.9	43.9	103.02	25.4	524.9	517.0	459.2	57.82	8.942	
12,375.0	12,251.2	12,576.4	12,324.4	14.9	44.0	101.38	2.9	532.0	517.9	460.0	57.92	8.943	
12,400.0	12,264.5	12,599.6	12,326.2	14.9	44.0	99.77	-19.2	538.8	519.2	461.2	58.02	8.949	
12,425.0	12,276.7	12,622.3	12,327.0	15.0	44.0	98.21	-40.8	545.4	520.8	462.7	58.12	8.960	
12,450.0	12,287.8	12,641.6	12,327.1	15.0	44.0	96.86	-59.3	551.0	522.7	464.5	58.21	8.980	
12,475.0	12,297.7	12,660.9	12,327.1	15.0	44.0	95.59	-77.8	556.5	524.9	466.7	58.29	9.006	
12,500.0	12,306.3	12,680.5	12,327.2	15.1	44.0	94.40	-96.7	561.9	527.5	469.1	58.37	9.037	
12,525.0	12,313.8	12,700.0	12,327.3	15.1	44.1	93.33	-115.5	567.1	530.3	471.9	58.45	9.073	
12,550.0	12,320.0	12,720.8	12,327.4	15.2	44.1	92.32	-135.6	572.6	533.3	474.8	58.54	9.111	
12,575.0	12,324.9	12,741.3	12,327.5	15.2	44.1	91.44	-155.4	577.8	536.5	477.8	58.62	9.152	
12,600.0	12,328.5	12,762.0	12,327.5	15.3	44.1	90.69	-175.4	582.9	539.7	481.0	58.69	9.196	
12,625.0	12,330.9	12,782.7	12,327.6	15.3	44.1	90.06	-195.5	587.9	543.0	484.3	58.76	9.241	
12,650.0	12,331.9	12,800.0	12,327.7	15.4	44.1	89.57	-212.3	592.0	546.4	487.6	58.81	9.291	
12,658.8	12,332.0	12,810.9	12,327.7	15.4	44.1	89.42	-222.9	594.5	547.6	488.7	58.85	9.305	
12,700.0	12,331.9	12,845.1	12,327.9	15.5	44.2	89.45	-256.3	602.1	553.1	494.2	58.96	9.382	
12,800.0	12,331.6	12,928.0	12,328.2	15.8	44.3	89.52	-337.5	618.8	566.2	506.9	59.27	9.553	
12,900.0	12,331.3	13,010.7	12,328.5	16.1	44.3	89.59	-418.9	633.2	578.7	519.1	59.62	9.706	
13,000.0	12,331.1	13,100.0	12,328.9	16.4	44.5	89.66	-507.3	646.1	590.6	530.5	60.06	9.834	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #703H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
13,100.0	12,330.8	13,175.4	12,329.2	16.8	44.5	89.72	-582.2	654.8	601.8	541.4	60.44	9.957	
13,200.0	12,330.5	13,257.5	12,329.5	17.3	44.7	89.78	-663.9	662.1	612.4	551.5	60.90	10.056	
13,300.0	12,330.3	13,339.3	12,329.8	17.7	44.8	89.84	-745.6	666.9	622.5	561.1	61.39	10.140	
13,400.0	12,330.0	13,421.0	12,330.1	18.2	44.9	89.90	-827.2	669.5	631.8	569.9	61.89	10.209	
13,500.0	12,329.8	13,511.5	12,330.5	18.7	45.0	89.96	-917.7	670.0	640.2	577.7	62.50	10.244	
13,600.0	12,329.5	13,611.3	12,330.9	19.2	45.2	90.02	-1,017.6	670.3	645.5	582.3	63.22	10.211	
13,700.0	12,329.3	13,711.3	12,331.3	19.7	45.4	90.08	-1,117.5	670.6	647.3	583.3	63.97	10.118	
13,718.7	12,329.2	13,730.0	12,331.3	19.8	45.4	90.09	-1,136.2	670.6	647.2	583.1	64.12	10.095	
13,800.0	12,329.0	13,811.3	12,331.7	20.2	45.6	90.14	-1,217.5	670.8	646.8	582.0	64.76	9.987	
13,900.0	12,328.8	13,911.3	12,332.1	20.8	45.8	90.20	-1,317.5	671.1	646.2	580.6	65.58	9.853	
14,000.0	12,328.5	14,011.3	12,332.5	21.4	46.0	90.25	-1,417.5	671.4	645.5	579.1	66.43	9.717	
14,100.0	12,328.3	14,111.3	12,332.8	22.0	46.3	90.31	-1,517.5	671.6	644.9	577.6	67.32	9.580	
14,200.0	12,328.0	14,211.3	12,333.2	22.6	46.5	90.37	-1,617.5	671.9	644.3	576.1	68.24	9.442	
14,300.0	12,327.8	14,311.3	12,333.6	23.2	46.8	90.43	-1,717.5	672.1	643.7	574.6	69.18	9.305	
14,400.0	12,327.5	14,411.3	12,334.0	23.9	47.1	90.48	-1,817.5	672.4	643.1	573.0	70.16	9.167	
14,500.0	12,327.2	14,511.3	12,334.4	24.5	47.4	90.54	-1,917.5	672.7	642.5	571.4	71.15	9.030	
14,600.0	12,327.0	14,611.3	12,334.8	25.2	47.7	90.60	-2,017.5	672.9	641.9	569.8	72.18	8.894	
14,700.0	12,326.7	14,711.3	12,335.2	25.9	48.0	90.66	-2,117.5	673.2	641.3	568.1	73.22	8.759	
14,800.0	12,326.5	14,811.3	12,335.6	26.6	48.3	90.72	-2,217.5	673.4	640.7	566.5	74.29	8.625	
14,900.0	12,326.2	14,911.3	12,336.0	27.3	48.7	90.77	-2,317.5	673.7	640.1	564.8	75.38	8.493	
15,000.0	12,326.0	15,011.3	12,336.4	28.0	49.1	90.83	-2,417.5	674.0	639.5	563.1	76.49	8.362	
15,100.0	12,325.7	15,111.3	12,336.8	28.8	49.4	90.89	-2,517.5	674.2	639.0	561.3	77.61	8.232	
15,200.0	12,325.5	15,211.3	12,337.2	29.5	49.8	90.95	-2,617.5	674.5	638.4	559.6	78.76	8.105	
15,300.0	12,325.2	15,311.3	12,337.6	30.3	50.2	91.01	-2,717.5	674.8	637.8	557.8	79.93	7.979	
15,400.0	12,325.0	15,411.2	12,337.9	31.0	50.6	91.07	-2,817.4	675.0	637.2	556.1	81.11	7.856	
15,500.0	12,324.7	15,511.2	12,338.3	31.8	51.1	91.13	-2,917.4	675.3	636.6	554.3	82.31	7.734	
15,600.0	12,324.5	15,611.2	12,338.7	32.5	51.5	91.19	-3,017.4	675.5	636.0	552.5	83.52	7.615	
15,700.0	12,324.2	15,711.2	12,339.1	33.3	51.9	91.24	-3,117.4	675.8	635.4	550.6	84.75	7.497	
15,800.0	12,324.0	15,811.2	12,339.5	34.1	52.4	91.30	-3,217.4	676.1	634.8	548.8	85.99	7.382	
15,900.0	12,323.7	15,911.2	12,339.9	34.8	52.9	91.36	-3,317.4	676.3	634.2	547.0	87.25	7.269	
16,000.0	12,323.5	16,011.2	12,340.3	35.6	53.3	91.42	-3,417.4	676.6	633.6	545.1	88.52	7.158	
16,100.0	12,323.2	16,111.2	12,340.7	36.4	53.8	91.48	-3,517.4	676.9	633.0	543.2	89.80	7.049	
16,200.0	12,323.0	16,211.2	12,341.1	37.2	54.3	91.54	-3,617.4	677.1	632.4	541.3	91.10	6.942	
16,300.0	12,322.7	16,311.2	12,341.5	38.0	54.8	91.60	-3,717.4	677.4	631.8	539.4	92.41	6.838	
16,400.0	12,322.5	16,411.2	12,341.9	38.8	55.3	91.66	-3,817.4	677.6	631.3	537.5	93.72	6.735	
16,500.0	12,322.2	16,511.2	12,342.3	39.6	55.9	91.72	-3,917.4	677.9	630.7	535.6	95.06	6.635	
16,585.2	12,322.0	16,596.4	12,342.6	40.2	56.3	91.77	-4,002.6	678.1	630.2	534.0	96.20	6.551	
16,600.0	12,321.9	16,611.2	12,342.7	40.4	56.4	91.79	-4,017.4	678.2	630.0	533.6	96.40	6.536	
16,613.9	12,321.9	16,625.1	12,342.7	40.5	56.5	91.80	-4,031.3	678.2	629.8	533.2	96.58	6.521	
16,700.0	12,321.3	16,711.3	12,343.0	41.2	56.9	91.89	-4,117.5	678.4	628.2	530.5	97.75	6.427	
16,800.0	12,320.5	16,811.5	12,342.0	42.0	57.5	91.87	-4,217.7	678.7	626.3	527.2	99.11	6.320	
16,900.0	12,319.8	16,911.5	12,340.8	42.8	58.0	91.83	-4,317.7	679.0	624.4	523.9	100.47	6.214	
16,975.5	12,319.3	16,986.9	12,339.8	43.4	58.5	91.80	-4,393.1	679.2	622.9	521.4	101.51	6.137	
17,000.0	12,319.1	17,015.7	12,339.5	43.6	58.6	91.78	-4,421.8	679.4	622.5	520.6	101.92	6.108	
17,049.8	12,318.8	17,065.4	12,338.8	44.0	58.9	91.75	-4,471.6	679.8	622.0	519.4	102.60	6.062	
17,070.2	12,318.6	17,085.9	12,338.6	44.1	59.0	91.73	-4,492.1	680.0	622.1	519.2	102.89	6.046	
17,100.0	12,318.4	17,115.7	12,338.2	44.4	59.2	91.72	-4,521.8	680.3	622.3	519.0	103.30	6.024	
17,200.0	12,317.7	17,215.7	12,336.9	45.2	59.8	91.66	-4,621.8	681.2	623.0	518.3	104.70	5.951	
17,300.0	12,317.0	17,315.7	12,335.7	46.0	60.4	91.61	-4,721.8	682.2	623.8	517.6	106.11	5.878	
17,400.0	12,316.3	17,415.6	12,334.4	46.8	60.9	91.56	-4,821.8	683.1	624.5	517.0	107.52	5.808	
17,500.0	12,315.6	17,515.6	12,333.2	47.6	61.5	91.51	-4,921.7	684.0	625.2	516.2	108.95	5.739	
17,600.0	12,314.9	17,615.6	12,331.9	48.5	62.1	91.45	-5,021.7	685.0	625.9	515.5	110.37	5.671	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #703H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						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	
17,700.0	12,314.2	17,715.6	12,330.6	49.3	62.8	91.40	-5,121.7	685.9	626.6	514.8	111.81	5.604	
17,800.0	12,313.5	17,815.6	12,329.4	50.1	63.4	91.35	-5,221.7	686.9	627.3	514.1	113.25	5.539	
17,900.0	12,312.8	17,915.6	12,328.1	50.9	64.0	91.30	-5,321.7	687.8	628.1	513.4	114.70	5.476	
18,000.0	12,312.1	18,015.6	12,326.9	51.8	64.6	91.24	-5,421.7	688.7	628.8	512.6	116.16	5.413	
18,100.0	12,311.4	18,115.6	12,325.6	52.6	65.3	91.19	-5,521.6	689.7	629.5	511.9	117.62	5.352	
18,200.0	12,310.7	18,215.6	12,324.3	53.4	65.9	91.14	-5,621.6	690.6	630.2	511.1	119.09	5.292	
18,300.0	12,310.0	18,315.6	12,323.1	54.3	66.5	91.09	-5,721.6	691.5	630.9	510.4	120.57	5.233	
18,400.0	12,309.3	18,415.6	12,321.8	55.1	67.2	91.04	-5,821.6	692.5	631.7	509.6	122.05	5.176	
18,500.0	12,308.6	18,515.6	12,320.6	55.9	67.8	90.98	-5,921.6	693.4	632.4	508.9	123.53	5.119	
18,600.0	12,307.9	18,615.6	12,319.3	56.7	68.5	90.93	-6,021.6	694.4	633.1	508.1	125.02	5.064	
18,700.0	12,307.2	18,715.6	12,318.0	57.6	69.1	90.88	-6,121.5	695.3	633.8	507.3	126.52	5.010	
18,800.0	12,306.5	18,815.6	12,316.8	58.4	69.8	90.83	-6,221.5	696.2	634.6	506.5	128.02	4.957	
18,900.0	12,305.7	18,915.6	12,315.5	59.3	70.5	90.78	-6,321.5	697.2	635.3	505.8	129.52	4.905	
19,000.0	12,305.0	19,015.6	12,314.3	60.1	71.2	90.73	-6,421.5	698.1	636.0	505.0	131.03	4.854	
19,100.0	12,304.3	19,115.6	12,313.0	60.9	71.8	90.68	-6,521.5	699.0	636.7	504.2	132.55	4.804	
19,200.0	12,303.6	19,215.6	12,311.7	61.8	72.5	90.63	-6,621.5	700.0	637.5	503.4	134.07	4.755	
19,300.0	12,302.9	19,315.6	12,310.5	62.6	73.2	90.58	-6,721.4	700.9	638.2	502.6	135.59	4.707	
19,400.0	12,302.2	19,415.6	12,309.2	63.4	73.9	90.52	-6,821.4	701.9	638.9	501.8	137.12	4.660	
19,500.0	12,301.5	19,515.6	12,308.0	64.3	74.6	90.47	-6,921.4	702.8	639.6	501.0	138.65	4.613	
19,600.0	12,300.8	19,615.6	12,306.7	65.1	75.3	90.42	-7,021.4	703.7	640.4	500.2	140.19	4.568	
19,700.0	12,300.1	19,715.6	12,305.4	66.0	76.0	90.37	-7,121.4	704.7	641.1	499.4	141.73	4.523	
19,800.0	12,299.4	19,815.5	12,304.2	66.8	76.7	90.32	-7,221.4	705.6	641.8	498.6	143.27	4.480	
19,900.0	12,298.7	19,915.5	12,302.9	67.6	77.4	90.27	-7,321.3	706.5	642.5	497.7	144.81	4.437	
20,000.0	12,298.0	20,015.5	12,301.6	68.5	78.1	90.22	-7,421.3	707.5	643.3	496.9	146.36	4.395	
20,100.0	12,297.3	20,115.5	12,300.4	69.3	78.8	90.17	-7,521.3	708.4	644.0	496.1	147.92	4.354	
20,200.0	12,296.6	20,215.5	12,299.1	70.2	79.5	90.12	-7,621.3	709.4	644.7	495.3	149.47	4.313	
20,300.0	12,295.9	20,315.5	12,297.9	71.0	80.2	90.07	-7,721.3	710.3	645.5	494.4	151.03	4.274	
20,400.0	12,295.2	20,415.5	12,296.6	71.9	81.0	90.02	-7,821.3	711.2	646.2	493.6	152.60	4.235	
20,500.0	12,294.5	20,515.5	12,295.3	72.7	81.7	89.98	-7,921.3	712.2	646.9	492.8	154.16	4.196	
20,600.0	12,293.8	20,615.5	12,294.1	73.5	82.4	89.93	-8,021.2	713.1	647.7	491.9	155.73	4.159	
20,700.0	12,293.1	20,715.5	12,292.8	74.4	83.1	89.88	-8,121.2	714.1	648.4	491.1	157.30	4.122	
20,800.0	12,292.4	20,815.5	12,291.6	75.2	83.9	89.83	-8,221.2	715.0	649.1	490.3	158.88	4.086	
20,900.0	12,291.7	20,915.5	12,290.3	76.1	84.6	89.78	-8,321.2	715.9	649.9	489.4	160.46	4.050	
21,000.0	12,291.0	21,015.5	12,289.0	76.9	85.3	89.73	-8,421.2	716.9	650.6	488.6	162.03	4.015	
21,100.0	12,290.3	21,115.5	12,287.8	77.8	86.1	89.68	-8,521.2	717.8	651.3	487.7	163.62	3.981	
21,200.0	12,289.6	21,215.5	12,286.5	78.6	86.8	89.63	-8,621.1	718.7	652.1	486.9	165.20	3.947	
21,300.0	12,288.9	21,315.5	12,285.3	79.5	87.5	89.58	-8,721.1	719.7	652.8	486.0	166.79	3.914	
21,400.0	12,288.2	21,415.5	12,284.0	80.3	88.3	89.54	-8,821.1	720.6	653.5	485.2	168.38	3.881	
21,500.0	12,287.4	21,515.5	12,282.7	81.2	89.0	89.49	-8,921.1	721.6	654.3	484.3	169.97	3.849	
21,600.0	12,286.7	21,615.5	12,281.5	82.0	89.8	89.44	-9,021.1	722.5	655.0	483.5	171.56	3.818	
21,700.0	12,286.0	21,715.5	12,280.2	82.9	90.5	89.39	-9,121.1	723.4	655.8	482.6	173.16	3.787	
21,800.0	12,285.3	21,815.5	12,279.0	83.7	91.3	89.34	-9,221.0	724.4	656.5	481.7	174.76	3.757	
21,900.0	12,284.6	21,915.5	12,277.7	84.6	92.0	89.30	-9,321.0	725.3	657.2	480.9	176.36	3.727	
22,000.0	12,283.9	22,015.5	12,276.4	85.4	92.8	89.25	-9,421.0	726.2	658.0	480.0	177.96	3.697	
22,100.0	12,283.2	22,115.5	12,275.2	86.3	93.6	89.20	-9,521.0	727.2	658.7	479.1	179.57	3.668	
22,200.0	12,282.5	22,215.4	12,273.9	87.1	94.3	89.15	-9,621.0	728.1	659.4	478.3	181.17	3.640	
22,273.7	12,282.0	22,287.8	12,273.0	87.7	94.9	89.12	-9,693.3	728.8	660.0	477.7	182.33	3.620	
22,274.3	12,282.0	22,287.8	12,273.0	87.8	94.9	89.12	-9,693.3	728.8	660.0	477.7	182.32	3.620	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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
HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #704H - OWB - PWP1												Offset Well Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 11814-MWD+IFR1+FDIR													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Tooface (")	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	1.3	1.3	3.0	3.0	-90.38	-0.4	-60.0	60.0				
100.0	100.0	101.3	101.3	3.0	3.0	-90.38	-0.4	-60.0	60.0	54.0	6.00	10.000	
200.0	200.0	201.3	201.3	3.0	3.0	-90.38	-0.4	-60.0	60.0	54.0	6.00	9.995	
300.0	300.0	301.3	301.3	3.0	3.0	-90.38	-0.4	-60.0	60.0	54.0	6.01	9.985	
400.0	400.0	401.3	401.3	3.0	3.0	-90.38	-0.4	-60.0	60.0	54.0	6.02	9.970	
500.0	500.0	501.3	501.3	3.1	3.1	-90.38	-0.4	-60.0	60.0	54.0	6.03	9.949	
600.0	600.0	601.3	601.3	3.1	3.1	-90.38	-0.4	-60.0	60.0	54.0	6.05	9.923	
700.0	700.0	701.3	701.3	3.1	3.1	-90.38	-0.4	-60.0	60.0	53.9	6.07	9.893	
800.0	800.0	801.3	801.3	3.2	3.2	-90.38	-0.4	-60.0	60.0	53.9	6.09	9.857	
900.0	900.0	901.3	901.3	3.2	3.2	-90.38	-0.4	-60.0	60.0	53.9	6.11	9.816	
1,000.0	1,000.0	1,001.3	1,001.3	3.2	3.2	-90.38	-0.4	-60.0	60.0	53.9	6.14	9.771	
1,100.0	1,100.0	1,101.3	1,101.3	3.3	3.3	-90.38	-0.4	-60.0	60.0	53.8	6.17	9.722	
1,200.0	1,200.0	1,201.3	1,201.3	3.4	3.4	-90.38	-0.4	-60.0	60.0	53.8	6.21	9.668	
1,300.0	1,300.0	1,301.3	1,301.3	3.4	3.4	-90.38	-0.4	-60.0	60.0	53.8	6.24	9.611	
1,400.0	1,400.0	1,401.3	1,401.3	3.5	3.5	-90.38	-0.4	-60.0	60.0	53.7	6.28	9.550	
1,500.0	1,500.0	1,501.3	1,501.3	3.5	3.5	-90.38	-0.4	-60.0	60.0	53.7	6.33	9.485	
1,600.0	1,600.0	1,601.3	1,601.3	3.6	3.6	-90.38	-0.4	-60.0	60.0	53.6	6.37	9.417	
1,700.0	1,700.0	1,701.3	1,701.3	3.7	3.7	-90.38	-0.4	-60.0	60.0	53.6	6.42	9.346	
1,800.0	1,800.0	1,801.3	1,801.3	3.8	3.8	-90.38	-0.4	-60.0	60.0	53.5	6.47	9.273	
1,900.0	1,900.0	1,901.3	1,901.3	3.9	3.9	-90.38	-0.4	-60.0	60.0	53.5	6.52	9.196	
2,000.0	2,000.0	2,001.3	2,001.3	3.9	3.9	-90.38	-0.4	-60.0	60.0	53.4	6.58	9.118	
2,100.0	2,100.0	2,101.3	2,101.3	4.0	4.0	-90.38	-0.4	-60.0	60.0	53.4	6.64	9.038	
2,200.0	2,200.0	2,201.3	2,201.3	4.1	4.1	-90.38	-0.4	-60.0	60.0	53.3	6.70	8.955	
2,300.0	2,300.0	2,301.3	2,301.3	4.2	4.2	-90.38	-0.4	-60.0	60.0	53.2	6.76	8.872	
2,400.0	2,400.0	2,401.3	2,401.3	4.3	4.3	-90.38	-0.4	-60.0	60.0	53.2	6.83	8.786	
2,416.2	2,416.2	2,417.5	2,417.5	4.3	4.3	-90.38	-0.4	-60.0	60.0	53.2	6.84	8.772 CC	
2,500.0	2,500.0	2,501.3	2,501.3	4.4	4.4	-90.38	-0.4	-60.0	60.0	53.1	6.90	8.700 ES, SF	
2,600.0	2,600.0	2,600.0	2,600.0	4.5	4.5	-160.32	0.2	-61.6	63.3	56.3	6.97	9.084	
2,700.0	2,699.8	2,696.6	2,696.5	4.5	4.5	-160.18	2.0	-66.3	73.0	66.0	7.04	10.370	
2,800.0	2,799.5	2,792.8	2,792.3	4.6	4.6	-160.01	4.9	-74.0	89.1	82.0	7.12	12.513	
2,900.0	2,898.9	2,890.6	2,889.6	4.6	4.6	-159.92	8.5	-83.5	108.6	101.4	7.22	15.055	
3,000.0	2,998.4	2,988.7	2,987.1	4.7	4.7	-159.86	12.2	-93.1	128.1	120.8	7.32	17.515	
3,100.0	3,097.8	3,086.8	3,084.7	4.8	4.8	-159.82	15.8	-102.7	147.6	140.2	7.42	19.891	
3,200.0	3,197.3	3,184.9	3,182.2	4.8	4.8	-159.78	19.4	-112.3	167.1	159.6	7.54	22.180	
3,300.0	3,296.7	3,283.0	3,279.8	4.9	4.9	-159.75	23.0	-121.9	186.6	179.0	7.65	24.382	
3,400.0	3,396.2	3,381.0	3,377.3	5.0	5.0	-159.73	26.7	-131.5	206.1	198.4	7.78	26.494	
3,500.0	3,495.6	3,479.1	3,474.8	5.0	5.0	-159.71	30.3	-141.1	225.6	217.7	7.91	28.519	
3,600.0	3,595.1	3,577.2	3,572.4	5.1	5.1	-159.70	33.9	-150.6	245.1	237.1	8.05	30.457	
3,700.0	3,694.5	3,675.3	3,669.9	5.2	5.2	-159.69	37.6	-160.2	264.6	256.5	8.19	32.309	
3,800.0	3,794.0	3,773.4	3,767.5	5.3	5.3	-159.67	41.2	-169.8	284.2	275.8	8.34	34.077	
3,900.0	3,893.4	3,871.4	3,865.0	5.4	5.4	-159.66	44.8	-179.4	303.7	295.2	8.49	35.763	
4,000.0	3,992.9	3,969.5	3,962.6	5.5	5.4	-159.66	48.5	-189.0	323.2	314.5	8.65	37.371	
4,100.0	4,092.3	4,067.6	4,060.1	5.5	5.5	-159.65	52.1	-198.6	342.7	333.9	8.81	38.902	
4,200.0	4,191.8	4,165.7	4,157.6	5.6	5.6	-159.64	55.7	-208.2	362.2	353.2	8.97	40.360	
4,300.0	4,291.2	4,263.8	4,255.2	5.7	5.7	-159.63	59.4	-217.8	381.7	372.5	9.14	41.747	
4,400.0	4,390.7	4,361.8	4,352.7	5.8	5.8	-159.63	63.0	-227.3	401.2	391.9	9.32	43.067	
4,500.0	4,490.1	4,459.9	4,450.3	5.9	5.9	-159.62	66.6	-236.9	420.7	411.2	9.49	44.321	
4,600.0	4,589.6	4,558.0	4,547.8	6.0	6.0	-159.62	70.3	-246.5	440.2	430.5	9.67	45.515	
4,700.0	4,689.0	4,656.1	4,645.4	6.1	6.1	-159.62	73.9	-256.1	459.7	449.8	9.85	46.649	
4,800.0	4,788.5	4,754.2	4,742.9	6.2	6.2	-159.61	77.5	-265.7	479.2	469.1	10.04	47.728	
4,900.0	4,887.9	4,852.2	4,840.4	6.3	6.3	-159.61	81.2	-275.3	498.7	488.5	10.23	48.754	
5,000.0	4,987.4	4,950.3	4,938.0	6.4	6.4	-159.60	84.8	-284.9	518.2	507.8	10.42	49.729	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #704H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11814-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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
5,100.0	5,086.9	5,048.4	5,035.5	6.5	6.5	-159.60	88.4	-294.4	537.7	527.1	10.61	50.656	
5,200.0	5,186.3	5,146.5	5,133.1	6.6	6.6	-159.60	92.1	-304.0	557.2	546.4	10.81	51.538	
5,300.0	5,285.8	5,244.6	5,230.6	6.7	6.7	-159.60	95.7	-313.6	576.7	565.7	11.01	52.377	
5,400.0	5,385.2	5,342.6	5,328.2	6.8	6.8	-159.59	99.3	-323.2	596.2	585.0	11.21	53.175	
5,500.0	5,484.7	5,440.7	5,425.7	6.9	6.9	-159.59	103.0	-332.8	615.7	604.3	11.42	53.935	
5,600.0	5,584.1	5,538.8	5,523.2	7.0	7.0	-159.59	106.6	-342.4	635.2	623.6	11.62	54.658	
5,700.0	5,683.6	5,636.9	5,620.8	7.1	7.1	-159.59	110.2	-352.0	654.7	642.9	11.83	55.347	
5,800.0	5,783.0	5,735.0	5,718.3	7.2	7.2	-159.59	113.9	-361.6	674.2	662.2	12.04	56.003	
5,900.0	5,882.5	5,833.0	5,815.9	7.4	7.3	-159.58	117.5	-371.1	693.7	681.5	12.25	56.628	
6,000.0	5,981.9	5,931.1	5,913.4	7.5	7.4	-159.58	121.1	-380.7	713.2	700.8	12.46	57.223	
6,100.0	6,081.4	6,029.2	6,011.0	7.6	7.5	-159.58	124.8	-390.3	732.7	720.0	12.68	57.791	
6,200.0	6,180.8	6,127.3	6,108.5	7.7	7.6	-159.58	128.4	-399.9	752.2	739.3	12.90	58.333	
6,300.0	6,280.3	6,225.3	6,206.0	7.8	7.7	-159.58	132.0	-409.5	771.7	758.6	13.11	58.849	
6,400.0	6,379.7	6,323.4	6,303.6	7.9	7.8	-159.58	135.7	-419.1	791.2	777.9	13.33	59.342	
6,500.0	6,479.2	6,421.5	6,401.1	8.0	8.0	-159.57	139.3	-428.7	810.7	797.2	13.55	59.813	
6,600.0	6,578.6	6,519.6	6,498.7	8.1	8.1	-159.57	142.9	-438.3	830.2	816.5	13.78	60.262	
6,700.0	6,678.1	6,617.7	6,596.2	8.3	8.2	-159.57	146.6	-447.8	849.7	835.7	14.00	60.691	
6,800.0	6,777.5	6,715.7	6,693.7	8.4	8.3	-159.57	150.2	-457.4	869.2	855.0	14.23	61.101	
6,900.0	6,877.0	6,813.8	6,791.3	8.5	8.4	-159.57	153.8	-467.0	888.8	874.3	14.45	61.492	
7,000.0	6,976.4	6,911.9	6,888.8	8.6	8.5	-159.57	157.5	-476.6	908.3	893.6	14.68	61.867	
7,100.0	7,075.9	7,010.0	6,986.4	8.7	8.6	-159.57	161.1	-486.2	927.8	912.8	14.91	62.225	
7,200.0	7,175.3	7,108.1	7,083.9	8.8	8.7	-159.57	164.7	-495.8	947.3	932.1	15.14	62.567	
7,300.0	7,274.8	7,206.1	7,181.5	9.0	8.9	-159.57	168.4	-505.4	966.8	951.4	15.37	62.895	
7,400.0	7,374.3	7,304.2	7,279.0	9.1	9.0	-159.57	172.0	-514.9	986.3	970.7	15.60	63.208	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #801H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12132-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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
0.0	0.0	2.8	2.8	3.0	3.0	0.00	45.0	0.0	45.0				
100.0	100.0	102.8	102.8	3.0	3.0	0.00	45.0	0.0	45.0	39.0	6.00	7.499	
200.0	200.0	202.8	202.8	3.0	3.0	0.00	45.0	0.0	45.0	39.0	6.01	7.487	
300.0	300.0	302.8	302.8	3.0	3.0	0.00	45.0	0.0	45.0	39.0	6.03	7.460	
400.0	400.0	402.8	402.8	3.0	3.0	0.00	45.0	0.0	45.0	38.9	6.07	7.419	
500.0	500.0	502.8	502.8	3.1	3.1	0.00	45.0	0.0	45.0	38.9	6.11	7.366	
600.0	600.0	602.8	602.8	3.1	3.1	0.00	45.0	0.0	45.0	38.8	6.16	7.300	
700.0	700.0	702.8	702.8	3.1	3.1	0.00	45.0	0.0	45.0	38.8	6.23	7.223	
800.0	800.0	802.8	802.8	3.2	3.2	0.00	45.0	0.0	45.0	38.7	6.31	7.136	
900.0	900.0	902.8	902.8	3.2	3.2	0.00	45.0	0.0	45.0	38.6	6.39	7.040	
1,000.0	1,000.0	1,002.8	1,002.8	3.2	3.2	0.00	45.0	0.0	45.0	38.5	6.49	6.936	
1,100.0	1,100.0	1,102.8	1,102.8	3.3	3.3	0.00	45.0	0.0	45.0	38.4	6.59	6.825	
1,200.0	1,200.0	1,202.8	1,202.8	3.4	3.4	0.00	45.0	0.0	45.0	38.3	6.71	6.710	
1,300.0	1,300.0	1,302.8	1,302.8	3.4	3.4	0.00	45.0	0.0	45.0	38.2	6.83	6.590	
1,400.0	1,400.0	1,402.8	1,402.8	3.5	3.5	0.00	45.0	0.0	45.0	38.0	6.96	6.467	
1,500.0	1,500.0	1,502.8	1,502.8	3.5	3.5	0.00	45.0	0.0	45.0	37.9	7.10	6.342	
1,600.0	1,600.0	1,602.8	1,602.8	3.6	3.6	0.00	45.0	0.0	45.0	37.8	7.24	6.216	
1,700.0	1,700.0	1,702.8	1,702.8	3.7	3.7	0.00	45.0	0.0	45.0	37.6	7.39	6.089	
1,800.0	1,800.0	1,802.8	1,802.8	3.8	3.8	0.00	45.0	0.0	45.0	37.5	7.55	5.962	
1,900.0	1,900.0	1,902.8	1,902.8	3.9	3.9	0.00	45.0	0.0	45.0	37.3	7.71	5.836	
2,000.0	2,000.0	2,002.8	2,002.8	3.9	3.9	0.00	45.0	0.0	45.0	37.1	7.88	5.712	
2,100.0	2,100.0	2,102.8	2,102.8	4.0	4.0	0.00	45.0	0.0	45.0	36.9	8.05	5.589	
2,200.0	2,200.0	2,202.8	2,202.8	4.1	4.1	0.00	45.0	0.0	45.0	36.8	8.23	5.468	
2,300.0	2,300.0	2,302.8	2,302.8	4.2	4.2	0.00	45.0	0.0	45.0	36.6	8.41	5.349	
2,400.0	2,400.0	2,402.8	2,402.8	4.3	4.3	0.00	45.0	0.0	45.0	36.4	8.60	5.233	
2,415.7	2,415.7	2,418.5	2,418.5	4.3	4.3	0.00	45.0	0.0	45.0	36.4	8.63	5.215 CC	
2,500.0	2,500.0	2,502.8	2,502.8	4.4	4.4	0.00	45.0	0.0	45.0	36.2	8.79	5.120	
2,600.0	2,600.0	2,602.2	2,602.2	4.5	4.5	-69.91	45.7	1.7	45.1	36.1	8.94	5.043 ES	
2,700.0	2,699.8	2,701.6	2,701.5	4.5	4.5	-69.88	47.6	6.6	45.2	36.2	9.04	5.001	
2,800.0	2,799.5	2,801.1	2,800.5	4.6	4.6	-69.91	50.7	14.7	45.4	36.3	9.14	4.967	
2,900.0	2,898.9	2,901.0	2,899.9	4.6	4.6	-69.70	54.6	24.7	45.7	36.5	9.25	4.944	
3,000.0	2,998.4	3,001.0	2,999.3	4.7	4.7	-69.47	58.5	34.7	46.1	36.7	9.36	4.921	
3,100.0	3,097.8	3,101.0	3,098.7	4.8	4.8	-69.25	62.5	44.7	46.4	36.9	9.48	4.896	
3,200.0	3,197.3	3,201.0	3,198.2	4.8	4.8	-69.04	66.4	54.7	46.7	37.1	9.60	4.870	
3,300.0	3,296.7	3,301.0	3,297.6	4.9	4.9	-68.82	70.3	64.7	47.1	37.3	9.72	4.843	
3,400.0	3,396.2	3,401.0	3,397.0	5.0	5.0	-68.61	74.2	74.7	47.4	37.6	9.84	4.816	
3,500.0	3,495.6	3,501.0	3,496.4	5.0	5.1	-68.40	78.1	84.7	47.7	37.8	9.97	4.788	
3,600.0	3,595.1	3,601.0	3,595.8	5.1	5.1	-68.20	82.0	94.7	48.1	38.0	10.10	4.759	
3,700.0	3,694.5	3,701.0	3,695.3	5.2	5.2	-68.00	85.9	104.7	48.4	38.2	10.23	4.729	
3,800.0	3,794.0	3,801.0	3,794.7	5.3	5.3	-67.80	89.8	114.7	48.7	38.4	10.37	4.699	
3,900.0	3,893.4	3,901.0	3,894.1	5.4	5.4	-67.60	93.7	124.7	49.1	38.6	10.51	4.669	
4,000.0	3,992.9	4,001.0	3,993.5	5.5	5.5	-67.40	97.6	134.7	49.4	38.8	10.66	4.637	
4,100.0	4,092.3	4,101.0	4,092.9	5.5	5.6	-67.21	101.5	144.7	49.8	38.9	10.80	4.606	
4,200.0	4,191.8	4,201.0	4,192.4	5.6	5.7	-67.02	105.4	154.7	50.1	39.1	10.95	4.574	
4,300.0	4,291.2	4,301.0	4,291.8	5.7	5.7	-66.84	109.3	164.7	50.4	39.3	11.10	4.542	
4,400.0	4,390.7	4,401.0	4,391.2	5.8	5.8	-66.65	113.2	174.8	50.8	39.5	11.26	4.510	
4,500.0	4,490.1	4,501.0	4,490.6	5.9	5.9	-66.47	117.1	184.8	51.1	39.7	11.41	4.478	
4,600.0	4,589.6	4,601.0	4,590.1	6.0	6.0	-66.29	121.0	194.8	51.4	39.9	11.57	4.445	
4,700.0	4,689.0	4,701.0	4,689.5	6.1	6.1	-66.12	124.9	204.8	51.8	40.1	11.74	4.413	
4,800.0	4,788.5	4,801.0	4,788.9	6.2	6.2	-65.94	128.8	214.8	52.1	40.2	11.90	4.380	
4,900.0	4,887.9	4,901.0	4,888.3	6.3	6.3	-65.77	132.7	224.8	52.5	40.4	12.07	4.348	
5,000.0	4,987.4	5,001.0	4,987.7	6.4	6.4	-65.60	136.6	234.8	52.8	40.6	12.24	4.315	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #801H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12132-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,086.9	5,101.0	5,087.2	6.5	6.5	-65.43	140.5	244.8	53.2	40.7	12.41	4.282	
5,200.0	5,186.3	5,201.0	5,186.6	6.6	6.6	-65.26	144.4	254.8	53.5	40.9	12.59	4.250	
5,300.0	5,285.8	5,301.0	5,286.0	6.7	6.7	-65.10	148.3	264.8	53.8	41.1	12.77	4.218	
5,400.0	5,385.2	5,401.0	5,385.4	6.8	6.8	-64.94	152.2	274.8	54.2	41.2	12.95	4.186	
5,500.0	5,484.7	5,501.0	5,484.8	6.9	7.0	-64.78	156.1	284.8	54.5	41.4	13.13	4.154	
5,600.0	5,584.1	5,601.0	5,584.3	7.0	7.1	-64.62	160.1	294.8	54.9	41.6	13.31	4.122	
5,700.0	5,683.6	5,701.0	5,683.7	7.1	7.2	-64.47	164.0	304.8	55.2	41.7	13.50	4.090	
5,800.0	5,783.0	5,801.0	5,783.1	7.2	7.3	-64.31	167.9	314.8	55.6	41.9	13.69	4.059	
5,900.0	5,882.5	5,901.0	5,882.5	7.4	7.4	-64.16	171.8	324.8	55.9	42.0	13.88	4.028	
6,000.0	5,981.9	6,001.0	5,982.0	7.5	7.5	-64.01	175.7	334.8	56.3	42.2	14.08	3.997	
6,100.0	6,081.4	6,101.0	6,081.4	7.6	7.6	-63.86	179.6	344.8	56.6	42.3	14.27	3.966	
6,200.0	6,180.8	6,201.0	6,180.8	7.7	7.7	-63.72	183.5	354.8	57.0	42.5	14.47	3.936	
6,300.0	6,280.3	6,301.0	6,280.2	7.8	7.8	-63.57	187.4	364.8	57.3	42.6	14.67	3.906	
6,400.0	6,379.7	6,401.0	6,379.6	7.9	7.9	-63.43	191.3	374.8	57.6	42.8	14.87	3.876	
6,500.0	6,479.2	6,501.0	6,479.1	8.0	8.1	-63.29	195.2	384.8	58.0	42.9	15.08	3.847	
6,600.0	6,578.6	6,601.0	6,578.5	8.1	8.2	-63.15	199.1	394.8	58.3	43.1	15.28	3.818	
6,700.0	6,678.1	6,701.0	6,677.9	8.3	8.3	-63.01	203.0	404.8	58.7	43.2	15.49	3.789	
6,800.0	6,777.5	6,801.0	6,777.3	8.4	8.4	-62.88	206.9	414.8	59.0	43.3	15.70	3.761	
6,900.0	6,877.0	6,901.0	6,876.7	8.5	8.5	-62.74	210.8	424.8	59.4	43.5	15.91	3.733	
7,000.0	6,976.4	7,001.0	6,976.2	8.6	8.6	-62.61	214.7	434.8	59.7	43.6	16.12	3.705	
7,100.0	7,075.9	7,101.0	7,075.6	8.7	8.8	-62.48	218.6	444.8	60.1	43.8	16.34	3.677	
7,200.0	7,175.3	7,201.0	7,175.0	8.8	8.9	-62.35	222.5	454.8	60.4	43.9	16.56	3.650	
7,300.0	7,274.8	7,301.0	7,274.4	9.0	9.0	-62.22	226.4	464.8	60.8	44.0	16.78	3.624	
7,400.0	7,374.3	7,401.0	7,373.8	9.1	9.1	-62.09	230.3	474.8	61.1	44.1	17.00	3.597	
7,500.0	7,473.7	7,501.0	7,473.3	9.2	9.2	-61.97	234.2	484.8	61.5	44.3	17.22	3.571	
7,600.0	7,573.2	7,601.0	7,572.7	9.3	9.3	-61.84	238.1	494.8	61.8	44.4	17.44	3.546	
7,700.0	7,672.6	7,701.0	7,672.1	9.4	9.5	-61.72	242.0	504.8	62.2	44.5	17.67	3.520	
7,800.0	7,772.1	7,801.0	7,771.5	9.5	9.6	-61.60	245.9	514.8	62.5	44.7	17.90	3.495	
7,900.0	7,871.5	7,901.0	7,871.0	9.7	9.7	-61.48	249.8	524.8	62.9	44.8	18.13	3.470	
8,000.0	7,971.0	8,001.0	7,970.4	9.8	9.8	-61.36	253.7	534.8	63.3	44.9	18.36	3.446	
8,100.0	8,070.4	8,101.0	8,069.8	9.9	10.0	-61.25	257.6	544.8	63.6	45.0	18.59	3.422	
8,200.0	8,169.9	8,201.0	8,169.2	10.0	10.1	-61.13	261.6	554.8	64.0	45.1	18.82	3.398	
8,300.0	8,269.3	8,301.0	8,268.6	10.2	10.2	-61.02	265.5	564.8	64.3	45.3	19.06	3.375	
8,400.0	8,368.8	8,401.0	8,368.1	10.3	10.3	-60.90	269.4	574.8	64.7	45.4	19.29	3.352	
8,500.0	8,468.2	8,501.0	8,467.5	10.4	10.4	-60.79	273.3	584.8	65.0	45.5	19.53	3.329	
8,600.0	8,567.7	8,601.0	8,566.9	10.5	10.6	-60.68	277.2	594.9	65.4	45.6	19.77	3.307	
8,700.0	8,667.1	8,701.0	8,666.3	10.6	10.7	-60.57	281.1	604.9	65.7	45.7	20.01	3.285	
8,800.0	8,766.6	8,801.0	8,765.7	10.8	10.8	-60.46	285.0	614.9	66.1	45.8	20.25	3.263	
8,900.0	8,866.0	8,901.0	8,865.2	10.9	10.9	-60.35	288.9	624.9	66.4	45.9	20.50	3.241	
9,000.0	8,965.5	9,001.0	8,964.6	11.0	11.1	-60.25	292.8	634.9	66.8	46.1	20.74	3.220	
9,100.0	9,064.9	9,101.0	9,064.0	11.1	11.2	-60.14	296.7	644.9	67.2	46.2	20.99	3.199	
9,200.0	9,164.4	9,201.0	9,163.4	11.3	11.3	-60.04	300.6	654.9	67.5	46.3	21.24	3.179	
9,300.0	9,263.8	9,301.0	9,262.9	11.4	11.4	-59.94	304.5	664.9	67.9	46.4	21.49	3.158	
9,400.0	9,363.3	9,401.0	9,362.3	11.5	11.6	-59.83	308.4	674.9	68.2	46.5	21.74	3.138	
9,500.0	9,462.7	9,501.0	9,461.7	11.6	11.7	-59.73	312.3	684.9	68.6	46.6	21.99	3.118	
9,600.0	9,562.2	9,601.0	9,561.1	11.8	11.8	-59.63	316.2	694.9	68.9	46.7	22.24	3.099	
9,700.0	9,661.7	9,701.0	9,660.5	11.9	11.9	-59.53	320.1	704.9	69.3	46.8	22.50	3.080	
9,800.0	9,761.1	9,801.0	9,760.0	12.0	12.1	-59.44	324.0	714.9	69.6	46.9	22.75	3.061	
9,900.0	9,860.6	9,901.0	9,859.4	12.1	12.2	-59.34	327.9	724.9	70.0	47.0	23.01	3.042	
10,000.0	9,960.0	10,001.0	9,958.8	12.3	12.3	-59.24	331.8	734.9	70.4	47.1	23.27	3.024	
10,100.0	10,059.5	10,101.0	10,058.2	12.4	12.4	-59.15	335.7	744.9	70.7	47.2	23.53	3.006	
10,200.0	10,158.9	10,201.0	10,157.6	12.5	12.6	-59.06	339.6	754.9	71.1	47.3	23.79	2.988	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #801H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12132-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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
10,300.0	10,258.4	10,301.0	10,257.1	12.6	12.7	-58.96	343.5	764.9	71.4	47.4	24.05	2.970	
10,400.0	10,357.8	10,401.0	10,356.5	12.8	12.8	-58.87	347.4	774.9	71.8	47.5	24.31	2.953	
10,500.0	10,457.3	10,501.0	10,455.9	12.9	13.0	-58.78	351.3	784.9	72.2	47.6	24.58	2.935	
10,600.0	10,556.7	10,601.0	10,555.3	13.0	13.1	-58.69	355.2	794.9	72.5	47.7	24.84	2.919	
10,700.0	10,656.2	10,701.0	10,654.7	13.2	13.2	-58.60	359.1	804.9	72.9	47.8	25.11	2.902	
10,800.0	10,755.6	10,801.0	10,754.2	13.3	13.3	-58.51	363.1	814.9	73.2	47.8	25.38	2.885	
10,900.0	10,855.1	10,901.0	10,853.6	13.4	13.5	-58.43	367.0	824.9	73.6	47.9	25.65	2.869	
11,000.0	10,954.5	11,001.0	10,953.0	13.6	13.6	-58.34	370.9	834.9	73.9	48.0	25.92	2.853	
11,100.0	11,054.0	11,101.0	11,052.4	13.7	13.7	-58.25	374.8	844.9	74.3	48.1	26.19	2.837	
11,200.0	11,153.4	11,201.0	11,151.9	13.8	13.9	-58.17	378.7	854.9	74.7	48.2	26.46	2.822	
11,300.0	11,252.9	11,301.0	11,251.3	13.9	14.0	-58.08	382.6	864.9	75.0	48.3	26.73	2.806	
11,400.0	11,352.3	11,401.0	11,350.7	14.1	14.1	-58.00	386.5	874.9	75.4	48.4	27.01	2.791	
11,500.0	11,451.8	11,501.0	11,450.1	14.2	14.3	-57.92	390.4	884.9	75.7	48.5	27.28	2.776	
11,600.0	11,551.2	11,601.0	11,549.5	14.3	14.4	-57.84	394.3	894.9	76.1	48.5	27.56	2.761	
11,700.0	11,650.7	11,701.0	11,649.0	14.5	14.5	-57.76	398.2	904.9	76.5	48.6	27.84	2.747	
11,800.0	11,750.1	11,801.0	11,748.4	14.6	14.7	-57.68	402.1	914.9	76.8	48.7	28.12	2.732	
11,908.4	11,858.0	11,909.4	11,856.2	14.7	14.8	-57.59	406.3	925.8	77.2	48.9	28.35	2.724	
11,925.0	11,874.5	11,926.0	11,872.7	14.7	14.8	-75.83	407.0	927.4	77.5	49.2	28.37	2.733	
11,950.0	11,899.3	11,950.9	11,897.5	14.7	14.9	-97.35	407.9	929.9	78.9	50.5	28.36	2.781	
11,975.0	11,924.0	11,975.7	11,922.1	14.7	14.9	-111.32	408.9	932.4	81.4	53.0	28.33	2.871	
12,000.0	11,948.5	12,000.4	11,946.6	14.7	14.9	-120.64	409.9	934.9	85.0	56.7	28.28	3.005	
12,025.0	11,972.7	12,024.8	11,970.9	14.7	15.0	-127.38	410.8	937.3	89.8	61.6	28.20	3.184	
12,050.0	11,996.7	12,048.8	11,994.8	14.7	15.0	-132.63	411.8	939.7	95.8	67.7	28.10	3.408	
12,075.0	12,020.3	12,072.5	12,018.4	14.7	15.0	-136.91	412.7	942.1	103.0	75.0	28.00	3.678	
12,100.0	12,043.4	12,095.8	12,041.5	14.7	15.1	-140.50	413.6	944.4	111.5	83.6	27.90	3.995	
12,125.0	12,066.0	12,118.5	12,064.1	14.7	15.1	-143.56	414.5	946.7	121.2	93.4	27.80	4.359	
12,150.0	12,088.0	12,144.1	12,089.5	14.8	15.1	-146.48	415.3	949.3	132.0	104.3	27.71	4.763	
12,175.0	12,109.4	12,175.2	12,120.5	14.8	15.1	-149.53	414.7	952.4	142.8	115.0	27.77	5.142	
12,200.0	12,130.1	12,207.5	12,152.5	14.8	15.1	-152.42	411.9	955.6	153.4	125.2	28.15	5.449	
12,225.0	12,150.1	12,240.9	12,185.3	14.8	15.1	-155.19	406.8	958.9	163.7	134.8	28.86	5.672	
12,250.0	12,169.2	12,275.5	12,218.9	14.8	15.1	-157.91	399.0	962.3	173.7	143.8	29.90	5.810	
12,275.0	12,187.5	12,311.4	12,253.0	14.8	15.1	-160.61	388.4	965.8	183.3	152.1	31.22	5.872	
12,300.0	12,204.9	12,348.6	12,287.3	14.8	15.1	-163.32	374.8	969.3	192.6	159.7	32.82	5.868	
12,325.0	12,221.4	12,387.0	12,321.6	14.9	15.1	-166.06	357.9	972.8	201.3	166.7	34.61	5.818	
12,350.0	12,236.8	12,426.6	12,355.5	14.9	15.1	-168.85	337.6	976.2	209.7	173.1	36.54	5.738	
12,375.0	12,251.2	12,467.4	12,388.5	14.9	15.2	-171.71	313.8	979.6	217.4	178.9	38.54	5.642	
12,400.0	12,264.5	12,509.3	12,420.1	14.9	15.2	-174.64	286.6	982.9	224.7	184.1	40.54	5.542	
12,425.0	12,276.7	12,552.2	12,449.9	15.0	15.2	-177.65	255.9	986.0	231.3	188.9	42.47	5.447	
12,450.0	12,287.8	12,595.9	12,477.4	15.0	15.2	-179.24	222.0	988.8	237.4	193.1	44.26	5.364	
12,475.0	12,297.7	12,640.3	12,502.0	15.0	15.3	-176.05	185.1	991.4	242.9	197.0	45.85	5.297	
12,500.0	12,306.3	12,685.2	12,523.3	15.1	15.3	-172.77	145.7	993.6	247.7	200.6	47.18	5.251	
12,525.0	12,313.8	12,730.4	12,540.9	15.1	15.4	-169.40	104.2	995.5	252.0	203.8	48.21	5.227	
12,550.0	12,320.0	12,775.6	12,554.5	15.2	15.4	-165.96	61.2	997.0	255.7	206.8	48.91	5.229	
12,575.0	12,324.9	12,820.6	12,564.0	15.2	15.5	-162.44	17.2	998.0	258.9	209.7	49.26	5.257	
12,600.0	12,328.5	12,865.2	12,569.3	15.3	15.5	-158.87	-27.1	998.7	261.7	212.4	49.25	5.313	
12,625.0	12,330.9	12,905.3	12,570.6	15.3	15.6	-155.58	-67.1	998.9	264.0	215.1	48.88	5.401	
12,650.0	12,331.9	12,928.6	12,570.5	15.4	15.6	-153.63	-90.4	999.0	267.1	218.9	48.25	5.537	
12,658.8	12,332.0	12,936.8	12,570.5	15.4	15.6	-152.96	-98.6	999.0	268.6	220.5	48.04	5.590	
12,700.0	12,331.9	12,975.4	12,570.5	15.5	15.7	-150.30	-137.2	999.1	275.8	228.7	47.10	5.855	
12,800.0	12,331.6	13,069.9	12,570.4	15.8	15.8	-144.68	-231.8	999.3	294.1	249.0	45.12	6.519	
12,900.0	12,331.3	13,165.5	12,570.2	16.1	16.0	-140.14	-327.4	999.5	312.6	269.0	43.61	7.168	
13,000.0	12,331.1	13,262.1	12,570.1	16.4	16.3	-136.50	-423.9	999.8	330.3	287.7	42.57	7.760	

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

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Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #801H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12132-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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
13,100.0	12,330.8	13,359.5	12,570.0	16.8	16.6	133.61	-521.3	1,000.0	346.5	304.6	41.94	8.262	
13,200.0	12,330.5	13,457.6	12,569.8	17.3	17.0	131.36	-619.5	1,000.2	360.8	319.2	41.68	8.657	
13,300.0	12,330.3	13,556.4	12,569.7	17.7	17.4	129.64	-718.2	1,000.5	372.9	331.2	41.73	8.937	
13,400.0	12,330.0	13,655.6	12,569.5	18.2	17.9	128.37	-817.5	1,000.7	382.6	340.5	42.04	9.099	
13,500.0	12,329.8	13,755.2	12,569.4	18.7	18.4	127.50	-917.1	1,001.0	389.6	347.0	42.57	9.150	
13,600.0	12,329.5	13,855.1	12,569.3	19.2	18.9	127.00	-1,016.9	1,001.2	393.9	350.6	43.30	9.097	
13,700.0	12,329.3	13,955.1	12,569.1	19.7	19.5	126.84	-1,116.9	1,001.4	395.4	351.2	44.19	8.948	
13,718.7	12,329.2	13,973.7	12,569.1	19.8	19.6	126.85	-1,135.6	1,001.5	395.4	351.0	44.37	8.910	
13,800.0	12,329.0	14,055.1	12,569.0	20.2	20.1	126.90	-1,216.9	1,001.7	395.0	349.8	45.19	8.741	
13,900.0	12,328.8	14,155.1	12,568.9	20.8	20.7	126.96	-1,316.9	1,001.9	394.6	348.4	46.24	8.535	
14,000.0	12,328.5	14,255.1	12,568.7	21.4	21.3	127.03	-1,416.9	1,002.2	394.2	346.9	47.32	8.332	
14,100.0	12,328.3	14,355.1	12,568.6	22.0	22.0	127.09	-1,516.9	1,002.4	393.8	345.4	48.43	8.132	
14,200.0	12,328.0	14,455.1	12,568.4	22.6	22.6	127.16	-1,616.9	1,002.6	393.4	343.9	49.58	7.936	
14,300.0	12,327.8	14,555.1	12,568.3	23.2	23.3	127.22	-1,716.9	1,002.9	393.0	342.3	50.75	7.745	
14,400.0	12,327.5	14,655.1	12,568.2	23.9	24.0	127.29	-1,816.9	1,003.1	392.6	340.7	51.95	7.558	
14,500.0	12,327.2	14,755.1	12,568.0	24.5	24.7	127.35	-1,916.9	1,003.4	392.3	339.1	53.17	7.377	
14,600.0	12,327.0	14,855.1	12,567.9	25.2	25.4	127.42	-2,016.9	1,003.6	391.9	337.4	54.42	7.200	
14,700.0	12,326.7	14,955.1	12,567.7	25.9	26.1	127.48	-2,116.9	1,003.8	391.5	335.8	55.69	7.029	
14,800.0	12,326.5	15,055.1	12,567.6	26.6	26.8	127.55	-2,216.9	1,004.1	391.1	334.1	56.98	6.863	
14,900.0	12,326.2	15,155.1	12,567.5	27.3	27.6	127.61	-2,316.9	1,004.3	390.7	332.4	58.29	6.703	
15,000.0	12,326.0	15,255.0	12,567.3	28.0	28.3	127.68	-2,416.9	1,004.6	390.3	330.7	59.61	6.547	
15,100.0	12,325.7	15,355.0	12,567.2	28.8	29.1	127.74	-2,516.9	1,004.8	389.9	328.9	60.95	6.397	
15,200.0	12,325.5	15,455.0	12,567.1	29.5	29.8	127.81	-2,616.9	1,005.0	389.5	327.2	62.31	6.251	
15,300.0	12,325.2	15,555.0	12,566.9	30.3	30.6	127.88	-2,716.9	1,005.3	389.1	325.4	63.68	6.110	
15,400.0	12,325.0	15,655.0	12,566.8	31.0	31.4	127.94	-2,816.9	1,005.5	388.7	323.7	65.06	5.974	
15,500.0	12,324.7	15,755.0	12,566.6	31.8	32.1	128.01	-2,916.9	1,005.8	388.3	321.9	66.46	5.843	
15,600.0	12,324.5	15,855.0	12,566.5	32.5	32.9	128.07	-3,016.9	1,006.0	387.9	320.1	67.87	5.716	
15,700.0	12,324.2	15,955.0	12,566.4	33.3	33.7	128.14	-3,116.9	1,006.2	387.5	318.3	69.29	5.593	
15,800.0	12,324.0	16,055.0	12,566.2	34.1	34.5	128.21	-3,216.9	1,006.5	387.2	316.4	70.72	5.475	
15,900.0	12,323.7	16,155.0	12,566.1	34.8	35.3	128.27	-3,316.9	1,006.7	386.8	314.6	72.15	5.360	
16,000.0	12,323.5	16,255.0	12,565.9	35.6	36.1	128.34	-3,416.9	1,007.0	386.4	312.8	73.60	5.250	
16,100.0	12,323.2	16,355.0	12,565.8	36.4	36.9	128.41	-3,516.9	1,007.2	386.0	310.9	75.06	5.143	
16,200.0	12,323.0	16,455.0	12,565.7	37.2	37.7	128.47	-3,616.9	1,007.4	385.6	309.1	76.52	5.039	
16,300.0	12,322.7	16,555.0	12,565.5	38.0	38.5	128.54	-3,716.9	1,007.7	385.2	307.2	77.99	4.939	
16,400.0	12,322.5	16,655.0	12,565.4	38.8	39.3	128.61	-3,816.9	1,007.9	384.8	305.4	79.47	4.842	
16,500.0	12,322.2	16,755.0	12,565.3	39.6	40.1	128.68	-3,916.9	1,008.2	384.5	303.5	80.96	4.749	
16,585.2	12,322.0	16,840.3	12,565.1	40.2	40.7	128.73	-4,002.1	1,008.4	384.1	301.9	82.23	4.672	
16,600.0	12,321.9	16,855.0	12,565.1	40.4	40.9	128.75	-4,016.9	1,008.4	384.0	301.6	82.45	4.658	
16,613.9	12,321.9	16,869.0	12,565.1	40.5	41.0	128.79	-4,030.8	1,008.4	383.9	301.3	82.66	4.645	
16,700.0	12,321.3	16,956.2	12,564.9	41.2	41.7	128.99	-4,118.0	1,008.6	382.9	298.9	83.99	4.559	
16,800.0	12,320.5	17,056.2	12,564.3	42.0	42.5	129.18	-4,218.0	1,008.9	381.5	296.0	85.50	4.462	
16,900.0	12,319.8	17,156.2	12,563.7	42.8	43.3	129.37	-4,318.0	1,009.1	380.1	293.1	87.02	4.368	
16,975.5	12,319.3	17,231.7	12,563.2	43.4	43.9	129.51	-4,393.5	1,009.3	379.1	290.9	88.16	4.300	
17,000.0	12,319.1	17,258.2	12,563.0	43.6	44.1	129.55	-4,420.0	1,009.5	378.7	290.1	88.59	4.275	
17,047.3	12,318.8	17,305.4	12,562.7	43.9	44.5	129.59	-4,467.3	1,009.9	378.4	289.1	89.31	4.237	
17,070.2	12,318.6	17,328.4	12,562.6	44.1	44.7	129.58	-4,490.2	1,010.1	378.5	288.8	89.65	4.222	
17,100.0	12,318.4	17,358.1	12,562.4	44.4	45.0	129.56	-4,520.0	1,010.4	378.7	288.6	90.10	4.203	
17,200.0	12,317.7	17,458.1	12,561.8	45.2	45.8	129.50	-4,620.0	1,011.4	379.3	287.7	91.61	4.140	
17,300.0	12,317.0	17,558.1	12,561.2	46.0	46.6	129.44	-4,720.0	1,012.3	379.9	286.8	93.13	4.079	
17,400.0	12,316.3	17,658.1	12,560.5	46.8	47.4	129.38	-4,820.0	1,013.2	380.5	285.9	94.65	4.020	
17,500.0	12,315.6	17,758.1	12,559.9	47.6	48.2	129.32	-4,919.9	1,014.2	381.1	285.0	96.18	3.963	
17,600.0	12,314.9	17,858.1	12,559.3	48.5	49.1	129.26	-5,019.9	1,015.1	381.8	284.0	97.71	3.907	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #801H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12132-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,700.0	12,314.2	17,958.1	12,558.6	49.3	49.9	129.19	-5,119.9	1,016.0	382.4	283.1	99.25	3.853	
17,800.0	12,313.5	18,058.1	12,558.0	50.1	50.7	129.13	-5,219.9	1,017.0	383.0	282.2	100.79	3.800	
17,900.0	12,312.8	18,158.1	12,557.4	50.9	51.5	129.07	-5,319.9	1,017.9	383.6	281.3	102.34	3.748	
18,000.0	12,312.1	18,258.1	12,556.8	51.8	52.4	129.01	-5,419.9	1,018.8	384.2	280.3	103.89	3.698	
18,100.0	12,311.4	18,358.1	12,556.1	52.6	53.2	128.95	-5,519.9	1,019.8	384.9	279.4	105.44	3.650	
18,200.0	12,310.7	18,458.1	12,555.5	53.4	54.0	128.89	-5,619.9	1,020.7	385.5	278.5	107.00	3.602	
18,300.0	12,310.0	18,558.1	12,554.9	54.3	54.9	128.83	-5,719.9	1,021.6	386.1	277.5	108.56	3.556	
18,400.0	12,309.3	18,658.1	12,554.3	55.1	55.7	128.77	-5,819.9	1,022.6	386.7	276.6	110.13	3.511	
18,500.0	12,308.6	18,758.1	12,553.6	55.9	56.5	128.71	-5,919.9	1,023.5	387.3	275.6	111.70	3.468	
18,600.0	12,307.9	18,858.1	12,553.0	56.7	57.4	128.66	-6,019.8	1,024.4	388.0	274.7	113.27	3.425	
18,700.0	12,307.2	18,958.1	12,552.4	57.6	58.2	128.60	-6,119.8	1,025.4	388.6	273.7	114.85	3.383	
18,800.0	12,306.5	19,058.1	12,551.8	58.4	59.0	128.54	-6,219.8	1,026.3	389.2	272.8	116.43	3.343	
18,900.0	12,305.7	19,158.1	12,551.1	59.3	59.9	128.48	-6,319.8	1,027.2	389.8	271.8	118.01	3.303	
19,000.0	12,305.0	19,258.1	12,550.5	60.1	60.7	128.42	-6,419.8	1,028.2	390.5	270.9	119.59	3.265	
19,100.0	12,304.3	19,358.1	12,549.9	60.9	61.6	128.36	-6,519.8	1,029.1	391.1	269.9	121.18	3.227	
19,200.0	12,303.6	19,458.1	12,549.2	61.8	62.4	128.31	-6,619.8	1,030.0	391.7	268.9	122.77	3.191	
19,300.0	12,302.9	19,558.1	12,548.6	62.6	63.2	128.25	-6,719.8	1,031.0	392.3	268.0	124.37	3.155	
19,400.0	12,302.2	19,658.1	12,548.0	63.4	64.1	128.19	-6,819.8	1,031.9	393.0	267.0	125.96	3.120	
19,500.0	12,301.5	19,758.1	12,547.4	64.3	64.9	128.13	-6,919.8	1,032.8	393.6	266.0	127.56	3.086	
19,600.0	12,300.8	19,858.1	12,546.7	65.1	65.7	128.08	-7,019.8	1,033.8	394.2	265.1	129.16	3.052	
19,700.0	12,300.1	19,958.1	12,546.1	66.0	66.6	128.02	-7,119.7	1,034.7	394.8	264.1	130.76	3.020	
19,800.0	12,299.4	20,058.1	12,545.5	66.8	67.4	127.96	-7,219.7	1,035.6	395.5	263.1	132.37	2.988	
19,900.0	12,298.7	20,158.1	12,544.9	67.6	68.3	127.90	-7,319.7	1,036.6	396.1	262.1	133.97	2.957	
20,000.0	12,298.0	20,258.1	12,544.2	68.5	69.1	127.85	-7,419.7	1,037.5	396.7	261.1	135.58	2.926	
20,100.0	12,297.3	20,358.1	12,543.6	69.3	70.0	127.79	-7,519.7	1,038.4	397.4	260.2	137.19	2.896	
20,200.0	12,296.6	20,458.1	12,543.0	70.2	70.8	127.74	-7,619.7	1,039.4	398.0	259.2	138.80	2.867	
20,300.0	12,295.9	20,558.1	12,542.4	71.0	71.6	127.68	-7,719.7	1,040.3	398.6	258.2	140.42	2.839	
20,400.0	12,295.2	20,658.1	12,541.7	71.9	72.5	127.62	-7,819.7	1,041.2	399.2	257.2	142.03	2.811	
20,500.0	12,294.5	20,758.1	12,541.1	72.7	73.3	127.57	-7,919.7	1,042.2	399.9	256.2	143.65	2.784	
20,600.0	12,293.8	20,858.1	12,540.5	73.5	74.2	127.51	-8,019.7	1,043.1	400.5	255.2	145.27	2.757	
20,700.0	12,293.1	20,958.1	12,539.8	74.4	75.0	127.46	-8,119.7	1,044.0	401.1	254.2	146.89	2.731	
20,800.0	12,292.4	21,058.0	12,539.2	75.2	75.9	127.40	-8,219.6	1,045.0	401.8	253.3	148.51	2.705	
20,900.0	12,291.7	21,158.0	12,538.6	76.1	76.7	127.35	-8,319.6	1,045.9	402.4	252.3	150.14	2.680	
21,000.0	12,291.0	21,258.0	12,538.0	76.9	77.6	127.29	-8,419.6	1,046.8	403.0	251.3	151.76	2.656	
21,100.0	12,290.3	21,358.0	12,537.3	77.8	78.4	127.24	-8,519.6	1,047.8	403.7	250.3	153.39	2.632	
21,200.0	12,289.6	21,458.0	12,536.7	78.6	79.3	127.18	-8,619.6	1,048.7	404.3	249.3	155.02	2.608	
21,300.0	12,288.9	21,558.0	12,536.1	79.5	80.1	127.13	-8,719.6	1,049.6	404.9	248.3	156.65	2.585	
21,400.0	12,288.2	21,658.0	12,535.5	80.3	81.0	127.08	-8,819.6	1,050.6	405.6	247.3	158.28	2.562	
21,500.0	12,287.4	21,758.0	12,534.8	81.2	81.8	127.02	-8,919.6	1,051.5	406.2	246.3	159.91	2.540	
21,600.0	12,286.7	21,858.0	12,534.2	82.0	82.6	126.97	-9,019.6	1,052.4	406.8	245.3	161.55	2.518	
21,700.0	12,286.0	21,958.0	12,533.6	82.9	83.5	126.91	-9,119.6	1,053.4	407.5	244.3	163.18	2.497	
21,800.0	12,285.3	22,058.0	12,533.0	83.7	84.3	126.86	-9,219.6	1,054.3	408.1	243.3	164.82	2.476	
21,900.0	12,284.6	22,158.0	12,532.3	84.6	85.2	126.81	-9,319.5	1,055.2	408.7	242.3	166.45	2.456	
22,000.0	12,283.9	22,258.0	12,531.7	85.4	86.0	126.75	-9,419.5	1,056.2	409.4	241.3	168.09	2.435	
22,100.0	12,283.2	22,358.0	12,531.1	86.3	86.9	126.70	-9,519.5	1,057.1	410.0	240.3	169.73	2.416	
22,200.0	12,282.5	22,458.0	12,530.4	87.1	87.7	126.65	-9,619.5	1,058.0	410.7	239.3	171.37	2.396	
22,273.7	12,282.0	22,529.4	12,530.0	87.7	88.3	126.61	-9,690.9	1,058.7	411.1	238.6	172.51	2.383	
22,274.3	12,282.0	22,529.4	12,530.0	87.8	88.3	126.61	-9,690.9	1,058.7	411.1	238.6	172.53	2.383 SF	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #802H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12096-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	0.8	0.8	3.0	3.0	-53.44	44.5	-60.0	74.7				
100.0	100.0	100.8	100.8	3.0	3.0	-53.44	44.5	-60.0	74.7	68.7	6.00	12.449	
200.0	200.0	200.8	200.8	3.0	3.0	-53.44	44.5	-60.0	74.7	68.7	6.01	12.438	
300.0	300.0	300.8	300.8	3.0	3.0	-53.44	44.5	-60.0	74.7	68.7	6.02	12.415	
400.0	400.0	400.8	400.8	3.0	3.0	-53.44	44.5	-60.0	74.7	68.7	6.03	12.378	
500.0	500.0	500.8	500.8	3.1	3.1	-53.44	44.5	-60.0	74.7	68.6	6.06	12.330	
600.0	600.0	600.8	600.8	3.1	3.1	-53.44	44.5	-60.0	74.7	68.6	6.09	12.270	
700.0	700.0	700.8	700.8	3.1	3.1	-53.44	44.5	-60.0	74.7	68.6	6.12	12.198	
800.0	800.0	800.8	800.8	3.2	3.2	-53.44	44.5	-60.0	74.7	68.5	6.17	12.116	
900.0	900.0	900.8	900.8	3.2	3.2	-53.44	44.5	-60.0	74.7	68.5	6.21	12.024	
1,000.0	1,000.0	1,000.8	1,000.8	3.2	3.2	-53.44	44.5	-60.0	74.7	68.4	6.27	11.922	
1,100.0	1,100.0	1,100.8	1,100.8	3.3	3.3	-53.44	44.5	-60.0	74.7	68.4	6.32	11.812	
1,200.0	1,200.0	1,200.8	1,200.8	3.4	3.4	-53.44	44.5	-60.0	74.7	68.3	6.39	11.695	
1,300.0	1,300.0	1,300.8	1,300.8	3.4	3.4	-53.44	44.5	-60.0	74.7	68.2	6.46	11.570	
1,400.0	1,400.0	1,400.8	1,400.8	3.5	3.5	-53.44	44.5	-60.0	74.7	68.2	6.53	11.439	
1,500.0	1,500.0	1,500.8	1,500.8	3.5	3.5	-53.44	44.5	-60.0	74.7	68.1	6.61	11.303	
1,600.0	1,600.0	1,600.8	1,600.8	3.6	3.6	-53.44	44.5	-60.0	74.7	68.0	6.69	11.163	
1,700.0	1,700.0	1,700.8	1,700.8	3.7	3.7	-53.44	44.5	-60.0	74.7	67.9	6.78	11.019	
1,800.0	1,800.0	1,800.8	1,800.8	3.8	3.8	-53.44	44.5	-60.0	74.7	67.8	6.87	10.871	
1,900.0	1,900.0	1,900.8	1,900.8	3.9	3.9	-53.44	44.5	-60.0	74.7	67.7	6.97	10.721	
2,000.0	2,000.0	2,000.8	2,000.8	3.9	3.9	-53.44	44.5	-60.0	74.7	67.6	7.07	10.569	
2,100.0	2,100.0	2,100.8	2,100.8	4.0	4.0	-53.44	44.5	-60.0	74.7	67.5	7.17	10.416	
2,200.0	2,200.0	2,200.8	2,200.8	4.1	4.1	-53.44	44.5	-60.0	74.7	67.4	7.28	10.262	
2,300.0	2,300.0	2,300.8	2,300.8	4.2	4.2	-53.44	44.5	-60.0	74.7	67.3	7.39	10.108	
2,400.0	2,400.0	2,400.8	2,400.8	4.3	4.3	-53.44	44.5	-60.0	74.7	67.2	7.50	9.954	
2,416.4	2,416.4	2,417.2	2,417.2	4.3	4.3	-53.44	44.5	-60.0	74.7	67.2	7.52	9.929 CC	
2,500.0	2,500.0	2,500.0	2,500.0	4.4	4.4	-53.44	44.5	-60.0	74.7	67.1	7.62	9.802 ES, SF	
2,600.0	2,600.0	2,598.8	2,598.7	4.5	4.5	-123.66	46.2	-60.4	77.0	69.3	7.71	9.991	
2,700.0	2,699.8	2,696.4	2,696.3	4.5	4.6	-124.26	51.0	-61.6	83.9	76.1	7.75	10.818	
2,800.0	2,799.5	2,793.5	2,792.9	4.6	4.7	-125.06	59.1	-63.6	95.3	87.5	7.79	12.233	
2,900.0	2,898.9	2,892.3	2,891.3	4.6	4.8	-125.93	69.1	-66.1	109.2	101.3	7.84	13.918	
3,000.0	2,998.4	2,991.3	2,989.7	4.7	4.9	-126.60	79.1	-68.7	123.1	115.2	7.91	15.563	
3,100.0	3,097.8	3,090.4	3,088.2	4.8	5.0	-127.14	89.2	-71.2	137.0	129.0	7.98	17.163	
3,200.0	3,197.3	3,189.4	3,186.7	4.8	5.1	-127.57	99.2	-73.7	150.9	142.8	8.06	18.719	
3,300.0	3,296.7	3,288.4	3,285.2	4.9	5.2	-127.94	109.3	-76.2	164.8	156.7	8.15	20.228	
3,400.0	3,396.2	3,387.4	3,383.7	5.0	5.3	-128.24	119.3	-78.7	178.7	170.5	8.24	21.690	
3,500.0	3,495.6	3,486.4	3,482.1	5.0	5.4	-128.50	129.3	-81.2	192.7	184.3	8.34	23.104	
3,600.0	3,595.1	3,585.5	3,580.6	5.1	5.5	-128.73	139.4	-83.7	206.6	198.2	8.44	24.469	
3,700.0	3,694.5	3,684.5	3,679.1	5.2	5.6	-128.93	149.4	-86.2	220.6	212.0	8.55	25.786	
3,800.0	3,794.0	3,783.5	3,777.6	5.3	5.7	-129.10	159.5	-88.7	234.5	225.8	8.67	27.055	
3,900.0	3,893.4	3,882.5	3,876.0	5.4	5.8	-129.26	169.5	-91.3	248.4	239.7	8.79	28.277	
4,000.0	3,992.9	3,981.5	3,974.5	5.5	5.9	-129.40	179.5	-93.8	262.4	253.5	8.91	29.451	
4,100.0	4,092.3	4,080.6	4,073.0	5.5	6.0	-129.52	189.6	-96.3	276.3	267.3	9.04	30.578	
4,200.0	4,191.8	4,179.6	4,171.5	5.6	6.1	-129.63	199.6	-98.8	290.3	281.1	9.17	31.660	
4,300.0	4,291.2	4,278.6	4,270.0	5.7	6.2	-129.74	209.7	-101.3	304.2	294.9	9.30	32.698	
4,400.0	4,390.7	4,377.6	4,368.4	5.8	6.3	-129.83	219.7	-103.8	318.2	308.7	9.44	33.692	
4,500.0	4,490.1	4,476.6	4,466.9	5.9	6.4	-129.91	229.7	-106.3	332.1	322.5	9.59	34.643	
4,600.0	4,589.6	4,575.7	4,565.4	6.0	6.5	-129.99	239.8	-108.8	346.1	336.3	9.73	35.553	
4,700.0	4,689.0	4,674.7	4,663.9	6.1	6.7	-130.07	249.8	-111.3	360.0	350.2	9.88	36.424	
4,800.0	4,788.5	4,773.7	4,762.3	6.2	6.8	-130.13	259.9	-113.8	374.0	364.0	10.04	37.255	
4,900.0	4,887.9	4,872.7	4,860.8	6.3	6.9	-130.19	269.9	-116.4	387.9	377.7	10.20	38.049	
5,000.0	4,987.4	4,971.8	4,959.3	6.4	7.0	-130.25	280.0	-118.9	401.9	391.5	10.36	38.808	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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 HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #802H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 12096-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 Tooface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,086.9	5,070.8	5,057.8	6.5	7.1	-130.31	290.0	-121.4	415.9	405.3	10.52	39.531	
5,200.0	5,186.3	5,169.8	5,156.3	6.6	7.2	-130.36	300.0	-123.9	429.8	419.1	10.69	40.221	
5,300.0	5,285.8	5,268.8	5,254.7	6.7	7.3	-130.40	310.1	-126.4	443.8	432.9	10.86	40.879	
5,400.0	5,385.2	5,367.8	5,353.2	6.8	7.5	-130.45	320.1	-128.9	457.7	446.7	11.03	41.506	
5,500.0	5,484.7	5,466.9	5,451.7	6.9	7.6	-130.49	330.2	-131.4	471.7	460.5	11.20	42.103	
5,600.0	5,584.1	5,565.9	5,550.2	7.0	7.7	-130.53	340.2	-133.9	485.6	474.2	11.38	42.672	
5,700.0	5,683.6	5,664.9	5,648.7	7.1	7.8	-130.57	350.2	-136.4	499.6	488.0	11.56	43.214	
5,800.0	5,783.0	5,763.9	5,747.1	7.2	7.9	-130.60	360.3	-138.9	513.5	501.8	11.74	43.730	
5,900.0	5,882.5	5,862.9	5,845.6	7.4	8.0	-130.64	370.3	-141.5	527.5	515.6	11.93	44.221	
6,000.0	5,981.9	5,962.0	5,944.1	7.5	8.2	-130.67	380.4	-144.0	541.4	529.3	12.12	44.688	
6,100.0	6,081.4	6,061.0	6,042.6	7.6	8.3	-130.70	390.4	-146.5	555.4	543.1	12.31	45.132	
6,200.0	6,180.8	6,160.0	6,141.0	7.7	8.4	-130.73	400.5	-149.0	569.4	556.9	12.50	45.554	
6,300.0	6,280.3	6,259.0	6,239.5	7.8	8.5	-130.75	410.5	-151.5	583.3	570.6	12.69	45.956	
6,400.0	6,379.7	6,362.9	6,342.9	7.9	8.6	-130.81	420.6	-154.0	597.0	584.1	12.88	46.337	
6,500.0	6,479.2	6,469.8	6,449.4	8.0	8.8	-130.99	429.3	-156.2	609.5	596.5	13.07	46.638	
6,600.0	6,578.6	6,576.9	6,556.3	8.1	8.9	-131.31	436.0	-157.9	620.8	607.6	13.25	46.861	
6,700.0	6,678.1	6,684.1	6,663.4	8.3	9.0	-131.74	440.8	-159.1	630.8	617.4	13.42	47.013	
6,800.0	6,777.5	6,791.5	6,770.7	8.4	9.2	-132.30	443.6	-159.8	639.7	626.1	13.59	47.081	
6,900.0	6,877.0	6,898.6	6,877.8	8.5	9.3	-132.98	444.5	-160.0	647.3	633.6	13.75	47.088	
7,000.0	6,976.4	6,998.0	6,977.2	8.6	9.4	-133.64	444.5	-160.0	654.5	640.6	13.90	47.092	
7,100.0	7,075.9	7,097.5	7,076.7	8.7	9.5	-134.30	444.5	-160.0	661.8	647.8	14.05	47.096	
7,200.0	7,175.3	7,196.9	7,176.1	8.8	9.7	-134.93	444.5	-160.0	669.2	655.0	14.21	47.100	
7,300.0	7,274.8	7,296.4	7,275.6	9.0	9.8	-135.56	444.5	-160.0	676.6	662.3	14.36	47.105	
7,400.0	7,374.3	7,395.8	7,375.1	9.1	9.9	-136.17	444.5	-160.0	684.1	669.6	14.52	47.110	
7,500.0	7,473.7	7,495.3	7,474.5	9.2	10.0	-136.77	444.5	-160.0	691.7	677.1	14.68	47.116	
7,600.0	7,573.2	7,594.7	7,574.0	9.3	10.1	-137.35	444.5	-160.0	699.4	684.6	14.84	47.122	
7,700.0	7,672.6	7,694.2	7,673.4	9.4	10.3	-137.93	444.5	-160.0	707.2	692.2	15.00	47.129	
7,800.0	7,772.1	7,793.6	7,772.9	9.5	10.4	-138.49	444.5	-160.0	715.0	699.8	15.17	47.136	
7,900.0	7,871.5	7,893.1	7,872.3	9.7	10.5	-139.03	444.5	-160.0	722.8	707.5	15.33	47.144	
8,000.0	7,971.0	7,992.6	7,971.8	9.8	10.6	-139.57	444.5	-160.0	730.8	715.3	15.50	47.152	
8,100.0	8,070.4	8,092.0	8,071.2	9.9	10.8	-140.10	444.5	-160.0	738.8	723.1	15.67	47.161	
8,200.0	8,169.9	8,191.5	8,170.7	10.0	10.9	-140.61	444.5	-160.0	746.9	731.0	15.83	47.170	
8,300.0	8,269.3	8,290.9	8,270.1	10.2	11.0	-141.11	444.5	-160.0	755.0	739.0	16.00	47.179	
8,400.0	8,368.8	8,390.4	8,369.6	10.3	11.1	-141.60	444.5	-160.0	763.2	747.0	16.17	47.189	
8,500.0	8,468.2	8,489.8	8,469.0	10.4	11.3	-142.08	444.5	-160.0	771.4	755.1	16.34	47.199	
8,600.0	8,567.7	8,589.3	8,568.5	10.5	11.4	-142.55	444.5	-160.0	779.7	763.2	16.52	47.209	
8,700.0	8,667.1	8,688.7	8,667.9	10.6	11.5	-143.02	444.5	-160.0	788.0	771.3	16.69	47.220	
8,800.0	8,766.6	8,788.2	8,767.4	10.8	11.6	-143.47	444.5	-160.0	796.4	779.6	16.86	47.231	
8,900.0	8,866.0	8,887.6	8,866.8	10.9	11.8	-143.91	444.5	-160.0	804.9	787.8	17.04	47.243	
9,000.0	8,965.5	8,987.1	8,966.3	11.0	11.9	-144.34	444.5	-160.0	813.4	796.1	17.21	47.254	
9,100.0	9,064.9	9,086.5	9,065.7	11.1	12.0	-144.77	444.5	-160.0	821.9	804.5	17.39	47.266	
9,200.0	9,164.4	9,186.0	9,165.2	11.3	12.1	-145.18	444.5	-160.0	830.5	812.9	17.57	47.278	
9,300.0	9,263.8	9,285.4	9,264.6	11.4	12.3	-145.59	444.5	-160.0	839.1	821.3	17.74	47.291	
9,400.0	9,363.3	9,384.9	9,364.1	11.5	12.4	-145.99	444.5	-160.0	847.7	829.8	17.92	47.303	
9,500.0	9,462.7	9,484.3	9,463.5	11.6	12.5	-146.38	444.5	-160.0	856.4	838.3	18.10	47.315	
9,600.0	9,562.2	9,583.8	9,563.0	11.8	12.6	-146.76	444.5	-160.0	865.2	846.9	18.28	47.328	
9,700.0	9,661.7	9,683.2	9,662.5	11.9	12.8	-147.14	444.5	-160.0	874.0	855.5	18.46	47.341	
9,800.0	9,761.1	9,782.7	9,761.9	12.0	12.9	-147.50	444.5	-160.0	882.8	864.1	18.64	47.353	
9,900.0	9,860.6	9,882.1	9,861.4	12.1	13.0	-147.86	444.5	-160.0	891.6	872.8	18.82	47.366	
10,000.0	9,960.0	9,981.6	9,960.8	12.3	13.2	-148.22	444.5	-160.0	900.5	881.5	19.01	47.379	
10,100.0	10,059.5	10,081.0	10,060.3	12.4	13.3	-148.56	444.5	-160.0	909.4	890.2	19.19	47.392	
10,200.0	10,158.9	10,180.5	10,159.7	12.5	13.4	-148.90	444.5	-160.0	918.4	899.0	19.37	47.405	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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
HARRIER FEDERAL PROJECT (LEA 2632) - HARRIER FED COM #802H - OWB - PWP1												Offset Well Error:	3.0 usft
Survey Program: 0-Standard Keeper 104, 12096-MWD+IFR1+FDIR													
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,300.0	10,258.4	10,280.0	10,259.2	12.6	13.5	-149.24	444.5	-160.0	927.3	907.8	19.56	47.417	
10,400.0	10,357.8	10,379.4	10,358.6	12.8	13.7	-149.56	444.5	-160.0	936.3	916.6	19.74	47.430	
10,500.0	10,457.3	10,478.9	10,458.1	12.9	13.8	-149.88	444.5	-160.0	945.4	925.5	19.93	47.443	
10,600.0	10,556.7	10,578.3	10,557.5	13.0	13.9	-150.20	444.5	-160.0	954.5	934.3	20.11	47.455	
10,700.0	10,656.2	10,677.8	10,657.0	13.2	14.0	-150.51	444.5	-160.0	963.5	943.3	20.30	47.468	
10,800.0	10,755.6	10,777.2	10,756.4	13.3	14.2	-150.81	444.5	-160.0	972.7	952.2	20.49	47.480	
10,900.0	10,855.1	10,876.7	10,855.9	13.4	14.3	-151.11	444.5	-160.0	981.8	961.1	20.67	47.492	
11,000.0	10,954.5	10,976.1	10,955.3	13.6	14.4	-151.40	444.5	-160.0	991.0	970.1	20.86	47.504	

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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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=30' @ 3396.0usft (TBD)

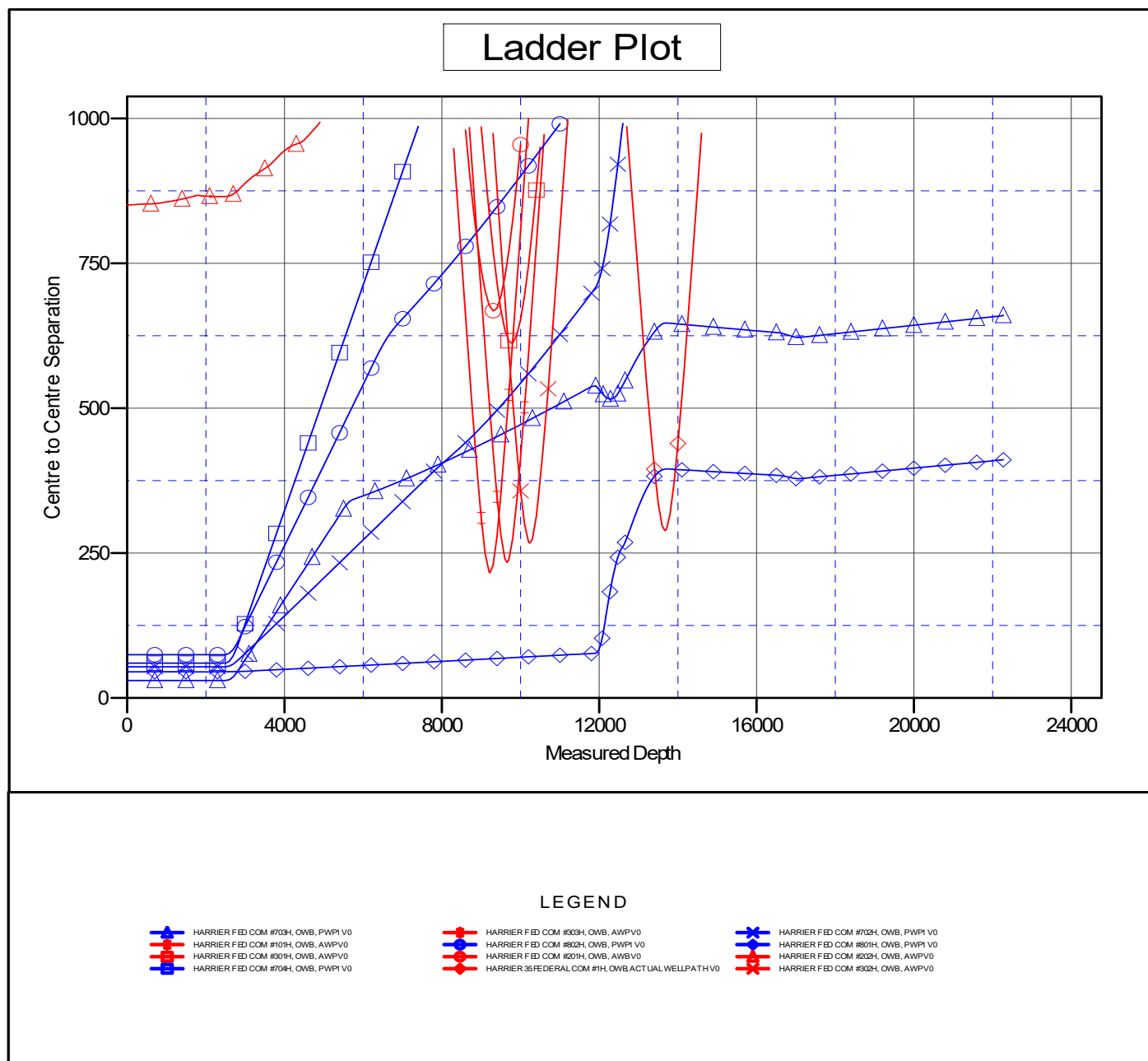
Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: HARRIER FED COM #701H

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

Grid Convergence at Surface is: 0.36°



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

ConocoPhillips

Anticollision Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Reference Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	HARRIER FED 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=30' @ 3396.0usft (TBD)

Offset Depths are relative to Offset Datum

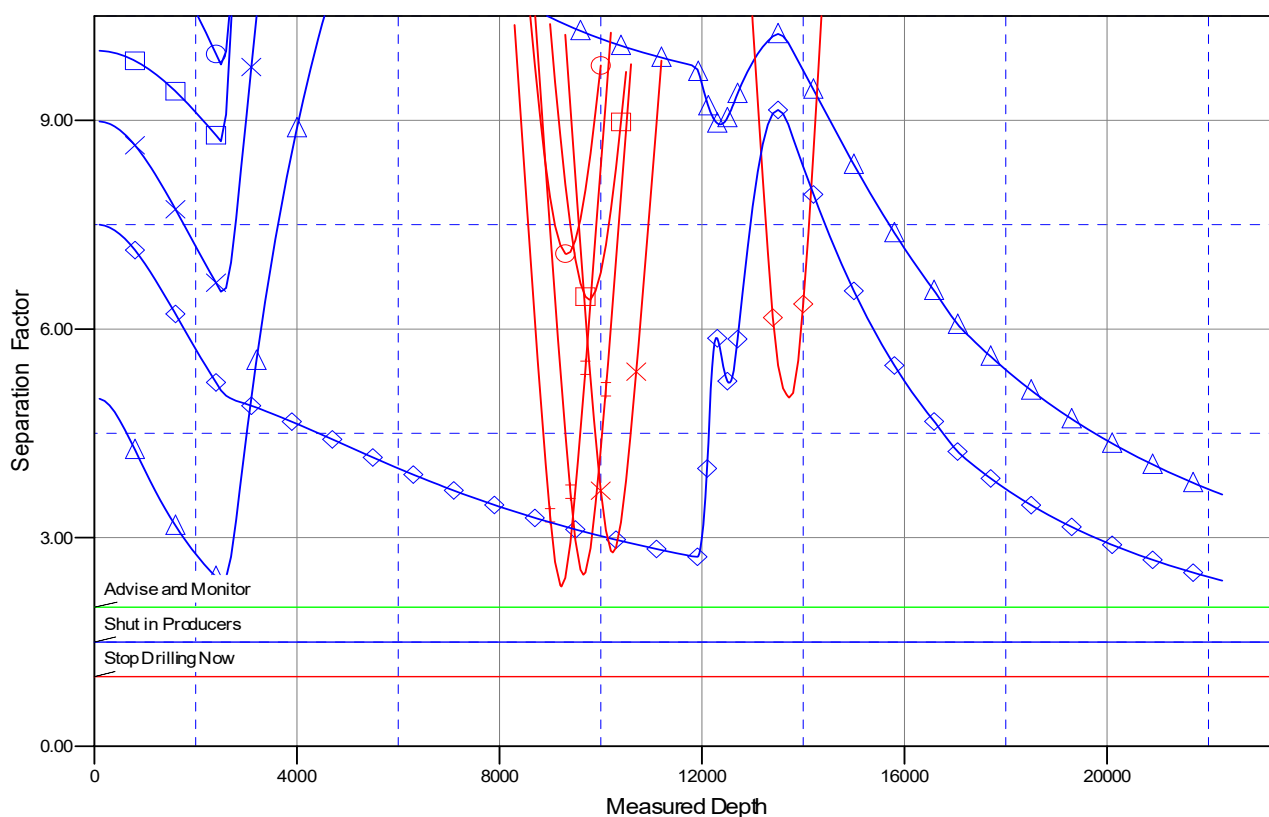
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: HARRIER FED COM #701H

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

Grid Convergence at Surface is: 0.36°

Separation Factor Plot



LEGEND

HARRIER FED COM #703H, OWB, PWP1 V0
 HARRIER FED COM #101H, OWB, AWPV0
 HARRIER FED COM #301H, OWB, AWPV0
 HARRIER FED COM #704H, OWB, PWP1 V0

HARRIER FED COM #302H, OWB, AWPV0
 HARRIER FED COM #302H, OWB, PWP1 V0
 HARRIER FED COM #301H, OWB, AWPV0
 HARRIER 36 FEDERAL COM #1H, OWB, ACTUAL WELLPATH V0

HARRIER FED COM #703H, OWB, PWP1 V0
 HARRIER FED COM #301H, OWB, PWP1 V0
 HARRIER FED COM #302H, OWB, AWPV0
 HARRIER FED COM #302H, OWB, AWPV0

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

DELAWARE BASIN EAST

LEA PROSPECT (NM-E)

HARRIER FEDERAL PROJECT (LEA 2632)

HARRIER FED COM #701H

OWB

Plan: PWP1

Standard Survey Report

04 May, 2021



ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Well:	HARRIER FED COM #701H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

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

Well	HARRIER FED COM #701H			
Well Position	+N/-S	0.0 usft	Northing:	397,745.80 usft
	+E/-W	0.0 usft	Easting:	711,435.70 usft
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft
			Ground Level:	3,366.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	5/4/2021	6.59	59.77	47,419.59649737

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	171.84	

Survey Tool Program	Date	5/4/2021			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	11,908.0	PWP1 (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,908.0	22,273.7	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

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

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Well:	HARRIER FED 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)
1,500.0	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	70.00	2,600.0	0.6	1.6	-0.4	2.00	2.00	0.00
2,700.0	4.00	70.00	2,699.8	2.4	6.6	-1.4	2.00	2.00	0.00
2,800.0	6.00	70.00	2,799.5	5.4	14.7	-3.2	2.00	2.00	0.00
Start 9108.4 hold at 2800.0 MD									
2,900.0	6.00	70.00	2,898.9	8.9	24.6	-5.4	0.00	0.00	0.00
3,000.0	6.00	70.00	2,998.4	12.5	34.4	-7.5	0.00	0.00	0.00
3,100.0	6.00	70.00	3,097.8	16.1	44.2	-9.7	0.00	0.00	0.00
3,200.0	6.00	70.00	3,197.3	19.7	54.0	-11.8	0.00	0.00	0.00
3,300.0	6.00	70.00	3,296.7	23.2	63.9	-13.9	0.00	0.00	0.00
3,400.0	6.00	70.00	3,396.2	26.8	73.7	-16.1	0.00	0.00	0.00
3,500.0	6.00	70.00	3,495.6	30.4	83.5	-18.2	0.00	0.00	0.00
3,600.0	6.00	70.00	3,595.1	34.0	93.3	-20.4	0.00	0.00	0.00
3,700.0	6.00	70.00	3,694.5	37.5	103.1	-22.5	0.00	0.00	0.00
3,800.0	6.00	70.00	3,794.0	41.1	113.0	-24.7	0.00	0.00	0.00
3,900.0	6.00	70.00	3,893.4	44.7	122.8	-26.8	0.00	0.00	0.00
4,000.0	6.00	70.00	3,992.9	48.3	132.6	-29.0	0.00	0.00	0.00
4,100.0	6.00	70.00	4,092.3	51.8	142.4	-31.1	0.00	0.00	0.00
4,200.0	6.00	70.00	4,191.8	55.4	152.3	-33.3	0.00	0.00	0.00
4,300.0	6.00	70.00	4,291.2	59.0	162.1	-35.4	0.00	0.00	0.00
4,400.0	6.00	70.00	4,390.7	62.6	171.9	-37.5	0.00	0.00	0.00
4,500.0	6.00	70.00	4,490.1	66.1	181.7	-39.7	0.00	0.00	0.00
4,600.0	6.00	70.00	4,589.6	69.7	191.6	-41.8	0.00	0.00	0.00
4,700.0	6.00	70.00	4,689.0	73.3	201.4	-44.0	0.00	0.00	0.00
4,800.0	6.00	70.00	4,788.5	76.9	211.2	-46.1	0.00	0.00	0.00
4,900.0	6.00	70.00	4,887.9	80.4	221.0	-48.3	0.00	0.00	0.00
5,000.0	6.00	70.00	4,987.4	84.0	230.8	-50.4	0.00	0.00	0.00
5,100.0	6.00	70.00	5,086.9	87.6	240.7	-52.6	0.00	0.00	0.00
5,200.0	6.00	70.00	5,186.3	91.2	250.5	-54.7	0.00	0.00	0.00
5,300.0	6.00	70.00	5,285.8	94.7	260.3	-56.9	0.00	0.00	0.00
5,400.0	6.00	70.00	5,385.2	98.3	270.1	-59.0	0.00	0.00	0.00
5,500.0	6.00	70.00	5,484.7	101.9	280.0	-61.1	0.00	0.00	0.00

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Well:	HARRIER FED 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)	
5,600.0	6.00	70.00	5,584.1	105.5	289.8	-63.3	0.00	0.00	0.00	
5,700.0	6.00	70.00	5,683.6	109.0	299.6	-65.4	0.00	0.00	0.00	
5,800.0	6.00	70.00	5,783.0	112.6	309.4	-67.6	0.00	0.00	0.00	
5,900.0	6.00	70.00	5,882.5	116.2	319.2	-69.7	0.00	0.00	0.00	
6,000.0	6.00	70.00	5,981.9	119.8	329.1	-71.9	0.00	0.00	0.00	
6,100.0	6.00	70.00	6,081.4	123.3	338.9	-74.0	0.00	0.00	0.00	
6,200.0	6.00	70.00	6,180.8	126.9	348.7	-76.2	0.00	0.00	0.00	
6,300.0	6.00	70.00	6,280.3	130.5	358.5	-78.3	0.00	0.00	0.00	
6,400.0	6.00	70.00	6,379.7	134.1	368.4	-80.5	0.00	0.00	0.00	
6,500.0	6.00	70.00	6,479.2	137.6	378.2	-82.6	0.00	0.00	0.00	
6,600.0	6.00	70.00	6,578.6	141.2	388.0	-84.7	0.00	0.00	0.00	
6,700.0	6.00	70.00	6,678.1	144.8	397.8	-86.9	0.00	0.00	0.00	
6,800.0	6.00	70.00	6,777.5	148.4	407.6	-89.0	0.00	0.00	0.00	
6,900.0	6.00	70.00	6,877.0	151.9	417.5	-91.2	0.00	0.00	0.00	
7,000.0	6.00	70.00	6,976.4	155.5	427.3	-93.3	0.00	0.00	0.00	
7,100.0	6.00	70.00	7,075.9	159.1	437.1	-95.5	0.00	0.00	0.00	
7,200.0	6.00	70.00	7,175.3	162.7	446.9	-97.6	0.00	0.00	0.00	
7,300.0	6.00	70.00	7,274.8	166.2	456.8	-99.8	0.00	0.00	0.00	
7,400.0	6.00	70.00	7,374.3	169.8	466.6	-101.9	0.00	0.00	0.00	
7,500.0	6.00	70.00	7,473.7	173.4	476.4	-104.0	0.00	0.00	0.00	
7,600.0	6.00	70.00	7,573.2	177.0	486.2	-106.2	0.00	0.00	0.00	
7,700.0	6.00	70.00	7,672.6	180.5	496.0	-108.3	0.00	0.00	0.00	
7,800.0	6.00	70.00	7,772.1	184.1	505.9	-110.5	0.00	0.00	0.00	
7,900.0	6.00	70.00	7,871.5	187.7	515.7	-112.6	0.00	0.00	0.00	
8,000.0	6.00	70.00	7,971.0	191.3	525.5	-114.8	0.00	0.00	0.00	
8,100.0	6.00	70.00	8,070.4	194.8	535.3	-116.9	0.00	0.00	0.00	
8,200.0	6.00	70.00	8,169.9	198.4	545.2	-119.1	0.00	0.00	0.00	
8,300.0	6.00	70.00	8,269.3	202.0	555.0	-121.2	0.00	0.00	0.00	
8,400.0	6.00	70.00	8,368.8	205.6	564.8	-123.4	0.00	0.00	0.00	
8,500.0	6.00	70.00	8,468.2	209.1	574.6	-125.5	0.00	0.00	0.00	
8,600.0	6.00	70.00	8,567.7	212.7	584.4	-127.6	0.00	0.00	0.00	
8,700.0	6.00	70.00	8,667.1	216.3	594.3	-129.8	0.00	0.00	0.00	
8,800.0	6.00	70.00	8,766.6	219.9	604.1	-131.9	0.00	0.00	0.00	
8,900.0	6.00	70.00	8,866.0	223.4	613.9	-134.1	0.00	0.00	0.00	
9,000.0	6.00	70.00	8,965.5	227.0	623.7	-136.2	0.00	0.00	0.00	
9,100.0	6.00	70.00	9,064.9	230.6	633.6	-138.4	0.00	0.00	0.00	
9,200.0	6.00	70.00	9,164.4	234.2	643.4	-140.5	0.00	0.00	0.00	
9,300.0	6.00	70.00	9,263.8	237.7	653.2	-142.7	0.00	0.00	0.00	
9,400.0	6.00	70.00	9,363.3	241.3	663.0	-144.8	0.00	0.00	0.00	
9,500.0	6.00	70.00	9,462.7	244.9	672.9	-147.0	0.00	0.00	0.00	
9,600.0	6.00	70.00	9,562.2	248.5	682.7	-149.1	0.00	0.00	0.00	
9,700.0	6.00	70.00	9,661.7	252.0	692.5	-151.2	0.00	0.00	0.00	
9,800.0	6.00	70.00	9,761.1	255.6	702.3	-153.4	0.00	0.00	0.00	
9,900.0	6.00	70.00	9,860.6	259.2	712.1	-155.5	0.00	0.00	0.00	

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Well:	HARRIER FED 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)
10,000.0	6.00	70.00	9,960.0	262.8	722.0	-157.7	0.00	0.00	0.00
10,100.0	6.00	70.00	10,059.5	266.3	731.8	-159.8	0.00	0.00	0.00
10,200.0	6.00	70.00	10,158.9	269.9	741.6	-162.0	0.00	0.00	0.00
10,300.0	6.00	70.00	10,258.4	273.5	751.4	-164.1	0.00	0.00	0.00
10,400.0	6.00	70.00	10,357.8	277.1	761.3	-166.3	0.00	0.00	0.00
10,500.0	6.00	70.00	10,457.3	280.6	771.1	-168.4	0.00	0.00	0.00
10,600.0	6.00	70.00	10,556.7	284.2	780.9	-170.6	0.00	0.00	0.00
10,700.0	6.00	70.00	10,656.2	287.8	790.7	-172.7	0.00	0.00	0.00
10,800.0	6.00	70.00	10,755.6	291.4	800.5	-174.8	0.00	0.00	0.00
10,900.0	6.00	70.00	10,855.1	294.9	810.4	-177.0	0.00	0.00	0.00
11,000.0	6.00	70.00	10,954.5	298.5	820.2	-179.1	0.00	0.00	0.00
11,100.0	6.00	70.00	11,054.0	302.1	830.0	-181.3	0.00	0.00	0.00
11,200.0	6.00	70.00	11,153.4	305.7	839.8	-183.4	0.00	0.00	0.00
11,300.0	6.00	70.00	11,252.9	309.2	849.7	-185.6	0.00	0.00	0.00
11,400.0	6.00	70.00	11,352.3	312.8	859.5	-187.7	0.00	0.00	0.00
11,500.0	6.00	70.00	11,451.8	316.4	869.3	-189.9	0.00	0.00	0.00
11,600.0	6.00	70.00	11,551.2	320.0	879.1	-192.0	0.00	0.00	0.00
11,700.0	6.00	70.00	11,650.7	323.6	888.9	-194.2	0.00	0.00	0.00
11,800.0	6.00	70.00	11,750.1	327.1	898.8	-196.3	0.00	0.00	0.00
11,900.0	6.00	70.00	11,849.6	330.7	908.6	-198.4	0.00	0.00	0.00
11,908.4	6.00	70.00	11,858.0	331.0	909.4	-198.6	0.00	0.00	0.00
Start DLS 12.00 TFO 88.99									
12,000.0	12.59	130.92	11,948.5	326.1	921.5	-192.0	12.00	7.20	66.54
12,100.0	23.82	145.21	12,043.4	302.3	941.3	-165.7	12.00	11.22	14.29
12,200.0	35.54	150.52	12,130.1	260.2	967.2	-120.4	12.00	11.72	5.31
12,300.0	47.38	153.44	12,204.9	201.8	998.1	-58.2	12.00	11.85	2.91
12,400.0	59.28	155.40	12,264.5	129.6	1,032.6	18.3	12.00	11.90	1.97
12,500.0	71.20	156.93	12,306.3	46.6	1,069.1	105.5	12.00	11.92	1.53
12,600.0	83.13	158.26	12,328.5	-43.4	1,106.2	199.9	12.00	11.93	1.32
12,658.8	90.15	159.00	12,332.0	-98.0	1,127.6	257.0	12.00	11.93	1.26
Start DLS 2.00 TFO 89.99									
12,700.0	90.15	159.82	12,331.9	-136.6	1,142.1	297.2	2.00	0.00	2.00
12,800.0	90.15	161.82	12,331.6	-231.0	1,174.9	395.4	2.00	0.00	2.00
12,900.0	90.15	163.82	12,331.3	-326.5	1,204.5	494.1	2.00	0.00	2.00
13,000.0	90.15	165.82	12,331.1	-423.1	1,230.6	593.4	2.00	0.00	2.00
13,100.0	90.15	167.82	12,330.8	-520.4	1,253.4	693.0	2.00	0.00	2.00
13,200.0	90.15	169.82	12,330.5	-618.5	1,272.8	792.8	2.00	0.00	2.00
13,300.0	90.15	171.82	12,330.3	-717.2	1,288.8	892.8	2.00	0.00	2.00
13,400.0	90.15	173.82	12,330.0	-816.4	1,301.2	992.8	2.00	0.00	2.00
13,500.0	90.15	175.82	12,329.8	-916.0	1,310.3	1,092.7	2.00	0.00	2.00
13,600.0	90.15	177.82	12,329.5	-1,015.9	1,315.8	1,192.3	2.00	0.00	2.00
13,700.0	90.14	179.82	12,329.3	-1,115.8	1,317.9	1,291.5	2.00	0.00	2.00
13,718.7	90.14	180.20	12,329.2	-1,134.5	1,317.9	1,310.0	2.00	0.00	2.00

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Well:	HARRIER FED 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)
Start 2866.6 hold at 13718.7 MD									
13,800.0	90.14	180.20	12,329.0	-1,215.8	1,317.6	1,390.5	0.00	0.00	0.00
13,900.0	90.14	180.20	12,328.8	-1,315.8	1,317.2	1,489.4	0.00	0.00	0.00
14,000.0	90.14	180.20	12,328.5	-1,415.8	1,316.9	1,588.4	0.00	0.00	0.00
14,100.0	90.14	180.20	12,328.3	-1,515.8	1,316.5	1,687.3	0.00	0.00	0.00
14,200.0	90.14	180.20	12,328.0	-1,615.8	1,316.2	1,786.2	0.00	0.00	0.00
14,300.0	90.14	180.20	12,327.8	-1,715.8	1,315.9	1,885.2	0.00	0.00	0.00
14,400.0	90.14	180.20	12,327.5	-1,815.8	1,315.5	1,984.1	0.00	0.00	0.00
14,500.0	90.14	180.20	12,327.2	-1,915.8	1,315.2	2,083.1	0.00	0.00	0.00
14,600.0	90.14	180.20	12,327.0	-2,015.8	1,314.8	2,182.0	0.00	0.00	0.00
14,700.0	90.14	180.20	12,326.7	-2,115.8	1,314.5	2,280.9	0.00	0.00	0.00
14,800.0	90.14	180.20	12,326.5	-2,215.8	1,314.1	2,379.9	0.00	0.00	0.00
14,900.0	90.14	180.20	12,326.2	-2,315.8	1,313.8	2,478.8	0.00	0.00	0.00
15,000.0	90.14	180.20	12,326.0	-2,415.8	1,313.5	2,577.7	0.00	0.00	0.00
15,100.0	90.14	180.20	12,325.7	-2,515.8	1,313.1	2,676.7	0.00	0.00	0.00
15,200.0	90.14	180.20	12,325.5	-2,615.8	1,312.8	2,775.6	0.00	0.00	0.00
15,300.0	90.14	180.20	12,325.2	-2,715.8	1,312.4	2,874.6	0.00	0.00	0.00
15,400.0	90.14	180.20	12,325.0	-2,815.8	1,312.1	2,973.5	0.00	0.00	0.00
15,500.0	90.14	180.20	12,324.7	-2,915.8	1,311.7	3,072.4	0.00	0.00	0.00
15,600.0	90.14	180.20	12,324.5	-3,015.8	1,311.4	3,171.4	0.00	0.00	0.00
15,700.0	90.14	180.20	12,324.2	-3,115.8	1,311.0	3,270.3	0.00	0.00	0.00
15,800.0	90.14	180.20	12,324.0	-3,215.8	1,310.7	3,369.3	0.00	0.00	0.00
15,900.0	90.14	180.20	12,323.7	-3,315.8	1,310.4	3,468.2	0.00	0.00	0.00
16,000.0	90.14	180.20	12,323.5	-3,415.8	1,310.0	3,567.1	0.00	0.00	0.00
16,100.0	90.14	180.20	12,323.2	-3,515.8	1,309.7	3,666.1	0.00	0.00	0.00
16,200.0	90.14	180.20	12,323.0	-3,615.8	1,309.3	3,765.0	0.00	0.00	0.00
16,300.0	90.14	180.20	12,322.7	-3,715.8	1,309.0	3,863.9	0.00	0.00	0.00
16,400.0	90.14	180.20	12,322.5	-3,815.8	1,308.6	3,962.9	0.00	0.00	0.00
16,500.0	90.14	180.20	12,322.2	-3,915.8	1,308.3	4,061.8	0.00	0.00	0.00
16,585.2	90.14	180.20	12,322.0	-4,001.1	1,308.0	4,146.2	0.00	0.00	0.00
Start DLS 2.00 TFO 70.55									
16,600.0	90.24	180.48	12,322.0	-4,015.8	1,307.9	4,160.8	2.00	0.67	1.89
16,625.2	90.41	180.95	12,321.8	-4,041.0	1,307.6	4,185.6	2.00	0.67	1.89
Start 350.3 hold at 16625.2 MD									
16,700.0	90.41	180.95	12,321.3	-4,115.8	1,306.4	4,259.5	0.00	0.00	0.00
16,800.0	90.41	180.95	12,320.6	-4,215.8	1,304.7	4,358.2	0.00	0.00	0.00
16,900.0	90.41	180.95	12,319.8	-4,315.8	1,303.0	4,457.0	0.00	0.00	0.00
16,975.5	90.41	180.95	12,319.3	-4,391.2	1,301.8	4,531.5	0.00	0.00	0.00
Start DLS 2.00 TFO -90.20									
17,000.0	90.41	180.46	12,319.1	-4,415.8	1,301.5	4,555.7	2.00	-0.01	-2.00
17,070.8	90.40	179.04	12,318.6	-4,486.6	1,301.8	4,625.9	2.00	-0.01	-2.00
Start 5202.9 hold at 17070.8 MD									
17,100.0	90.40	179.04	12,318.4	-4,515.7	1,302.3	4,654.8	0.00	0.00	0.00
17,200.0	90.40	179.04	12,317.7	-4,615.7	1,304.0	4,754.0	0.00	0.00	0.00

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Well:	HARRIER FED 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)	
17,300.0	90.40	179.04	12,317.0	-4,715.7	1,305.6	4,853.2	0.00	0.00	0.00	
17,400.0	90.40	179.04	12,316.3	-4,815.7	1,307.3	4,952.5	0.00	0.00	0.00	
17,500.0	90.40	179.04	12,315.6	-4,915.7	1,309.0	5,051.7	0.00	0.00	0.00	
17,600.0	90.40	179.04	12,314.9	-5,015.7	1,310.6	5,150.9	0.00	0.00	0.00	
17,700.0	90.40	179.04	12,314.2	-5,115.6	1,312.3	5,250.1	0.00	0.00	0.00	
17,800.0	90.40	179.04	12,313.5	-5,215.6	1,314.0	5,349.3	0.00	0.00	0.00	
17,900.0	90.40	179.04	12,312.8	-5,315.6	1,315.6	5,448.5	0.00	0.00	0.00	
18,000.0	90.40	179.04	12,312.1	-5,415.6	1,317.3	5,547.7	0.00	0.00	0.00	
18,100.0	90.40	179.04	12,311.4	-5,515.6	1,319.0	5,646.9	0.00	0.00	0.00	
18,200.0	90.40	179.04	12,310.7	-5,615.6	1,320.7	5,746.1	0.00	0.00	0.00	
18,300.0	90.40	179.04	12,310.0	-5,715.5	1,322.3	5,845.3	0.00	0.00	0.00	
18,400.0	90.40	179.04	12,309.3	-5,815.5	1,324.0	5,944.5	0.00	0.00	0.00	
18,500.0	90.40	179.04	12,308.6	-5,915.5	1,325.7	6,043.8	0.00	0.00	0.00	
18,600.0	90.40	179.04	12,307.9	-6,015.5	1,327.3	6,143.0	0.00	0.00	0.00	
18,700.0	90.40	179.04	12,307.2	-6,115.5	1,329.0	6,242.2	0.00	0.00	0.00	
18,800.0	90.40	179.04	12,306.5	-6,215.5	1,330.7	6,341.4	0.00	0.00	0.00	
18,900.0	90.40	179.04	12,305.7	-6,315.4	1,332.4	6,440.6	0.00	0.00	0.00	
19,000.0	90.40	179.04	12,305.0	-6,415.4	1,334.0	6,539.8	0.00	0.00	0.00	
19,100.0	90.40	179.04	12,304.3	-6,515.4	1,335.7	6,639.0	0.00	0.00	0.00	
19,200.0	90.40	179.04	12,303.6	-6,615.4	1,337.4	6,738.2	0.00	0.00	0.00	
19,300.0	90.40	179.04	12,302.9	-6,715.4	1,339.0	6,837.4	0.00	0.00	0.00	
19,400.0	90.40	179.04	12,302.2	-6,815.4	1,340.7	6,936.6	0.00	0.00	0.00	
19,500.0	90.40	179.04	12,301.5	-6,915.3	1,342.4	7,035.8	0.00	0.00	0.00	
19,600.0	90.40	179.04	12,300.8	-7,015.3	1,344.0	7,135.1	0.00	0.00	0.00	
19,700.0	90.40	179.04	12,300.1	-7,115.3	1,345.7	7,234.3	0.00	0.00	0.00	
19,800.0	90.40	179.04	12,299.4	-7,215.3	1,347.4	7,333.5	0.00	0.00	0.00	
19,900.0	90.40	179.04	12,298.7	-7,315.3	1,349.1	7,432.7	0.00	0.00	0.00	
20,000.0	90.40	179.04	12,298.0	-7,415.3	1,350.7	7,531.9	0.00	0.00	0.00	
20,100.0	90.40	179.04	12,297.3	-7,515.3	1,352.4	7,631.1	0.00	0.00	0.00	
20,200.0	90.40	179.04	12,296.6	-7,615.2	1,354.1	7,730.3	0.00	0.00	0.00	
20,300.0	90.40	179.04	12,295.9	-7,715.2	1,355.7	7,829.5	0.00	0.00	0.00	
20,400.0	90.40	179.04	12,295.2	-7,815.2	1,357.4	7,928.7	0.00	0.00	0.00	
20,500.0	90.40	179.04	12,294.5	-7,915.2	1,359.1	8,027.9	0.00	0.00	0.00	
20,600.0	90.40	179.04	12,293.8	-8,015.2	1,360.7	8,127.1	0.00	0.00	0.00	
20,700.0	90.40	179.04	12,293.1	-8,115.2	1,362.4	8,226.4	0.00	0.00	0.00	
20,800.0	90.40	179.04	12,292.4	-8,215.1	1,364.1	8,325.6	0.00	0.00	0.00	
20,900.0	90.40	179.04	12,291.7	-8,315.1	1,365.8	8,424.8	0.00	0.00	0.00	
21,000.0	90.40	179.04	12,291.0	-8,415.1	1,367.4	8,524.0	0.00	0.00	0.00	
21,100.0	90.40	179.04	12,290.3	-8,515.1	1,369.1	8,623.2	0.00	0.00	0.00	
21,200.0	90.40	179.04	12,289.6	-8,615.1	1,370.8	8,722.4	0.00	0.00	0.00	
21,300.0	90.40	179.04	12,288.9	-8,715.1	1,372.4	8,821.6	0.00	0.00	0.00	
21,400.0	90.40	179.04	12,288.1	-8,815.0	1,374.1	8,920.8	0.00	0.00	0.00	
21,500.0	90.40	179.04	12,287.4	-8,915.0	1,375.8	9,020.0	0.00	0.00	0.00	
21,600.0	90.40	179.04	12,286.7	-9,015.0	1,377.4	9,119.2	0.00	0.00	0.00	

ConocoPhillips

Survey Report



Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well HARRIER FED COM #701H
Project:	LEA PROSPECT (NM-E)	TVD Reference:	*KB=30' @ 3396.0usft (TBD)
Site:	HARRIER FEDERAL PROJECT (LEA 2632)	MD Reference:	*KB=30' @ 3396.0usft (TBD)
Well:	HARRIER FED 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)
21,700.0	90.40	179.04	12,286.0	-9,115.0	1,379.1	9,218.4	0.00	0.00	0.00
21,800.0	90.40	179.04	12,285.3	-9,215.0	1,380.8	9,317.7	0.00	0.00	0.00
21,900.0	90.40	179.04	12,284.6	-9,315.0	1,382.5	9,416.9	0.00	0.00	0.00
22,000.0	90.40	179.04	12,283.9	-9,414.9	1,384.1	9,516.1	0.00	0.00	0.00
22,100.0	90.40	179.04	12,283.2	-9,514.9	1,385.8	9,615.3	0.00	0.00	0.00
22,200.0	90.40	179.04	12,282.5	-9,614.9	1,387.5	9,714.5	0.00	0.00	0.00
22,273.7	90.40	179.04	12,282.0	-9,688.6	1,388.7	9,787.6	0.00	0.00	0.00
TD at 22273.7									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP (HARRIER FED COM #701H) - plan misses target center by 23.7usft at 22200.0usft MD (12282.5 TVD, -9614.9 N, 1387.5 E) - Point	0.00	0.01	12,282.0	-9,638.6	1,388.4	388,107.20	712,824.10	32° 3' 54.575 N	103° 38' 46.727 W
PBHL (HARRIER FED COM #701H) - plan hits target center - Rectangle (sides W100.0 H5,297.0 D20.0)	0.40	359.04	12,282.0	-9,688.6	1,388.7	388,057.20	712,824.40	32° 3' 54.081 N	103° 38' 46.728 W
POI#1 (HARRIER FED COM #701H) - plan hits target center - Rectangle (sides W100.0 H386.0 D20.0)	0.40	0.94	12,319.3	-4,391.2	1,301.8	393,354.58	712,737.49	32° 4' 46.508 N	103° 38' 47.346 W
4800'FFTP (HARRIER FED COM #701H) - plan hits target center - Rectangle (sides W100.0 H4,800.0 D20.0)	0.15	0.20	12,322.0	-4,001.1	1,308.0	393,744.74	712,743.70	32° 4' 50.369 N	103° 38' 47.245 W
FTP (HARRIER FED COM #701H) - plan misses target center by 677.2usft at 12200.0usft MD (12130.1 TVD, 260.2 N, 967.2 E) - Circle (radius 50.0)	0.00	0.00	12,332.0	798.9	1,324.6	398,544.70	712,760.30	32° 5' 37.868 N	103° 38' 46.696 W

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Comment
2500	2500	0	0	Start Build 2.00
2800	2799	5	15	Start 9108.4 hold at 2800.0 MD
11,908	11,858	331	909	Start DLS 12.00 TFO 88.99
12,659	12,332	-98	1128	Start DLS 2.00 TFO 89.99
13,719	12,329	-1135	1318	Start 2866.6 hold at 13718.7 MD
16,585	12,322	-4001	1308	Start DLS 2.00 TFO 70.55
16,625	12,322	-4041	1308	Start 350.3 hold at 16625.2 MD
16,975	12,319	-4391	1302	Start DLS 2.00 TFO -90.20
17,071	12,319	-4487	1302	Start 5202.9 hold at 17070.8 MD
22,274	12,282	-9689	1389	TD at 22273.7

Checked By: _____ Approved By: _____ Date: _____



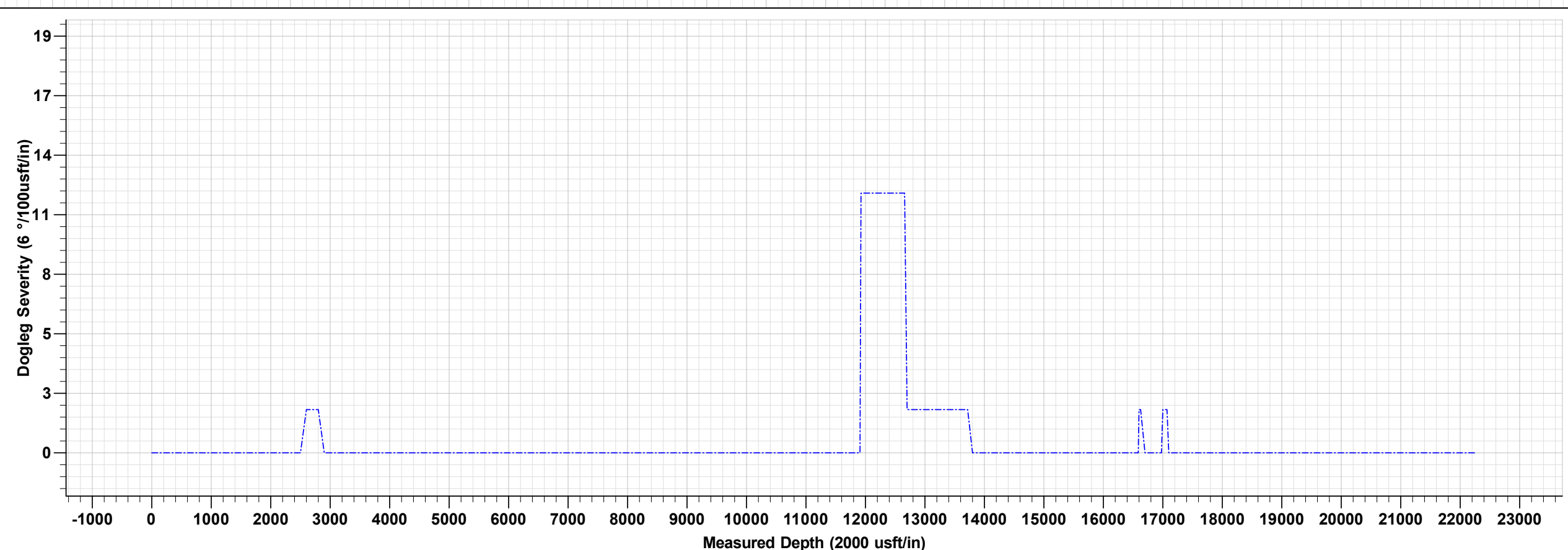
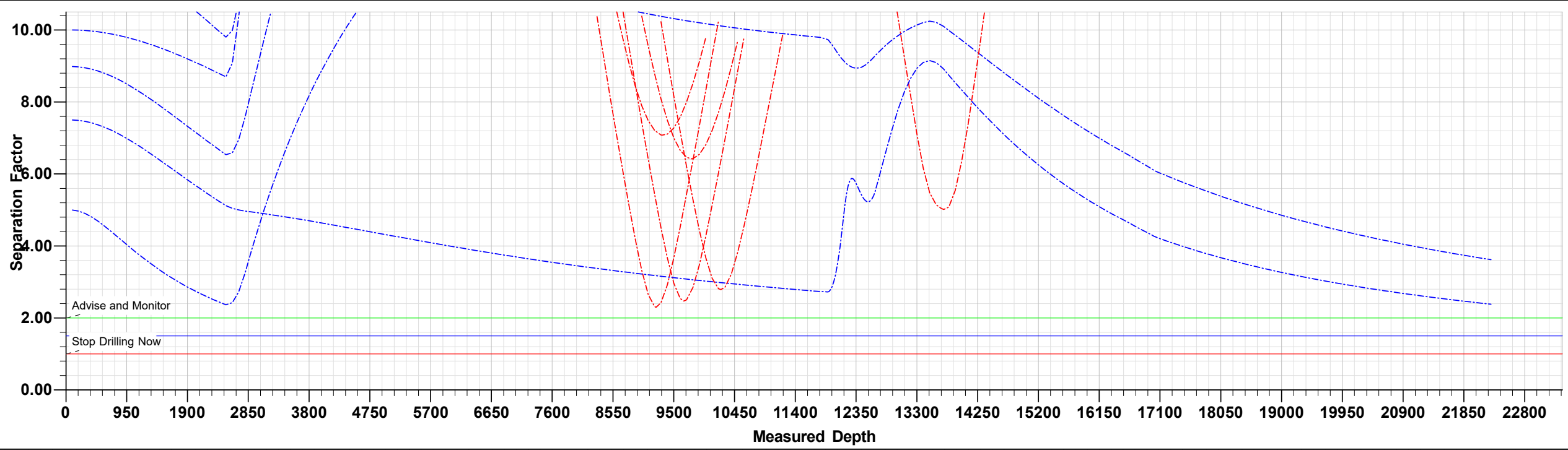
Project: LEA PROSPECT (NM-E)
Site: HARRIER FEDERAL PROJECT (LEA 2632)
Well: HARRIER FED COM #701H
Wellbore: OWB
Design: PWP1
GL: 3366.0
*KB=30' @ 3396.0usft (TBD)

WELL DETAILS: HARRIER FED COM #701H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	397745.80	711435.70	32° 5' 30.045 N	103° 39' 2.152 W

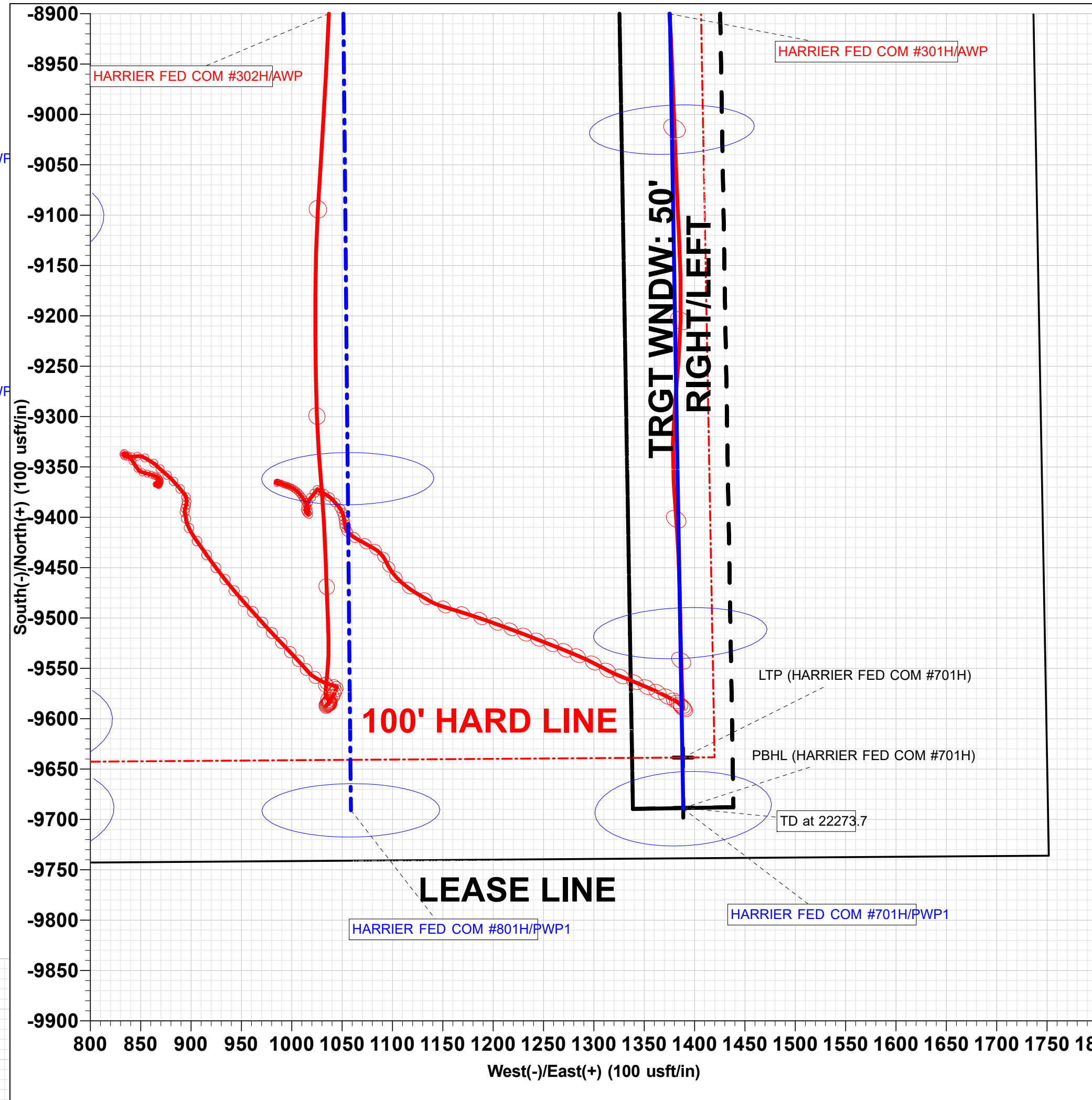
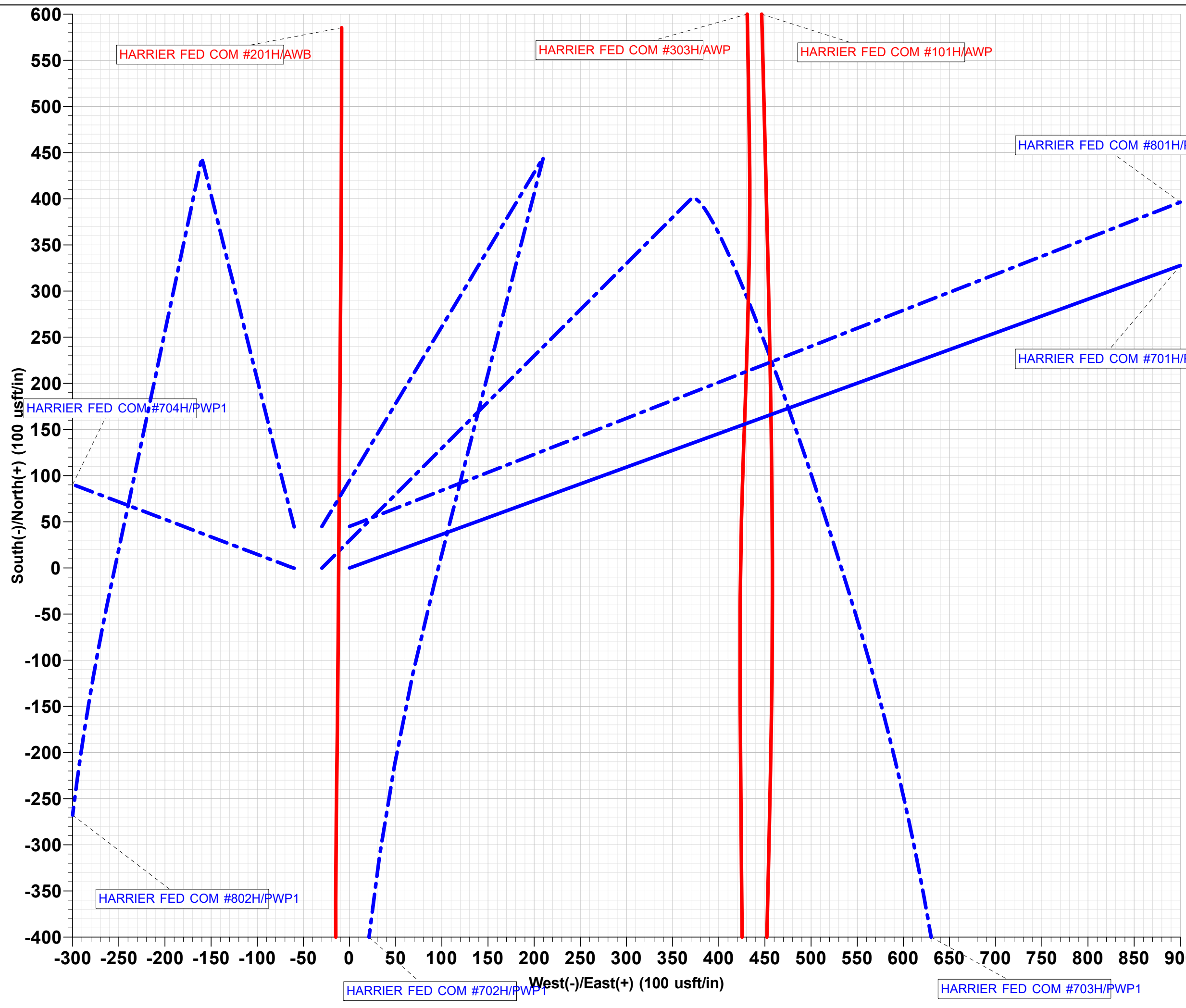
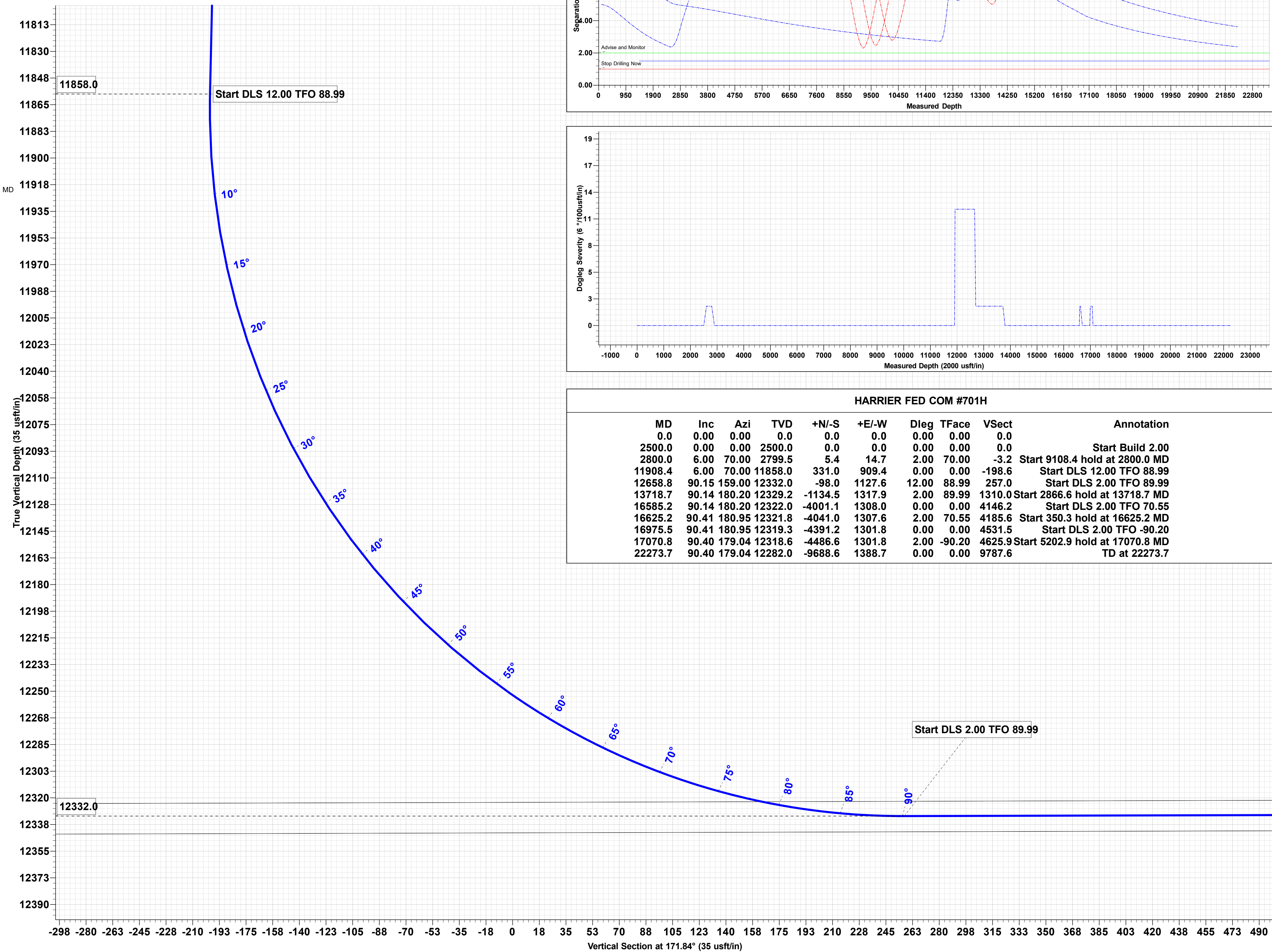
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LTP (HARRIER FED COM #701H)	12282.0	-9638.6	1388.4	388107.20	712824.10	32° 3' 54.575 N	103° 38' 46.727 W
PBHL (HARRIER FED COM #701H)	12282.0	-9688.6	1388.7	388057.20	712824.40	32° 3' 54.081 N	103° 38' 46.728 W
POH1 (HARRIER FED COM #701H)	12319.3	-4391.2	1301.8	383354.58	712737.49	32° 4' 46.508 N	103° 38' 47.346 W
4800'FTP (HARRIER FED COM #701H)	12322.0	-4001.1	1308.0	383744.74	712743.70	32° 4' 50.369 N	103° 38' 47.245 W
FTP (HARRIER FED COM #701H)	12332.0	798.9	1324.6	398544.70	712760.30	32° 5' 37.868 N	103° 38' 46.696 W

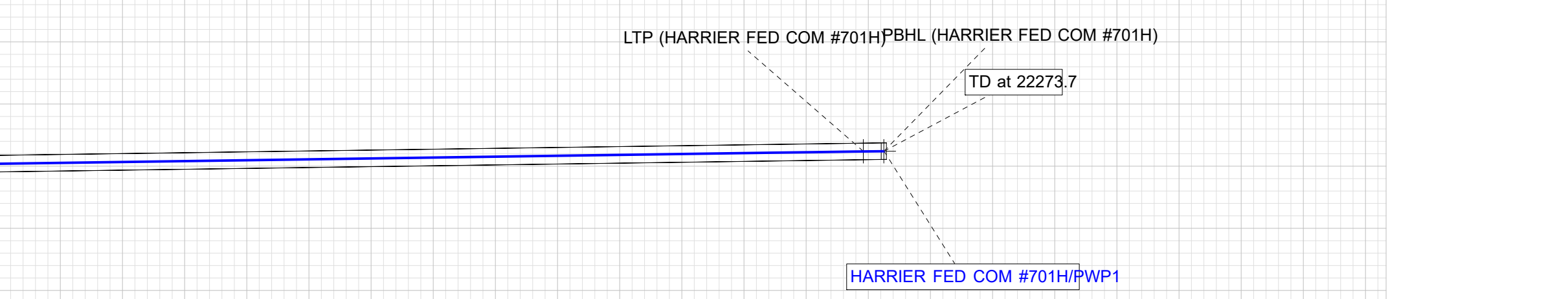
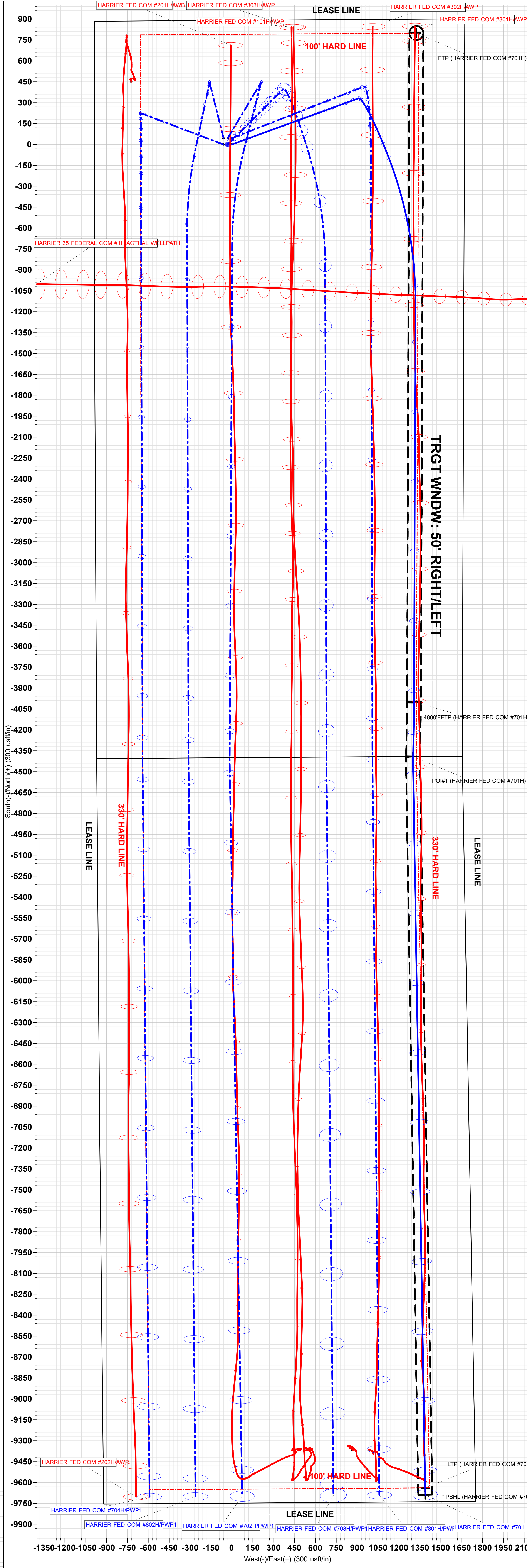
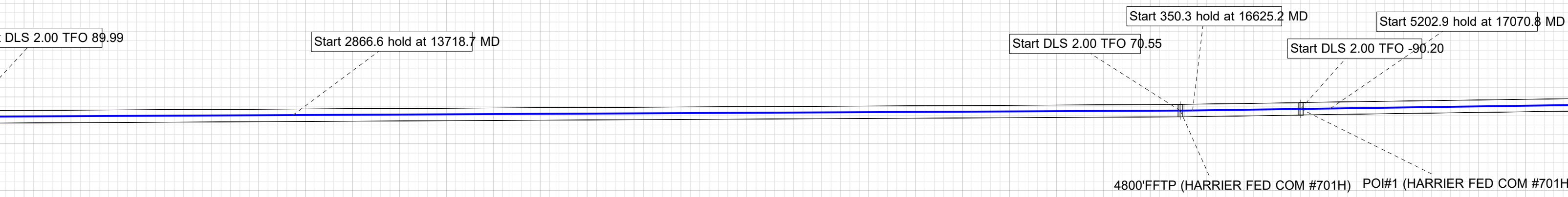


HARRIER FED COM #701H

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	
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2800.0	6.00	70.00	2799.5	6.4	14.7	2.00	70.00	-3.2	Start 9108.4 hold at 2800.0 MD
11908.4	6.00	70.00	11858.0	331.0	909.4	0.00	0.00	-198.6	Start DLS 12.00 TFO 88.99
12658.8	90.15	159.00	12332.0	-98.0	1127.6	12.00	88.99	257.0	Start DLS 2.00 TFO 89.99
13718.7	90.14	180.20	12329.2	-1134.5	1317.9	2.00	89.99	1310.0	Start 2866.6 hold at 13718.7 MD
16585.2	90.14	180.20	12322.0	-4001.1	1308.0	0.00	0.00	4146.2	Start DLS 2.00 TFO 70.55
16625.2	90.41	180.95	12321.8	-4041.0	1307.6	2.00	70.55	4185.6	Start 350.3 hold at 16625.2 MD
16975.5	90.41	180.95	12319.3	-4391.2	1301.8	0.00	0.00	4531.5	Start DLS 2.00 TFO -90.20
17070.8	90.40	179.04	12318.6	-4486.6	1301.8	2.00	-90.20	4625.9	Start 5202.9 hold at 17070.8 MD
22273.7	90.40	179.04	12282.0	-9688.6	1388.7	0.00	0.00	9787.6	TD at 22273.7

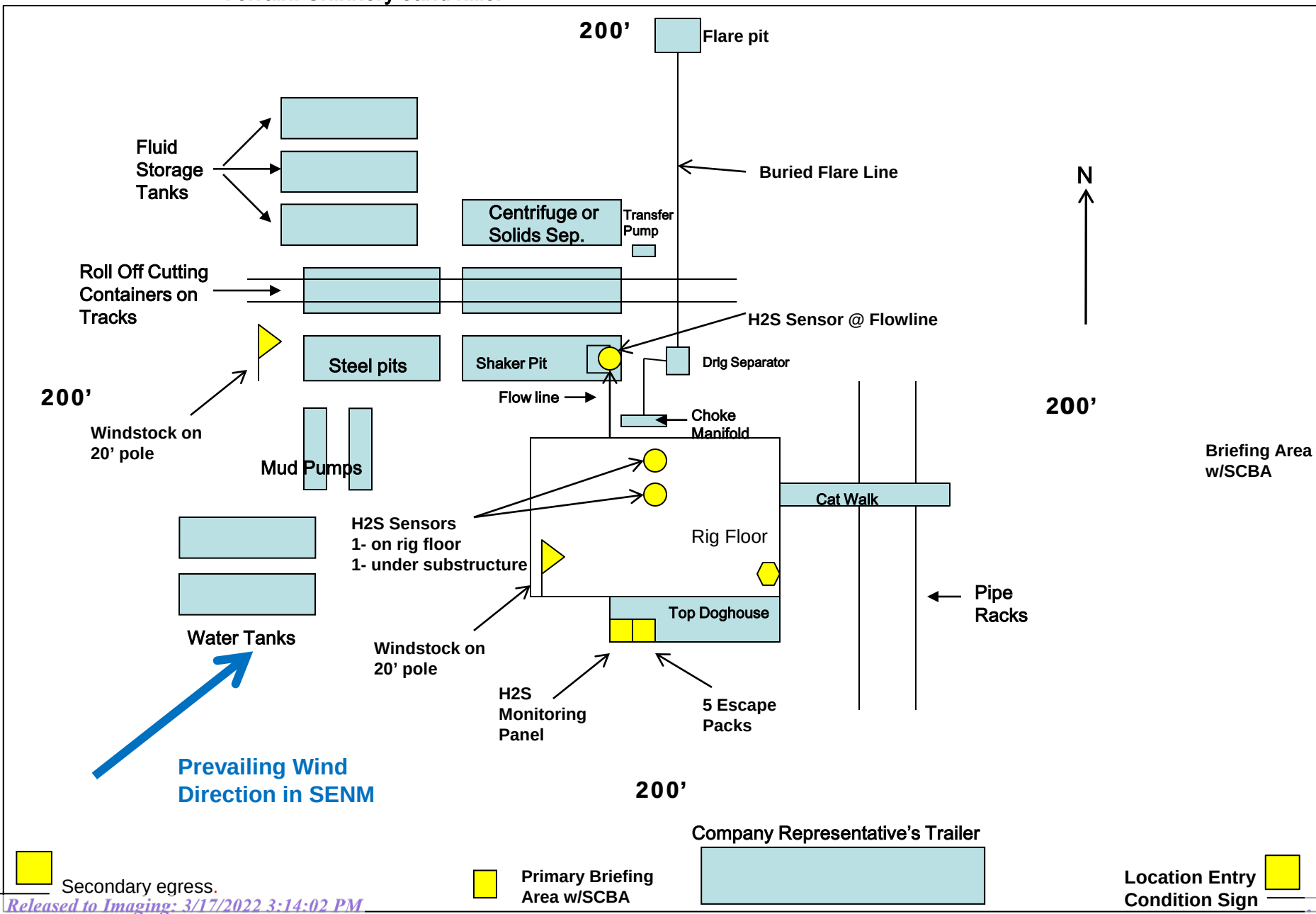


TRGT WNDW: 10'
ABOVE/BELOW



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

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



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

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

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

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

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

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

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

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

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

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

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

W A R N I N G

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

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

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

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

EMERGENCY RESPONSE NUMBERS

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

District I

1625 N. French Dr., Hobbs, NM 88240
 Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 89154

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 89154
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	3/17/2022
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	3/17/2022
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	3/17/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	3/17/2022